The Perceptions of the Flipped Classroom Model

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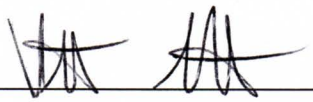
Signature of Author:  Date: 4/15/15

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THE PERCEPTIONS OF THE FLIPPED CLASSROOM MODEL

By: Victoria Ruprecht

Senior Thesis

Albright College

Education Department

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I. INTRODUCTION

This project focuses on the use and the overall perception of the flipped classroom model. The flipped classroom is an emerging idea that is quickly becoming used more often. Although there is a preconceived idea of what the flipped classroom is, it can easily be modified for a teacher's individual style. This project will explore the variations of what teachers consider to be a flipped classroom and how they go about structuring their class and lessons.

With new ideas and changes in instruction techniques, there comes criticism and the question of whether a new structure is successful. There can be many advantages or possible problems about the use of the flipped classroom model. This project will focus on the teachers' perceptions about the effectiveness of the flipped classroom and what changes they feel would make the model better. The aim of this project is to determine whether the structure of video lessons at home can be beneficial to student's learning and to the overall attitude of teachers and students using this model.

II. BACKGROUND OF THE FLIPPED CLASSROOM

The idea of the flipped classroom has slowly been emerging with the continuous improvement of technology as well as the widespread dependence on technology. Although the idea has been around for quite a few years, it has recently become more popular due to the incorporation of technology in today's classrooms. Teachers are now looking into how to best utilize the technology they have available in order to teach their students. Students are also progressively more reliant and interested in using technology, so using it in the classroom is natural to them. Bergmann poses the question, "Isn't it about time we embraced digital learning and used it to help our students learn, instead of telling them they can't learn with today's tools?" (21). The flipped classroom embraces the changing culture of today's students and uses the tools and knowledge they have at their disposal.

There can be many different ways to go about implementing a flipped classroom model. By definition, "In the Flipped Learning model, teachers shift direct learning out of the large group learning space and move it into the individual learning space, with the help of one of several technologies. Teachers record and narrate screencasts of work they do on their computer desktops, create videos of themselves teaching, or use video lessons from internet sites such as TED-Ed and Khan Academy" (Pearson 4). By this definition, since the direct learning is shifted to outside of the classroom and instead at home, the class time is then used for what was before considered homework. The class time is now spent doing practice problems, group work, activities, or projects at the students' own pace. Since the teacher is now not lecturing or teaching new material, he/she can walk around and assess each student's understanding of the material

(Bergmann 52). The flipped classroom provides an interactive, one-on-one environment for the students and teachers.

In order to implement the flipped classroom model, there are a few issues and necessities to consider. One of the first issues to consider before using a flipped classroom model is the availability of technology to the teacher and students. Teachers must have access to a web camera of some sort if they plan to make their own videos. With today's technological advances, there are many tools and applications that can be used to create and edit videos. Some of the software includes, screen casting, webcams, a microphone, a pen tablet for annotation, applications such as whiteboard, sketchbook express, Camtasia, Prezi, and more (Bretzmann 17). If a teacher does not feel comfortable creating a lesson, it is easiest to begin with using already made videos of lessons from Kahn Academy or Youtube. The videos should not be long, only lasting between 10-15 minutes (Bergmann 44). The videos should be concise, focusing only on the important content and highlighting the information that is to be noted by the students.

For the students, technology is also a special consideration. The teacher must make sure that the students can access the videos at home. If a student does not have internet access, there are certain measures that can be taken in order to combat this. Teachers can transfer videos onto DVDs for students or a flash drive (Bretzmann 16). Similarly, the option also exists to have students come into the classroom during a free period or before or after school to watch the video. Another consideration teachers often face is whether the students will actually watch the videos at home. Many practices can be used in order to ensure that students will take the initiative to watch videos at home or on their own time. When students do not watch the video at home, there should be a place available, whether in the classroom or computer lab, where students can take the class time to watch the video and take the notes on it (Bergmann 98).

Students will quickly realize that they are missing out on help or clarification of the material, sacrificing useful time with the teacher.

There are many benefits to using the flipped classroom model. The benefits apply to many different persons, including the teacher, student, parents, and the school. First the teacher and student can have a more meaningful relationship, having more one on one class time when the lesson is taught at home through the medium of videos. Students then come to class with questions and a background on the information (Bretzmann 132). The teacher can clearly see who is struggling or in what areas the class is not comprehending the material. Bergmann states, "Flipping the classroom establishes a framework that ensures students receive a personalized education tailored to their individual needs" (6). Depending on the teacher, the class can serve many different purposes or take on many different approaches.

The flipped classroom model is helpful for many different groups of students. One group that benefits from this model is absent students. When students miss due to sickness, athletics, clubs, or vacation, there is a means of them getting the information and content of the lessons. By having the videos posted online, students can access the material at any time, whenever that time may be available to them (Bergmann 22). This solves the problem of teachers taking what was previously instruction time to catch a student up on work or review issues with the whole class when the material of confusion may only apply to a select few.

Having the videos posted online also benefits struggling students. They are able to learn at their own pace. They can also re-watch a video as many times as needed in order to understand the concepts being taught (Fulton 21). If they forget how to do certain processes or certain material, the content is easily at their disposal. During the class time they can have one-on-one time with the teacher to ask questions or for clarification on the content (Kachka 1).

They also have the option for peer instruction if they choose not to ask the teacher specifically for help.

In contrast, the flipped classroom model allows gifted students or students who excel in the subject to work ahead. By working ahead, or viewing a video only one time, these students do not become bored or uninterested in the material; they spend large amounts of time on material they already understand and in which they are competent. These students can use class time instead to work on enriching activities and challenging material that the rest of the class may not be able to do.

Students and teachers are not the only ones who benefit from this model either. Parents are just as important in the process of education for their children. With videos being online, parents can access the videos too, learning along with their child or watching the video to help with homework or studying (Fulton 23). The model allows for parents to be more involved and really know what their child is learning in the classroom. Previously, many parents may claim that they do not remember much of the material from their schooling, so this provides a refreshing view on skills.

For teachers, when the material is learned by students on their own prior to class, that class time is open for other activities and different forms of learning. A teacher can specifically take that class time to provide individual instruction for students who need additional assistance. The class time also allows for activities and higher-order thinking to be utilized (Brame 2). The students are applying their knowledge and having immediate answers to correct mistakes before they become a habit or progress.

By teachers immediately targeting mistakes and providing help, students are more motivated to learn on their own and come to class in order to apply their skills or gain

clarification (Berrett 3). The flipped classroom model eliminates the frustration that students previously had. It eliminates the feeling of defeat and a want to give up by providing support or clarification if there is a question. " The time when students really need me physically present is when they get stuck and need my individualized help. They don't need me there in the room with them to yak at them and give them content; they can receive content on their own" (Bergmann 4).This inspires students to understand the material and apply the knowledge, creating a sense of mastery learning, not just recitation. "We think the key is for students to identify learning as their goal, instead of striving for the completion of assignments. We have purposely tried to make our classes places where students carry out meaningful activities instead of completing busywork. When we respect our students in this way, they usually respond. They begin to realize- and for some it takes time- that we are here to guide them in their learning instead of being authoritative pedagogues" (Bergmann 27). Students are now put in the role of their own learning and using their time wisely, asking questions when needed.

Finally, the flipped classroom model benefits the school as a whole. Many have seen fewer discipline problems when this model is used. The students are not bored but are actively engaged and working together. Teachers can collaborate on lessons and provide input or feedback on videos used (Fulton 22). The flipped model also is economically friendly for the school. Software for creating videos is not expensive and easily accessible. Teachers are then also able to have larger classes because they have the whole class time for individualized help and clarification of topics (Berrett 2).

The flipped classroom provides many benefits for all types of students, teachers, parents, and more. In a society in which we have the means and ability to access and share information at ease, it is beneficial to utilize it. By providing 24/7 access and individual learning to students, the

flipped classroom model is the perfect way to target all students and create an environment for mastery learning. Students learn how to be in charge of their own learning, and teachers are better able to form true connections and relationships with students. The results for many classrooms have been successful. In a study of multiple cases, it was found that 44% of freshman failed math before having a flipped classroom model, but only 13% failed math after the flipped classroom case. There are also studies that show a decrease in discipline cases from 736 to 249 cases (Strayer).

III. RESEARCH DESIGN

For my study, I chose to do three case-studies. I chose three teachers or professors who used some version of the flipped classroom model, using videos to teach content. Two of the case-studies were teaching in secondary education, while the other two were teaching in higher education. The question was asked as to how much they knew of the flipped classroom model and whether they had had formal experience or were influenced to use this model. I focused on how they structured their course and the overall use of videos. I then questioned the use of class time.

My subjects were obtained through professors who were aware of the use of videos used in the context of teaching lessons. One particular professor did research in the field of flipped classrooms and utilized the information to apply to his or her own class. Another professor also had been utilizing videos for content taught in the class. The other two subjects were not professors, but high school teachers. The use of videos to teach content in this area instead of higher level classes was noted.

I attempted to assess the different motivations behind each case study and note the differences of similarities of their approaches, in contrast to what the defined version of a flipped classroom model is.

A case study model was used in order to focus on teachers of flipped classrooms. Three case studies were done for the overall study, qualifying as a collective case study. This method allowed for different perspectives of the flipped classroom, so a general comparison could be made. Multiple-case designs are usually preferred in order to be found valid (Fraenkel 439). For

the purpose of determining the perceptions of a flipped classroom model, case studies best gained the insight of multiple people to determine any generalizations or discrepancies.

IV. DATA RESULTS

After receiving the questionnaire results from four different teachers and professors, it was clear to see that there are differences among the flipped classrooms in use. All of the classes that are considered to be implementing a flipped model have a commonality of assigning video lessons to be watched for homework. The variations among each case study lies in how the class time is utilized. Between the different participants, original interest in the flipped classroom and incentives to use it also varied.

Case Study 1:

Case study one has been in the field of education for over 20 years. This participant became interested in the use of flipped classrooms after reading a feature article in a University of Minnesota magazine. The participant also gained interest from digital projects in graduate school. From there, research was completed among multiple sources. Some of these sources included blogs, forums, publications from AACU, and listservs. Although research was completed on the use of flipped classrooms, it was not particularly encouraged by the institution. The institution did support the decision by providing equipment and technical support. The means of how to implement a flipped classroom was learned by the participant using Lynda.com to learn software skills, also provided by the institution. Once research and technology was taken care of, the participant implemented the practice of a flipped classroom by recording lectures, editing videos, recreating a syllabus, and creating a pre and post-assessment for the course.

The flipped classroom model has been in use for a year now with video lessons made by the participant. The videos typically range from 15-45 minutes, depending on the material. The

viewing of the video was tracked by the statistics on the websites viewing as well as quizzes on the video. It was usually very obvious if a student did not view the video because he or she would not pass the quiz after the viewing. While the videos were assigned as homework, there was also some reading for homework as well given it was a humanities course. The class time would typically consist of discussion of the material, a short lecture to review, class writing time, and small group work. The major benefit found from implementing a flipped classroom model was the opportunity for students to review content many times. This, in turn, caused class time to be more interactive because the students better understood the material. Detriments of the flipped classroom for this participant were that students did not complete the additional reading and only relied on the videos for the content.

Overall, this participant found that in terms of future revisions to the flipped classroom, it is not fair to hold the flipped classroom as its own category any more. Technology is not new anymore, so it is constantly being made a part of the lessons and homework and will be maintained as a part of the classroom functioning in today's society. From a student's view, the participant found that the students seemed to like the flipped classroom model and enjoy the class more. Unfortunately, results did not indicate much of a difference between post-tests among flipped classroom students and traditional classroom students.

Case Study 2:

Case study two participant has been involved in the field of education for over 20 years. The participant became interested in the concept of the flipped classroom out of sheer interest for changing how the lecture portion of the class was administered. The ability to use technology to enhance the lesson was also a point of interest. Research was done through International Society

for Technology in Education (ISTE) conferences as well as various published research. The institution did encourage the use of the flipped classroom, and the participant was part of a pilot study in the district. Due to the encouragement and being part of a pilot study, the institution provided training and time to develop the curriculum.

Once training and research were completed, the flipped classroom model began to be implemented by talking further to other educators already using the model. The model has now been in place for three years with videos being created and used from other sources. The videos range in length from 5-15 minutes. Quizzes were used to determine whether or not the students watched the videos. The website in which the videos were posted also allowed for the teacher to monitor viewing of the material. Class time is then spent with about half the time being used to lecture or review and the other half for activities or practice problems.

Overall, benefits of the flipped classroom were the ability of the students to access the material wherever and whenever they needed it due to the ease of access online. The participant was dissatisfied with some students' reaction to the flipped classroom model. It was observed that the older students took a longer time to adjust because they were so used to how material is traditionally taught. At the end of the year, it was found there was a dramatic increase in student achievement on the final exam. Before flipping the class average for the final exam was a 64%, but after it was an 82%. The students seemed to have mixed reactions to the flipped classroom model. Some took longer to adjust and had preconceived ideas of how school should go so did not enjoy the change. Overall, discussions were had with the students of what skills were being learned in this model and how it improved technology skills, independent learning, and collaboration skills.

Case Study 3:

Participant three has been teaching for 26 years and has a Master's degree. The participant became interested after trying various methods for teaching such as cooperative learning, discovery learning, direct teaching, and the use of technology. Khan Academy is what truly sparked his/her interest in a flipped classroom model. The math chairman was very open to the idea of a flipped classroom, but the institution did not encourage the idea or provide incentives. A little bit of research was done before adopting the model. No training was provided for the implementation, but instead was self directed. The participant first focused on one subject to flip that he/she felt would work best, and the participant then downloaded software needed. Educreations was the software that was first used. As a final measure to begin implementation, a survey was given to the students to determine internet access for the lessons. It has been being used for two years with videos being made by the participant. The videos are typically 15 minutes long, and the software used can monitor the viewing of the videos.

The flipped implementation did not start from the first day but starts halfway through the year once some material was learned. Originally the class started as direct instruction with some days for practice and review. On days that flipped learning was implemented, no time was spent teaching during the class time but instead on review and practice. Any teaching was one-on-one with students who needed extra help. The flipped lessons were interactive, with jokes and pictures. The lesson included talking and writing by the teacher using the Whiteboard app. If a student did not watch the video, he/she could take class time to watch it in the library or get assistance from a peer. Students could not ask for the teachers help during the class period if they did not watch it on their own time.

Many of the students seemed to like the flipped classroom model and find that it was quicker for learning the material. No time was wasted on disciplining certain students or re-directing them back to the lesson. The students seemed to understand the concepts better from getting practice in the classroom and being able to ask questions. The only problems that arose were two students who did not like being penalized by not learning the material from the teacher when they did not complete the assignment. They thought being penalized for a written assignment being taken off their grade as more fair.

After implementing the flipped classroom, the participant's only change would be to implement the concept more. Many of the students enjoyed the method of the flipped classroom, and the only complaint was when the videos were not watched on their own time.

V. DISCUSSION AND CONCLUSION

Overall, there were both similarities and differences among the uses of the flipped classroom model. The case studies showed the flipped classroom model for both college and high school as well as for all different courses. For the differences among the specific classroom and environment, the flipped classroom model varied.

Many differences existed in how the videos were used and how the flipped classroom model came to be. Often the videos were used to teach a topic, but the lengths of the videos as well as the frequency with which one was watched varied. Certain case studies used the flipped classroom model after the basics were learned, as found necessary. Other classes used it once a week with a longer video to fuel the week's lesson and discussion, while yet another used it daily. The work and the videos depended on the subject being taught as well as the class structure of how long the period for instruction was. The use of class time then varied as a result of the video viewing periods and the content of the videos. Some case studies used the class for discussion and small group work while others took days of instruction and review. Others used it for group work and application problems. One case study participant used a method of hybrid learning in which the students were taught in a variety of methods on a rotation, switching between instruction, online learning, and group work. Overall, the teachers utilized online videos to different degrees, thus creating a variety of flipped classroom models.

Although differences existed, there were also common elements among the case studies. The teachers all became interested through an article or outside source. The idea seemed intriguing to use a video and technology to guide a lesson. The development of the lessons were assisted by the use of applications that allowed for tracking of video viewings as well as

applications to allow editing and effects in the videos. All of the flipped classroom models used video lectures as homework and proceeded to have a short lecture at the beginning of class. The lecture in class was followed by hands on review of the material in the form of group work, individual work, or class discussions.

Assessments of the videos were typically done in the same method among all the case studies as well. To monitor the viewing of the videos, the site on which it was viewed would track who viewed it and when. To check comprehension of viewing and that it was done, often a short quiz or problem was given, which further guided the day's work. If a student did not watch the video, it was apparent that the teacher was very aware, and the student would not pass the quiz or assignment in class. Overall, the teachers found that the students liked the flipped classroom model and enjoyed being able to watch the video lessons on their own time and at their discretion of how often. The only time students seemed to have problems with the model was when they did not take the responsibility to watch the videos before coming to class.

Many of the teachers seemed to appreciate the flipped classroom and found it as a good tool for teaching and gaining mastery among the students. Although all of the case studies used videos to view as homework and included some time to lecture and review, each class seemed to have a very different overall structure. I was very surprised to discover that despite the similarities of using videos to teach a lesson, the classroom varied greatly. Each teacher took a different approach to the use of class time and practice of the material. Each class also had different timelines of how often instruction occurred and how often the class was left to the students to complete hands on work.

I believe that the case studies revealed that although there may be an idea of what a flipped classroom is, there is not one concrete way to go about it. The use of video lessons and

using a flipped classroom may depend on a lot of factors such as the course, the teacher's resources, and the class duration. None of the case studies had identical structures even though background information of the flipped classroom was viewed by the teachers. One of the participants made a valid comment stating, "I think that the flipped classroom is not really a meaningful category anymore. New media is no longer new at all." The technology of today is only increasing and becoming more advanced. Many classrooms incorporate technology to teach content on a daily basis. With all of the advancements and information online, teachers and students have come to utilize resources from online. It is a new age of technology, and everyone seems to use it differently among their classrooms, but using it nonetheless.

In many cases today, college institutions are changing to adapt to the overwhelming use of technology. The use of online videos allows for budget cuts and, therefore, is economically advantageous. This is causing traditional classrooms to be criticized and become less in demand. This poses problems for colleges and schools because if everything can be accessed online, what is that point of having teachers and a structured school day? Many things can now be done on one's own time and at one's own pace with the use of computers. Soon enough the question will come into play whether teachers and schools are really necessary or just a waste of money and space. The outlook on education is changing, and technology is becoming more prominent while economic costs rise.

In 2015, Kevin Carey published a book titled, *The End of College*, in which he discussed the changes of college and the use of technology to make higher education more affordable and "meritocratic." He talks of the changing culture and presents the concept that some schools will be able to adapt to the technology-centered classroom, while other colleges will not and will

ultimately close due to the change. He does not think colleges will cease to exist, but just the structure will change.

The use of a flipped classroom model and the incorporation of technology are only being furthered by technological advances and the reliance on technology for many purposes. Whereas there is typically a preconceived notion of what a flipped classroom is and how it is modeled, it has many variations today. Everyone utilizes the technology differently and teaches differently based on his/her own personal teaching styles or classroom factors.

I believe the flipped classroom model is an effective way to teach, using a video lesson to teach content. While this is important, I think having the guidance and corrections of the teacher available along with peer guidance is just as important in the learning process as some sort of instruction. Technology will most likely stay in the education system at this point and possibly spread to change more traditional classrooms to one of a flipped classroom model.

APPENDIX A

Letter of Informed Consent

I consent to serve as a subject in the research investigation entitled:
THE PERCEPTIONS OF THE FLIPPED CLASSROOM MODEL

The nature and general purpose of the research being conducted is for a Senior Thesis through Albright College. Findings of the study will provide information towards perceptions of both students and teachers in a flipped classroom model to determine effectiveness of this model.

Participation in this study is completely voluntary, and individual data from the study will not be revealed to anyone other than the principal investigator and her advisor.

In order to protect the confidentiality of all participants in the project, the following numerical coding procedures will be followed:

- All participants will be assigned a code number and teachers' names will not be placed on any data collection sheets
- The key for the coding system and all project materials will kept under a password protected computer in a locked room
- Upon completion of the project, the key for the codes will be destroyed to prevent any disclosure of identities

Upon completion of the project, copies of the major findings will be available upon request to all participants. However, no identifying information will be provided.

Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

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APPENDIX A

Questions about Your Rights as a Research Subject

Bonnie Rohde
Chair, Institutional Review Board
Albright College
(610) 929-6723
brohde@alb.edu

Thank you.

Victoria A. Ruprecht

I have read and understood the description above and agree to allow my data to be used in this study.

Signature:_____ Name (Print):_____

APPENDIX B

Senior Thesis: Flipped Classrooms

Please answer the following questions to the best of your ability.

1. Education: **A.** Bachelor's Degree **B.** Master's Degree **C.** Ph.D./Ed.D.

2. Total number of years in education: _____

3. How did you become interested in the concept of the "flipped classroom"?

4. Did you do research or background reading associated with the concept? If so, what were those sources?

5. Did your institution encourage you to develop the concept for use in your classes? If so, what were those incentives?

6. Did your institution provide any training or preparation for you when you indicated your interest in the idea?

7. What initial steps did you take to implement the concept?

8. Total number of years implementing technology to teach a lesson:_____

9. Total class time is typically spent with review or teaching: _____

10. Total class time spent doing activities or practice problems: _____

11. Do you create your own videos for lessons? **A.** Yes **B.** No

12. How long are the videos used?

13. How do you monitor if students watched the videos?

14. What is done if students do not watch the video lesson?

15. If I were to visit your classroom, what would I expect to see as "instruction"?

16. May we have a copy of the syllabus for each course in which you used the concept?

17. With what aspects of the flipped classroom were you most satisfied?

18. What aspects of the concept displeased you the most?

19. Based on your current experiences with flipped classrooms, what changes did you or will you make in your planning and implementation of the concept in future classes?

20. What feedback from students did you solicit at the end of the course?

21. How do you feel the students reacted to this approach to classroom instruction?

22. How did you respond to their feedback on their experience?

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