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Effective Teaching and Learning: Flipped Learning in the Classroom

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EFFECTIVE TEACHING AND LEARNING: FLIPPED LEARNING IN THE CLASSROOM

by

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It is important that adequate knowledge concerning how flipped learning can be implemented in a classroom to support students learning in elementary schools (Backlund, Hirsh & Segolsson, 2017). This is a qualitative study, which used a general qualitative approach to explore teachers' perspectives and their experiences about flipped learning effectiveness in classrooms at the elementary school level. The population and sample in this study were five elementary school teachers in urban locations in the Midwest region of the United States who utilize flipped learning in their classrooms. The data on the use and impact of flipped learning on teaching and learning in the classroom were collected through direct and in-depth interviews. Directed interviews were used to explore: 1) Teachers' perspectives about flipped learning in the classroom in the elementary school, 2) Practices used in the instructional process in the classroom in the elementary school from elsewhere, 3) Technological instructional resources and materials that have been used to help improve flipped learning in the classroom in the elementary school, 4) Flipped learning impacts for students in the classroom in the elementary schools, and 5) Challenges and difficulties in the implementation of flipped learning in the elementary school classroom.

DEDICATION

My work is dedicated to my great mother and lovely family, especially my wife. Without their love and belief in me I would not have ever become the person they thought I could be.

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CHAPTER I

INTRODUCTION

Background

Over the past decade, the developments in technology have made every aspect of human life considerably easier. One of the sectors that has greatly benefited is education, which now incorporates several types of digital technology in the knowledge acquisition process. An excellent instance of technological use in education is flipped learning, which incorporates traditional learning methods with online digital media. Clark-Ibnáñez and Scott (2010) defined flipped learning as a pedagogical approach that exploits blended knowledge to streamline the arrangement of the usual classroom model. The digital platform has inverted the sequence of where and when the students finish course work and are directed to content through lectures (Chen, Kinshuk &Wei, 2012). Flipped learning uses blended learning by utilizing the Internet to provide content to the learners and giving course materials or lecture notes in a video format that may be used by students even when not in the school building (Robb & Rudy, 2012). By the time learners are coming to school, they are familiar with the content and can start working on course materials and assignments, including group-based problem solving and projects. Flipped learning, therefore, is a pedagogical approach that facilitates not only unique interactions between learners and their course materials but also enables collaborative learning environments (Alharbi, 2012; Aliweh, 2011; Clark-Ibáñez & Scott, 2010; Dayton & Vaughn, 2009).

Flipped learning digital technologies are student-centered and lean more towards the constructivist end of the pedagogical spectrum (Cheryl & Stephen, 2013). For example, Hutchings and Quinney (2013), in their study of the influence of constructivism

concepts on flipped learning, examined how flipped learning emerges from the constructivist learning approach and demonstrated that the constructivist approach does not reduce the active role of the teacher in the classroom; instead, it changes the role of the teachers to assist students in producing knowledge themselves. In line with the constructivist-learning concept, as demonstrated by Hutchings and Quinney (2013), the main purpose of the teacher is to provide relevant tools for the students in order to enable learners to develop their own knowledge and draw their own conclusions. This finding is similar to a finding obtained by Gillani and O'Guinn (2014) who demonstrated that a constructivist approach to teaching often turns learners into active members of the learning process capable of building their knowledge, instead of receiving it passively from their instructors. To this extent, Gillani and O'Guinn (2014) concluded that the flipped classroom largely utilizes the constructivist learning approach, which includes perceiving learning as an active approach that requires the active participation of learners. As such, learning that was once solely conducted in the classroom setting can now be conducted outside and vice versa.

Problem Statement

Traditional ways of teaching and learning require students to attend classes and lectures and for the tutor to be present for the learning process to take place (Bergmann & Sams, 2012). In most cases, not all students fully understand the content of a topic in a classroom and are required to read more on their own if they wish to fully acquire the knowledge (Bergmann & Sams, 2012). Flipped learning is a modern academic method using audio-visual lectures and quizzes as homework and the group-based problems are solved in class (Brame, 2013).

Several studies have identified a disconnect within the traditional model of student and teacher learning. For instance, Archambault and Crippen (2009) noted that a learning process solely tethered to the transfer of knowledge by a teacher in the classroom setting may no longer be sufficient for learning to take place since with a wealth of information and knowledge are available to whoever cares to search for them. Teachers are no longer the only key of knowledge for students. But, they aren't an outdated source, either. Actually, teachers are more important than ever in facilitating the use of technology to become a rich source for 21st century learning (Backlund, Hirsh & Segolsson, 2017; Mihai, 2016; Herreid & Schiller, 2013; Archambault & Crippen, 2009).

For example, in the flipped learning classroom, students come to class having already been exposed to the content to be focused on for the day, so teachers prepare their lesson or lectures to address content regarding students' questions. Teachers can help and support students in better understanding the concepts through the provision of interactional activities that entail practical and effective application of the lesson's content or additional presentations in the classroom that provide extension and enrichment of the prior learning (Herreid & Schiller, 2013).

Impact of Flipped Learning on Teaching, Learning, and Student Achievement

There are several studies conducted about using flipped learning in the classroom in general and its impact on teaching, learning and student achievement. For example, Bormann (2014) conducted a qualitative study through reviewing more than 51 research articles published during the last five years before his study and analyzed them to find the use of flipped learning and its impact on teaching and learning in classrooms and its effectiveness on students' achievement. He noted that flipped learning in the classroom

provides an interactive environment leading to better achievement of learning necessary for success in the 21st century.

Researchers on flipped learning provide observations of how learning is different and enhanced in a flipped learning classroom. For instance, in the flipped learning classroom, students may have more time to work each other in their research or project by using authentic materials and sources, which may be only available in the classroom, so they work by themselves under teachers' supervision to produce authentic research (Herreid & Schiller, 2013; Archambault & Crippen, 2009). Moreover, flipped learning in the classroom provides students with opportunity to practice and apply effective activities and strategies of learning. For example, when students watch or listen to the lessons or lectures at home before the class begins, they are able to save the time of the class to work in active or collaborative learning to do their homework by using various activities such as labs, case studies, writing essays, or problem solving. So, they may experience less difficulty with their homework (Backlund, Hirsh & Segolsson, 2017; Mihai, 2016; Herreid & Schiller, 2013; Archambault & Crippen, 2009).

Flipped learning also provides additional learning tools, such as graphics, videos, and images, which are a subset of visual learning. Visual learning introduces concepts through illustration, which further reinforces the verbal means commonly used by teachers in the classroom (Archambault & Crippen, 2009). Flipped learning in the elementary classroom, visual learning becomes more important since nothing enables mastery more than presenting information in an effective, attractive, and easy-to-understand way, especially for elementary school students (Brame, 2013). The authors of *Theories and Practices of Multimodal Education,* observe "Print represents only one mode of communication…", therefore, with the rising importance of digital and Internet

literacy, using other modes (such as pictures, graphics, or even aural modes) are needed, from visual texts to digital e-books (Hassett & Curwood, 2011). Visual learning combined with flipped learning in the classroom brings more advantage than simply enabling deeper or more rich understanding of verbal or printed content. This type of learning with flipped learning can also improve student motivation and engagement by facilitating their access to study materials, resources, or tools at their own pace and review them when they need explanation or clarification. That leads to fewer questions for the teachers, saving time for teachers and students both that can then be used to practice application of the lesson's content, view additional presentations or to apply the knowledge that each student independently learns through at-home studies through collaboration on group projects and activities with their student peers (Brame, 2013; Berrett, 2012).

Because flipped learning entails exposure to important and/or introductory lesson content at home, teachers have more time to interact and discuss the content with their students in the classroom (Alarood, Alnaqbi & Hamad, 2017; Rebert, 2014; Pedrozza, 2013). In addition, students who are absent due to sickness or any other reasons can catch up with their peers easier with the flipped learning approach in that they can watch the lesson at times that are opportune for the individual student (Backlund, Hirsh & Segolsson, 2017; Mihai, 2016; Herreid & Schiller, 2013). Further, through flipped learning in the classroom, students can get instant or immediate feedback by the teacher during the class time when they do not understand a new information or concept (Alarood, Alnaqbi & Hamad, 2017; Rebert, 2014; Herreid & Schiller, 2013).

Taken together, these studies found that flipped learning in the classroom supports students' performance and learning in many aspects, such as providing them with

thinking, learning, and research skills, providing them with more opportunities in terms of interacting with their teachers and colleagues or peers in active and collaborative learning environment, and providing them with extra time to do their assignments and homework in the class time.

Flipped learning is also beneficial as it allows teachers to log in and follow up on students by checking the assigned videos watched by each student (Brame, 2013). Therefore, elementary school teachers are able to get a clear idea as to how far along the students are in the lesson. Teachers are also able to post commentaries for the students to follow and make off-the-cuff updates through group email, which is not possible in traditional learning. Further, through flipped learning, communication between parents and teachers may be improved since the parents can know what their children are preparing for classes (Mihai, 2016).

Cautions in Transitioning to Flipped Learning

Flipped learning has been greatly enhanced over the years due to improvements in software, especially with regard to the Internet. High definition photographs and video are now far more readily available to teachers and transferable to students through sites like YouTube or Google's search functions (Archambault & Crippen, 2009; Gangwer, n.d.). The increase in accessibility has increased the ease for instructors to provide learning activities that may greatly enhance the learning of their students. However, the potential ease and promise of flipped learning raises the importance of teachers' understanding how flipped learning works with young, developing minds, because a flipped learning model may be more challenging than the traditional one for teachers to ensure all students use class time engaged with the learning process. For instance, Solstuen (2014) examined the transformation from traditional teaching strategies to the

flipped learning method in elementary school, and he found that the introduction of the flipped learning in the classroom did not automatically lead to higher quality instruction, though he concluded its benefits were more than its disadvantages.

It is likely that a wide base of support in the school is important in order to ensure an effective implementation of flipped learning at the elementary school level that proceeds step-by-step, so students are not forced to suddenly adapt to teaching methods that are radically different from what they are used to. This observation is based on a study done at the Compulsory Elementary School in Sweden which reported improved student achievement after changing to a flipped learning model. The researchers observed progress in the majority of students' performance after changing teaching instruction from traditional to flipped learning, except for two students who found the change to flipped learning upsetting. Researchers reported these students needed more time to get used to and adapt to the new teaching approach (Backlund, Hirsh & Segolsson, 2017).

Lack of Research on the Use and Impact of Flipped Learning Strategies in the Elementary Level Classroom

There are many studies conducted about using the flipped learning in the classroom as a style of teaching that is popular across educational institutions, particularly at the high school or college levels, such as Mihai's study (2016), Brame's study (2013), and Herreid's and Schillers' study (2013), while minimal published research has been conducted about using flipped learning and its impact on teaching and learning in classrooms at the elementary school level. A sole exception is the study conducted at Compulsory Elementary School in Sweden by Backlund, Hirsh, and Segolsson (2017). Since most current research on the use of flipped learning in the classroom is conducted within the field of higher or secondary education, such as

colleges or high schools (Green, Hsu & Wang, 2016; Mattis 2015; Tawfik & Lilly 2015; Bates & Galloway 2012), we lack knowledge of how this strategy of teaching works in the elementary school context.

While there are concerns regarding the success of flipped learning in the classroom in elementary school level, there are some advantages for using flipped learning in the classroom that I anticipate. Flipped learning in the classroom encourages and allows teachers to offer an adjustable, flexible, and engaging approach to share learning content, while putting more control into students' hands related to their own learning processes (Backlund, Hirsh & Segolsson, 2017; Mihai, 2016; Herreid & Schiller, 2013). Also, because currently the use of technology is flexible and nearly universally available, flipped learning in the classroom appears to be an appropriate situation for everyone in the teaching and learning environment, as both teachers and students receive some benefit. For example, flipped learning in the classroom provides teachers with freedom to decide how much time to spend with each student, such as high performers, middle performers, and struggling students, to give them the attention each of them needs. Teachers also can more easily modify and adapt their curriculum and the delivery of it to their students (Mihai, 2016; Herreid & Schiller, 2013). Moreover, teachers who used this style of teaching noted that they observed increased levels of students' interest, engagement, and performance (Herreid & Schiller, 2013).

Little research is available for elementary school teachers to learn about the implementation of flipped learning and its potential benefits in order to inform decisions to use it in their classroom. There is no reason that the use and benefits of flipped learning should be particularly limited to higher education or high schools only. Studies that are conducted in the context of higher education cannot be assumed to speak to the

potentially unique considerations necessary for the effective and successful use of flipped learning in the elementary classroom. Therefore, there is need to conduct more research regarding the use of flipped learning in the elementary school (Backlund, Hirsh & Segolsson, 2017).

Because there is currently a lack of broad and deep knowledge of the use of flipped learning and its impact on teaching and learning in classrooms at the elementary school level, there is a significant need for a study that can provide us with data that can be used to inform teaching practices (Backlund, Hirsh & Segolsson, 2017). Therefore, this study was designed to address that gap in our understanding through an in-depth qualitative study using a phenomenological approach to collect data through the direct interviewing of school teachers who use flipped learning in their elementary classrooms.

Purpose Statement

The purpose of this study was to explore the use of flipped learning and its impact on teaching and learning in classrooms as perceived by five elementary school teachers who use flipped learning in their classrooms. It is important that adequate knowledge concerning how flipped learning can be implemented in a classroom to support students learning in elementary schools. The data on the use and impact of flipped learning on teaching and learning in the classroom were collected through direct interview. The study sought to identify some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Results of the study might identify practices that can be applied to the flipped learning approach to make learning increasingly effective and to support student learning in elementary schools.

Research Questions

The research questions of this study mainly focused on the use of flipped learning on teaching and learning in the classroom. The questions that guide the study were as follows:

1. How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support students learning in elementary schools?
2. What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation?
3. What are some of the technological instructional resources and materials that have been used to help improve flipped learning?
4. How has flipped learning affected the performance of the students?
5. What are participating teachers' perspectives about the challenges they have faced when trying to use and apply flipped learning in the elementary classroom, and how did they respond to these challenges?

Conceptual Framework

Previous scholars have revealed several studies and recommendations related with the flipped learning pedagogy or approach and its usefulness to support students learning in elementary schools (Backlund, Hirsh & Segolsson, 2017; Herreid & Schiller, 2013; Archambault & Crippen, 2009). First of all, Backlund, Hirsh, and Segolsson's (2014) study of elementary teachers indicated that the teachers' perceived flipped learning to be useful to support student learning in elementary schools.

A second main element of the existent research on the use of flipped learning in the elementary classroom regards some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation,

such as what was revealed in Herreid's and Schiller's (2013) research. Their work focused on the some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Their work also focused on how flipped learning affected the achievement of the students.

A third key component or element of the literature of flipped learning regards the technological instructional resources and materials that have been used to help improve flipped learning, such as what was revealed in Backlund's, Hirsh's, and Segolsson's (2014) study. Their study also focused on some of the technological instructional resources and materials that have been used to help improve flipped learning.

Furthermore, a fourth key element found in the research was that regarding the challenges and difficulties of implementation flipped learning in the elementary classroom, as what was revealed in Wood's, Stover's, Pilonieta's and Taylor's (2012) study. Their study focused on the implementation of flipped learning and its challenges and pillars.

The combination of research results regarding the use of flipped learning and its impact on teaching and learning in classrooms cited above, suggests that implementation of flipped learning in the classroom in the elementary school level might promote higher order learning for students, and also may provide students more time for engaging, interactive problem-solving activities to do their projects in the classrooms. Also, in the flipped learning method, instructional video still used at home to stimulate the classroom discussion and activities through open-ended questions.

According to the studies cited above regarding the teachers' perspectives about flipped learning use and effectiveness at the elementary school level, it is critical to interview and ask teachers who utilize flipped learning in their classroom directly about

use and effectiveness of flipped learning at the elementary school level, the best practices that can be applied in flipped learning and the effectiveness of flipped learning in the performance of the students, some of the technological instructional resources and materials that have been used to help improve flipped learning, and challenges and difficulties of implementation flipped learning in the elementary classroom. Interviewing teachers who utilize flipped learning in their classroom directly is important to provide the researcher with teachers' perceptions and insights about flipped learning use and effectiveness at the elementary school level, so that the researcher can understand the perspectives of the teachers as they discover implement the flipped learning approach in the elementary school classroom and which may identify practices that can be applied to flipped learning methods to make learning progressively efficient and support student learning in elementary schools as I anticipate (Backlund, Hirsh & Segolsson, 2017; Herreid & Schiller, 2013; Archambault & Crippen, 2009).

The teachers' vision can contribute toward the improvement of practical recommendations at the end of the research, which can transform the concept of teaching and meet or fill in the breaches (gaps) found in the study. These findings may also help teachers to make meaning of their development of flipped learning use and effectiveness at the elementary school level. The researcher anticipated that, with support from the findings of this study, other teachers or researchers might be able to use the research concerning use and effectiveness of flipped learning at the elementary school level, and seek the investigation and support necessary to develop implement of flipped learning and effectiveness at the elementary school level. Thus, this study rests on a conceptual framework consisting of four key elements that demonstrated above.

Methods Overview

This study used a general qualitative method in examining the data. Particularly, I use a phenomenological approach (Creswell, 2009; Marshall & Rossman, 2006). Because it is important to obtain "information-rich" participants, a purposeful sampling method was used to select the sample for this study (Merriam & Tisdell, 2016; Patton, 2015). The population and sample in this study were five elementary school teachers in an urban location in the Midwest region of the United States who utilize flipped learning in their classroom. Initially, a gatekeeper technique was used to identify teachers who use flipped learning in their classrooms. The principal of a school within close geographic proximity was enlisted first as the gatekeeper to identify teachers who use flipped learning in the classroom and provide the researcher with connecting information of teachers. Subsequently, the researcher used the snowball technique by asking initial participants to identify other elementary school colleagues using flipped learning until a sufficient sample has been obtained and a point of redundancy in getting information is achieved (Merriam & Tisdell, 2016; Carroll &Morrell, 2010; Hatch, 2002). The data in this study was collected through direct interview and field notes. Lastly, data collected after transcribing was analyzed using Dedoose software to code and organize different topics and themes that emerge from the data (Saldana, 2012; Creswell, 2007; Marshall & Rossman, 2006).

Significance of the Study

The findings of this study at the elementary school level where teachers and students used the flipped classroom teaching approach or style is significant since, there is very little research available to inform the decisions of elementary teachers who might be interested in implementing it in their classrooms (Backlund, Hirsh & Segolsson,

2017). This study will provide elementary school teachers with findings that can be used to guide and develop their teaching practices. In addition, despite the many benefits described earlier in this section, information on flipped learning is limited because it is a relatively new strategy. It might, therefore, be essential to identify the effectiveness of using flipped learning on teaching and learning in the classroom. On the other hand, it is anticipated this study will be a great benefit to countries like Kingdom of Saudi Arabia (K.S.A), where people tend to prefer a more casual educational style in the comfort of their homes.

Chapter I Summary

Chapter one provided an introduction to the topic of flipped learning on the classroom, especially in elementary schools. This chapter provided the problem statement of the study, the relevant research questions, as well as the conceptual framework. The chapter also provided a brief overview of the research method that would be utilized to achieve the objectives of the study. The subsequent chapter focuses on the literature review and scholarly articles related to the study.

CHAPTER II

LITERATURE REVIEW

As such, learning becomes effective because the students come to the classroom better prepared for the course materials. For instance, there are several ways, strategies, methods, models, and curricula that may promote and develop students learning and achievement (Graziano, 2016; Amanda & Michael, 2014). To this extent, most scholars agree that flipped learning helps make learning more interactive and effective for classrooms (Amanda & Michael, 2014). This section will review some of the literature documenting the relevance of flipped learning, the background of flipped learning, concepts behind flipped learning, theoretical foundations of flipped learning, technological, instructional resources and materials in flipped learning, challenges and pillars of flipped learning, as well as the knowledge of educators regarding technology and pedagogy concerning flipped learning.

Background of Flipped Learning in the Classroom

"It is an ordinary class session. The lecturer stands in front of the classroom and delivers a fascinating lecture on 'Emancipation' while writing a couple of important points on a white board. Composed students are hunched over their desks arranged in rows are calmly taking notes, which perhaps will be useful in the defining moment of the semester- exam time. The most enthralling topic of the country's history, which marked the end of slavery, has been reduced to a somewhat sermon-like situation, to say the least. Surprisingly, the lecturer is perfectly aware that the majority of the students do not understand the main points or rather anything from the lesson, but technically, he would not get time to offer individualized attention to each student with the forty-minute lesson.

In fact, even the following day the teacher would not have enough time to answer questions since the class cannot risk falling behind the schedule."

The kind of scenario described above is common in almost any educational setup across the globe and has been haunting educators for decades (Graziano, 2016). Attempts have been strongly made to split such kinds of teacher-centered instructional models by turning the attention to students' learning needs rather than the traditional curriculum-pacing guide. One such model is "Flipped Learning", which employs digital technologies to sway direct instruction away from a group-learning environment to an individual-centered learning, preferably using videos (Little, 2015). By offloading direct instruction, the lecturer or lesson gets the chance to consider offering one-on-one attention to each student. Additionally, the students get ample time to share materials with fellow learners, engage in content extensively, practice skills, and get timely feedback from teachers (Graziano, 2016). In this respect, instructors can dedicate their extra time to guiding students, assisting them to tackle challenging tasks while equally enabling them to have greater control over their learning process.

The idea of flipped learning in the classroom as a teaching strategy or style was first introduced in the 1980s at Cedarville University by Wesley Baker. Baker's idea was to use a technological system and resources to make instructional materials available to students outside of their scheduled classroom instruction (Johnson & Renner, 2012). At the time, computer technology was not adequately improved, and Baker's ideas could not fully be performed. However, with the development of digital technology, the Internet and Web, and particularly the beginning of YouTube in 2005, Baker's ideas have since been recognized and developed into what is today called "flipped learning in the classroom". In addition, Bergman and Sams, other developers of flipped learning in the

classroom as style of teaching, have contributed significantly to the instructional development of flipped learning in the classroom by showing several methods of using technological tools to create student-centered teaching positions (Bergman & Sams, 2012).

On the other hand, there are many studies conducted about using flipped learning in the classroom as a method of teaching that is popular across educational institutions, particularly at the high school or college levels, such as Mihai's study (2016), Brame's study (2013), and Herreid's and Schillers' study (2013), while minimal published research has been conducted about using flipped learning and its impact on teaching and learning in classrooms at the elementary school level. A sole exception is the study conducted at Compulsory Elementary School in Sweden by Backlund, Hirsh, and Segolsson (2017). Since most current research on the use of flipped learning in the classroom is conducted within the field of higher or secondary education, such as colleges or high schools (Green, Hsu & Wang, 2016; Mattis 2015; Tawfik & Lilly 2015; Bates & Galloway 2012), we lack knowledge of how this strategy of teaching works in the elementary school context.

There are some advantages for using flipped learning in the classroom. Flipped learning in the classroom encourages and allows teachers to offer an adjustable, flexible, and engaging approach to share learning content, while putting more control into students' hands related to their own learning processes (Backlund, Hirsh & Segolsson, 2017; Mihai, 2016; Herreid & Schiller, 2013). In addition, as currently the use of technology is flexible and nearly universally available, flipped learning in the classroom seems to be a proper position for everyone in the teaching and learning environment, as both teachers and students receive some benefit. For instance, flipped learning in the

classroom provides teachers with freedom to decide how much time to spend with each student, such as high performers, middle performers, and struggling students, to give them the attention each of them needs. Teachers also can more easily modify and adapt their curriculum and the delivery of it to their students (Mihai, 2016; Herreid & Schiller, 2013). Moreover, teachers who used this approach of teaching noted that they observed increased levels of students' interest, engagement, and performance (Herreid & Schiller, 2013).

Concepts behind Flipped Learning Model

A flipped classroom is one where students are introduced to the content of their lesson at home, and practice working through it in their classroom. In this blended learning approach, face-to-face interaction is blended with independent study through technology. Students watch pre-recorded videos at home, then come to their classroom with at least some background knowledge of the lesson to discuss their questions with their teachers and peers. There are many concepts behind the flipped classroom that are important to rethink about them to facilitate implementation of flipped learning in the classroom (Backlund, Hirsh & Segolsson, 2017; Alderweird, 2015; Eguchi, 2015; Hutchings & Quinney, 2013).

Examples of concepts behind flipped learning include social constructivism learning, educational technology, and learning through activity. Researchers who have investigated concepts behind flipped learning include Alderweird (2015), Eguchi (2015), and Hutchings and Quinney (2013), among other researchers. Together, these researchers agree that successful flipped learning classrooms tend to incorporate these concepts.

Social Constructivist Learning

Social constructivist learning is a model of learning that emphasizes the role of culture and context in developing personal and shared understanding and interpretation of reality (Hutchings & Quinney, 2013). In their study of the influence of social constructivist concepts on flipped learning, Hutchings and Quinney (2013) examined how flipped learning emerges from the constructivist learning approach and demonstrated that the constructivist approach does not intrude on the active role of the teacher in the classroom; instead, it changes the role of the teachers to assist learners in constructing knowledge themselves. In line with the constructivist learning concept, as demonstrated by Hutchings and Quinney (2013), the main purpose of the instructor/teacher is to provide relevant tools for the learners in order to enable learners to develop their own knowledge and draw their own conclusions. This finding is similar to a finding by Gillani and O'Guinn (2014) who demonstrated that a constructivist approach to teaching often turns learners into active members of the learning process capable of building their knowledge, instead of receiving it passively from their instructors. To this extent, Gillani and O'Guinn (2014) concluded that the flipped classroom largely utilizes the constructivist learning approach, which include perceiving learning as an active approach that requires active participation of learners.

In his study of the relationship between social constructivism in the classroom, Eguchi (2015) examined how the teachers could rely on social context to facilitate learning in the classroom. Eguchi (2015) found that social constructivism in the classroom implies shifting the role of a teacher to an instructor capable of guiding the students to achieve their goals. Eguchi (2015) also demonstrated that teachers who rely on social context often provide an environment where students work in groups in order to

solve problems as well as master skills. In a different study, Hwang et al. (2015) examined the relationship between flipped learning and social constructivism learning. According to Hwang et al. (2015), the flipped learning model incorporates the social constructivist learning approach, as the homework provided by the teachers involves collaborative activities, especially while reviewing the work during classroom hours. Hwang et al further state that learners are often able to construct their own knowledge as they work in teams and share multiple perspectives with each other in a learner-centered, interactive environment in the classroom space.

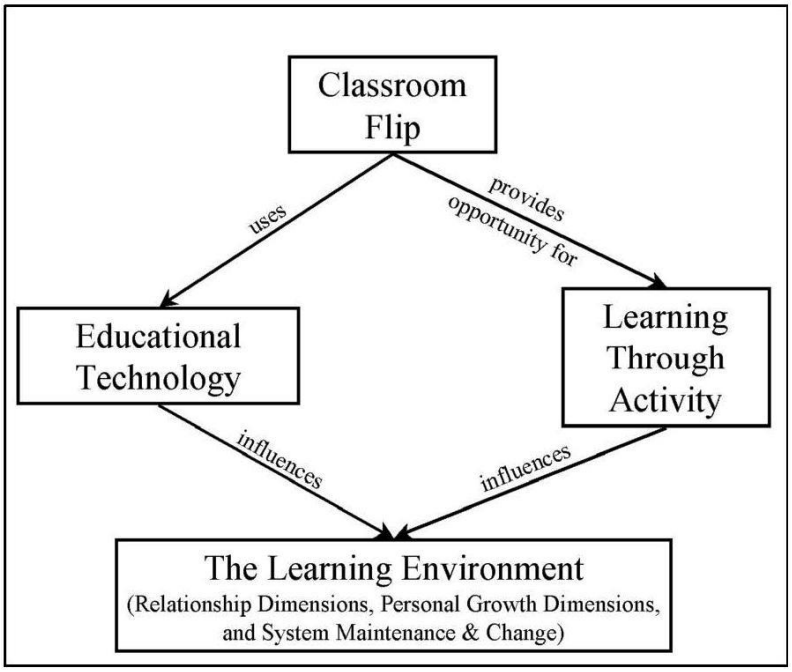
On the other hand, in his study of the effectiveness of social constructivism learning application in in flipped classroom, Alderweird (2015) examined the various social strategies teachers across different secondary schools in the United States have used to increase success in the classroom. Alderweird (2015) found out that instructors that allow their students to work together in small, cohesive groups in flipped classrooms often promote critical thinking skills as well as problem solving skills. According to Alderweird (2015), a learner in a small, cohesive group has something different or unique to contribute and share with the group members, which, in turn, leads to the manifestation of multiple and innovative ways of thinking and problem solving among group members. This finding is similar to findings obtained by Kynigos (2015) who demonstrated further that flipped learning has a strong foundation in social constructivism because teachers who allow students to participate in small, cohesive groups in flipped classrooms are often able to achieve great success. Nonetheless, Kynigos (2015) recommended that in addition to acting in a facilitator role by occasionally providing learners with more individualized materials through videos or online, teachers must be able to provide one-

on-one attention in order to enable student comprehension of material they may find difficult to understand.

Educational Technology

Educational technology is a field that involves the application of elaborate, comprehensive processes in the analysis of and problem solving in human learning (Spector, 2013). Educational technology as a field has a different focus from social constructivist learning, i.e.while social constructivism is focused on how students build knowledge and understanding through different types of social interactions, the educational technology approach focuses on how the teacher can facilitate learning and improve performance through the creation, usage, and management of appropriate technological resources. Examples of educational technology that have facilitated the emergence of flipped learning include Wikispaces, Screencast, Dropbox, Celly, and Poll Everywhere. Various researchers who have examined educational technology as a conceptual influence behind flipped learning include Daniel (2013), Inoue and Bell (2016), Spector (2013), and Zhonggen and Wang (2016). As demonstrated in the previous section, these scholars agree that the educational technology approach is among those that have facilitated the emergence of flipped learning.

Daniel (2013) in his study of the various ways in which educational technology has facilitated the emergence of flipped learning examined the various technological platforms currently being utilized in flipped classrooms. Daniel (2013) developed the model below to explain educational technology as a concept behind the emergence of flipped learning.



Flipped Learning Concept Model (Daniel, 2013)

The diagram shows that teachers in the flipped classroom use educational technology to influence the learning environment. The finding obtained by researcher Daniel (2013), as demonstrated in the diagram above, is similar to finding obtained by researcher Inoue and Bell (2016) who demonstrated that educational technology has become an important tool that teachers use in flipped in their teaching process in order to engage both learners and teachers in activities beneficial for the learning process. The finding is also similar to the findings obtained by researcher Zhonggen and Wang (2016) who demonstrated that the concept of the flipped classroom emerged because of teachers trying to take advantage of the various educational technologies. To this extent, Zhonggen and Wang (2016) demonstrated that educational technology such as Wikispaces and Dropbox not only played a critical role in improving Flipped Learning but also played a critical role in facilitating the emergence of the concept of flipped learning. As such, these researchers agree that by incorporating educational technology

the flipped learning model manages to free up class time by removing much of the direct instruction so that instructors are able to supervise collaborative experiences and foster metacognitive abilities by providing diverse learners with opportunities for communication.

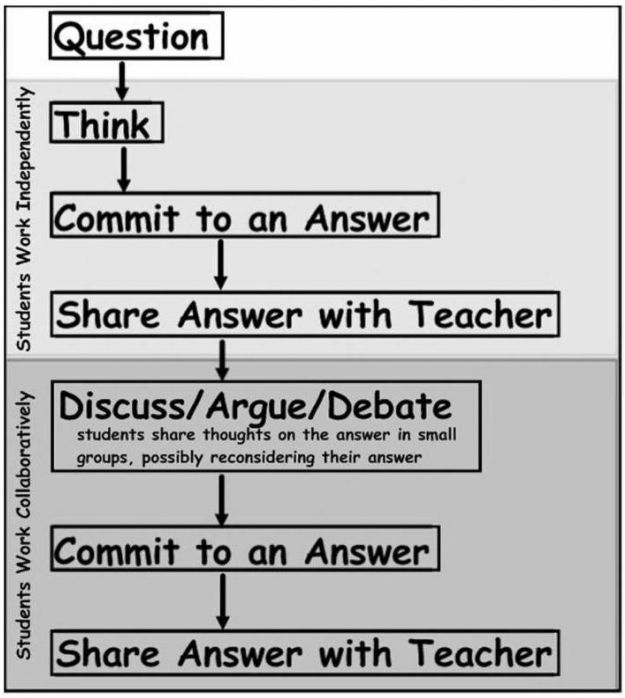
Active Learning

Active Learning refers to the process by which the learners engage in activities such as writing, discussion, reading, or problem solving that promote synthesis, analysis, and evaluation of class content. Examples of active learning techniques include group projects, case studies, role-playing, and debates. Researchers who have examined active learning as a concept behind flipped education include researchers Oboko et al. (2016), Lento (2016), Alderweird (2015), and Hwang et al. (2015). All the researchers, as demonstrated in the previous section, agree that active learning is one of the fundamental concepts that facilitate flipped learning. In their study of the relationship between active learning and flipped learning, researcher Oboko et al. (2016) examined the application of active learning in flipped classrooms. They found out that active learning or activity based learning is an important concept that plays a significant role in understanding flipped classrooms. Oboko et al. (2016) further stated that active learning is a vital aspect of findings obtained by researcher Oboko et al. (2016) and is similar to the findings obtained by Alderweird (2015) who supported that the active learning concept provided a strong foundation for flipped learning. According to Alderweird (2015), active learning provides opportunities for students to think critically about various contents by engaging in a range of activities that help them prepare for the challenges of professional situations that involve evaluative or clinical reasoning. In essence, Alderweird (2015) agrees with Oboko et al. (2016) that flipped learning often incorporates the concept of active learning

through such modalities as peer learning. This is observable when teachers introduce instructional video to a small group of students, who, in turn, examines the content privately at home, then discuss the content in the classroom with their peers belonging to the same group of flipped learning and can be applied to any learning environment from standard to online lectures or as a blend of online and standard lectures. This finding obtained by researcher Oboko et al. (2016) is similar to the finding obtained by Alderweird (2015) who supported that the active learning concept provided a strong foundation for flipped learning. According to Alderweird (2015), active learning provides opportunities for students to think critically about various contents by engaging in a range of activities that help them prepare for the challenges of professional situations that involve evaluative or clinical reasoning. In essence, Alderweird (2015) agrees with Oboko et al. (2016) that flipped learning often incorporates the concept of active learning through such modalities as peer learning. This is observable when teachers introduce instructional video to a small group of students, who, in turn, examines the content privately at home, then discuss the content in the classroom with their peers who belong to the same group.

Conversely, researchers Hwang et al. (2015) in their study of active learning as an approach for promoting flipped education examined the approaches teachers in flipped classrooms used to promote active learning. They found out that teachers in flipped classrooms perceive active learning as a learner-centered approach that help transfer the responsibility of learning from the teacher to the student. In a different study, the researcher demonstrated how instructors have been able to improve the effectiveness of flipped classroom by incorporating active learning. According to Hwang et al. (2015), when students arrive in class after completing their ‘flipped homework’, the active

learning (that is, peer instruction process) can begin. The researcher proposed the model below to show the relevance of active learning in the flipped classroom model.



Activity Based Flipped Learning (Hwang et al., 2015)

As demonstrated in the model Hwang et al. (2015), his flipped learning model is derived from the concept of active learning, particularly the peer instruction concept. Hwang et al. (2015) demonstrated that the teacher introduces the flipped 'assignment' in the form of a question. The flipped assignment could be introduced through various platforms including instructional videos or through online platforms such as Dropbox and YouTube. The teacher then allows learners to work independently at home whereby the learners think, commit to an answer, and eventually share the answer with the teacher. From then on, learners are allowed to share thoughts through debates, case studies, argument sessions, and group projects. During this time, students are allowed to change their answers or expound on their answers depending on their new discoveries. Learners then commit to an answer, which, they then share with the teacher. In the end, the teacher

gives closure to the discussion/debate with a quick overview of the answer by providing reasons of in-depth explanation of the answer and reasons, particularly if there are considerable numbers of students with incorrect answers or if the students have questions after the peer discussion.

Lento (2016), on the other hand, in his study of the foundation of flipped learning examined Piaget's theory of active learning. In light of his observation, Lento (2016) demonstrated that the flipped classroom model is derived from Piaget's theory of active learning. Piaget's theory of active learning is a theory that postulates that learning should be an active process characterized by direct experience, and making of errors, as these activities enable the learners to develop creativity as well as problem-solving skills. The finding of Lento (2016), therefore, is similar to the finding obtained by Hwang et al. (2015) who argued further that flipped learning has been able to incorporate the concepts of active learning, which, in turn, has contributed to the transformation of learning approach from the traditional classrooms, which tends to adhere to a fixed, teacher-centered instructional model. According to Hwang et al. (2015), students in fixed classrooms are often viewed as "blank slates" on to which information is etched by the teacher, and the students primarily work alone. To this extent, most researchers have come to agree that in flipped classrooms, active learning enables learners to work in groups in order to achieve educational goals. The subsequent sections review various literatures that cover the relevant theoretical foundations of flipped learning.

Theoretical Foundations of Flipped Learning

Several kinds of literature have demonstrated that, for teachers to understand the concept of flipped learning, they must understand its theoretical foundations; as this would enable them ensure effective implementation of the approach in the classroom.

Cheryl and Stephen (2013) in their study of the relevant theoretical foundations that form the basis for implementing flipped learning documented two frameworks including Blended Learning Theory (BLT) and Project-based Learning Theory (PBLT) .

Blended Learning Theory (BLT)

Blended Learning Theory is a pedagogical approach to classroom instruction that combines face-to-face activities with computer-mediated activities and online learning (Alajmi, 2011). Advocates of BLT argue that it minimizes the weaknesses of full online instruction by allowing face time with the teacher, learners, peers, and provides an opportunity for clarity of difficult assignments or concepts. Similarly, most researchers including Donohue, Fox, and Torrence (2009) found that teachers should have adequate knowledge concerning BLT because it is an integral component of the flipped classroom. In particular, these researchers investigated the effect of modified flipped learning on students learning in a basic chemistry course using podcasts and other multimedia methods to teach both online and face-to-face, as suggested in the BLT model. Their study also incorporated a control group consisting of students who were only taught using face-to-face interaction. While comparing the findings obtained from the two groups, Donohue, Fox, and Torrence (2009) found that learners in the modified flipped classroom outperformed learners in a traditional class format (face to face) on some academic measures. To this extent, researcher recommended that teachers aiming to achieve the full benefit of flipped learning in the classroom should have adequate knowledge of the Blended Learning Theory, as it is an integral part of the flipped learning model.

Project-based Learning Theory (PBLT)

Project-based Learning (PBLT) is student-centered pedagogy that focuses on problems or projects undertaken by the students as means of instruction. PBL involve

initiative by the students or group of students and necessitate a variety of educational activities. Cheryl and Stephen (2013) in their study found that in PBLT, the students' objectives with respect to learning are directed at helping them to develop intrinsic motivation, flexible and effective problem-solving skills, collaborative skills, and self-directed learning. In addition, Del Valle and Duffy (2009) in their study noted that to have adequate knowledge of flipped learning, teachers should learn to view flipped learning through the lens of PBL. Also, they found that students in high-enrollment flipped classrooms were likely to be more satisfied and engaged when their teachers implemented flipped learning with the PBLT design. Another noteworthy example of PBLT in the flipped learning research occurred in a study by Corey and Bower (2015), which used the flipped classroom pedagogy to teach pharmacotherapy in an 8-week course. They found that students both outperformed and viewed the classroom positively when compared to the traditional lecture-based class.

Technological Instructional Resources and Materials in Flipped Learning

There are several types of technological resources and materials that assist in the development and application of flipped learning in the classroom, such as software.

Software for Improving Flipped Learning

Software, in broad terms, refers to the part of a computer system or network that consists of encoded computer instructions or information intended for a particular use. Software differs from hardware in that hardware is any physical device used in or with a computer system while software is a collection of data or code often installed onto the hard drive of the computer. Examples of software and web tools that could be used to improve flipped learning include Wikispaces, Screencast, Dropbox, Celly, and Poll Everywhere. Researchers who have investigated the various tools used in flipped learning

include Alpaslan et al. (2015), Barowy and Laserna (2013), Caldwell (2013), Hammerman (2016), and Yu –Lung et al. (2011), among other renowned researchers. Taken together, these researchers demonstrated that the progress in technology has made flipped learning easier, as teachers and students could interact easily using a number of highly efficient web tools and software.

In their study of the available software and web tools for enhancing learning in Flipped Classrooms, Alpaslan et al. (2015) compiled different software and compared their capabilities in improving Flipped Learning. They found out that Wikispaces is among the most common software programs used in classrooms in the United States. Alpaslan et al. (2015) demonstrated that Wikispaces is efficient for most classrooms because it is a free and very useful tool designed to give learners the ability to reflect on their work, share their thoughts, and edit a pool of work collaboratively. A similar study by Hammerman (2016) demonstrated that Wikispaces has become a powerful web software used across the world to facilitate flipped learning. In a different study, Caldwell (2013) explored the applicability of Wikispaces in the flipped classroom. Caldwell (2013) observed that instructors tend to use Wikispaces to power blogs of their students in the classroom. To this extent, the instructors task the learners with the responsibility of monitoring what their projects are doing. Yu –Lung et al. (2011) also demonstrated that in some flipped classrooms, Wikispaces is often used as a means of posing questions or tasks, and the learners have to determine the answers in the online collaboration space.

Barowy and Laserna (2013), in their study on the capabilities of Dropbox as a software for enhancing flipped learning, examined its usefulness in the flipped classroom. They found out that Dropbox is useful with enhancing flipped learning because it allows instructors and learners to work on the same set of information concurrently. Barowy and

Laserna (2013) defined Dropbox as a web tool program that allows instructors and learners to create a special folder on their computers or smart phones, which is then synchronized (Barowy & Laserna, 2013). Files placed in this folder are accessible to all the users in the classrooms via Dropbox software installed on the desktop or Dropbox web. The study by Barowy and Laserna (2013) is similar to the study by Zhonggen and Wang (2016), which highlighted that Dropbox enables instructors to create a folder in which every learner in a flipped classroom can place or pull data for learning purposes. In a different study, Yu –Lung et al. (2011) examined the various ways in which Dropbox could be implemented in the classroom and found out that Dropbox is useful for homework and exit slips. In particular, the teacher can easily hand out assignments to the students while using this software and students can turn in their assignment in the same manner (Yu –Lung et al., 2011). To this extent, White (2012) demonstrated that Dropbox has become an important collaborative tool for learning in the flipped classroom because it can include all stakeholders including instructors, students, and parents.

Conversely, in their study of the correlation between flipped learning and technology, Shannon and Greg (2013) examined the various technological platforms utilized by teachers in Australia and Southeast Asia. They found that many teachers in some parts of Australia and Southeast Asia use Celly to enhance the learning process. Celly is a software platform that organizes conversations or data for groups, places, and topics into chartrooms commonly referred to as “cells” (Shannon & Greg, 2013). In addition, in their study, Shannon and Greg (2013) demonstrated that Celly has become a particularly useful platform for enhancing flipped learning because it requires limited network availability and reliability. This finding is similar to the finding obtained by Spector (2013) who found out that Celly enables users to connect with one another

anywhere, at anytime. Spector (2013) also demonstrated a similar finding, arguing that Celly enables teachers to use a text-based social network to hand out tasks to learners or even create relevant assignments based on the progress of their students.

Biehler (2012), in his study on the role of technology in improving learning experience in the classroom, examined the applicability of Screencast in the flipped classrooms. Biehler (2012) found out that Instructional Screencast is an effective software for flipped learning because it enables instructors to create their own instructional video. This finding is similar to findings obtained by Hammerman (2016) who demonstrated that screen-casting enables instructors to teach their content virtually, while capturing their voices as well as movements across the computer screen. In a different study, while comparing traditional videotaping and screen-casting, Cheryl and Stephen (2013) demonstrated that screen casting, unlike traditional videotaping that requires teachers show their faces in the video, does not require any recording device beyond the computer being used by the instructor. The findings by Cheryl & Stephen (2013), is more or less similar to findings by Hammerman (2016) because they both demonstrated that screen-casting is effective for improving flipped learning because it enables teachers to save time and space while creating instructional content they would use to disseminate to the students in a flipped classroom.

In their study of the application of screen-casting on flipped learning, Herreid and Schiller (2013) examined some of the various types of screen-casting software that have become popular in the classroom setting. They found out that various screen-casting software relevant for creating instructional content for flipped classrooms include Microsoft Community Clips and Microsoft Expression Encoder. Herreid and Schiller (2013) further observed that Microsoft Community Clips is an effective screen-casting

tool because it enables instructors to record screen while explaining the instructional content they want to provide to their students. This finding is similar to findings obtained by Cheryl and Stephen (2013) who demonstrated further that while Microsoft Community has limited application because it only records screen, teachers can obtain it for free in order to enhance their teaching experience. In addition, Cheryl and Stephen (2013) demonstrated that Microsoft Expression Encoder is superior to Microsoft Community Clips because it not only enables instructors to record their screens, but also enables them to record their webcam as well as provide them with basic editing options after they have finished recording their instructional content. The finding by Herreid and Schiller (2013) is also similar to the finding by Cope and Ward (2012) who further demonstrated that Microsoft Expression Encoder is effective software for improving flipped learning because it is free and easy to use. In particular, teachers can download it free from the Microsoft website.

Conversely, Lucas (2014), in his study of the emerging technologies for improving flipped learning examined the impact of implementing flipped learning with Poll Everywhere, a software platform that enables the teachers to engage their students in real time. Lucas (2014) found out that Poll Everywhere is an effective tool for improving flipped learning because it enables teachers to actively interact with their students, especially in a large group setting. Unlike other software programs such as screencasting that facilitate learning for an individual or small groups, Poll Everywhere enables teachers to interact with a large group of students in real time. The finding is similar to findings obtained by researcher White (2015) who demonstrated that Poll Everywhere is an effective tool for improving flipped learning because it is one of the most convenient and economical approaches for transferring knowledge from the content expert

(instructor) to the learners. In a different finding, Herreid and Schiller (2013) demonstrated that blended methods of active learning that incorporate flipped learning using the Poll Everywhere platform have been accepted widely by students in large group teaching. Equally, Herreid and Schiller (2013) demonstrated that Poll Everywhere enabled instructors to get immediate feedback from the students, which, in turn, enables the teacher to focus more on the key areas that would enable learners to gain more during the learning process. Herreid and Schiller (2013) also echoed similar findings, demonstrating that real time feedback from the students enables the teacher to amend his strategies in order to focus on the relevant areas that needto be addressed to enhance students' learning experience.

Challenges and Pillars of Flipped Learning

The pillars of flipped learning are the features of flipped classrooms that facilitate the implementation of flipped classrooms (Robert, 2012; Wood, Stover, Pilonieta & Taylor, 2012; Meng-Jung, 2009). As most scholars have observed, including Wood, Stover, Pilonieta and Taylor, (2012) and Donohue and Torrence (2009), an educator aiming to implement flipped learning must have adequate knowledge of the four important pillars of flipped learning, which include flexible environment, learning culture, and international content, as well as the attributes of a professional educator. This section reviews each of these pillars.

Flexible Environments

A flexible environment is a learning environment physically rearranged to accommodate different types of learning, demonstrating a high degree of flexibility with timelines for learning and assessment. In his study of the various ways that teachers could enhance effective learning using technology in the classroom, Robert (2012), examines

the ways in which teachers could ensure the provision of a flexible environment for flipped learning. He found that teachers could create a flexible environment by providing the learners with the opportunity to choose when and where they want to learn. Mupinga, Nora, and Yaw (2016), found that teachers should be able to adopt teaching modes as well as have expectations that are highly flexible, reported similar findings. Likewise, as demonstrated by Meng-Jung (2009), the pace of learning and assessment in flipped classrooms should be flexible to cater to the learning abilities of all learners.

Learning Culture

Several researchers agree that for flipped learning to be effective, learning culture must shift away from a teacher-centered classroom to a student-centered approach (Wang, Hsu & Green, 2013; Misook & Anthony, 2015). Wang, Hsu and Green (2013) noted that teachers should allow the learners to explore course materials before class and use class time to explore the topics in greater context. To this extent, Misook and Anthony (2015) noted that teachers need to reframe their approaches from designing instruction to providing opportunities for learners to participate actively in the learning process and evaluate their learning in a manner that is personally meaningful. Similarly, Misook and Anthony (2015) reported that teachers must design curriculum in a manner that personalizes learning by creating a series of vodcasts and preparing other learning materials that scaffold learning for the weaker students and challenge the more able students. In light of this observation, it is apparent that teachers must acquire considerable knowledge of new teaching methods that utilizes current technologies to be able to apply flipped learning in the classroom.

Intentional Content

In flipped learning, the content of learning must be designed intentionally to promote critical and higher order thinking in student-centered activities in and outside the classroom. Therefore, as demonstrated by Lai, Zhao, and Wang (2011) and by Joyes and Tong (2009), teachers knowledgeable in flipped learning must be able to evaluate the content they need to teach directly to their students and the contents that the students need to explore on their own when outside the group learning space or classroom. Abbad and Morris (2009)**,** in their study of the relevant knowledge for implementation of flipped learning, found that teachers must be able to use design learning content that facilitates the maximization of classroom time, as well as incorporate instruction methods, such as peer instruction, active learning strategies, and problem-based learning. Therefore, teachers must ensure that they move away from the teacher–centered approach by providing content that favors the student-centered approach.

Professional Educators

In flipped learning, professional educators refer to the active observers capable of offering timely and relevant assessment and feedback, as well as reflection and connectedness, during live instruction. According to Misook and Anthony (2015), to be an effective teacher in flipped learning, teachers are required to decide on the types of learning activities and the appropriate strategies to implement those learning activities. This finding is supported by findings by Meng-Jung (2009) who noted that teachers must be able to design activities that maximize face-to-face interactions between students and educators and between students.

Teachers Perception of the Flipped Learning in the Classroom

As demonstrated in the previous section, the integration of flipped learning in the classroom largely depends on the knowledge of teachers with flipped learning as a technology as well as their perception of the flipped classroom. Several researchers including Abuhamour (2013), Jacobi (2012), Ford and Forman (2009), and Bingimlas (2009) have attempted to examine the teacher's perception of flipped learning.

Model for Change

In their study of the benefits and limitations of flipped learning, researchers conducted a survey across different schools to determine the perception of teachers in respect to flipped learning. For example, Abuhamour (2013) found that most teachers' views of flipped learning classrooms as a classroom model that pushes for change in the learning environment. In addition, he noted that most teachers acknowledged that students today learn differently from students in the past because they spend much time on the internet playing video games, visiting social media platforms, and researching on the internet. Therefore, as called for by this researcher, there is the need for educators to introduce a new learning method that integrates internet technologies. A similar finding was reported by Joanne and Tim (2014) who showed that most teachers agree that flipped learning pushes for change from traditional teacher-centered classrooms to a student-centered approach whereby the students explore the technologies they use in their daily lives to learn new concepts.

Jacobi (2012), on the other hand, found that students who use computer-based instruction tend to have significantly higher assessment scores than learners taught by methods that are more traditional. In line with this observation, most teachers have come

to accept flipped learning as a model for change because it enables learners to use computer-based platforms to enhance their learning activities.

Student-Centered Approach

Herreid and Schiller (2013), in their study of the flipped classroom, examined the use of the flipped classroom to deliver educational material in healthcare education colleges in the United States, and recognized the ever-growing time constraints on classroom education. They found that the flipped classroom is effective as a way to remove teaching instruction from time-consuming teacher-instruction to a more convenient student-centered approach. While using the flipped classroom approach to deliver educational material, Bingimlas (2009) found that flipped learning facilitated increased class attendance, supplemented intra-operative teaching, and reduced lecture time in the classroom. This finding is similar to findings obtained by Brunsell and Horejsi (2013) who found that teachers prefer flipped learning because it emphasizes interactive activities. As demonstrated by Brunsell and Horejsi (2013), flipped learning is a student-centered learning model that allows students to have more opportunities to present their opinions. In particular, Ford and Forman (2009) found that due to the emphasis on students becoming the agents of their own learning rather than the object of instruction, the flipped learning model enables teachers to make the shift from teacher driven instruction to student-centered learning. To this extent, it is apparent that most teachers agree that flipped learning has become an effective way of enhancing the classroom experience.

Chapter II Summary

This chapter evaluated theories advanced from research studies regarding flipped learning in the classroom and its impact on teaching, learning and students' achievement,

concepts behind flipped learning, theoretical foundations of flipped learning, technological, instructional resources and materials in flipped learning, challenges and pillars of flipped learning, as well as the knowledge of educators regarding technology and pedagogy concerning flipped learning. These aspects of the literature are significant for building the usefulness of flipped learning in the classroom as well as establishing arguments for effective teaching and learning, which are all important in examining my study. In Chapter III, the researcher will explain and discuss the methodology for this study as he looks to capture and understand the elementary school teacher's perspective about the use of flipped learning in the classroom and its impact on students' performance.

CHAPTER III

METHODOLOGY

The purpose of this study was to explore the use of flipped learning and its impact on teaching and learning in classrooms as perceived by 5-10 elementary school teachers who use flipped learning in their classrooms. It is important that adequate knowledge concerning how flipped learning can be implemented in the classroom to support students learning in elementary schools. The data on the use and impact of flipped learning on teaching and learning in the classroom was collected through direct interview. The study sought to identify some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Results of the study identified practices that can be applied to the flipped learning method to make learning increasingly effective and support student learning in elementary schools.

The questions guided the study were as follows:

1. How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support student learning in elementary schools?
2. What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation?
3. What are some of the technological instructional resources and materials that have been used to help improve flipped learning?
4. How has flipped learning affected the performance of the students?
5. What are participating teachers' perspectives about the challenges they have faced when trying to use and apply flipped learning in the classroom at the elementary school level, and how did they respond to these challenges?

The chapter was organized into four sections to outline and explain the methodology used in this study. The first section is the methodology section. The second section was about validity, credibility, and dependability. The third section was about limitations. Lastly, a chapter summary was provided. Each section includes supporting information in appropriate and necessary detail to provide the procedures and processes that will be essential to conduct this study.

Methodology

The organization of this section included the following subsections:

1. The research design rationale,
2. population, sample, and site,
3. instrumentation,
4. data collection process, and
5. data analysis.

Research Design and Rationale

This study used a qualitative inquiry, using a general qualitative approach to explore teachers' perspectives and their experiences about flipped learning effectiveness in elementary schools (Merriam & Tisdell, 2016). The qualitative approach is an effective research approach to get rich information about teachers' perspectives and their experiences about flipped learning use and effectiveness at the elementary school level, the best practices that can be applied in flipped learning, some of the technological instructional resources and materials that have been used to help improve flipped learning, and the effectiveness of flipped learning in the performance of the students (Creswell, 2013; Merriam, 2009; Marsha & Rossma, 2006). This type of research allows for the teachers' experiences to float to the surface. The phenomenological qualitative

research methodology provided a foundation for the inquiry, as it is best for exploratory research of a new, or relatively new experience (Creswell, 2009; Stauss & Corbin, 2006).

Population, Sample, Site

This study was carried out with five elementary school teachers in urban locations in the Midwest region of the United States who utilize flipped learning in their classrooms. As Creswell (2007) noted in an analysis of sample sizes, a range of 5-25 participants was suggested for a phenomenological approach; however, I believed this range may be ambiguous and impractical for my purposes. I found that Flowers, Larkin and Smith (2009) suggested and recommended that a small sample of five for beginning researchers to explain each participant's interpretation of the phenomenon; this provided me with a base from which to conceptualize a acceptable number. I chose a minimum of five participants to ensure the depth and detail of data collection as well as a thorough analysis in my study. The strength of interpretative phenomenology is not in the number of participants interviewed; rather, it is in the quality and richness of the information and responses of the participants (Flowers, Larkin & Smith, 2009; Creswell, 2013; Creswell, 2007; Moustakas, 1994). It was important that each participant met the criteria for seletion in order to ensure homogeneity within the study. I used principals of local schools in which the participants teach to serve as initial gatekeepers, and subsequently asked the participants to identify colleagues/peer teachers who met the criteria, as a snowball selection method (Hatch, 2002).

Instrumentation

This section includes two subsections the role of the researcher and interview questions.

Role of the researcher. My role as the researcher was to interview participants about their use of flipped learning and its impact on teaching and learning in classrooms at the elementary school level. The processes that guided the data collection for this study are as follows:

1. The process began by obtaining permission from the HSIRB before connection with gatekeepers (principals) and participants (elementary school teachers).
2. After I received HSIRB approval, I communicated with gatekeepers to provide me with contact information with teachers.
3. Then, I contacted each teacher about participating in the study.
4. After they expressed interest in participating in my study, I sent them the abstract of my study and got their informed consent (Invitation and Informed Consent Form).
5. Upon receiving each participant's signed consent form, we agreed to meet for an interview at a comfortable location they prefer.
6. I then collected data in the form of interviews and narratives from the perspective of each participant.

The process of interviewing was informal and semi-structured in order to allow a natural flow and provide the participants time to gather their thoughts (Creswell, 2013; Flowers, Larkin & Smith, 2009; Marshall & Rossman, 2006; Hatch, 2002).

I established a relationship with participants through informal conversation prior to conducting each interview, to encourage participants to become comfortable with talking about themselves and their perspectives and experiences (Flowers, Larkin & Smith, 2009). In an effort to build the relationship between the participant and me as the

researcher, the interviews began with background questions that Flowers, Larkin and Smith (2009) and Hill et al. (2005) suggested can be helpful in making the participant feel comfortable as well as help in collecting demographic information. After the participant provided me with his/her background and the demographic information about his/her school, I moved the conversation toward my interview questions regarding the use of flipped learning and its impact on teaching and learning in classrooms in the elementary school, some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom, some of the technological instructional resources and materials that have been used to help improve flipped learning, the effectiveness of flipped learning on the performance of the students, the challenges they have faced when trying to use and apply the flipped learning in the classroom in elementary school level, and how they responded to these challenges.

To minimize my bias as teacher and researcher, I set my thoughts, perspectives, and feelings away throughout the interview process. This method is used not to hold or hide individual researcher's biases, but to recognize and refer to them throughout a study (Creswell, 2014; Fischer, 2010, Falk; Blumenreich, 2005& Patton, 2002). By using this method, I believe that I was able to minimize inaccurate results as my analysis developed and led me in new directions (Fischer, 2009). I provided the participants with the interview questions in advance to give them time to reflect and consider their experiences (Creswell, 2014; Falk & Blumenreich, 2005; Patton, 2002).

Interview questions. Recorded interviews were the essential and primary source of data collection. A semi-structured interview protocol was used (Flowers, Larkin & Smith, 2009) and follow-up questions were asked that relate to each participant's answers if needed. Interviews varied in length due to differences in the length and the flow of the

meeting or sessions as well as the time or comfort level of the participants. These were the deciding factors as to how long the interviews last (Creswell, 2013; Marshall & Rossman, 2011).

The interview process was semi-structured to provide the teachers with enough time to answer questions and expand upon them when prompted by myself as interviewer (Creswell, 2013; Marshall & Rossman, 2011; Flowers, Larkin & Smith, 2009).

Data Collection Procedures

Data was collected through direct interviews. Given the potential of some participants, each participant was given the option to have follow-up interviews conducted if needed. I conducted the interviews and collect data through audio recordings of interviews (Flowers, Larkin & Smith, 2009; Creswell, 2007; Marshall & Rossman, 2006). Each interview was face-to-face and was recorded using a voice-recorder program in my cellphone and my Ipad and was transcribed verbatim. Afterward a professional transcriptionist, who signed a confidentiality agreement, transcribed the recordings, and I checked the transcripts for accuracy, by listening to each audio file to verify line-by-line accuracy. I made every effort to respect the participants' comfort with the process to support openness and sufficient depth of their reflections to gain a deep understanding of their experiences and perspectives (Creswell, 2013; Flowers, Larkin & Smith, 2009; Creswell, 2007; Marshall & Rossman, 2006 & Falk & Blumenreich, 2005).

The group of potential participants is quite small due to newness of the use of flipped learning. At the conclusion of each interview, participants were thanked for their time and reminded of their right to withdraw from the study at any point if they want to do so. Moreover, participants were asked to keep a journal, record, or write down or record any additional reflections that come to mind as relevant feelings, thoughts or ideas

after the interview (Creswell, 2013; Marshall & Rossman, 2011; Flowers, Larkin & Smith, 2009).

Data Analysis

The data collection and analysis must be a simultaneous process in qualitative research. The qualitative data analysis entails classifying things, persons, and events and the properties that characterize them (Creswell, 2007).

Data from each recorded interview was transcribed and coded. The raw data was coded, as each transcript was read to let the themes emerge (Creswell, 2013; Saldana, 2013; Marshall & Rossman, 2011; Flowers, Larkin & Smith, 2009). The data analysis process included five steps: reading and re-reading, initial noting, identifying emergent themes, checking and searching for connections across themes, and moving to the next transcript. By using a repeated process, a deep understanding of the commonalities of the participants and their shared experiences was developed (Creswell, 2013; Marshall & Rossman, 2011; Flowers, Larkin & Smith, 2009). The process of reviewing the transcribed interviews allowed me as researcher to become acquainted with the data, develop and code the themes that emerged from the data, and describe the situation in its context. Microsoft Word files were created for the purpose of transcribing interviews, journal entries, and field notes. A password was used for protecting files in a computer authorized by the researcher (Cresweell, 2007; Marshall & Rossman, 2006).

Dedoose software was used to manage and code the data. This software was used to store and code participant responses (transcripts of interviews). Dedoose software allows for several layers (child codes as referred to in Dedoose software) of coding across numerous categories that allow for a visual model of the data (Saldana, 2013; Creswell, 2007; Marshall & Rossman, 2006). I provided the analytic ability while the software

program will be served as the way to support and ease the process and save the time. Each participant's confidentiality was assured through pseudonyms and the removal of any identifiable characteristics (Saldana, 2013; Creswell, 2007; Marshall & Rossman, 2006).

As themes emerge and common features began to be identified, data that will be qualitatively different from other participants' responses will be used in contrast and as a way to widen and develop the discussion about the use of flipped learning and its impact on teaching and learning in elementary classrooms. Different and discrepant information will be identified and explored to build and develop a wide understanding of the use of flipped learning and its impact on teaching and learning in elementary classrooms (Saldana, 2013; Kothari, 2010; Creswell, 2007; Marshall & Rossman, 2006; Falk & Blumenreich, 2005). When the data was transcribed and analyzed, both the record and the transcripts were placed in a locked file cabinet in the WMU office of Dr. Nancy Mansberger (primary investigator). After 3 years' time, the data will be shredded.

Validity, Credibility, and Dependability

As the perspectives and reflections of the participants are at the core of this study, a plan for including their perceptions and feedback at the center of this study helped to promote a broader understanding of the use of flipped learning and its impact on teaching and learning in classrooms in the elementary school level. The organization of this section includes how I ensured the validity, credibility and dependability of the study. Each subsection addresses specific strategies or elements that are appropriate for qualitative research.

Credibility. Data from each participant was explored in order to produce and develop a thick and rich description of their lived experiences. Through this rich description strategy, validity and credibility was increased as the full interview will be examined, not just the key points (Marshall & Rossman, 2006; Creswell & Miller, 2000). For example, the researcher presented each of the participants' perspectives and experiences with each emergent theme (Li, 2004; Creswell & Miller, 2000). A peer debriefing strategy or procedure was used to establish credibility in this study. I discussed with my advisor (Dr. Nancy Mansberger) and another peer/ researcher about the research procedures in order to assist me as a researcher to test my perspectives, thoughts and ideas; away from my biases (Marshall & Rossman, 2006; Creswell & Miller, 2000).

Dependability. In order to provide the source to obtain thick and rich description and to draw on for use in peer debriefing strategies, all recordings were transcribed verbatim. Detailed records of how and when the data was collected and maintained to allow for possible replication of the study. Further, I used software for saving, managing, and coding the data to protect the integrity of the data (Marshall & Rossman, 2006; Creswell & Miller, 2000).

Limitations

The major limitation for this research design is that the research was limited in its scope. This is because it focuses on a single problem in one sitting; hence it has a small sample population. Therefore, the limitations of this study are that the information it provides may not be generalizable to other settings. (Creswell, 2014; Creswell, 2013; Saldana, 2013; Marshall & Rossman, 2011; Flowers, Larkin & Smith, 2009).

Chapter III Summary

This chapter has provided an extensive analysis of the methodologies and instrumentations that were used by the researcher during the study. The interview was the primary tool utilized to collect the data. Chapter IV will present the findings and analysis of the data collected.

CHAPTER IV

RESULTS

The purpose of this study was to explore the use of flipped learning and its impact on teaching and learning in classrooms as perceived by five elementary school teachers who use flipped learning in their classrooms. It is important that adequate knowledge concerning how flipped learning can be implemented in a classroom to support students learning in elementary schools is made available. The data on the use and impact of flipped learning on teaching and learning in the classroom was collected through direct interview. The study sought to identify some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Results of the study may identify practices that can be shared with other researchers and elementary teachers who wish to apply the flipped learning approach, in order to make learning increasingly effective and to support student learning in elementary schools. The research questions for this study were: (1) How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support students learning in elementary schools? (2) What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation? (3) What are some of the technological instructional resources and materials that have been used to help improve flipped learning? (4) How has flipped learning affected the performance of the students? And (5) What are participating teachers' perspectives about the challenges they have faced when trying to use and apply flipped learning in the elementary classroom, and how did they respond to these challenges?

The findings of this study are organized by research questions. Data from interviews and field notes were explored to identify themes of data from each participant.

This chapter is organized into the following sections: Participant Profiles, Presentation of Themes, and Summary of Results.

Participant Profiles

The participants in this study were five elementary school teachers who utilize flipped learning in their classrooms. These public schools were located in two different urban school districts in the Midwest region of the United States.

Table 1: *Participants' Schools Demographics*

Students' ethnic distribution	European American	Latin American	Asian American	African American	Multi Ethnic
School of teacher 1	45.4 %	8.2%	4.6%	40.4%	0.7%
School of teacher	45.4 %	8.2%	4.6%	40.4%	0.7%
School of teacher 3	87%	3%	2%	9%	1%
School of teacher 4	87%	3%	2%	9%	1%
School of teacher 5	68.5%	5.3%	2 %	17.4%	6.8%

Table 2: *Details of Students' Socioeconomic Status in Each Teacher Participant's School*

Students' Socioeconomic Status Details of Participants' Schools	Eligible for free breakfast/ lunch	Eligible for reduced breakfast/ lunch
Teacher 1	62.8%	11.6%
Teacher 2	62.8%	11.6%
Teacher 3	52%	4%
Teacher 4	52%	4%
Teacher 5	30.4%	4.8%

Teacher 1

Teacher 1 was a Western European American female. She had been utilizing flipped learning in her classroom for one year, especially in math class, and at the time of the interview was teaching the fifth grade. Teacher 1 was teaching in a public elementary school in Southwest Michigan. The school was a diverse school demographically speaking—45.4% of the students in her school identified as European American, 40.4% of the students identified as African American, and the remaining percentage of the student population came from diverse ethnic backgrounds, particularly international immigrant and refugee families, such as 4.6% Asian American, 8.2% Latin American, and 0.7% multi racial (which was usually African American and European American). Approximately 62.8% of the students in this school qualified for free breakfast and lunch and 11.6% of them qualified for reduced breakfast and lunch. The students in this school came from a very similar range of ethnic and racial backgrounds when compared to the larger district student population.

Teacher 2

Teacher 2 was a Western European American female. She had been utilizing flipped learning in her classroom for five years, especially in literacy class, and at the time of the interview was teaching fourth grade. Teacher 2 was teaching in a public elementary school in Southwest Michigan. The school was a diverse school demographically speaking—45.4% of the students in her school identified as European American, 40.4% of the students identified as African American, and the remaining percentage of the student population came from diverse ethnic backgrounds, particularly international immigrant and refugee families, such as 4.6% Asian American, 8.2% Latin American, and 0.7% multi racial (which was usually African American and European American). Approximately 62.8% of the students in this school qualified for free breakfast and lunch and 11.6% of them qualified for reduced breakfast and lunch. The students in this school came from a very similar range of ethnic and racial backgrounds when compared to the larger district student population.

Teacher 3

Teacher 3 was an African American male. He had been utilizing flipped learning in his classroom for four years, and at the time of the interview was teaching the fifth grade. Teacher 3 was teaching in a public elementary school in Southwest Michigan. The school was a diverse school demographically speaking—87% of the students in his school identified as European American, 9% of the students identified as African American, and the remaining percentage of the student population came from diverse ethnic backgrounds, particularly international immigrant and refugee families, such as 2% Asian American, 3% Latin American, and 1% multi racial (which was usually African American and European American). Approximately 52% of the students in this

school qualified for free breakfast and lunch and 4% of them qualified for reduced breakfast and lunch. The students in this school came from a very similar range of ethnic and racial backgrounds when compared to the larger district student population.

Teacher 4

Teacher 4 was an African American male. He had been utilizing flipped learning in his classroom for four years, and at the time of the interview was teaching the fourth grade. Teacher 4 was teaching in a public elementary school in Southwest Michigan. The school was a diverse school demographically speaking—87% of the students in his school identified as European American, 9% of the students in his school identified as African American, and the remaining percentage of the student population came from diverse ethnic backgrounds, particularly international immigrant and refugee families, such as 2% Asian American, 3% Latin American, and 1% multi racial (which was usually African American and European American). Approximately 52% of the students in this school qualified for free breakfast and lunch and 4% of them qualified for reduced breakfast and lunch. The students in this school came from a very similar range of ethnic and racial backgrounds when compared to the larger district student population.

Teacher 5

Teacher 5 was a Western European American female. She had been utilizing flipped learning in her classroom for seven years, and at the time of the interview was teaching the fifth grade. Teacher 5 was teaching in a public elementary school in Southwest Michigan. The school was a diverse school demographically speaking—68.5% of the students in her school identified as European American, 17.4% of the students identified as African American, and the remaining percentage of the student population came from diverse ethnic backgrounds, particularly international immigrant

and refugee families, such as 2 % Asian American, 5.3% Latin American, and 6.8% multi racial (which was usually African American and European American). Approximately 30.4% of the students in this school qualified for free breakfast and lunch and 4.8% of them qualified for reduced breakfast and lunch. The students in her school also came from a decidedly different range of ethnic and racial backgrounds when compared to the larger district student population.

Presentation of Themes

The findings of this study are organized by research questions. Data from interviews and a field note were explored to identify themes of data from each participant.

Table 3: *Summary of Results*

Research Questions	Theme	Sub-Themes	Emergent Elements	Frequency
1- How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support students learning in elementary schools?	The Reasons Teachers Give For Using Flipped Learning	1. Making Decision about Using Flipped Learning	1- Teachers' Belief about It As Best Approach to Work with all Students Individually and with Whole Group	5
			2- Teachers' Belief about It As a New Strategy and Interesting to Use it	3
			3- Teachers' Belief about It As Helpful for Students to Get Better Understanding	5
			4- Teachers' Belief about It As Best way for Saving More Time for Classroom's Activities and Practices	2

Table 3 - Continued

			5- Teachers' Belief about It As Appropriate Approach the 21st Century	3
			6- Teachers' Belief about It As a More Interesting Approach for Children	2
		2. Teachers' Perspectives about Flipped Learning in the Classroom in the Elementary School	1- Beneficial for All Subjects	4
			2- Improving Students' Achievement	5
			3- Making the Process of Learning More Interesting	2
			4- Helping to Prepare Students for Future Learning	2
2- What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation?	Practices Used in the Flipped Learning Instructional Process	1-Watching Video and Using Visual Materials at Home		5
		2- Using Several Types of Educational Programs		5
		3-Working with Students in Whole Group and Small Group		5
		4- Classroom-Discussion		5
		5-Using Feedback Strategy		2

Table 3 - Continued

		6-Creating a Positive and Interesting Environment in the Classroom	2
		7-Using a Reward System	1
		8- Using Songs and Music through Many Activities and Games	1
3- What are some of the technological instructional resources and materials that have been used to help improve flipped learning?	Technological Instructional Resources and Materials in Flipped Learning	1- Videos and Visual Materials	5
		2- Computer Device in the Classroom	5
		3- Several Kinds of Educational Programs	5
		4- District Curriculum	3
		5- Various Assessments, Quizzes, Presentations, and Worksheets	4

Table 3 - Continued

4- How has flipped learning affected the performance of the students?	Flipped Learning Impacts for Students' in the Elementary Schools	1- Improving Personal Attributes and Skills for Students	3
		2- Improving Students' Achievement and Engagement in Class	5
		3- Improving Academic Skills for Students	3
		4- Making the Process of Learning More Interesting for Students	2
5- What are participating teachers' perspectives about the challenges they have faced when trying to use and apply flipped learning in the elementary classroom, and how did they respond to these challenges?	Challenges and Difficulties in Flipped Learning in the Elementary School	1- Need for Parents Support	5
		2-Need for Professional Development and Support	5
		3- Technological Issues	3
		4- Students' Preparation	3
		5- Time Issue	1

Research Question 1

Research Question 1 asked, "How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support students' learning in elementary schools?"

I categorized the responses to this question under an overarching theme I called The Reasons Teachers Give for Using Flipped Learning. When the elementary school teachers were asked about their approaches to flipped learning in the classroom and their perspectives about its usefulness, some participants described their ways and thoughts about making the decision to use flipped learning, and some talked about their opinions about using flipped learning and its impact to promote and support their students' learning.

In general, this theme is discussed in two sub-themes: 1) Making Decisions about Using Flipped Learning, and 2) Teachers' Perspectives about Flipped Learning in the Elementary Classroom. Each participant's perceptions of and experiences with making decisions to use flipped learning in the classroom, and their perception of it's usefulness to promote and support student learning is discussed under these sub-themes, below.

Sub-theme 1: Making Decisions about Using Flipped Learning

This sub-theme describes the ways and thoughts in which the participating teachers' approached the use of flipped learning in their classroom when making decisions about using flipped learning and the models that they chose to use with their students to support their learning in the elementary schools. Six elements emerged associated with perceptions that guided teachers' decision-making: 1) An Effective Approach to Work with All Students, Both Individual and with Whole Group; 2) A New and Interesting Strategy; 3) A Strategy to Promote Better Understanding for Students; 4)

An Effective Way to Save Time for Classroom Activities and Practices; 5) An Appropriate Approach for the 21st Century; and 6) A More Interesting Approach for Children.

Emergent Element 1.1.1— An Effective Approach to Work with All Students, Both Individual and with Whole Group. All participants noted that they approached their making decisions about using flipped learning in classrooms at the elementary school level according to their perception that flipped learning is a highly effective method to work with all students, either individually or in whole group.

> ***Teacher 2.*** I've been doing it (flipped learning) for five years. Patience is the first weapon against students. You have to be very patient because every child is not going to learn the same, so I pick up strategies from other teachers. So it kinda enabled me to develop criteria of strategized methods for individuals instead of whole groups. I've found it easier to put students into small groups and then have them come together into big groups. So that's a great method I use.
>
> ***Teacher 4.*** Sometimes I work with my students in whole group and have discussion about the lesson and I like so much to work with them in small groups that I can get each one to participate.

Emergent Element 1.1.2— A New and Interesting Strategy. Three of the participating teachers stated that making decisions about the use of flipped learning in their classroom is dependent on their belief or perspective about flipped learning as a new approach and they were interested in utilizing it with their students in their classroom in the elementary schools.

> ***Teacher 3.*** Flipped learning is a relatively new concept in today's classroom. As you know, flipped learning tends to reverse the traditional model of teaching.

Teacher 4. As an elementary school teacher, I was eager to implement the approach of flipped learning (Teacher 4).

Well, I have always wanted to do this, since I was young, I've wanted to be a teacher.

Emergent Element 1.1.3— A Strategy to Promote Better Understanding for Students. All participating teachers reported that they utilize flipped learning strategies in the classroom to facilitate student understanding of curricular content.

Teacher 4. I try to organize the information in such a manner that it appears to be coherent and simple to understand. And I also include examples in the flipped learning plan to make the materials illustrative and aim at providing the students with answers to the questions that may occur in the course of their studying.

Teacher 3. In my approach, I have given my students short videos to study at home and then I could assist them to understand by going through the materials I gave them in the day earlier.

Teacher 5. By the use of videos, students are able to learn at their own pace as they can pause, rewind, and even watch again certain parts of the video lesson that they did not understand.

Emergent Element 1.1.4— An Effective Way to Save Time for Classroom Activities and Practices. This emergent element reflected the perspectives and practices of just a couple of the participating teachers related to their belief or perspective about using flipped learning strategies as a way, to help save, or more effectively use, time for classroom's activities and practices, such as ensuring participation in discussion and other activities of all students.

Teacher 4. To control my students in their learning process, I offer them materials that they can study at any convenient time. . .Today I am trying my best to minimize the materials I give to them and make sure that they all have a time and ability to prepare the information for the class discussions.

Teacher 3. Flipped learning is critical, critical as it avails me more time to support my students in an active learning process through the re-allocation of the teaching and learning time.

Teacher 5. First of all, I think that to secure that all students have a chance to speak and share their knowledge later in a class, it is significant to divide the class into smaller groups. Therefore, I have divided my class into smaller groups, and now all my students have a chance to discuss their learned knowledge.

Teacher 4. I strive for such an approach that provides us with more time in class for the further discussion of the considered topic as well as other activities that are aimed at helping the children to apply the learned information in practice.

Emergent Element 1.1.5—An Appropriate Approach for the 21st Century. Three of the participating teachers described how they thought flipped learning was an appropriate approach for the 21st century to use with students to improve their learning.

Teacher 5. For sure, living in 2018, all my students have tablets and computers in every classroom that help them to access the material in few seconds. Hence, I use a number of digital sources to engage my students in the learning process.

Teacher 2. Well, the good thing about learning in 2018 is that we have tablets and computers in every classroom now and so there's online apps to assist you do everything. So technology has definitely been great helping these kids and so

now, in the new age with computers, it's important for each kid to learn typing skills, input, data and spread sheet skills at an early age.

Teacher 5. I knew that modern children are actually engaged in all innovative technologies. Hence, I send them all material that they can download on their tablets and enjoy the conveniences of the learning process. . . . Also, they can easily access the materials using innovative technologies to watch the video or listen to a lesson.

Emergent Element 1.1.6—A More Interesting Approach for Children. This was the last emergent element within this area of focus. A couple of the participating teachers related to their belief and perspective about flipped learning as more interesting for children because it includes video and visual materials.

Teacher 4. In my opinion, this approach is what helps to make the process of learning more interesting and engaging to the students that, eventually, results in a more successful academic performance. As you know, in fact, integrating technology into the assignments and material introduction is a simple and convenient way to vary the process of education for the students and make it more entertaining.

Teacher 5. I am always trying to create the most approachable plan for my students and create a list of central ideas my students should learn prior to attending a class. Taking into account that I am a teacher of the elementary school, I concentrate my efforts on organizing all material as simple as possible. Also, I have noticed that my students like illustrative materials and visual images. For this simple reason, all tasks I give to my students consist of some visual examples and pictures that make the process of learning much more interesting.

Sub-theme 2: Teachers' Perspectives about the Usefulness of Flipped Learning in the Elementary Classroom. Participants reported a wide range of perspectives about flipped learning in the classroom in the elementary school. Their responses can be divided into four emergent elements: 1) Beneficial for All Subjects: 2) Improving Students' Achievement: 3) Making the Process of Learning More Interesting: and 4) Helping to Prepare Students for Future Learning.

Emergent element 1.2.1 Beneficial for all subjects. Four of the participating teachers viewed the flipped learning and it is usefulness as appropriate to use with all subjects. One of them noted that flipped learning is helpful for math.

> ***Teacher 1.*** I think it would be more beneficial for math. I try to do a lot of just fluency activities so we build on the previous stuff. And then we do a whole, I always do a whole group teach so we can build that conversation and we and the so the kids can learn from each other and not just from me. And then we do, I do a lot of small group and one-on-one. So that is kind of what my math block looks like.

Another participating teacher stated that the flipped learning approached is beneficial to apply with sciences and reading also.

> ***Teacher 2.*** Science is definitely important, but I believe reading. Because if you can read, you know all information is in a book. Everything you want to know is in a book. Now with technology kids are on the phone all day, so that speeds it up, and they don't have any patience, and a lot of kids have ADHD now because of technology. And I like books because it slows you down, and it helps build your imagination, and your creativity, expands your vocabulary, helps you with your social skills and speaking skills. When you speak with people in public and have a

conversation that 's very important for a job interview, when you get a house on a loan, for college interview. Speaking is very important, so I think reading. It's starting to become a lost art, so I believe if we can get that to be one of the most important things in school we'll have a good beginning.

Emergent Element 1.2.2 Improving students' achievement. All of the teachers who participated found that flipped learning in the elementary school classroom plays a clear role in increasing students' performance.

Teacher 4. In my opinion, this approach is what helps to make the process of learning more interesting and engaging to the students that, eventually, results in a more successful academic performance.

Teacher 5. The implementation of the approach of flipped learning has made a positive influence on the academic performance of my students.

Teacher 1. Flipped learning is also significant in supporting the students' learning process as I can assess whether the students are using the teaching materials or not. For example, in math class, I can check if the students use the documents like assessments and worksheets, which I download in the program, we used like Zearn program.

Emergent Element 1.2.3 Making process of learning more interesting. A couple of the participating teachers commented that flipped learning in the classroom in the elementary school plays a role in making the process of learning more interesting for students.

Teacher 4. In my opinion, this approach is what helps to make the process of learning more interesting and engaging to the students that, eventually, results in a more successful academic performance.

Teacher 5. In fact, integrating technology into the assignments and material introduction is a simple and convenient way to vary the process of education for the students and make it more entertaining.

Emergent Element 1.2.4 Helping to prepare students for future learning. This was the final sub-theme within this area of focus. Two participating teachers noted that using flipped learning in the classroom at the elementary school level is a useful step to prepare and train children to deal with flipped learning in their future classes.

Teacher 4. In the long run, I think that flipped learning contributes to the children's self-development and the ability to apply the acquired knowledge and skills to real-life scenarios in different areas of life, including their future practice at a workplace with no dependence on the occupation.

Research Question 2

Research Question 2 asked, "What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation?"

This question led to a focus on the theme "Practices Used in the Flipped Learning Instructional Process." In their responses to interview questions, participating teachers identified a number of practices used in the instructional process.

This theme is discussed in eight sub-themes: 1) Watching Video and Using Visual Materials at Home; 2) Working with Students in Whole group and Small Groups; 3) Using Several Types of Educational Programs; 4) Classroom Discussion; 5) Using Flipped Learning as a Feedback Strategy; 6) Creating a Positive and Interesting Classroom Environment; 7) Using a Reward System; and 8) Using Songs and Music through Many Activities and Games.

Sub-theme 2.1 Watching video and using visual materials at home. All teachers who participated noted that their students watched videos about their lesson at home prior to coming to the classroom.

> ***Teacher 1.*** Students go home and use like a mathematical program like Zearn and watch that video lesson prior to what I would be teaching.
>
> ***Teacher 4.*** I provided my students with presentations, videos, including lectures, interviews, and documentaries, and various readings that I can share digitally. So, I think the materials are different in terms of how the information is presented that, as you know, in turn, helps me to ensure that children with different learning styles can perceive and memorize the provided materials effectively.

Sub-theme 2. 2 Working with students in whole group and small groups. All participating teachers stated that they working with their students in whole group and sometimes in small groups.

> ***Teacher 1.*** I try to do a lot of just fluency activities so we build on the previous stuff. And then we do a whole, I always do a whole group teach so we can build that conversation and we and the so the kids can learn from each other and not just from me. And then we do, I do a lot of small group and one-on-one. So that is kind of what my math block looks like.
>
> ***Teacher 3.*** I always try to use classroom discussion with whole group and with small groups as an effective practice that used in the traditional as well as the flipped classroom because discussions in flipped learning give me an opportunity to observe and assess how the students are grasping the taught concepts.

Teacher 4. Some times I work with my students in whole group and have discussion about the lesson and I like so much to work with them in small groups that I can get each one.

Sub-theme 2.3 Using several types of educational programs. All of the participating teachers discussed the various educational programs that they used with their students in the classroom or elsewhere. Some of them noted that they used the Zearn program for math.

Teacher 1. This year I have used Zearn.org, it might become—it's Zearn it goes with our curriculum and it is lesson by lesson, it can be used as a reviewer, and as a preview, and the other materials I use would be the homework sets that I have from the curriculum. So, I haven't gone outside of the curriculum.

Other participating teachers reported that they used particular programs for teaching reading, such as the Read-Life program.

Teacher 2. We have the Read-Life program that we use in my classroom which allows students to read on an individual level so that certain students can read at their own level. So, say I have second grade student who's on a kindergarten or first-grade level so that program allows them to search up reading stories that are fit for them. That way that student doesn't feel they can't keep up with the rest of the class and their self-esteem doesn't go down and they want to continue to learn and build.

Sub-them 2.4 Classroom discussion. This sub-theme reflects the experiences of participating teachers about the classroom-discussion as one of important practice in the flipped classroom in the elementary school. All participating teachers noted that

classroom-discussion was an essential factor in flipped learning in the elementary schools to support students' learning.

Teacher 5. When it comes to classroom discussion, elementary-school children are not as ready to express their opinions as older students. I am trying to practice discussions through the use of various activities and games.

Teacher 3. I always try to use classroom discussion with whole group and with small groups as an effective practice that used in the traditional as well as the flipped classroom because discussions in flipped learning give me an opportunity to observe and assess how the students are grasping the taught concepts.

Teacher 4. Some times I work with my students in whole group and have discussion about the lesson and I like so much to work with them in small groups that I can get each one.

Teacher 1. I try to do a lot of just fluency activities so we build on the previous stuff. And then we do a whole, I always do a whole group teach so we can build that conversation and we and the so the kids can learn from each other and not just from me. And then we do, I do a lot of small group and one-on-one. So that is kind of what my math block looks like.

Sub-them 2.5 Using flipped learning as a feedback strategy. Two of the teachers who participated discussed feedback as one of practices in the flipped learning classroom at the elementary school level.

Teacher 3. And I have tried to offer feedback for each student in my classroom immediately when they need.

Teacher 1. The flipped learning in the classroom gives the student opportunity to do their homework and assignment in the classroom and get the feedback from their teacher.

Sub-theme 2.6 Creating a positive and interesting classroom environment. Two of the participating teachers reported that creating a positive and interesting classroom environment was one of important practices in a flipped learning classroom to foster students learning in the elementary schools.

Teacher 5. To create the best atmosphere in my elementary classroom, I try to secure fun and interesting classroom environment. To realize this aim, I use a lot of attention-grabbing and motivating activities on a daily basis. I try to teach my students only like I am a child. I do enjoy the company of my students and, because of this positive energy; I believe that they enjoy the time spent with me. Another important practice I use in my classroom is inclusive learning. For sure, children have a different level of reading, writing, math or science. Hence, I try to make sure that read program is appropriate for every student. Estimating my students' abilities and giving them separate readings, I can secure that their self-esteem does not go down because of the fact that they are not able to read all needed material while others can.

Teacher 3. Some application software will also come in handy in a flipped classroom. These include Screencastify, Edpuzzle. Kahoot, and Quizzz. Some of these tools offer an exciting learning environment as student engages in games as they learn. The students thus need to have various portable devices such as iPads to use at school and at home.

Sub-theme 2.7 Using a reward system. This theme reflects the experiences of one participating teacher about using a reward technique as one of the practices in the flipped learning classroom at the elementary school level.

> ***Teacher 5.*** I have a reward system for positive behavior and excellent preparation for classes. If all students come prepared well, I reword them with an educational activity that they enjoy such as singing a song or playing their favorite game.

Sub-theme 2.8 Using songs and music through many activities and games. This final sub-theme within this theme reflects the experiences of one participating teacher about using songs and music during the activities and game time that encourages and enthuses students for leaning.

> ***Teacher 5.*** Estimating my students' abilities and giving them separate readings, I can secure that their self-esteem does not go down because of the fact that they are not able to read all needed material while others can. When it comes to classroom discussion, elementary-school children are not as ready to express their opinions as older students. I am trying to practice discussions through the use of various activities and games. I am trying to use songs and music with repetitive choruses that are related to the learned material.

Research Question 3

Research Question 3 asked, "What are some of the technological instructional resources and materials that have been used to help improve flipped learning?" This question led to a focus on the theme that "Technological Instructional Resources and Materials in Flipped Learning." In their responses to interview questions, participating teachers identified a number of technological instructional resources and materials that have been used to help improve flipped learning in the elementary school classroom.

This theme is discussed in five sub-themes: 1) Videos and Visual Materials; 2) Classroom Computer Devices; 3) Educational Programs; 4) District Curriculum; and 5) Assessments, Quizzes, Presentations, and Worksheets.

Sub-theme 3.1 Videos and visual materials. All participating teachers discussed the videos as main technological instructional resources and materials that have been used to help improve flipped learning in the classroom in the elementary school.

> ***Teacher 5.*** The source has a lot of visual materials, engaging illustrations, and other interesting activities. For every class, I look for a short video that introduces the topic of our discussions and appeals to the little learners. The most engaging videos for my elementary-school students are those that are cartoon-based or show some children doing different activities.
>
> ***Teacher 3.*** It is apparent that a flipped classroom cannot be effective without the use of some technological resources as well as other critical classroom materials. For one, videos will be critical tools in improving learning in a flipped classroom. The teachers can use various portable technological devices to record videos which they will share with the students to learn materials to be discussed later.
>
> ***Teacher 4.*** Some of the technological resources or materials that I used to improve the flipped learning in my classroom include online resources and visual materials that are simple to access.

Sub-theme 3.2 Classroom computer devices. All participating teachers noted that classroom computers are one of basic technological instructional resources and materials that have been used to help improve flipped learning in the elementary classroom.

> ***Teacher 1.*** Each student uses the computer in class.

Teacher 3. The students thus need to have various portable devices such as iPads to use at school and at home.

Sub-theme 3.3 Educational programs. All of participating teachers discussed the various educational programs that they used with their students in the classroom or elsewhere. Some of them reported that they used particular programs for teaching reading, such as Read-Life program.

Teacher 2. We have Read-life program that we use in my classroom which allows students to read on an individual level so that certain students can read at their own level. So, say I have second grade student who's on a kindergarten or first-grade level so that program allows them to search up reading stories that are fit for them. That way that student doesn't feel they can't keep up with the rest of the class and their self-esteem doesn't go down and they want to continue to learn and build.

Other participating teachers stated that she used Zearn program for math.

Teacher 1. This year I have used Zearn.org, it might become—it's Zearn it goes with our curriculum and it is lesson by lesson, it can be used as a reviewer, and as a preview, and the other materials I use would be the homework sets that I have from the curriculum.

Teacher 3. Some application software will also come in handy in a flipped classroom. These include Screencastify, Edpuzzle. Kahoot, and Quizzz.

Sub-theme 3.4 district curriculum. Three of the participating teachers discussed their district curriculum as one of the technological instructional resources and materials that have been used to help improve flipped learning in their elementary classrooms.

Teacher 3. This year I have used Zearn.org, it might become—it's Zearn it goes with our curriculum and it is lesson by lesson, it can be used as a reviewer, and as a preview, and the other materials I use would be the homework sets that I have from the curriculum. So I haven't gone outside of the curriculum.

Sub-theme 3.5 Assessments, quizzes, presentations, and worksheets. This was the final sub-theme focus on this theme. Four of the teachers who participated discussed numerous technological instructional resources and materials, such as presentations, assessments, and quizzes that have been used to help improve flipped learning in the classroom in the elementary school.

Teacher 5. I use a number of digital sources to engage my students in the learning process. The first type of technology I use in my classrooms is computer-based quizzes. One such excellent source is Quizlet.com that also assists me in checking my students' knowledge.

Teacher 4. I provided my students with presentations, videos, including lectures, interviews, and documentaries, and various readings that I can share digitally.

Another participating teacher noted that math assessment is one of the instructional resources and materials that they used to assist in the development of flipped learning in their elementary school classroom.

Teacher 1. We also have the math assessment to guide—to see if they've made growth for the year.

Research Question 4

Research Question 4 asked, "How has flipped learning affected the performance of the students?"

This question led to a focus on the theme “Flipped Learning Impacts for Students’ in the Elementary Schools.” Teachers participating in the study described the impact and usefulness of the flipped learning approach for elementary school students and their achievements.

This theme is discussed in four sub-themes: 1) Improving Personal Attributes and Skills for Students; 2) Improving Students’ Achievement and Engagement to Class, 3) Improving Academic Skills for Students, and 4) Making the Process of Learning More Interesting for Students.

Sub-theme 4.1 Improving personal attributes and skills for students. Three of the participating teachers discussed the personal attributes and skills of students, and they noted that flipped learning in the elementary classroom plays an important role in improving the personal attributes and skills for students. One of them described her experience and perspective with improving the personal attributes and skills for students that builds confidence with their students and others.

> ***Teacher 1.*** I think it would be a powerful way to, uh, to get students who are confused and have them make their mistakes with me and in the classroom and we don’t have that much time for that, but I do think it builds the students’ confidence with their peers.

Another participating teacher talked about his perspective about improving personal skills for students when he used flipped leaning.

> ***Teacher 2.*** Everyone’s not going to teach the same. The techniques that I use, I love to develop personal skills and personal relationships with each student.

Another participating teacher described her observation about her students in the classroom while utilizing the flipped learning method.

I noticed that they became much more open-minded and friendly than they were at the beginning (Teacher 5).

Another participating teacher reported that flipped leaning in the elementary classroom had a positive impact on students' lives.

Teacher 4. In the long run, I think that flipped learning contributes to the children's self-development and the ability to apply the acquired knowledge and skills to real-life scenarios in different areas of life, including their future practice at a workplace.

Sub-theme 4.2 Improving students' achievement and engagement in class. All participating teachers noted that flipped learning plays an important role in improving accomplishment and engagement in class.

Teacher 4. In my opinion, this approach is what helps to make the process of learning more interesting and engaging to the students that, eventually, results in a more successful academic performance.

Teacher 1. They have more engagement since they are interested in the class and they have more confidence.

Teacher 5. The implementation of the approach of flipped learning has made a positive influence on the academic performance of my students.

Teacher 5. Flipped learning helps me to practice much more varied activities during the lesson as I need not the time to present new material. In other words, my students are the active participants in the learning process.

Sub-theme 4.3 Improving academic skills for students. Three of the participating teachers noted that flipped learning in the classroom in the elementary school positively

impacts academic skills for students. Some of them described how flipped learning impacts academic skills for their students.

> ***Teacher 4.*** I notice that the students develop the skills of problem-solving and analytical thinking as well as are more eager to participate in the discussions in the classroom setting.
>
> ***Teacher 3.*** The students are also not afraid to clarify the areas that they find to be confusing as well as address questions that arise when they prepare for the classes, which, clearly, implies the development of their critical thinking skills.

Sub-theme 4.4 Making the process of learning more interesting for students. This final sub-theme within this theme reflects the experiences of participating teachers about advantage of flipped learning for students in the elementary school. A couple of participating teachers commented that using flipped learning in the elementary classroom plays a role in making the process of learning more interesting for students.

> ***Teacher 5.*** The usefulness of flipped learning for elementary students is that it helps to avoid unwanted boredom in the classes.
>
> ***Teacher 4.*** They are much more interested in the process of learning, and this fact motivates me as a teacher to do my best.
>
> ***Teacher 5.*** One more positive outcome is that we do not spend classroom time to learn new material, having much more time for practicing my students' favorite activities.

Research Question 5

Research Question 5 asked, “What are participating teachers’ perspectives about the challenges they have faced when trying to use and apply flipped learning in the elementary classroom, and how did they respond to these challenges?”

This question led to a focus on the theme "Challenges and Difficulties with Flipped Learning in the Elementary School." In their responses to interview questions, participating teachers identified a number of challenges and difficulties they have encountered when trying to use and apply flipped learning in the elementary classroom.

This theme is discussed in five sub-themes: 1) Support from Parents, 2) Technological Issues, 3) Students' Preparation, 4) Need for Professional Development and Support, and 5) Time Issues.

Sub-theme 5.1 Support from parents. Four of the participating teachers discussed support from parents as one of the challenges and major difficulties that they encounter when trying to implement flipped learning in their classroom. One of them noted that support from parents plays an important role in improving students' performance when teachers utilized flipped learning in the classroom.

> ***Teacher 4.*** The parents have to be cooperative with us to let their children benefit from this approach in order to increase their achievements.

Another teacher participated stated her perspective about support from parents as one of the challenges in the implementation of flipped leaning at the elementary school level.

> ***Teacher 2.*** I think a lot of it has to do with that home support. I think a lot of families are very involved and very actively engaged in their kids' learning and some families are not; so, there is a big discrepancy in home life. So that's the biggest thing you have to.

Another participating teacher discussed support from parents as one of the challenges she faced when trying to apply and use flipped learning in her classroom.

Teacher 1. I think one of the challenges to apply the flipped learning in elementary classroom is the family- because sometimes the family doesn't have the background about the flipped learning method. So, they could not support their children at home.

Teacher 3. Flipped learning needs or requires support from parents at home that let the student use the computer to watch the video or lesson or anything I download.

Sub-theme 5.2 Technological issues. Three of the participating teachers discussed technological issues as one of challenges and difficulties that faced them when utilizing flipped learning in their elementary classroom.

Teacher 4. I think some challenges included technological issues in which some devices developed problems in the learning process.

Another participating teacher described his experience with technological issues and how he dealt with it.

Teacher 3. With some students failing to watch various videos that I availed to them. I, therefore, had to look for ways of solving the said challenges. For example, on the technological issues, I compelled parents to purchase improved devices that will enhance a smooth learning process. At first the parents were reluctant and this was a major challenge but I managed to convince them on the benefits of flipped learning.

Another teacher participated expected that the technological Issue will be solved in the near future.

Teacher 5. Today the technological progress takes place more extensively. I believe that soon technological issues will be left in the past.

Sub-theme 5.3 Students' preparation. Three of the participating teachers discussed students' lack of preparation for flipped leaning lessons in their elementary classroom as one of the challenges that faced them with the implementation of flipped learning.

> ***Teacher 3.*** Student preparation was also a challenge, with some students failing to watch various videos that I availed to them.

Another participating teacher described his experience about successful dealing with students' preparation.

> ***Teacher 3.*** I overcame the challenge of students' preparation through aligning pre-class, in-class, and after-class activities. Before giving students videos to watch, I ascertained that I covered some concepts in the classroom. This made the students more prepared before and after classroom activities.

Sub-theme 5.4 Need for professional development and support

All participating teachers noted that in order to implement flipped learning at the elementary level teachers need support from professional development and others at the same time.

> ***Teacher 1.*** The implementation the flipped learning in the elementary school needs the support and collaboration from all— teachers, principals, parents, district, and students to be effective.

> ***Teacher 4.*** I think elementary school teachers have to have chances to utilize the flipped learning and we need the support from parents and professional development to provide us with the resource to help us effectively benefit from this style of teaching.

Two of teachers participated stated that the teachers have to take the time to develop their knowledge and preparation about the usefulness of flipped learning and its impact on students' learning.

Teacher 1. The teachers before they use flipped learning have to have enough knowledge about how to use flipped learning in the classroom and its impacts.

Teacher 4. We have to have opportunities to train about how to use flipped learning with our students in the classroom effectively.

Sub-theme 5. 5 Time issues. This was last sub-theme within theme Five. It reflects the experiences of one participating teacher who perceived the time issue as one of challenges in using flipped learning in the elementary classroom. He noted that time was a challenge for him since he did not have enough time to record and prepare videos to share with his students within the flipped learning classroom format.

Teacher 5. I need a lot of time to record interesting video lectures.

A second teacher talked about the challenge of time in the planning of flipped learning lessons in their classroom.

Teacher 4. I have to admit that considering what to include in the materials that the children have to familiarize with on their own is quite time-consuming and even challenging, although it is certainly beneficial. So, I try to do my best in order to identify the main topics and the central ideas in each area for the children to go through prior to attending the lesson.

Chapter IV Summary

In this chapter, the researcher presented the results of this study. These results are based primarily on the analysis of five interview transcripts. Results were reported as five themes that are organized by research question. Data in the first theme focused on The

Reasons Teachers Give for Using Flipped Learning. Within this theme category, participant responses described 1) Making decisions about using flipped learning; and 2) Teachers' perspectives about flipped learning in the elementary classroom.

The second theme focused on Practices Used in the Flipped Learning Instructional Process. Participants identified a number of practices used in the instructional process in the classroom in the elementary school that fell into eight sub-themes: 1) Watching video and using visual materials at home, 2) Working with students in whole group and small groups, 3) Using several types of educational programs, 4) Classroom discussion, 5) Using flipped learning as a feedback strategy, 6) Creating a positive and interesting classroom environment, 7) Using a reward system, and 8) Using songs and music through many activities and games.

The third theme focused on technological instructional resources and materials that have been used to help improve flipped learning in the classroom in the elementary school. Participants identified a number of technological instructional resources and materials that have been used to help improve flipped learning in the classroom, which are discussed in five sub-themes: 1) Videos and visual materials, 2) Classroom computer Devices, 3) Educational programs; 4) District curriculum, and 5) Assessments, quizzes, presentations, and worksheets.

The fourth theme focused on Flipped Learning Impacts for Students' in the Elementary Schools. Participants described these advantages in four sub-themes: 1) Improving personal attributes and skills for students, 2) Improving students' achievement and engagement in class, 3) Improving academic skills for students, and 4) Making the process of learning more interesting for students.

The fifth theme focused on the challenges and difficulties they had experienced in the implementation of flipped learning in the elementary school classroom in the elementary schools. Participants described many of challenges and difficulties, which are organized into five sub-themes: 1) Support from parents, 2) Technological issues, 3) Students' preparation; 4) Need for professional development and support, and 5) Time issues.

In Chapter Five the purpose of the study and implications of the results are organized within the conceptual framework. Recommendations for further research and the implications for teachers are provided with a review of current research related to the findings in this study on flipped learning in the elementary classroom.

CHAPTER V

DISCUSSION

The purpose of this study was to explore the use of flipped learning and its impact on teaching and learning in classrooms as perceived by five elementary school teachers who use flipped learning in their classrooms. It is important that adequate knowledge concerning how flipped learning can be implemented in a classroom to support students learning in elementary schools be made available. The data on the use and impact of flipped learning on teaching and learning in the classroom was collected through direct interview. The study sought to identify some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Results of the study may identify practices that can be shared with other researchers and elementary teachers who wish to apply the flipped learning approach, in order to make learning increasingly effective and to support student learning in elementary schools. Data analysis revealed five themes and twenty-two sub-themes. In addition, the findings of this study have been found to align with the conceptual framework. This chapter evaluates, analyzes, and discusses, in light of the related literature, the results of this study. This chapter also examines the implications of the results from this study. The chapter ends with recommendations for future research.

Relationship of Results to Existing Studies

Five research questions focused the research results. These research questions were:

1. How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support student learning in elementary schools?

2. What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation?

3. What are some of the technological instructional resources and materials that have been used to help improve flipped learning?

4. How has flipped learning affected the performance of the students?

5. What are participating teachers' perspectives about the challenges they have faced when trying to use and apply flipped learning in the classroom at the elementary school level, and how did they respond to these challenges?

In short, the research questions were addressed by the themes that emerged from the interview data, which were reported in Chapter 4. This study examined the use and effectiveness of flipped learning at the elementary school level, the best practices that can be applied in flipped learning, some of the technological instructional resources and materials that have been used to help improve flipped learning, the effectiveness of flipped learning on the performance of the students, as well as the challenges in the use of flipped learning in the classroom at the elementary school level, as perceived by five "early adopter" elementary teachers.

Discussion of Theme 1: The Reasons Teachers Give for Using Flipped Learning

Theme 1 addressed the research question, "How have elementary school teachers approached flipped learning and what are their perspectives about its usefulness to support student learning in elementary schools? From the analysis, this theme is discussed in two sub-themes: 1) Making decisions about using flipped learning, and 2) Teachers' perspectives about flipped learning in the elementary classroom.

First, making decisions about using flipped learning in the elementary schools was seen as, according to teachers' perspectives and beliefs about flipped learning: 1) An effective approach to work with all students, with both individuals and whole groups, 2) A new and interesting strategy, 3) A strategy to promote better understanding for students, 4) An effective way to save time for classroom activities and practices, 5) An appropriate approach for the 21st century, and 6) A more interesting approach for children.

Teachers' belief about flipped learning as an effective approach to work with all students, both individual and with whole group. Making the decision to use flipped learning in the elementary schools was dependent upon the belief of teachers that flipped learning was a highly effective approach to teaching that worked well both with teaching students individually and with whole group. All participating teachers noted that they made the decision to use flipped learning in their classroom in the elementary school based on their thinking about it as one of the best approaches to teaching that can work with all students. This finding is supported in the literature. For instance, Lucas (2014) in his study of technologies for improving learning, found that several types of technological resources which are used in flipped leaning have been found to be effective tools because these materials enable teachers to actively work and interact with their students either in large group or small groups.

There are other studies that have found the flipped learning is a useful method, which provides both students and teachers with some benefits. For instance, according to Mihai (2016) and Little (2015), flipped learning in the classroom provides teachers with freedom to decide how much time to spend with each student, such as high performers, middle performers, and struggling students, to give them the attention each of them

needs. Teachers also can more easily modify and adapt their curriculum and the delivery of it to their students. Therefore, it is evident that my findings support the findings of other researchers that, in teachers' experience, flipped learning facilitates learning and teaching for individual, small or whole group situations.

Teachers' beliefs about flipped learning as a new and interesting strategy. The teachers' decisions on using the flipped learning approach in the classroom in the elementary schools were also influenced by their perspective that it was a new and interesting strategy. Four of elementary school teachers who participated in the study stated that, because the flipped learning was a new strategy, they were interested to utilize it in their classroom. There are some researchers and developers who support these participating teachers' thinking about the flipped learning approach in the classroom. For instance, according to Brame (2013), flipped learning is a modern academic method using audio-visual lectures and quizzes as homework and the group-based problems are solved in class. Thus, some teachers decided to utilize it in their classroom since they were intrigued to use a new approach to teaching.

Teachers' beliefs about flipped learning as a strategy to promote better understanding for students. All the elementary school teachers who participated in this study noted that making the decision about using flipped learning in their classroom was dependent on their perspective and belief that this style of teaching was a useful strategy to promote better understanding of curricular content for students. This result parallels the research based assertion that the flipped learning approach assists students to get better understanding as described in Herreid and Schiller (2013). They noted that in the flipped learning classroom, students come to class having already been exposed to the content to be focused on for the day, so teachers prepare their lesson or lectures to

address content regarding students' questions. Teachers can help and support students to better understand the concepts through the provision of interactional activities that entail practical and effective application of the lesson's content or additional presentations in the classroom that provide extension and enrichment of the prior learning.

Teachers' beliefs about flipped learning as an effective way to save time for classroom activities and practices. Two of the elementary school teachers who participated in this study commented that the flipped leaning method was one of the best ways for saving time for classroom activities. This finding is supported in the literature. Some researchers have reported that flipped learning in the classroom provides students with opportunity to practice, engage in effective activities and apply learning strategies. For instance, when students watch or listen to the lessons or lectures at home before the class begins, they are able to save class time to work in active or collaborative learning and to do their homework by using various activities such as labs, case studies, writing essays, or problem solving. So, they may experience less difficulty with their homework (Backlund, Hirsh & Segolsson, 2017; Mihai, 2016; Archambault & Crippen, 2009). Also, according to Herreid and Schiller (2013), in the flipped learning classroom, students come to class having already been exposed to the content to be focused on for the day, so teachers prepare their lesson or lectures to address content regarding students' questions. Teachers can help and support students in better understanding the concepts through the provision of interactional activities that entail practical and effective application of the lesson'scontent or additional presentations in the classroom that provide extension and enrichment of their prior learning.

Teachers' belief about flipped learning as an appropriate method for the 21st century. Three of the participating teachers noted that making the decision about

utilizing the flipped learning approach in their classroom was dependent on their belief that flipped learning, integrated with technology, was the language of todays' students, so they have to use it. This finding is aligned with Archambault and Crippen (2009), who noted that a

learning process solely tethered to the transfer of knowledge by a teacher in the classroom setting may no longer be sufficient for learning to take place, especially since such a wealth of information and knowledge is available to whoever cares to search for it. Teachers are no longer the only key of knowledge for students. But, as I stated earlier, teachers aren't an outdated source, either. As Archambault and Crippen contend, teachers are more important than ever in facilitating the use of technology to become a rich source for 21st century learning.

Teachers' belief about flipped learning as a more interesting approach for children. Two of participating teachers stated that making the decision about utilizing the flipped learning approach in their classroom was dependent on their thinking about flipped learning as a more interesting method for their students. This result is supported in the literature. For instance, according to Herreid and Schiller (2013), teachers who used this style of teaching noted that they observed increased levels of student interest, engagement, and performance.

A second sub-theme emerged from this theme; teachers' perspectives about the usefulness of flipped learning in the elementary classroom were discussed in various emergent elements, such as improving students' achievement.

Improving students' achievement. All participating teachers noted that they believed flipped learning in the elementary classroom plays an obvious role in increasing students' accomplishments. This result is supported in the literature. For instance,

Backlund, Hirsh and Segolsson (2017), in their study at the Compulsory Elementary School in Sweden, reported improved student achievement after changing to a flipped learning model. The researchers observed progress in the majority of students' performance after changing teaching instruction from traditional to flipped learning, except for two students who found the change to flipped learning upsetting. Also, this finding is aligned with Alarood, Alnaqbi and Hamad (2017), Rebert (2014), and Herreid and Schiller (2013), these studies reported that flipped learning in the classroom supports students' performance and learning in many aspects, such as providing them with more opportunities in terms of interacting with their teachers and colleagues or peers in an active and collaborative learning environment, providing them with learning higher-order thinking research skills as well as providing them with extra time to do their assignments and homework during class time.

Discussion of Theme 2: Practices Used in the Instructional Process in the Elementary School Classroom

Theme 2 answered the research question, "What are some of the practices that teachers identify they use in the instructional process within and outside the elementary classroom-learning situation?" The practices reported by the five participating that they used teachers in the instructional process in the classroom have been put into eight sub-themes: 1) Watching video and using visual materials at home, 2) Working with students in whole group and small groups, 3) Using several types of educational programs, 4) Classroom discussion, 5) Using flipped learning as a feedback strategy, 6) Creating a positive and interesting classroom environment, 7) Using a reward system, and 8) Using songs and music through many activities and games.

Practices used in the flipped learning instructional process—Watching video and using visual materials at home. All elementary school teachers participating in this study reported that watching videos and using visual materials at home aids students to have ideas and prior knowledge about the lesson prior to class, so they have more time in the classroom to effectively interact with their teachers and student peers. This result is aligned with Little (2015), in his study of flipped learning in the classroom, who stated that in the flipped learning method, instructional video is still used at home to stimulate the classroom discussion and activities through open-ended questions.

Practices used in the flipped learning instructional process —Working with students in whole groups and small groups. All teachers who participated in this study reported that working with their students in whole groups and small groups was one of the common practices they used in the flipped learning instructional process to foster students' learning and enhance communication between each other. This finding is similar to findings obtained by Kynigos (2015) who demonstrated further that flipped learning has a strong foundation in social constructivism because teachers who allow students to participate in small, cohesive groups in flipped classrooms are often able to achieve great success. Nonetheless, Kynigos (2015) recommended that in addition to acting in a facilitator role by occasionally providing learners with more individualized materials through videos or online, teachers must be able to provide one-on-one attention in order to enable student comprehension of material they may find difficult to understand.

Practices used in the flipped learning instructional process —Using several types of educational programs. All participating teachers stated that flipped leaning method allows them to use various types of programs, technologies and applications

which made flipped learning implementation easy and fostered their students' learning in math and reading, such as the Zearn program for math class and the Read-Life program for reading class. This finding is supported in the literature. Hammerman (2016) and Yu –Lung et al. (2011), demonstrated that the progress in technology has made flipped learning easier, as teachers and students could interact easily using a number of highly efficient applications, particular education programs, and web tools.

Practices used in the flipped learning instructional process —Classroom discussion. All elementary school teachers participating in the study reported that classroom discussion is a common practice in classrooms with flipped learning. According to Oboko et al. (2016) and Alderweird (2015), flipped learning often incorporates the concept of active learning through such modalities as peer learning and discussion. This is observable when teachers introduce instructional video to a small group of students, who, in turn, examine the content privately at home, and then discuss the content in the classroom with their peers belonging to the same group of learners. This result also is aligned with Lento (2016) and Hwang et al. (2015); their studies reported that students with flipped learning in the classroom are allowed to share thoughts through debates, case studies, argument sessions, and group projects. During this time, students are allowed to change their answers or expound on their answers depending on their new discoveries. Learners then commit to an answer, which they then share with the teacher. In the end, the teacher gives closure to the discussion/debate with a quick overview of the answer by providing an in-depth explanation of the answer, particularly if there are considerable numbers of students with incorrect answers or if the students have questions after the discussion.

Practices used in the flipped learning instructional process — Flipped learning as a feedback strategy. A couple of participating teachers stated that using flipped learning as a strategy to get feedback from students is one of essential practices that fosters students' progress. This finding is supported in the literature. Herreid and Schiller (2013) demonstrated that using the flipped learning method in the classroom enabled teachers to get immediate feedback from the students, which, in turn, enables the teacher to focus more on the key areas that would enable students to gain more during the learning process. Herreid and Schiller (2013) also echoed with a similar finding that demonstrated real-time feedback from the students enables the teacher to amend his strategies in order to focus on the relevant areas that need to be addressed to enhance students' learning experiences.

Practices used in the flipped learning instructional process — Creating a positive and interesting classroom environment. Some participating teachers noted that creating a positive and interesting classroom environment is one of the essential practices that all teachers should work to have it in their classrooms since it promotes students' learning. For example, in his study of the various ways that teachers could enhance effective learning using technology in the classroom, Robert (2012) examined the ways in which teachers could ensure the provision of a flexible environment for flipped learning. He found that teachers could create interesting and flexible environments by providing the learners with the opportunity to choose when and where they want to learn.

Two other sub-themes were discussed under the theme "Practices Used in the Flipped Learning Instructional Process," Using a Reward System, and Using Songs and Music Through Many Activities and Games. Neither of these instructional practice categories has been identified or previously linked by researchers with the flipped

learning instructional process. It is true that the use of reward systems and the use of songs, music, and other activities and games are common practices in the elementary classroom in a variety of instructional settings and types of lessons, so it is not surprising to find that teachers report their use in conjunction with their flipped learning practices.

Theme 3 answered the research question, "What are some of the technological instructional resources and materials that have been used to help improve flipped learning?" From the analysis, this theme is discussed in various emergent elements, such videos and visual materials, educational programs, quizzes and assessments, and computer devices.

Videos and visual materials. All elementary school teachers who participated in the study reported that videos and still photographs and other visual materials are some of the important technological instructional resources used with the flipped learning approach in the elementary school. This finding is supported in the literature. Flipped learning also provides additional learning tools, such as graphics, videos, and images, which are a subset of visual learning. Visual learning introduces concepts through illustration, which further reinforces the verbal means commonly used by teachers in the classroom (Archambault & Crippen, 2009). When flipped learning is used in the elementary classroom, visual learning becomes more important since nothing enables mastery more than presenting information in an effective, attractive, and easy-to-understand way, especially for elementary school students (Brame, 2013).

Educational programs. All participating teachers noted that computer-based educational programs and technologies are essential and useful tools for both teachers and students in flipped learning. This result is supported in the literature also. For instance, educational technology or programming as a field has a different focus from

social constructivist learning; while social constructivism is focused on how students build knowledge and understanding through different types of social interactions, the educational technology approach focuses on how the teacher can facilitate learning and improve performance through the creation, usage, and management of appropriate technological resources for the student to interact with and build knowledge from. An example of educational technology that has facilitated the emergence of flipped learning includes Dropbox (Spector, 2013).

Quizzes and assessments. Four participating teachers noted that quizzes and assessments are one of technological instructional resources and materials they used in the flipped leaning approach to evaluate students' accomplishment in the classroom. This finding is aligned with Brame (2013): his study noted that flipped learning is a modern academic method using audio-visual lectures and quizzes as homework and the group-based problems are solved in class to assess students' performance.

Computer devices. All participating teachers noted that using computer in the flipped learning approach in the classroom is a major technological instructional resource to evaluate students' performance. According to Jacobi (2012), students in general who use computer-based instruction tend to have significantly higher assessment scores than learners taught by methods that are more traditional. In line with this observation, most teachers have come to accept flipped learning as a model for change because it enables learners to use computer-based platforms to enhance their learning activities.

Discussion of Theme 4: Flipped Learning Impact on Students in the Elementary School

Theme 4 answered the research question, "How has flipped learning affected the performance of the students? " In the analysis, four sub-themes were originally identified.

However, the overlap between the four themes was substantial, so I have compressed the four sub-themes into two sub-themes: 1) Improving Students' Achievement and Engagement in Class, 2) Improving Academic Skills for Students.

Improving students' achievement and engagement in class. All participating teachers noted that flipped learning in the elementary classroom plays a significant role in increasing students' accomplishments. There are a number of studies that support these participating teachers' perspectives about flipped learning and its impact on improved student performance. For example, Bormann (2014) noted that flipped learning in the classroom provides an interactive environment leading to increased achievement of students.

In addition, teachers who used this style of teaching commended that they observed increased levels of students' interest, engagement, and performance (Herreid & Schiller, 2013).

Improving academic skills for students. Four of participating teachers stated that utilizing flipped leaning approach in the classroom would foster academic skills for students, such as critical thinking and problem solving. This result also is aligned with Alderweird (2015) found out that instructors who utilized flipped learning in their classroom and then allow their students to work together in small, cohesive groups in flipped classrooms often promoted critical thinking skills as well as problem solving skills. Moreover, according to Alderweird (2015), a learner in a small, cohesive group has something different or unique to contribute and share with the group members, which, in turn, leads to the manifestation of multiple and innovative ways of thinking and problem solving among group members.

Discussion of Theme 5: Challenges and Difficulties in Flipped Learning in the Elementary School

Theme 5 answered the research question, "What are participating teachers' perspectives about the challenges they have faced when trying to use and apply flipped learning in the classroom at the elementary school level, and how did they respond to these challenges?" From the analysis, this study is discussed this theme in some sub-themes, such as the time issue, need for professional development and support, and students' preparation.

Time issues. One of elementary school teachers participated in the study reported that time issue is one of challenges and difficulties faced by teachers who decide to utilize flipped learning in their classroom because they need more time to modify their approach and prepare their classroom and their students to deal with kind of teaching and learning style. This finding is supported in the literature. Misook and Anthony (2015), stated that teachers need to reframe their approaches to designing instruction to provide opportunities for learners to participate actively in the learning process and evaluate their learning in a manner that is personally meaningful. However, this matter requires more time that teachers might not have, so this is kind of challenge needs to overcome.

Need for professional development and support. All teachers who participated in this study reported that support from professional development is required to make flipped learning more effective in their classroom. There are a number of studies that support these participating teachers' perspectives about the challenges in adopting flipped learning. For example, in flipped learning, professional educators move from a role of being the primary academic content provider to the becoming active observers capable of offering timely and relevant assessment and feedback, as well as reflection and

connectedness. According to Misook and Anthony (2015), to be an effective teacher in flipped learning, teachers are required to decide on the kinds of activities and the appropriate strategies to implement those activities in flipped learning in the classroom. This finding is supported by findings by Meng-Jung (2009) who noted that teachers must be able to design activities that maximize face-to-face interactions between students/educators and between students/students in flipped learning in the classroom. So, teachers need to benefit from experiences of professional development to improve flipped learning in their classroom.

Students' preparation. Three of the participating teachers commented that students' preparation for flipped leaning in the elementary classroom is the example of challenges and difficulties they faced. This finding is supported in the literature. For example, it is probable that a wide base of support in the school is important in order to ensure an effective implementation of flipped learning at the elementary school level that proceeds step-by-step, so students are not forced to suddenly adapt to teaching methods that are radically different from what they are used to. This observation is based on a study done at the Compulsory Elementary School in Sweden, which reported improved student achievement after changing to a flipped learning model. The researchers observed progress in the majority of students' performance after changing teaching instruction from traditional to flipped learning, except for two students who found the change to flipped learning upsetting since they had not prepared for this type of teaching and learning. Researchers reported these students needed more time to get used to and adapt to the new teaching approach (Backlund, Hirsh & Segolsson, 2017).

Implications for Future Research

The knowledge gained through this study will contribute to enabling elementary school teachers, policymakers, and school stakeholders at all levels to develop practices that facilitate the implementation of flipped learning in the classroom and to benefit from flipped learning as an effective method to increase student engagement and achievement in the classroom and promote personal and academic skills for students. In addition, the findings of this study can be helpful to prepare and train elementary school teachers to use flipped learning effectively.

The literature review identified and emphasized that there is limited research on flipped learning in elementary school classroom. Each implication is based on additional examination of new research questions that emerged as a result of the analysis and conceptualization of the findings. For example, the current study argued flipped learning experience from the elementary school teachers' perspective. To further develop an understanding of the outcomes resulting from these experiences about the use of flipped learning in elementary school classroom and their effectiveness, future research could incorporate the perspectives of stakeholders from schools and districts or from parents. Elementary school teachers emphasized the importance of support from their district and parents in assisting them to achieve desired outcomes. By capturing the experiences and perspectives of elementary school teachers, future research could confirm or offer others reasons for the use of flipped learning in the elementary school classroom to achieve desired outcomes.

There appears to be no current literature that addresses the role of professional development to provide support for enabling more elementary school teachers to apply

and use flipped learning in their classrooms and/or enabling those who do to have rich experiences in utilizing flipped learning in the classroom or to train elementary school teachers to use it effectively. This study suggests that the role of facilitative professional development at the district level may be a target for future research.

Based on the recommendations offered by the elementary school teachers who use flipped learning in their elementary classroom in this study, another area of further research might assess whether and how other elementary school teachers are able to use the published recommendations to achieve similar outcomes. The question suggests that development of a training program utilizing the recommendations and then evaluating the degree to which elementary school teachers are able to implement the recommendations.

Moreover, future scholars may conduct a study with the same or similar research questions in his study by using a quantitative method, such as using survey tool to collect the data. Also, researchers could conduct a study on facets of the current findings by focusing on specific parts of this study, such as challenges and difficulties in using flipped learning in elementary school classroom.

In addition, other future investigators could include a larger sample size that would allow for a quantitative or mixed method approach that could possibly be connected to the key findings of this study. For instance, other future researchers could apply similar data tools, but with a larger sample size that would contribute a broader range of responses and would be generalizable to the larger population.

For the Practice

The findings of the experiences of elementary school teachers in this study who utilize flipped learning in their classroom are not ideal and model, but their experiences illuminate areas in need of attention for practice, professional development supports,

parent support, and training to facilitate more positive outcomes for using flipped learning in the classroom. Elementary school teachers may want to consider how their current experiences could be improved with the future implementation of professional development and support from parents. Another worthwhile consideration is balancing the limited technological, instructional resources and materials. What are the costs and benefits of allowing more elementary school teachers to use flipped learning in their classroom? Might a shift in the teaching style and method from traditional to flipped learning prove more beneficial to teachers, students, and parents?

In addition, elementary school teachers who decide to apply and use the flipped learning approach in their classroom need to be made aware of its practices, its usefulness, its effectiveness, its technological instructional practices and materials, and its challenges. Having an idea of what to expect may help both the teachers and students have a positive and effectives experience with flipped learning in their classroom. The strategies the elementary school teachers in this study reported they used to help their students focus and deal with the new teaching/learning approach can inform the selection of tools for parents new to flipped learning in the classroom. Parents can also make an informed choice from among the schooling options based on their students' educational needs and aspirations.

The implications from this study for flipped learning in the elementary schools extend into support for parents for high quality instruction through technology. Parents may not be aware of the usefulness of flipped learning in the elementary schools and its positive impact on students' performance. The use of flipped learning at the elementary school level and the accompanying access to the Internet provided by schools have the possibility to reduce the effects of low socioeconomic status on the cognitive

development of their children. By ensuring that children have opportunities for taking classes with flipped learning early in their development, they have the opportunity to improve the skills they need to influence and control technology for learning throughout their lives.

For Policymakers

Policymakers and districts can use the information provided from this study to strengthen and clarify the implementation of the flipped learning approach in the elementary classroom by understanding these five elementary school teachers' perspectives regarding their decision to use flipped learning in order to realize and grasp the effectiveness of flipped learning and its impact on students' performance. The results of the study may be used to help create programs and curricula support to align with flipped learning in the elementary school classroom. At the same time these supports will help prepare students to learn through flipped learning as they progress throughout their education. Further, the findings in this study indicate the need for districts to support elementary school teachers to implement the flipped learning approach in their classrooms through workshops and training. It is also necessary that districts provide elementary school teachers with the technological instructional resources and materials that improve flipped learning in the classroom and foster student learning.

Training that focuses on best approaches to support strategies that are critical for student success should be provided to classroom teachers. Professional development should also focus on training elementary school teachers to effectively deal with new styles of teaching, such as flipped learning as well as on the active use of technological instructional resources, which should be prioritized as a topic of conversation whenever

teachers and professional developers discuss school improvement issues. Increasing school capacity in these ways would improve the overall learning conditions for students.

Elementary school teachers want their students to succeed in education and learning. Part of this success is rooted in methods and strategies in the classroom and some elementary school teachers do not have access to high quality instruction resources, materials, and/or strategies that meets their students' individual needs. Flipped learning, whether the activities are in the classroom or at home, has the potential to help districts provide teachers and parents with the flexibility they need to meet the needs of all students under varied circumstances. Though research on flipped learning is extensive in high and post-high schools, research needs to shift towards students in earlier grades like the elementary school level. Parents assume many responsibilities within the flipped learning environment. Understanding these roles and the strategies teachers have been able to employ successfully will help parents who are new to dealing with flipped learning. While access to technology was not the main reason that the elementary school teachers in this study chose flipped learning, the tools and support networks that districts provide through flipped learning will help ensure that teachers have the necessary resources to meet their children's educational needs.

Elementary school teachers who use flipped learning in their classroom recognize that this style of teaching would help and increase performance for individual students. The aim for using flipped learning should be to use research-based strategies, practices, and programs that have proven successful with all students, either in whole group or small group.

In conclusion, teachers and students are no longer limited to text interaction. Teachers need to be close to their students by incorporating new and exciting

technologies that promote interaction among students, and improve teachers' feedback to their students immediately. At this time, we do not have a great deal of direct scientific research to establish whether flipped learning in the classrooms in the elementary schools increase student learning. Indeed, according to the elementary school teachers' perspectives in this study, there is reason to believe that flipped learning in the classroom may foster students learning if it is implemented thoughtfully, with careful attention to what research tells us about good instruction. With flipped learning in the classroom, we are encouraged to move away from a traditional model of teachers as imparters of knowledge and toward a model of teachers as coaches who carefully observe students, identify their learning needs, and guide them to higher levels of learning.

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Appendix A

Interview Questions

(Protocol)

Appendix A

Interview Questions

(Protocol)

Effective Teaching and Learning: Flipped Learning in the Classroom
Western Michigan University
Department of Educational Leadership, Research and Technology

Principal Investigator: Mohammed Fahad Alsobaie

Principal Investigator: Nancy Mansberger, Ed.D.

Date of Interview: _____

Start time of session: _____

End time of session: _____

1. How have you as an elementary school teacher approached flipped learning?
2. What is your perspective about the usefulness of flipped learning to support student learning in your classroom?
3. What are some of the teaching practices that you use when you teach in your elementary classroom and elsewhere?
4. What are some of the technological instructional resources and materials that you have used to help improve the flipped learning in your classroom?
5. How has flipped learning affected the performance of your students?
6. What challenges have you faced when trying to use and apply flipped learning in your elementary classroom, and how did you respond to these challenges?

Appendix B

Informed Consent— Teacher Participants

Appendix B

Informed Consent—Teacher Participants
Western Michigan University
Department of Educational Leadership, Research and Technology

Principal Investigator: Nancy B. Mansberger, Ed.D.
Student Investigator: Mohammed Fahad Alsobaie
Title of Study: Effective Teaching and Learning: Flipped Learning in the Classroom

You have been invited to participate in a research project titled "Effective Teaching and Learning: Flipped Learning in the Classroom." This project will serve as Mohammed Fahad Alsobaie's dissertation research project for the requirements of the Ph.D. in Educational Leadership. This consent document will explain the purpose of this research project and will review the time commitments, the procedures used in the study, and the risks and benefits of participating in this research project. Please read this consent form carefully and completely and please ask questions if you need more clarification.

What are we trying to find out in this study?
Little research is available for elementary school teachers to learn about the implementation of flipped learning and its potential benefits in order to inform decisions to use it in their classroom. Because there is currently a lack of broad and deep knowledge of the use of flipped learning and its impact on teaching and learning in classrooms at the elementary school level, there is a significant need for a study that can provide us with data that can be used to inform teaching practices. Therefore, this study is designed to address that gap in our understanding through an in-depth qualitative study to collect data through the direct interviewing of school teachers who use flipped learning in their elementary classrooms.

Who can participate in this study?
You can participate in this study if it interests you. The participants in this study will be 5-10 elementary school teachers who utilize flipped learning in their classroom.

Where will this study take place?
This study will take place in urban locations of the Midwest region of the United States; we will agree to meet for an interview at a comfortable location they prefer.

What is the time commitment for participating in this study?
All interviews will be tape-recorded and interviews may vary in length and the flow of the meeting as well as the time or comfort level of the participants decide how long the interview. Also, field note will be used during interview. Teachers will be reminded of their right to withdraw from the study at any point if they want to do so. They will also be informed that to protect their identify, they need to provide a pseudonym and I will create them when doing analysis. Each participant will be provided with consent and told that they can withdraw from the study at any point.

What will you be asked to do if you choose to participate in this study?
Participation in this study involving giving the researchers you permission to be participate in one interview and possible follow-up interview if we need to clarify

anything from the first interview. All interviews will be tape-recorded and interviews may vary in length and the flow of the meeting as well as the time or comfort level of the participants decide how long the interview. Also, during the interview, the researcher will take field note. You will be reminded of their right to withdraw from the study at any point if you want to do so. You will be informed that to protect your identity, you provide a pseudonym and I will create them when doing analysis.

What information is being measured during the study?
This study focused on what already exists in your flipped learning in your classroom. The researchers are working to examine the patterns that exist across your experiences and those of four to ten other participating teachers' descriptions and perspectives of their flipped learning method. This study is about understanding your perspective as an elementary school teacher who utilizes flipped learning in their classroom.

What are the risks of participating in this study and how will these risks be minimized?
There are no costs, other than their time, for participation in this study. There is no identifiable risk involved for any of the teachers who may or will participate in the study. Since the interviews will be carried out on a basis of anonymity, the voice records will be made in a serial manner, corresponding to the respondent codes on the data sheet.

What are the benefits of participating in this study?
Through this study, you will have opportunity to reflect about your experience and perspectives about your flipped learning use and effectiveness at the elementary school level, the best practices that can be applied in flipped learning and the effectiveness of flipped learning in the performance of the students, some of the technological instructional resources and materials that have been used to help improve flipped learning, and challenges and difficulties of implementation flipped learning in the elementary classroom. Through the direct interview process and the associated reflection about the interview, you will potentially gain increased insights related to your own teaching practice. The researcher will also share the results of the study with you when the study is completed.

Are there any costs associated with participating in this study?
There are no costs other than your time, for participation in this study.

Is there any compensation for participating in this study?
There is no compensation for participation in this study. No one will be paid to participate.

Who will have access to the information collected during this study?
Mohammed Fahad Alsobaie (graduate student investigator), Nancy Mansberger, Ed.D (co- principal investigator) and other members of the dissertation defense committee will have access to the documents. No other individuals will have access to these documents. Interviews of teachers will be conducted using pseudonyms; no real names will be used in this study. This is being done to protect your confidentiality.

What if you want to stop participating in this study?
You can choose to stop participating in the study at any time for any reason. You will not suffer any prejudice or penalty by your decision to stop your participation. You will experience No consequence either academically or personally if you choose to withdraw from this study. If necessary the investigator can also decide to stop participation in the study without your consent.

Should you have any questions prior to or during the study, you can contact the co—principal investigator, Nancy Mansberger at nancy.mansberger@wmich.edu. You may also contact the Chair of the Human Subjects Institutional Review Board at 269-387-8293 or Vice President for Research at 269-387-8298 if questions arise during the course of the study.

This consent document has been approved for use for one year by Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

I have read this informed consent document. The risks and benefits have been explained to me. I agree to take part in this study.

Please Print Your Name

_____

_____

Participant's signature Date

Appendix C

Letter of Invitation to Elementary School Principals

Appendix C

Letter of Invitation to Principals
Western Michigan University
Department of Educational Leadership, Research and Technology

Date _____

Dear Elementary School Principal,

I am conducting a study focused on getting the teacher's perspective about the use of flipped learning and its impact on teaching and learning in classrooms in the elementary school level. In most of the research that has been done on flipped learning in the classroom in high school such as, the research on flipped learning in the classroom in elementary school is a little. This study is designed to explore the use of flipped learning and its impact on teaching and learning in classrooms as perceived by (5-10) elementary school teachers who use flipped learning in their classrooms, and identify some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Results of the study may identify practices that can be applied to flipped learning way to make learning increasingly effective and support students learning in elementary schools. These are the main questions the interview will revolve around:

Q1: How have you approached flipped learning and what is your perspective about its usefulness to support students learning in elementary schools?

Q2: What are some of the practices that you identify practices you use in the instructional process within and outside the elementary classroom-learning situation?

Q3: What are some of the technological instructional resources and materials that have been used to help improve flipped learning in your classroom?

Q4: How has flipped learning affected the performances of your students?

Q5: What challenges have you faced when trying to use and apply the flipped learning in the classroom in elementary school level, and how did you respond to these challenges?

I am asking each principal to consider who their teachers use the flipped learning in their classroom are concerned. If you are interested to invite teachers in your school to participate, I will need you to prepare a short letter of support for this research that I will forward to WMU's Human Subject's Review Board, so they know that you are of this research and support the study being conducted in your school.

Once each principal has identified who the teachers are that they believe would be best suited to participate in this study, I am asking the principals to invite those teachers to meet with me individually to learn more about the study and to decide if they want to participate. An Invitation to Participate letter will be provided for you to share with each prospective second grade teacher that explains the study and their role as participants.

If a teacher decides to participate, I will obtain their contact information and arrange for an introductory meeting. At the meeting I will share the study focus with them, as well as the consent document information. Each teacher will need to sign a consent form and then set a date and time for an interview at a time convenient to them AND at a time that does not intrude on the school day. In some cases a shorter follow-up interview may be need to clarify some of what a teacher shared in the first interview.

When the study is complete, I will share the results with each principal and the participating second grade teachers.

I hope to hear from you soon. I would very much like to have an opportunity to interview one or more teachers at your school.

Thank you for your consideration,

Mohammed Fahad Alsobaie, Graduate Student

Investigator

Appendix D

Letter of Invitation to Elementary School Teachers

Appendix D

Letter of Invitation to Elementary School Teachers
Western Michigan University
Department of Educational Leadership, Research and Technology

Date _____

Dear Elementary School Teachers,

I am conducting a study focused on getting the teacher's perspective about the use of flipped learning and its impact on teaching and learning in classrooms in the elementary school level. In most of the research that has been done on flipped learning in the classroom in high school such as, the research on flipped learning in the classroom in elementary school is a little. This study is designed to explore the use of flipped learning and its impact on teaching and learning in classrooms as perceived by (5-10) elementary school teachers who use flipped learning in their classrooms, and identify some of the best practices in terms of how flipped learning is used in the instructional process inside and outside of the classroom. Results of the study may identify practices that can be applied to flipped learning way to make learning increasingly effective and support students learning in elementary schools. These are the main questions the interview will revolve around:

Q1: How have you approached flipped learning and what is your perspective about its usefulness to support students learning in elementary schools?

Q2: What are some of the practices that you identify practices you use in the instructional process within and outside the elementary classroom-learning situation?

Q3: What are some of the technological instructional resources and materials that have been used to help improve flipped learning in your classroom?

Q4: How has flipped learning affected the performances of your students?

Q5: What challenges have you faced when trying to use and apply the flipped learning in the classroom in elementary school level, and how did you respond to these challenges?

I am asking each principal to consider who their teachers use the flipped learning in their classroom are concerned. If you are interested to invite teachers in your school to participate, I will need you to prepare a short letter of support for this research that I will forward to WMU's Human Subject's Review Board, so they know that you are of this research and support the study being conducted in your school.

Once each principal has identified who the teachers are that they believe would be best suited to participate in this study, I am asking the principals to invite those teachers to meet with me individually to learn more about the study and to decide if they want to participate. An Invitation to Participate letter will be provided for you to share with each prospective second grade teacher that explains the study and their role as participants.

If a teacher decides to participate, I will obtain their contact information and arrange for an introductory meeting. At the meeting I will share the study focus with them, as well as the consent document information. Each teacher will need to sign a consent form and then set a date and time for an interview at a time convenient to them AND at a time that does not intrude on the school day. In some cases a shorter follow-up interview may be need to clarify some of what a teacher shared in the first interview.

When the study is complete, I will share the results with each principal and the participating second grade teachers.

I hope to hear from you soon. I would very much like to have an opportunity to interview one or more teachers at your school.

Thank you for your consideration,

Mohammed Fahad Alsobaie, Graduate Student

Investigator

Appendix E

HSIRB Approval Letter

WESTERN MICHIGAN UNIVERSITY

Institutional Review Board
FWA00007042
IRB00000254

Date: April 9, 2018

To: Nancy Mansberger, Principal Investigator
Mohammed Fahad Alsobaie, Student Investigator

From: Amy Naugle, Ph.D., Chair

Re: Approval not needed for HSIRB Project Number 18-04-02

This letter will serve as confirmation that your project titled "Effective Teaching and Learning: Flipped Learning in the Classroom" has been reviewed by the Western Michigan University Institutional Review Board (WMU IRB). Based on that review, the WMU IRB has determined that approval is not required for you to conduct this project because you are not collecting personal identifiable (private) information about individual and your scope of work does not meet the Federal definition of human subject.

45 CFR 46.102 (f) Human Subject

(f) *Human subject* means a living individual **about whom** an investigator (whether professional or student) conducting research obtains

(1) Data through intervention or interaction with the individual, or
(2) Identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes. Interaction includes communication or interpersonal contact between investigator and subject. *Private information* includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

"**About whom**" – a human subject research project requires the data received from the living individual to be about the person.

Thank you for your concerns about protecting the rights and welfare of human subjects.

A copy of your protocol and a copy of this letter will be maintained in the HSIRB files.

Office of the Vice President for Research
Research Compliance Office
1903 W. Michigan Ave., Kalamazoo, MI 49008-5456
PHONE: (269) 387-8293 FAX: (269) 387-8276
WEBSITE: wmich.edu/research/compliance/hsirb

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