Building Bridges:

Using a flipped learning approach to strengthen pottery skills & comprehension.

By

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Abstract

Flipped Instruction is a model of teaching that turns the traditional classroom upside down where lecture material is covered outside of class and what students would normally do as homework becomes the focus of class time. This action research focuses on the implementation of a flipped mastery model in an introductory pottery course at the 9 - 12 grade level. Teacher led demonstrations were replaced by pre-recorded videos to be watched as homework and the physical learning occurred with instructor support during actual class time. Data was gathered through student reflections, field notes, student surveys and student interviews. Results from the study demonstrated an increase in student engagement, improved wheel unit scores, and increased comprehension of technical knowledge.
Introduction

There appears to be a common problem in my visual arts classes where students are unable to put in the time to develop the proper skills necessary to complete their required ceramic projects. Some of the obstacles to spending time in the ceramics studio after class include watching siblings, competing in athletics, work, volunteering, or the inability to get home from school without a bus. Time is a very scarce commodity in the lives of our students, and that was the impetus for exploring means through which students could access material outside of the traditional school day. The pedagogical approach called “Flipped Learning” presented an opportunity to support student learning outside the classroom. The fundamentals of flipped learning are that material normally presented in class, lectures, notes and such, would instead be given as homework and the material that would be assigned as homework would be completed in class with the assistance of the instructor (Bergmann, 2013).

Early in my research, it was unclear whether a flipped approach would work in a hands-on visual arts class. Much of the research and development in flipped learning has occurred through the core areas of Math and Science with little in the way of instruction of ceramics. My desire is to utilize current technology that students have grown to rely on in order to lift the burden of classroom overcrowding and access to information. In our public school we are facing budget cuts, space restrictions, and increasingly larger class sizes, yet I am hopeful that the implementation of a flipped learning model, within my introductory pottery wheel unit, can help scaffold ceramic fundamentals for these 21st century students.

Throughout my research the term “Millennial” has come to my attention for potential connection to my action research plan. Upon deeper investigation of research pertaining to the Millennial
generation and their preferences towards technology supported pedagogy, I expanded my focus to identify connections between this group and the increased implementation of flipped learning models.

The core questions that I intend to answer through this action research are:

1. How can I adjust my teaching style to reflect the time restrictions of my students?
2. Can the implementation of a flipped learning model keep students engaged?
3. How can I appeal to students to get their buy-in with this approach?
4. How can I stay aware of each student’s personal time/limitations?
5. How can I build student confidence in a tactile activity such as the pottery wheel through a flipped learning model?

**Purpose Statement**

My hypothesis explores whether students engaged in a flipped learning/hybrid online learning experience can increase content knowledge and build technical skills in ceramics relative to a group of peers who have not experienced the flipped/hybrid online model. The importance of this study is to identify to whether a course such as pottery could be improved if expanded/connected with an online component (such as flipping) thus increasing in-class time for practical skill development.
Millennial Students

Although not originally a focus within my action research plan, I happened to recently come across an article in the local newspaper on the “Millennial” generation and their effect on the workforce. Published in the Pioneer Press on June 29th, 2014 the story was entitled “Millennial disconnect; Kids want money but not hard work.” Within the article the author explores characteristics of the “Millennial” generation including similar stories I have experienced in my own classes over the past 9 years. As a teacher, I had seen my students struggle with personality conflicts and good decision-making, hallmark challenges of this age group. As all of the participants in my action research study fall within the “Millennial” generation, understanding more about this generational group became a necessary component to understanding how a “flipped approach” to learning could benefit my classes.

In the Harvard Business Review, researchers Neil Howe & William Strauss (2007) explore generational theories and the effect those individuals have on future trends. By definition those who fall into this Millennial generation were born between the years of 1982 and 2004. Coupled with a boom in fertility rates, including an increased emphasis on preventing child abuse and improved child safety this group could reach a projected population of as many as 100 million. Millennials share seven core traits: special, sheltered, confident, team-oriented, conventional, pressured, and achieving. Grades and positive performance are very important to Millennials and their expectation is that they will have what they need when they need it to succeed academically (Strauss & Howe, 2003).
Cared for by a generation focused on the positive welfare of its children and influenced by a changing society fixated on improving cooperation and quality of life, Millennials were the motivation for a national paradigm shift. The Millennial generation has signaled a consciousness of safety, and emerging from this are the “helicopter parents” – always hovering, ultra-protective, unwilling to let go, and enlisting ‘the team’ (parent, physician, lawyer, teachers other counselors) to assert support of a variety of special needs and interests” (Strauss & Howe, 2003). My professional experiences have illustrated this pattern of interaction between parents and students looking to solve potential problems before they occur. While this may seem logical in theory, it prevents students from feeling confident enough to take chances and risks within safe venues such as schools. The opinion among Millennials, compared to their Gen X predecessors, is that failure is difficult to recover from. This pressure to succeed has led to an emphasis on planning and time management. Such a rigid approach is becoming more important in order to fit in all of the student’s necessary activities (Strauss & Howe, 2003).

As the first generation to grow up with mobile digital technology, Millennials expect nonstop inter-action with their peers in forms that would have been unimaginable to prior generations of young adults (Howe & Strauss, 2007). They don’t see the Internet and technology as tools; they see them as integral parts of their lives (Merritt, 2002). According the 2011 census data, 87.5% of all 25 year olds and younger reported either personal computer or smartphone usage when accessing information from the Internet (File, 2013). With such a connected generation it is foolish to think that we can approach instruction in our classrooms without acknowledging the importance of technology integration.
Flipped Learning

"You need to figure out the answer to the question: What's the best use of your face-to-face instruction time?"

Jonathan Bergmann (Ash, 2012)

Jonathan Bergmann and Aaron Sams are the originators of the flipped classroom concept and two of the movement’s high profile proponents. In 2006, as high school science teachers in Woodland Park, CO, they collaborated to flip their chemistry classes. (LaFee, 2013) While there is no one model, the core idea is to flip the common instructional approach: Move lecture style, didactic instruction into teacher-created videos to be viewed outside of classroom and shift homework and small group direction instruction into the classroom.

Through teacher-created videos and interactive lessons, lecture style instruction that used to occur in class can now be accessed outside of formal class meeting time, in advance of class. In doing so, class becomes the place to work through problems, advance concepts, and engage in collaborative learning. To the advantage of students all aspects of instruction can be simplified to best maximize the scarcest learning resource – time. Bergmann notes that he now spends more time with struggling students, who no longer give up on homework and who are able to work through challenging problems in class. Advanced students have more freedom to learn independently. And, while high-school students still occasionally lapse on homework assignments, Bergmann credits the new arrangement with fostering better relationships, greater student engagement, and higher levels of motivation. (Tucker, 2012) According to Bergmann
(2012), “We have simply adapted several very good learning principles and married them by leveraging modern technology to change the face of teaching” (p. 69).

Sams and Bergmann (2013) understand

“…not all classrooms will benefit from the flipped model. Courses that are more Socratic or inquiry-based, or those that don’t have reams of factual information for students to learn, aren’t particularly suited to flipping. On the other hand, courses that are more didactic, that consist of large quantities of content on the low end of Bloom’s taxonomy – in the categories of remembering or understanding – will likely undergo a greater transformation in the flipped classroom model.” (p.16)

As a variation of the flipped classroom, the term, “blended learning”, has also found a place in the conversation. According to Horn (2012) blended learning is “the melding of information technology-based distance learning with school attendance.”

Horn (2012) observes

“Teachers are getting lots of data and feedback immediately as soon as students are struggling. In addition, they’re able to see the facial and verbal cues and so forth, and they are constantly grouping students or bringing them in for one-on-one sessions, walking around the floor and saying, “you look like you are struggling, how can we help you?” (p.18)
According to Horn (2012), the technology used within blended learning allows for feedback to both parties on a shorter delay. The integration of technology and online curriculum are allowing students to increase their learning and get back on track. While computers provide dynamic tools, they lack the personal component. In the end we must consider the critical role the instructor plays in a student’s success.

While there is sizeable support for “Flipped Learning” some concerns exist within the education community about its fundamental approach and implementation. There remains criticism from some who believe that flipping is simply a high-tech version of an antiquated instructional method: the lecture (Ash, 2012). While there are resources available to instructors who are interested in this model of learning, there are no guarantees that homegrown video lectures will engage their intended audience. Andrew Miller argues in Ash (2012) that “Just because you flipped your classroom doesn’t mean your students will watch the videos. How are you engaging your kids?” Nielsen (2011), maintains there are other issues that we must address before we commit to full implementation. Nielsen argues that flipped homework is still homework. She explains that, “There are a growing number of parents and educators who don’t believe we should rob children of the time after school with mandatory homework” (2011). She goes on to address the lack of consistent access to technology for many of our students in addition to the notion that lecturing does not equal learning. As a final note to educators, she encourages teachers to be cautious about using the increased classroom time time made available by flipping for simply more memorization and regurgitation (e.g. “sit and get”) in class (2011).

In conclusion, the research available on the implementation and structure of “flipped learning” would seem to indicate that with so much flexibility in this model, it is necessary to explore and design approaches that fit specific needs of learners as well as the context of their instruction. In
Ash (2012) Deb Wolf, a high school instructional coach from Sioux Falls, SD, emphasized that flipping is one approach in a wider framework of instructional methods to help reach students. A strong grasp of your content, students, and learning objectives is crucial to the success of this model. She states that, "You can't just hand the flipped classroom off to an ineffective teacher and say you're going to transform the classroom. It's not going to make a bad teacher a good teacher" (P.S7).

**Research Design & Methodology**

The purpose of this study was to evaluate whether a flipped learning approach to introductory ceramics instruction would increase comprehension, engagement, and boost time with material without sacrificing access to knowledge. I used aspects of the flipped classroom model to better instruct and guide the learning of my introductory pottery students during a three-week wheel unit in which they develop a basic understanding of throwing multiple forms and use of a trimming tool. Students were able to access two main out-of-class delivery methods: pre-recorded demonstrations and the use of Google Docs (an online productivity suite similar to Microsoft Office) for organization of content. Class time continued to be focused on diagnosing specific problems, answering questions as they arose and offering mini demonstrations when necessary.

**Participants & Setting**

The participants in this study included 18 total students (7 boys & 11 girls) from 15 - 18 years old. Female representation was greater than the male population, but remains common in introductory pottery courses. Participants were randomly chosen and reflected the ethnic makeup
of our student body. Research was conducted at Roseville Area High School, in Roseville MN during the third trimester of the 2013-2014 school year. Class length is consistent throughout the day at 66 minutes with this section starting at 8:10 and concluding at 9:16 AM. My classroom is a pottery-focused classroom with a bank of 18 wheels and an overflow area with three separate wheels for larger classes. All students have access to similarly equipped electric wheels and equal usage of studio tools.

**Materials**

A preliminary technology availability survey *(Appendix A)* went out to all participants prior to the study to gather student preference for delivery of classroom content. Of the 17 students surveyed, all had access to YouTube on a personal computer or a smartphone of varied platform. In the case of access being a hurdle to learning, my classroom has an open Wi-Fi access point and a shared set of 10 classroom iPads. These devices could be used before, during, or after class to view the demonstration videos on an individual basis, as time would allow.

As I explored the content flipped classroom educators had been collecting I stumbled upon two individuals who helped get the ball rolling with the flipping of my classroom. Crystal Kirch, a math teacher from California, publishes a blog entitled *Flipping With Kirch* and houses a huge repository of flipped classroom resources including the “WSQ” or “Watch, Summarize, and & Question” component I used for student note taking and “FITCH” guidelines for students to follow as they view instructor created videos. Used by Kirch, “FITCH”, is an acronym that directs students to “Focus, Be Involved, Close any distracting browser Tabs, put your Cell phone away, and use Headphones to block out any distractions. Crystal developed these acronyms to layout the process of note taking students should follow while watching lectures,
demonstrations, or labs outside of class. Jonathan Thomas-Palmer, creator of flippingphysics.com, was also a great resource. He has created a number of videos for students and one in particular for both students and parents explaining the differences between a traditional classroom and a flipped classroom (Appendix B). I used this video to introduce the idea and accompany my IRB (Appendix C) when introducing this idea. In an effort to organize all materials in a sequential order, all documents and links were posted to my school website for ease of editing for myself and access for the students.

The largest component of this action research study was a series of 6 instructor-created videos produced to outline the process of learning how to use a pottery wheel. Our main focus was learning to throw, or the action of using your hands to create different forms with the aid of a pottery wheel. The consensus of many flipped classroom teachers recommended keeping videos to roughly one minute of video for every year in age the students where. Select demonstrations required splitting into two connected segments in order to accommodate time suggestions. All videos were filmed and edited with student assistance and input. Encouraged by our school media specialist, the editing process focused on a clean approach with a graphic on the lower third of the screen emphasizes information I felt was critical or wanted to emphasize. The Introduction to the Wheel series included the following episodes:

1. The Machine 4:56 (length)
2. The Tools 4:42
3. Centering & Opening 12:20
4. Pulling & Finishing 11:46
5. Throwing A Bowl 15:38
6. Trimming A Bowl 17:01
Procedure

This action research took place during a three-week time frame. Students involved in the research were focused solely on learning to throw in an introductory ceramics class. Students involved in the throwing unit had three main learning targets: 1. Throw a 4-6 inch cylinder with 1.5 lbs. of clay, 2. Use tools for altering cylinders into bowls, 3. Use trimming tools to create a cut foot for the vessel. Due to space and pottery wheel limitations, a second group works concurrently off of the wheels. This group served as a natural control group and engaged in a handbuilding unit focusing on forming sheets of clay to create three separate projects.

Students in the experimental group were initially surveyed regarding their technology usage. This provided me with the necessary information on how to best provide access to instructor created videos to students at home or in the classroom. Students were instructed to watch a video with a parent or caregiver showing the similarities/differences on flipped learning and return with a question for the class. In preparation for throwing all students were introduced to resources focused on learning from videos, which they used to generate WSQ’s on the first video, to be recorded in an individual pottery notebook. Following this activity, a brief in-class discussion was held to check for understanding. Redirection was given and the 2nd video was given as homework. Following this brief period of scaffolding, these students would begin to use a flipped learning module located on my school website.

Each class period began with general announcements; declaration of daily learning targets, and then the groups would split for the day’s activities. Once participants had gathered the
appropriate tools and were seated at their wheels, we would begin with a discussion based on the
WSQ responses created the night before. The discussion was time for conversation and sharing
of information within the group. Once the discussion was completed and questions were
sufficiently answered, work time would begin. Work time had a daily focus and was broken up
into a series of smaller learning targets in order to reach our unit learning targets. Due to the
planned format of the unit, this instructional format remained consistent during the entirety of the
unit.

For the first week, attention was focused on the process of centering clay. During this time
students worked to keep develop the sensitivity and patience to shift the clay to a central mass on
the pottery wheel. As this is traditionally the most difficult stage of the process, the first video
snippet was recorded during this time to monitor and document progression. Once students
demonstrated an understanding of the concept they were allowed to move on to the next video.
To keep students on task and provide a timetable of learning, a schedule of events and deadlines
within the unit was created (Appendix D).

Throughout the entire unit, I was collecting field notes on the process and the comments I was
receiving along with my reflections on daily events. During the midpoint of the unit, a second
progress video snippet was recorded to demonstrate present knowledge of the throwing process.
Instruction continued in the established format as we explored the additional videos created to
meet the three pre-determined learning targets of the wheel unit.

1. *Throw a 4-6” cylinder*

2. *To demonstrate advance shaping techniques in the creation of a bowl*
3. *Use loop-trimming tools to finish pots with a turned foot ring.*

By the end of the wheel unit all students had viewed the entire library of 6 video demonstrations and condensed the information into their notebooks using the WSQ format. In a final assessment of knowledge gained throughout the unit, a wheel competency test was given and a third video snippet recorded along with a digital photo of their completed cylinder in profile view to support the scores given on the final rubric (*Appendix E*).

Upon completion of the unit, a final unit reflection survey was given to all participants of the study to share their experiences and thoughts (*Appendix F*). Results of the survey did not influence grade, but signaled completion of obligation outlined in IRB. Completed field notes were summarized and organized. Finally, scores gathered from the competency tests and survey responses were tabulated and graphically organized.

**Analysis:**

This study was a mixed methods approach to evaluate data. Quantitative data was gathered through a final assessment of understanding of the process in the form of a wheel competency test, outlining the 10 steps necessary for fulfillment of the wheel unit objective. Qualitative data was collected through student observations, field reports/notes, and a final interview with students as well as from brief form responses given to students at the conclusion of watching the pre-recorded demonstrations. I analyzed the data to determine if the results I have observed and the actual implementation of a flipped learning environment benefited student learning. I also examined collected data as I moved through the study to determine if the measures I was using
were appropriate in judging the effectiveness of a flipped learning approach during the wheel unit of my introductory pottery course.

**Results**

My overall goal for implementing a flipped learning model during my introductory wheel unit was to increase technical throwing competency. After collecting and analyzing my data, I found that students’ understanding of the technical aspects of throwing increased. Students used the digital versions of my demonstrations for review and self-guided learning, and students’ average wheel scores improved.

Table 1 compares wheel proficiency scores of the intro pottery students who had their wheel techniques lectures placed online, with intro to pottery students who did not have that resource made available to them.

<table>
<thead>
<tr>
<th>Type of Instruction</th>
<th>Male</th>
<th>Female</th>
<th>Average Score</th>
<th>% of Scores 8+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Approach</td>
<td>5</td>
<td>11</td>
<td>7.625</td>
<td>50%</td>
</tr>
<tr>
<td>Flipped Approach *</td>
<td>7</td>
<td>11</td>
<td>7.56</td>
<td>61%</td>
</tr>
</tbody>
</table>

*Note: Wheel Competency Scores are on a 10 point scale

* 6 students from the Flipped Learning group did not complete an IRB, but scores were still included in group dataset.
Figure 1 illustrates student satisfaction in using a flipped approach in learning how to throw on the pottery wheel. Nearly 85% of flipped students responded positively when asked about the flipped approach in the art classroom.

![Figure 1. Flipped Classroom Survey Results - Implementation Satisfaction](image)

The Flipped classroom is a new concept to RAHS, do you feel that it helped you learn to throw on the wheel this trimester?

- Strongly Agree: 5 (38%)
- Agree: 6 (48%)
- Undecided: 2 (15%)
- Disagree: 0 (0%)
- Strongly Disagree: 0 (0%)

Figure 2 illustrates the WSQ and its benefits in knowledge acquisition in the flipped classroom. The elevated percentage of undecided participants is most likely due to confusion on the students’ expectation to complete this element.

![Figure 2. WSQ - Watch, Summarize, and Question discussion satisfaction](image)

Do you find the WSQ discussions at the beginning of class helpful?

- Strongly Agree: 0 (0%)
- Agree: 8 (62%)
- Undecided: 5 (38%)
- Disagree: 0 (0%)
- Strongly Disagree: 0 (0%)
- Other: 0 (0%)
Figure 3 shows student confidence in understanding the material upon completion of viewing and taking notes on the demonstration. 77% of participants felt somewhat or very confident in using the knowledge gathered through video demonstrations and applying it in class the following day.

![Figure 3: Student Confidence in Material: Upon Completion of Viewing](image)

When comparing Figure 3 and Figure 4 it is important to point out the shift in positive participant confidence from 77% before class to 61% after coming to class. The number of neutral students increased as well as students who felt somewhat uncertain in the material. The shift in student confidence is most likely the result of unreasonable expectations or being overly confident following examination of the techniques discussed in the videos. Although this is a

![Figure 4: Student Confidence in Material: Upon Classroom Implementation of Knowledge](image)
downward trend, more than half the class continued to indicate a positive understanding of material implicating the strong relationship between the video demonstrations created and the activities covered in class.

The student comments listed below, taken from the final unit survey, are in response to the benefits of a flipped classroom. While the comments reflect individual bias, responses including mention of time given to active learning are nearly unanimous.

- “More work time to become better.”
- “I think the class is more flexible because we get more working time in class after watching the demonstration video.”
- “It gave me more hands on time.”
- “You feel very confident and you can work right when you enter the room without the teacher giving a demo.”
- “We had more time to work and practice.”
- “There was so much more time to work in class and I noticed that helped people progress faster”
- “I can go back and re-watch a video if I need more help and more time to work.”
- “That we didn't have a huge lecture on how to do it.”

Limitations:

There are certain factors that keep my classroom in a constant state of flux and with that it is difficult to gauge the impact of my action research plan without multiple class samples. Within each trimester and specifically class, there will be changes in number of students; time of day class is conducted, as well as the demographic of students. Students may also be limited in their
physical motor skills resulting in longer time necessary for skill development. Given these factors, I feel that future implementation of flipped learning instruction, in additional sections, needs to occur in order to make an informed decisions for the future. Lacking a clear vision, I did not gather the necessary survey data or wheel samples for comparison of the control group. In retrospect, had the inclusion of the traditional approach been measured, the results of this action research would more conclusive. During the trimester the research was conducted I was only teaching one introductory pottery course and my sample size was less than I had desired. During the upcoming school year, I will continue to assess the impact of this flipped approach
Conclusions & Implications for Future Research

In the beginning, as this idea evolved from possibility to reality, my main focus was on the element of time. It was clear that my students had significant time constraints and therefore lacked opportunities before or after school to commit valuable practice time on the wheel. I wanted to make this action research project applicable and meaningful to my student population so finding a way to increase wheel practice time was essential. In the responses I received at the conclusion, the extra time to be actively involved in an activity was a highlight for many participants. Having students who were excited and prepared to participate in small group wheel shows me that future implementation has promise.

To see that 95% of my class felt this instructional model was helpful in learning to use the wheel was extremely encouraging. Although wheel scores only increased slightly, the percentage of students scoring at an 8 or higher out of 10 was 61% of my class. This information is a positive outlook as I continue to implement and refine my flipped approach.

Students of this generation are looking to be active participants in their learning and they seemed to feel empowered to explore, when given access to the video demonstrations. One student shared as their favorite element of a flipped classroom that, “You feel very confident and you can work right when you enter the room without the teacher giving a demo.”

Although the data did show a drop in confidence following a day of work time, one can expect the excitement of learning something new to outweigh the struggle. Frustration in skill development was short lived as the flipped group improved quicker than the traditional
lecture/demonstration group. For those students struggling with the process, realization that failure could be easily recycled with the clay was encouraging as they moved forward. One of my E.L students, in relation to skill acquisition, remarked that, “I think it's the video because you can watch it again and again if you don't quite get the lesson.”

A conversation I had with a student after class cemented my commitment to future expansion of flipped learning in my courses. Her father had taken some classes at a local pottery studio and wound up watching the demos alongside his daughter. Not only do the videos provide a front row seat to his daughter’s education experiences, but create an opportunity for dad and daughter to connect, something I found very encouraging. The reach of these video demonstrations doesn’t need to stop with students, but can find their way into the homes of curious pottery enthusiasts. Giving up direct control of the classroom allowed me to meet the students where they were instead of showing them what they didn’t know.

Following the success of this study, I will look to increase the number of flipped units, appropriate in content, across my teaching load. We are unable to ignore that online/blended learning will be the next evolution of classroom education. It is my responsibility to prepare students for the next stage in their life, as they will be presented with more opportunities for online learning whether it is their choice or the decision of their institution. We also need to come to the realization that we are working with a population of students who are digital natives born in the age of powerful mobile devices and access to massive amounts of knowledge at their fingertips. I see the benefits of this study being vital to the evolution of public education and specifically to the survival of arts education. There is potential application of this model to be
used for development of a hybrid visual arts class for homebound students required to take an Art elective or other students wishing to take an online class to fulfill a similar requirement.

It is clear that there is no singular approach and that results may vary between teachers and content areas. Flipping classes involves a significant switch in the role of the student and teacher and the motive to make this shift must be in the best interest of the students.
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Appendix A: Introductory Technology Survey

Technology Survey
I am gathering information that will help me best serve you in the delivery of class content.

* Required

1. Please provide your name for record keeping purposes.
   First & Last Name

2. What form(s) of technology do you currently have access to? *
   Please select all that apply or you use regularly.
   Check all that apply.
   - Desktop computer w/ High Speed Internet
   - iOS Device - iPad, iPhone, or iPod w/ video streaming capabilities
   - Android Smartphone w/ video streaming capabilities
   - Tablet w/ video streaming capabilities
   - DVD Player
   - None of the above

3. What format would you prefer to access videos of class demonstrations? *
   Please select all that apply or you use regularly.
   Mark only one oval.
   - YouTube - smartphone
   - YouTube - desktop
   - Video Files on a flash drive
   - Instructor created DVD
   - Other.

4. Is there any other information that I should know that might prevent your participation in a flipped learning approach?

5. Questions or comments about flipped learning?
Appendix B: WSQ Model Sheet

**How to Learn From Videos:** Getting More out of the Flipped Learning Model

**Less Distractions + Higher Levels of Engagement = Faster Comprehension and Increased Ease of Learning**

**F.I.T.C.H.**

**F** - Focused, Serious Attitude. Be focused on the video and be serious about actually learning from it.

**I** - Involved in the process. Pause, rewind, re-watch. Don't just mindlessly copy things down.

**T** - Tabs closed. Close all distracting tabs - Facebook, email, etc. Only have open what you need.

**C** - Cell phones put away. Turn them off, put them in another room, etc. Don't expect to be able to focus on learning if you are texting every couple of minutes.

**H** - Headphones in. It helps to keep you focused on what is being said in the video and not whatever is going on around you.

**Sources:**

Crystal Kirch - Math Teacher

http://flippingwithkirch.blogspot.com/2012/06/watching-flipclass-videos-fitch.html

Jonathan Thomas-Palmer - www.flippingphysics.com

Flipping Physics: How to Flip A Classroom - Inside & Out

Teaching Kids How to Learn From Videos: http://youtu.be/vzGd8ONSPrg

**Timestamp:** 8:47 - 10:12
Appendix B: WSQ/FITCH Handout cont.

WATCH - GET THE CONCEPT

(***COMPLETED IN INTERACTIVE NOTEBOOK***)

- Watch video, making use of the pause and rewind button to make sure you understand what is being said and written down
- Take notes in your Interactive Notebook. These notes should include everything I write down (with extra clarifying notes for yourself) as well as important things that I say (written in your own words). If something doesn’t make sense, then make note of it (idea: write a question in highlighter and then jot down exactly what didn’t make sense, because most likely you won’t remember the next day! It is also a good idea to timestamp where in the video you had a question so we can go back to it if needed)

SUMMARIZE - MAKE SENSE OF THE CONTENT

(***COMPLETED IN INTERACTIVE NOTEBOOK***)

- “Guided Summary”: Sometimes you will be given specific questions to answer. Make sure to read all parts of the question and answer completely in full sentences.
- “Open Summary”: Sometimes you will be asked to summarize the content. These summaries can be paragraphs, bullet points, or thinking maps (unless specified). Make sure the summaries cover all the key points of the video(s) that were assigned. In open summaries, you must highlight a minimum of 3 pottery vocabulary words used in context.
Appendix B: WSQ/FITCH Handout cont.

**QUESTION - THINK DEEPER ABOUT THE CONCEPT**

(***COMPLETED IN INTERACTIVE NOTEBOOK BELOW SUMMARY***)

- Ask a question about the video. Use your AVID Costa’s Question Stem Examples to help you phrase it in a good way. It can be:
  
  o “CONFUSION”
    
    ■ A question you are still confused about (be specific, refer to time frame in video!)
    
    ■ A specific question about an example that was worked out and where they got stuck or confused
    
    ■ A general question about the concept and something that was said or explained
  
  o “DISCUSSION”
    
    ■ A question that connects this video to a previous video
    
    ■ A question you think you know the answer to, but you want to challenge your classmates with
    
    ■ This may be a question you think your classmates might have, or just a good question you think I (the teacher) would ask and expect you to know.
  
  o “EXAMPLE”
    
    ■ A question that comes up with your own example of the concept for someone else to solve

*This question must be one that you really want to know the answer to or you really want to discuss with your classmates and/or Mr. Moeller*
Appendix C: IRB Letter

Subject Consent Form for Participation of Human Subjects in Research

University of Wisconsin-River Falls

Project Title: Flipped Learning in a Visual Arts Classroom

Researcher: Paul Moeller, Art Department, D115, Roseville Area High School, 651-635-1660 x 4114

Description:

The purpose of this study is to research the effects of “flipped learning” within a traditional high school pottery class. Flipped learning will change the current format of our class, where material that is delivered as an in class demonstration will be delivered through a series of videos and material assigned as homework will be done in class. As a volunteer for this study, you will be asked to view instructor created demonstrations at home or through a device capable accessing online resources. You will also be responding to the demonstrations in a written form known as a “WSQ” or Watch, Summary, and Question. Your responses will guide the direction of our discussion and work time. The length of this study will be for the duration of 3 weeks and will focus on learning to use the pottery wheel. Due to the size of our class, students will be split into two groups. The content will remain the same for both groups with the delivery & reflection methods being the only differences.

During the unit, each participant within the group will be filmed three times throughout the unit for a length of 15 – 20 seconds to document progress and assess content knowledge. Three identified learning targets will be examined and include demonstration of throwing competency, throwing forms using shaping ribs, and trimming forms using a loop trimming tool. Following the completion of the unit, you will be asked to complete a brief survey to determine the effectiveness of a “flipped learning approach” as it applies to a visual arts class.

The results of each individual’s participation will be strictly confidential. Data gathered will be on a group level basis and no individual’s information will be disclosed. Video snippets gathered will focus on the process of knowledge acquisition linked to the identified learning targets and will not include the face of the participant. Upon completion of the study all video clips will be held for a period of one year and then deleted. If the video is used in any publication or presentation, your consent provides a release of any photos associated with the study to be used in support of this study. Your consent on this study also guarantees that all participants who decide not to participate
will do so without any penalty to their grade. With the exception of the researchers involved in running this study, nobody will be allowed to see or discuss any of the individual responses. Your responses may be combined and reported with many others in a group format within a professional journal article. A summary report and explanation of the results will be made available to you when the study is completed if you so request.

AUTHORIZATION: I have read the above and understand the nature of this study and agree to participate. I understand that by agreeing to participate in this study I have not waived any legal or human rights. I also understand that I have the right to refuse to participate and that my right to withdraw from participation at any time during the study will be respected with no coercion or prejudice.

If you have concerns about how you were treated in this study, please contact:

Molly Van Wagner, Interim Director of Grants and Research
101 North Hall, UW-RF, 715/425-3195.

This project has been approved by the UW-River Falls Institutional Research Board for the Protection of Human Subjects, Protocol # H2014 - T082.

_____________________                    _______________________                            ________________
Participant Signature                    Parental Signature                                  Date
## Appendix D: Overview of Introductory Throwing Unit

### PRIOR TO WEEK ONE

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/7/2014</td>
<td>ASSIGN: Videos 1 &amp; 2 DISCUSSION: FITCH</td>
</tr>
<tr>
<td>5/8/2014</td>
<td>DISCUSS: WSQ Format on Videos 1 &amp; 2</td>
</tr>
<tr>
<td>5/9/2014</td>
<td>ASSIGN: WSQ for Videos 1 &amp; 2 SWITCH Groups on Monday 5/12</td>
</tr>
</tbody>
</table>

### WEEK ONE

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/12/2014</td>
<td>DUE: WSQ - Centering &amp; Opening</td>
</tr>
<tr>
<td>5/13/2014</td>
<td>Record Progress #1 w/ iPad</td>
</tr>
<tr>
<td>5/14/2014</td>
<td>Worktime (Shortened Class Period)</td>
</tr>
<tr>
<td>5/15/2014</td>
<td>Worktime - Questions: Right vs. Left</td>
</tr>
<tr>
<td>5/16/2014</td>
<td>ASSIGN: Pulling &amp; Finishing Video COMPLETE WSQ</td>
</tr>
</tbody>
</table>

### WEEK TWO

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/19/2014</td>
<td>DUE: WSQ - Pulling</td>
</tr>
<tr>
<td>5/20/2014</td>
<td>Record Progress #2 w/ iPad</td>
</tr>
<tr>
<td>5/21/2014</td>
<td>Worktime - Questions</td>
</tr>
<tr>
<td>5/22/2014</td>
<td>ASSIGN: Bowl Video</td>
</tr>
<tr>
<td>5/23/2014</td>
<td>Staff Development Day - No Class</td>
</tr>
</tbody>
</table>

### WEEK THREE

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/26/2014</td>
<td>Memorial Day - No Class</td>
</tr>
<tr>
<td>5/27/2014</td>
<td>DUE: WSQ - Bowl Throwing ASSIGN: TRIMMING DEMO</td>
</tr>
<tr>
<td>5/28/2014</td>
<td>Trimming Practice &amp; Questions</td>
</tr>
<tr>
<td>5/29/2014</td>
<td>Prep For Wheel Test - Questions</td>
</tr>
<tr>
<td>5/30/2014</td>
<td>Wheel Competency Test - Cylinder Example</td>
</tr>
</tbody>
</table>
## Appendix E: Wheel Rubric

<table>
<thead>
<tr>
<th>Wheel Unit: Self Reflection</th>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daily Grade</strong></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Open to suggestions, comments, and criticism</td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Asks appropriate questions, shows interest during demonstrations</td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Works for the entire hour, builds skills through repetition and focused study</td>
<td></td>
</tr>
<tr>
<td><strong>Cylinder</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance &amp; Technique</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Even thickness throughout entire pot (Wall/ Foot/ Rim)</td>
<td></td>
</tr>
<tr>
<td>Undercut foot, ribbed surface, and strong lip</td>
<td></td>
</tr>
<tr>
<td><strong>Bowl</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance &amp; Technique</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Even thickness throughout entire pot (Wall/ Foot/ Rim)</td>
<td></td>
</tr>
<tr>
<td><strong>Trimming &amp; Finishing</strong></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Use of trimming tool competence is evident</td>
<td></td>
</tr>
<tr>
<td><strong>Journal</strong></td>
<td></td>
</tr>
<tr>
<td>Reflection &amp; Processing</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Entries are thorough and demonstrate internal troubleshooting</td>
<td></td>
</tr>
<tr>
<td><strong>Completion of Entries</strong></td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Entire unit is documented through multiple entries</td>
<td></td>
</tr>
<tr>
<td><strong>Competency Test</strong></td>
<td></td>
</tr>
<tr>
<td>Centering &amp; Opening</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Proper technique, even thickness throughout and raised bottom</td>
<td></td>
</tr>
<tr>
<td>Pulling &amp; Finishing</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Demonstrates awareness of speed of wheel and pulling rate</td>
<td></td>
</tr>
<tr>
<td>Finishes pot with proper steps; undercutting, water removal, and usage of rib</td>
<td></td>
</tr>
</tbody>
</table>

Comments


TOTAL / 50
Appendix F: Final Flipped Learning Survey

**Flipped Learning - Intro to the Pottery Wheel**

All information gathered will be used to improve the implementation of a "Flipped Learning Approach."

Thanks you for taking your time to fill out the survey below and your honesty in this matter.

Results are confidential, no names are required.

-Moeller

Your username (paul.moeller@apps.isd623.org) will be recorded when you submit this form. Not paul.moeller? Sign out

1. 1. The Flipped classroom is a new concept to RAHS, do you feel that it helped you learn to throw on the wheel this trimester?

   *Mark only one oval.*

   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Undecided
   - [ ] Disagree
   - [ ] Strongly Disagree

2. 2. Do you watch the flipped videos on time?

   *Mark only one oval.*

   - [ ] Always
   - [ ] Sometimes
   - [ ] Never

3. 2 - A. If you answered NEVER, what is your major hurdle in being able to view content outside of school?
Appendix D: Final Flipped Learning Survey cont.

4. 3. Do you find the WSQ discussions at the beginning of class helpful?
   
   *Mark only one oval.*
   
   ☐ Strongly Agree
   ☐ Agree
   ☐ Undecided
   ☐ Disagree
   ☐ Strongly Disagree
   ☐ Other: ____________________________

5. 4. How confident do you feel about the material after watching the video but BEFORE coming to class to do problems?

   *Mark only one oval.*

   ☐ Very Confident
   ☐ Somewhat Confident
   ☐ Neutral
   ☐ Somewhat Uncertain
   ☐ Uncertain
   ☐ Other: ____________________________

6. 5. How confident do you feel about the material after watching the video and AFTER coming to class to work on problems with others?

   *Mark only one oval.*

   ☐ Very Confident
   ☐ Somewhat Confident
   ☐ Neutral
   ☐ Somewhat Uncertain
   ☐ Uncertain
   ☐ Other: ____________________________

7. 6. Please describe the amount of time you have been putting in during your time AT HOME?

   ........................................................................................................

   ........................................................................................................

   ........................................................................................................

   ........................................................................................................
Appendix D: Final Flipped Learning Survey cont.

8. 7. Please describe the amount of effort you have been putting in during your time IN CLASS?

9. 8. What have you liked best about the “flipped classroom” this trimester?

10. 9. What part of the “flipped classroom” would you like to see change?

11. 10. What could I do for you to help support you more in the “flipped classroom”?

12. 11. What is the most helpful part of the “flipped classroom”? 