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James R. Shock  
*Robert Morris University*

Jill K. Maher  
*Robert Morris University*

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#### Recommended Citation

Shock, James R. and Maher, Jill K., "An Assessment of Engagement, Self-Pacing and Learning in a Flipped Marketing Classroom: An Exploratory Study" (2017). *Association of Marketing Theory and Practice Proceedings 2017*. 20.

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# **An Assessment of Engagement, Self-Pacing and Learning in a Flipped Marketing Classroom: An Exploratory Study**

**James R. Shock, DBA**

*Robert Morris University  
Pittsburgh, PA*

**Jill K. Maher, Ph. D.**

*Robert Morris University  
Pittsburgh, PA*

## **ABSTRACT**

*This study examines the possible impact of engagement and self-pacing on student learning in a flipped classroom environment. Survey responses from 33 students were used in this exploratory study. Results indicate that engagement and self-pacing showed significance, impacting self-reported learning. This preliminary study suggests a flipped classroom improves student learning in marketing. It is expected that a larger sample size with improved measures will uncover other relationships within the flipped classroom model.*

## **INTRODUCTION**

Over the past decade, university teaching has experienced some movement from a teacher-centered environment to a student-centered environment. In the student-centered environment, the traditional classroom method is replaced with active learning, involving activities such as group discussions and problem solving (Zappe, et al, 2009; Lage and Platt, 2000; Demetry, 2010). The “flipped or inverted classroom” addresses this shift (Baker, 2000; Lage and Platt, 2000). The flipped classroom is where instructors record and post lectures online and students watch the videos on their own time. Classroom time is then reserved for engagement conducted via exercises, activities, discussions, etc. It allows interaction between the students and the teacher that is much broader and deeper than the traditional classroom environment. The “flipped” principle is simply put. Pre-recorded video lecture material is viewed by the students during the time considered to be ‘homework;’ class time is then devoted to active learning. This active learning is thought to deepen learning. As an added bonus, these classroom activities can be team-based as well, giving the better-performing students the opportunity to share their knowledge and learning abilities with other students in the team. The flipped classroom follows a general philosophy, but no standardized approach has been established (Kim, et. al., 2014).

To date, very little scientific research exists to indicate to what degree the flipped classroom encourages learning and what aspects of the flipped classroom work best in this regard (Goodwin and Miller 2013). This is especially the case in marketing pedagogy (for an exception, see Green 2015). The small exploratory study presented here however, uncovers two aspects of the flipped classroom that impact learning in the marketing classroom.

## **LITERATURE REVIEW**

The lecture-based class has long been the standard at the university level. Barr and Tagg (1995) questioned the value of the lecture-based approach to learning and challenged university instruction to create environments and experience so students make discoveries and solve problems on their own. It has been suggested that a variety of teaching methods should be employed in order to actively engage with students (Becker and Watts, 1995). Thus, the flipped classroom was born.

Two important aspects of the flipped classroom are engagement and self-pacing. With students viewing video lectures outside of class, they can work at their own pace and rewind and review when necessary. Then, later in the classroom environment, students actively engage in discussions and activities; instead of passively receiving the normal “one-way” communication of the traditional lecture-based classroom.

### **Self-Pacing**

One major benefit of the flipped classroom is the ability of students to learn the material at their own pace (Davies, Dean and Ball, 2013). When the flipped classroom puts the lectures into the hands of the students, each student can manage the pacing of the lectures based on their own requirements and learning styles. Some students may want to work ahead of the class schedule while others need more time to understand the current material (Goodwin and Miller, 2013).

Two Colorado high school chemistry teachers, Jon Bergmann and Aaron Sams, are generally credited as pioneers with the current concept of the flipped classroom. Their first attempt was with video podcasts, during the 2006-2007 academic year (Bergmann and Sams, 2008). The teachers noted that the students liked the self-paced aspect and grasped the content better. The students liked to pause the content and rewind to watch it again, if necessary. Another advantage was the ability to break up the podcasts into smaller pieces, again allowing for individualized pacing.

### **Engagement**

Related to self-pacing in the flipped classroom is student engagement, a major goal of the flipped classroom. While engaging students has long been a concern in teaching, the flipped classroom has been found to be more engaging to students than the traditional lecture-based format (Bergman and Sams, 2012). While Moore, Gillett and Steele (2014) report an increase in student engagement and quality of work in their flipped grade school classrooms, it is also been the case with university-level courses. McLaughlin, et. al. (2014) saw strong student support for viewing the course content before class and using class time for applied learning. Class attendance actually increased. These results suggest an increase in engagement with the flipped format. Rotellar and Cain (2016, p. 3) furthered the argument of student engagement by stating, “The focus of classroom learning sessions should not be on the presentation of content, but on maintaining active student engagement with material.” The flipped classroom can result in additional benefits. Further, Strayer (2012) reported that students in the flipped environment were more open to cooperation with other students compared to students in the traditional classroom environment and indicated value of learning with peers.

Fulton (2012) discussed many advantages to the flipped classroom: 1) students can gather into informal clusters, work alone, or work in formal groups; 2) the students work at their own pace; 3) the teacher can assess student understanding of the material based on their prep work and respond accordingly; 4) material can be updated at any time using an electronic delivery system; 5) teachers can assist the students with the most need during class; 6) teachers see increased student interest and achievement; 7) class time efficiency is maximized; 8) this environment fosters creativity; and 9) the use of technology fits the culture of the current generation; still unknown is how the core principles of the flipped classroom relate to learning. This exploratory study examines two core elements; self-pacing and engagement and aims to determine how these elements relate to self-reports of learning. Thus the following propositions are presented.

Research to date suggests the flipped classroom creates feelings of self-pacing and is more engaging than the traditional lecture-based class. We posit that with greater self-pacing and engagement comes improved learning. Increased self-pacing and engagement can be attributed to millennial students' preferences for an interactive and experiential learning environment (Philips and Trainor, 2014). Thus,

P1: Greater levels of self-pacing leads to increased learning.

P2: Greater levels of engagement leads to increased learning.

### **TEACHING METHOD FOR THE FLIPPED CLASSROOM**

The flipped classroom concept was introduced in two sections of an International Marketing course taught at a private northeastern university. The university's business school is AACSB-accredited. A total of 60 students at the junior and senior levels were exposed to this classroom concept. Students' home countries included the United States of America, The Netherlands, Columbia, Australia, Ghana, Turkey, Canada, and South Africa. About 10 percent of the total university student body comes from outside the United States.

The basis for the lectures was the textbook "International Marketing" by Cateora, Graham, and Gilly (2013), 16th Edition; McGraw Hill. The accompanying PowerPoint® files for each chapter were modified for content and length. Extraneous material was eliminated and additional material added as required to implement the flipped classroom. For example, discussion questions were imbedded within the presentation/lectures. This gave the students time to think about the questions prior to the discussion period. To facilitate implementation of this program, BlackBoard was used. Each chapter was then split into multiple video parts, often referred to as 'chunking.' Each part was recorded and placed unlisted within YouTube®. The unique URL of each chunk was copied and placed with the appropriate course content folder in BlackBoard®.

Each week of the course was designated within BlackBoard and each chapter had a folder within the appropriate week. Chunks were contained in each chapter folder were the chapter segments. Following each lecture part, the students took a brief, self-assessment within BlackBoard of the material just reviewed. The assessment was not graded for correctness, but for participation. The assessments are a gauge as to how well the student understood the material just after viewing it. Prior to watching the lectures, the students are required to read the appropriate textbook chapter, as well.

An additional tool used during class was Socrative ([www.socrative.com](http://www.socrative.com)), an online substitute for the classroom “clicker.” The basic app is free for smart phones, tablets, or laptops. This provides instant feedback regarding the material under discussion and can help lead further discussion. As an example, the instructor can pose a question on Socrative and the students respond with up to five choices. Responses can be held anonymous or identified for each student. The responses are then discussed in greater detail.

During the first week of class, the students were assigned into teams of three students each. Many of the exercises were team-based but some were at the individual level. A major team-based project was part of the class. Sitting as a team had the goal of fostering better communication inside and outside of class and better understanding of each other. Also during the first week of the semester, the students were asked if they ever had experience with a flipped classroom. No students had experience.

## **METHODOLOGY**

### **Instrument**

A 17-question survey was posted on Blackboard with a voluntary response option. Voluntary responses are viewed to be more authentic than forced compliance. A five-point Likert scale was used for all questions (1 = strongly agree to 5 = strongly disagree) in the assessment. The questions were based on the work by Johnson (2013). Of the 17 item survey, eight were deemed appropriate in measuring the variables under investigation. Other items were used to assess other aspects of the course.

### **Dependent Variable**

Learning. The dependent variable of learning was assessed with a composite score derived from two items. These items were (1) The flipped classroom has not improved my learning and (2) I feel the flipped classroom has improved my understanding of the subject. The first item was reverse coded. Reliability for this measurement was acceptable at  $\alpha = .80$ .

### **Independent Variables**

Self-pacing. Self-pacing was measured with a four-item scale. Items contained in the scale were (1) The flipped classroom gives me less time to learn the subject matter, (2) I dislike self-pacing myself through the course, (3) I dislike that I can take my quizzes at my own pace, and (4) I find it easy to pace myself successfully through the course. Items 1, 2, and 3 were reverse-coded. Cronbach’s alpha for the scale was acceptable at .79.

Engagement. Engagement was measured with two items: (1) The flipped classroom is more engaging than traditional classroom instruction and (2) The flipped classroom gives me greater opportunities to communicate with other students. The scale measuring engagement was reliable ( $\alpha = .82$ ).

### **Data Collection Procedure**

During the fourth week of the semester, students were asked to take an anonymous survey about their perceptions of the flipped classroom, administered through BlackBoard. Besides gauging the overall impressions, the results would reveal the impact of self-pacing, engagement and



learning within the flipped classroom. The controls within the survey function of BlackBoard were activated to make the survey anonymous. The fourth week of the semester was chosen in order to obtain fresh impressions of this learning experience. Surveys later in the semester run into multiple surveying by other courses, studying for exams, project completions, and eventually studying for final exams. An earlier survey (i.e., as compared to the end of the semester) was deemed to have the best chance for a high response rate. Final sample size was 33.

## RESULTS

### Model Results

Results were analyzed using regression in order to estimate the relationship between the predictor variables and learning. Model means, standard deviations, and reliability estimates for the scaled items appear in Table 1.

| Variables      | Mean | Standard Deviation | Cronbach's Alpha |
|----------------|------|--------------------|------------------|
| 1. Learning    | 5.64 | 2.10               | .80              |
| 2. Self-pacing | 9.21 | 2.93               | .79              |
| 3. Engagement  | 5.48 | 2.10               | .82              |

Learning was regressed on the linear combination of engagement and self-pacing. The equation accounted for 52 percent of the variance in learning,  $F = 18.13$ ,  $p < .001$ .

Beta weights were then reviewed to assess the relative importance of the variables in the prediction of student learning. See Table 2 for the standardized regression coefficients (beta weights), the standard error, and the corresponding regression equation characteristic, as well as the Variance Inflation Factors for each variable. Table 2 shows that both predictor variables displayed significant beta weights and were in a positive direction.

| Variables   | Unstandardized Coefficients |            | Standardized Coefficients |       |      |       |
|-------------|-----------------------------|------------|---------------------------|-------|------|-------|
|             | B                           | Std. Error | Beta                      | t     | Sig. | VIF   |
| Self-pacing | .329                        | .107       | .420                      | 3.072 | .004 | 1.237 |
| Engagement  | .494                        | .149       | .453                      | 3.312 | .002 | 1.237 |

One problem that can occur with this type of data is multicollinearity – where the predictor variables are highly related or intercorrelated. Multicollinearity diagnostics measured the degree and impact of multicollinearity among the variables in the model. Specifically, tolerance and variance inflation factor values were computed. Tolerance values were all greater than .10 and VIF values exceeded one. Both of these diagnostics indicate acceptable levels of collinearity.

## **DISCUSSION AND FUTURE RESEARCH**

Previous research has illustrated the flipped classroom is not necessarily an instant hit with students. Strayer (2012) used the College and University Classroom Environment Inventory (CUCEI) survey instrument, plus field notes, interviews and focus groups, to look at learning environments of a traditional classroom versus the flipped classroom. Students in the flipped environment, were less satisfied with the structure of the course. The same results were seen in the current study. Descriptive results showed students did not overwhelmingly like the self-paced format and the engagement activities associated with the International Marketing flipped classroom. Further, they did not report overwhelming scores for learning either. However, Strayer (2012) reported as time went on, there was more openness to the innovative method of the flipped classroom. Because this survey was conducted during the fourth week of the semester to a group of students who were being exposed to the flipped classroom approach for the first time, it is no surprise that mean scores were lower than expected in the current study. Future research should collect data late in the term after students have had a 10-15 week exposure to the approach. Steps should be taken to encourage participation at the “busy” time of semester end. It is expected this will give a truer picture for the evaluations of the particular aspects of the flipped classroom as they related to perceptions of learning.

Anecdotal and empirical evidence have demonstrated that using a flipped classroom can have a positive impact on student learning. The current study examined two facets of student learning in this environment by investigating how the self-pacing nature and student engagement of the flipped classroom influences perceptions of student learning in an undergraduate marketing course. Since pedagogical tools have changed with the introduction of new learning technologies, the flipped classroom is a way to potentially enrich the classroom environment and overall student learning. While the descriptive scores were lower than expected, the proposed relationships under study showed expected results. Indeed, self-pacing and engagement were positively and significantly related to students’ perceptions of learning. With self-pacing and engagement being the foundation for the flipped classroom, it makes intuitive sense (from this small exploratory study) that one way to increase learning is by using the flipped classroom approach in marketing classrooms. It behooves marketing professors to investigate all aspects of this pedagogical style and understand its impact on learning.

Thus, while the current study examined only two facets of the flipped classroom, future research beyond this preliminary study should aim to understand with as much depth as possible, additional flipped classroom environmental factors that enhance student learning. One way to do this is to use a reliable and valid tool such as CUCEI. With this tool, seven different components of learning environment can be measured in the flipped classroom. These are (1) personalization, (2) innovation, (3) student cohesion, (4) task orientation, (5) cooperation, (6) individualization,

and (7) equity. This type of in-depth investigation would shed more light on the most impactful aspects of the flipped classroom.

## LIMITATIONS

The results of the current study shed light on student learning in an inverted or flipped classroom. While the results are insightful, data were only captured from one specific course and university. The sample size was small. The results cannot be generalized to other courses or students at other universities. Future research should include other marketing courses at various institutions with larger sample sizes. Further, many students in these sections of International Marketing were from other countries. This may be a significant factor in self-reports. Given the flipped classroom is a concept originating within the United States and its culture, it is unknown how students from different cultures perceive the approach. Future research should collect data on gender and ethnicity to determine if these demographic variables are significant.

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## **ABOUT THE AUTHORS**

James Shock is an Assistant Professor, Marketing, School of Business, Robert Morris University, Pittsburgh, PA, USA. He received his DBA from the Grenoble École de Management, Grenoble, France. His research interests include innovation, entrepreneurship, market pioneering, and inbound marketing.

Jill Maher is a University Professor, Marketing, School of Business, Robert Morris University, Pittsburgh, PA, USA. She received her Ph.D. degree from Kent State University, Kent, Ohio, USA. Her research interests include consumer behavior as well as food and beverage marketing. In addition, she has also studied and published scholarly work related to children's processing of television advertisements as well as investigated gender and ethnic biases in children's television advertising.

