

## **Flipping the College Classroom by Reflective Practice**

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### **Abstract**

An innovation in the college classroom can be as simple as flipping the room. Can college students tell the professor what to lecture on in class? The flipped college classroom can help to motivate and to engage students to improve in reading, and to build prior knowledge. The flipped classroom begins with students reflecting on their reading assignments by summarizing what they comprehended and what information is still unclear to them before class. The information helps the professor to fine tune lecture and classroom activities by focusing on the muddiest points students have in their reading assignments. Flipping the classroom can encourage students to be more independent and self-directive in their learning.

Success of the flipped classroom can be measured by quiz scores based on reading assignments. When students have a flipped classroom reflection assignment from the reading their quiz scores are higher than without the reflection assignment. Also, the lecture and classroom are more engaging with the flipped classroom assignment because students are taking on more ownership of terminology from the reading material.

### **Reading**

As an assistant professor in the packaging department at the University of Wisconsin – Stout, promoting literacy development can be a challenging task. Why is it challenging? Many college students struggle to consistently read assigned chapters from the textbook and related articles. College instructors are finding their students not engaged in the required reading assignments.<sup>1</sup> By not participating in reading assignments college students are less involved in class discussions, overall participation, and have poor exam and research performance. For college students who read assigned research articles from scholarly journals not only perform better on exams, but they also participate more in classroom discussions and have a better understanding of in class lectures.<sup>2</sup>

Getting students involved in class begins with reading because reading helps to lay a foundation of the material being studied. “Reading has always been an important part of the learning process in college classrooms”<sup>3</sup>. Reading and understanding subject matter material is crucial for the development of college students majoring in a discipline. “Discipline-literate students know how to think and learn with texts. Texts, whether in print or non-print form, are indispensable sources of information, meaning-making, and knowledge construction”<sup>4</sup>. College students are learning a new language so it is important to understand this new terminology in assigned texts.

## Reflective Practice

A method used to get students involved in class with reading involves reflective practice. Reflective practice can be considered to be a process that college students can be engaged in during critical thinking, evaluating positive and negative attributes, and understanding the meaning of a topic or a problem. “What kind of thinking is prompted when you engage around a problem, event, or puzzle of practice”<sup>5</sup>? Another definition of reflective practice that can be considered for students centers on the word improvement. “Reflective practice is a meaningful and effective professional development strategy. Even more, it is a way of thinking that fosters personal learning, behavioral change and improved performance”<sup>6</sup>. A reflective teaching exercise used in the classroom is called the one-minute paper. “A one-minute paper may be defined as a very short, in-class writing activity in response to an instructor posed question, which prompts students to reflect on the day’s lesson and provides the instructor with useful feedback”<sup>7</sup>. A flipped classroom example of using texts and motivating students to read consists of using the one-minute paper as an assignment before class. Students complete the one-minute paper the night before class by reflecting on the muddiest points from their assigned reading. The muddiest points consist of areas in the reading assignment that a student have difficulty with and is unclear to them. The flipped classroom occurs as muddiest points are identified to the instructor and changes are made to lecture and class activity material. The purpose is for the instructor to focus more time on the muddiest points. The flipped classroom occurs as the students are essentially asking the instructor to discuss certain areas of the reading assignment.

## Flipped classroom results

A quantitative research approach was taken in testing a theory by specifying a limited hypothesis. The limited hypothesis is a student earns a higher quiz score when participating in the one-minute paper reflection assignment and earning a lower quiz score when not participating. Quizzes are unannounced and given at the beginning of class, are timed for 7 minutes and consist of three to five short answer questions for a total value of five points. Each semester, a total of two quizzes were given after the one-minute paper reflection assignment and two assigned quizzes with a similar difficulty level were chosen when not participating in the one-minute paper reflection assignment. The reflective assignments and all quizzes involved were the same each year.

In the fall of 2013, one section of a sophomore packaging class, distribution packaging, was chosen consisting of 26 students. The same class was chosen in the spring of 2014 that consisted of two sections and 26 students in each section. The same quizzes were used for the reflective assignment in all three classes. A total of 78 students participated.

Fall 2013

Reflective assignment	Non Reflective assignment
3.8 average out of 5 quiz score	2.4 average out of 5 quiz score

Spring 2014 section 1

Reflective assignment	Non Reflective assignment
3.9 average out of 5 quiz score	2.9 average out of 5 quiz score

Spring 2014 section 2

Reflective assignment

3.9 average out of 5 quiz score

Non Reflective assignment

2.1 average out of 5 quiz score

Totals

Reflective assignment

3.86 average out of 5 quiz score

Non Reflective assignment

2.46 average out of 5 quiz score

## **Discussion**

Looking at the data for totals reveal a 57% increase in quiz scores when using the reflective assignment. Observations during testing reveal students were assigned points to complete the one-minute paper reflective assignment so many students were motivated to complete the assignment. This resulted in a higher percentage of students flipping the classroom before they participated in the quiz. A quiz conducted without the one-minute paper reflective assignment made it was easy to tell which students read the assigned material based on quiz score results. There are a high percentage of four and five point scores and a high percentage of zero and one point scores. There are very few two and three point scores. These poor quiz results are consistent from semester to semester and are the catalyst for this research. Another observation in flipping the classroom is students are more engaged during class and take ownership of the material. A final observation is that flipping the classroom creates more work for the instructor. The extra work consists of more grading, fine tuning lecture material, and class activities. The additional workload was completed within a 48 hour time period that began when students completed the reflective assignment and finished at the beginning of class. The instructor time involved consisted of two to three hours for each reflective assignment.

## **Summary**

Many college students struggle to read assigned chapters from the textbook and related articles. The flipped college classroom can help to motivate and to engage students in reading, research and reflection exercises. Flipping the classroom exercise is to assign the one-minute paper on the assigned reading material and having the students reflect and identify their muddiest points the night before class. This allows the instructor to focus on the muddiest points through discussion, lecture and other classroom activities. Flipping the classroom helps students to take ownership of material, improve motivation to read, and improve quiz scores. Flipping the classroom helps the instructor to fine tune discussion and classroom material and activities. When using the one minute paper reflective assignment, quiz scores improve by 57%, however; more research is needed in this area.

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