

**Examining The Effectiveness of Blended Learning On A Fundamental Subject At Tertiary Level:
An Empirical Study**

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Abstract

Purpose – The purpose of this research is to find out the effectiveness of blended learning which uses student-centered approach as compared to teacher-centered approach on a university's fundamental subject - Principles of Marketing. Colis and Moonen (2001) argue that the blended learning is a hybrid of traditional face-to-face and online learning. Thus, while the teacher-centered approach focuses on traditional lecture method using one-way communication, the student-centered approach combines many flipped-class techniques such as online modules, group discussion, exercise, presentation, quizzes and games. As the global education system has moved toward self-learning, all education institutions especially at tertiary level have started engaging with the blended-learning activities. Thus, a study to gauge the effectiveness of the blended learning is likely to be beneficial for universities.

Design / Methodology / Approach – Data of Principles of Marketing subject from three different classes at three different trimesters were gathered on this research. One class was conducted using teacher-centered learning whilst another two classes were using student-centered learning. At the end of the semester, students were required to complete a set of five questions Likert-type assessment adapted from Helms (2014) to obtain feedback on the class as well as to determine their preferences.

Findings – The result shows that the class with the blended learning produces better results as compared to the traditional learning. The number of students whom passed the exam has significantly increased, making the failure rate lower for the last two trimesters. Additionally, the number of students achieved higher grades has also increased.

Originality / Value – The student-centered learning is considerably a new concept of education in Malaysia, if not in all developing countries. While many other universities in the world have already promoted blended-learning, the stigma of education in Malaysia is still relying on teacher-centered approach as a means to produce better students. Since the new approach such as student-centered learning has been producing significant results, the concept of relying heavily on lecturers or instructors must be challenged. This research suggests that not only the student-centered learning produces better results but also favoured by students.

Keywords: Student Centred Learning, Blended Learning, Face-to-Face, Online Learning, Education.

Introduction

The Principles of Marketing subject is being taught as a common paper to all students that are taking a Business degree. The main rationale of taking the subject is because 'Marketing' plays an important part of life as most people frequently involve in selling, buying, or using a broad range of products and services. The Principles of Marketing is a fundamental subject that introduces the main concepts in marketing spectrum as a useful knowledge for students. This subject equips students with the new focus of marketing strategies - satisfying customer's needs and becoming customer-centric. Whether the student chooses a career in advertising, start a small business, or sell their skills to a local religious organization, their effort will experience a higher chance of success after identifying the appropriate target market, focusing on the marketing strategy, and ensuring customer satisfaction.

The central theme of this module is the examination of marketing from the viewpoint of both the customer and the seller. The module will provide an overview of the evolution of marketing in the business world and address how marketing benefits both customer and seller or encompassing the overall society.

The module finishes by identifying the elements that constitute a market as well as some successful marketers and the methods that leads to a successful business venture. Principles of Marketing is a preparatory required business course (for all Business majors) that should provide the students with necessary conceptual skills and knowledge of the subject to succeed both academically and professionally (Kotler, 2003). With that, the students regardless of whether they are preparing for a career in marketing or just taking this course to satisfy a requirement, ultimately it will come to fully appreciate how marketing has and continues to impact the lives of customers and sellers.

Benefits of Studying Principles of Marketing

Marketing provides numerous fascinating career to thousands of professionals all around the world, but it is also plays an important part in everyone's daily life. The Principles of Marketing introduces to the students the various fundamentals concepts, models and strategies of marketing. With that, there may be some students who will discover that the marketing functions introduced to them deemed to match their interests and developed new abilities that will cause the students to consider a career in the field. However, it is important that these students learn the principles of marketing at the beginning which will act as a foundation for further study and potential work.

So what if the students do not wish to pursue a career in the Marketing fields, then why should they learn marketing principles? This can be justified further by this simple example, any time a job applicant writes a resume or a cover letter, the job applicant is engaging in a marketing activity as there is effort to promote and sell the skills, experience and ability to the potential company that may hire the job applicant. The chances of getting an ideal and suitable job is higher and experiences higher percentage of success when the principles of marketing are applied in the effort to apply for a job. Similarly, there are many other sales activities that experience better chances of success when basic marketing concepts are being practiced. This is because Marketing skills are centered upon the understanding of human behavior which provides the foundation to motivate people to take action. In other words, Marketing skills can be applied any time and in any situation whenever a person seeks to persuade. Looking at this example, the importance of studying the principles of marketing will provide an added advantage for the students. According to Kotler, (2003), understanding of Principles of Marketing was ranked one of the most important learning skills by Corporate executives.

Literature Review

Barr and Tagg (1995) assert that universities are moving away from a faculty-centered and lecture-based paradigm to a model where learners are the focus, where faculty members become learning environment designers, and where students are taught critical thinking skills. In a related vein, Colis and Moonen (2001) argue that the blended learning is a hybrid of traditional face-to-face and online learning so that instruction occurs both in the classroom and online, and where the online component becomes a natural extension of traditional classroom learning.

Blended learning is thus a flexible approach to course design that supports the blending of different times and places for learning, offering some of the conveniences of fully online courses without the complete loss of face-to-face contact. The result is potentially a more robust educational experience than either traditional or fully online learning can offer. Blended learning offers possibilities to create transformative environments that can effectively facilitate these skills. It also represents a new challenge for higher education instructors to provide the necessary teaching presence in a blended environment. There is evidence that blended learning has the potential to be more effective and efficient when compared to a traditional classroom model (Heterick & Twigg, 2003; Twigg, 2003).

However, there are a few issues in particular to policy, planning, resources, scheduling and support that require considerable thought to ensure continuous implementation of blended learning. More importantly, the transition process must be well-administered.

Transition From Teacher Centered Approach To Student Centered Approach:

According to Kember (1997), there are two broad orientations in teaching namely, teacher centered/ content conception and student centered / learning orientation.

Teacher – centered is defined as learning strategies that focuses on teacher transmitting knowledge from expert to novice (Harden and Crosby, 2000). However student –centered approach focuses on the student’s learning and achievement (Harden and Crosby, 2000). Furthermore, student centered methodology focus on active learning as it emphasizes on deep learning and understanding (Lea, Stephenson and Troy, 2003). Nevertheless, student centered methodology increases responsibility and accountability on the part of the students (Lea et al. ,2003). Brandes and Ginnis (1986) described student – centred methodology creates relationship between learners and instructors to be equal with will promote growth and development.

According to O’Neill and McMahon (2005), there are types of student centered learning / teaching methods such as independent projects, group discussion, debates, field trips, practicals, student class presentations, quizzes, buzz groups, writing reflection, role play, practicals and etc. These methods can be choose according to the needs of the class. Student centered methodology as it effectiveness and weakness. According to Simon (1991), student centered methodology can be in danger of focusing completely on individual rather than the class as whole. This because student-centred methodology focuses on the what the students can absorb rather what the students must understand in order to master the subject. Furthermore, student centered methodology requires students to be proactive and the institution must have enough resources to support the methodology. Students with lack of motivations and insufficient resources will dampen student centered methodology (O’Sullivan, 2003). Despite the weaknesses, student centred methodology is more effective compared to teacher centered approach because it definitely enriches students knowledge (Brandes and Ginnis 1986; Kember 1997; and Harden and Crosby, 2000).

Methodology

Data of Principles of Marketing subject from three different classes and trimesters were gathered on this research. The first trimester was conducted using teacher – centered learning whilst another two trimesters were using student – centered learning. During the final week of the trimester, the students that attended the classes were require to complete a five questions Likert-type assessment adapted from Helms (2014) to obtain their feedback as well as to determine their preferences.

Details of the Subject Modules

This module is offered to all First Year students taking Business Administration degree. The module assesses students’ performance in the course based on a group assignments (20% of total course grade), group presentation (10%), a midterm exam (20%), and a final exam (50%). The grades obtained by the students in the examination were determined largely on the level the students ability to master the subject.

Demography of the Samples

There are 3 different groups of students from different intakes namely Class 1 (Trimester 2, 2014/2015), Class 2 (Trimester 3, 2014/2015) and Class 3 (Trimester 1, 2015/2016) which selected to participate in this study. The main difference between these groups is that, the lecture sessions for Class 1 are conducted using the teacher-centered approach while the lecture sessions for Class 2 and 3 are conducted using the student-centred approach. The list of activities for student –centred approach is listed in Table 1.

The total number of students involved in this study is 280 students for three trimesters with 211 responding to the feedback survey. The students aged between 17 years to 22 years old and fresh graduated from high school. While the methodology of teaching for all classes has been changed and tested, the syllabus and assessment remain the same. The instructor for all classes has also been remained as the same individual.

Teacher Centered Methodology in Principles of Marketing in Class 1

Basically, the common trend of conducting lecture in Class 1 (traditional learning) is that, the lecturer will have a high tendency to just deliver the topic to the students and to efficiently includes the necessary theories and concepts. In a normal lecture session, the session starts with a short review of the previous topics as an exercise to recap the theories and concepts before proceeding to a new topic.

The session will be the same as any other lecture session which normally rely on Powerpoint slides to explain theories and concepts found in the subject text book. In addition, during the lecture session, a lecturer acts as a moderator to flesh out ideas and draw out examples or applications to the students. Basically, the lecture session is conducted in a one way communication manner as there is not enough of time to conduct a two communication session. As a result, this group of students rely heavily on lecturers or instructors’ contribution rather than finding their own solution or method.

Student Centered Methodology in Principles of Marketing in Class 2 and Class 3

This Student-centred methodology lecture sessions conducted using varieties of teaching and learning methods including online materials, discussion, role-plays, group activities, personal reflection, experiential exercises, and student presentations. The changes in the lecture session aims to create a conducive learning environment that allows the students to actively engaged in idea of inquiry, problem solving and critical thinking. The lecture session provides the students a platform to learn from each other through a collaborative and cooperative manner. With that, in order to benefit most out of the lecture session, the students are expected to play an active role during the class discussions and to take ownership of their own learning.

According to Yorke (2004), the importance of the role of asynchronous communication is creating a sense of community as an antidote to feelings of isolation which can intensify in proportion to the remoteness of the provider. It is also defined that, the purposes of student-student communication in two ways will lead to scaffold the attainment of study goals and to scaffold affective support for one another. With an enthusiastic and positive approach in the classroom, it will create an atmosphere that will help every student develop the knowledge, skills and attitudes that are needed for success.

With the practice of the amended lecture session, it is observed that the students were working very well together during the activities. Probably it is best and easier for students to build study and support groups in the classroom setting. The practice has not only created opportunity for extra-classroom cooperation which may improve the learning outcomes, but also given the greater ability in learning from one’s peers or the opportunity for guiding and coaching one’s fellow students.

Table 1: Summary of activities conducted in Class 1 and 3 (Student Centered Methodology) with its objective and outcome

Week	Topic	Activity	Objective	Expected Outcome
1	Creating and Capturing Customer Value	Marketing Discussion Individual student are to explain their thoughts on Marketing.	To gauge the level of knowledge and understanding of the students.	A basic overview of Marketing and the level of expectation.
2	Company and Marketing Strategy	Simple face to face lecture. No activities	None	None
3	Analyzing The Marketing Environment	Environmental Quiz List of various issues caused by the environmental actors and forces are given and in groups the students are to identify the respective actors or forces.	To enable the student to recognize the various environmental actors and forces that affecting the organization.	An overview of the various types of forces and actors that influences the business environment.

4	Managing Marketing Information	Simple face to face lecture. No activities	None	None
5	Understanding Consumer Buyer Behavior	Decision Process Exercise and Presentation. In groups the students are to discuss the recent purchase that they have made and discuss how they undergo the decision making process while making decision.	To be aware of the decision process a consumer undergo while deciding a purchase.	A clear understanding of how the various stages of decision making influences the purchase decision of the consumer.
6	Creating Value For Target Customers	Bases of segmentation Exercise and Discussion. In groups the students are given a product and then they are to determine the bases used to divide the population and finally determine the targeting strategy for the segments.	Provide the scenario whereby the students are able to determine the best bases of segmentation to use while dividing the population into groups.	An overview of the process of segmenting the population based on the organization's preferred unique characteristics of consumers in order to target the accurate segments.
7	Products, Services and Brands	Product Classification Exercise. A simple bingo activity where in groups the students are to match the various characteristics of respective type of consumer goods.	Giving the students the characteristics of various consumer goods and how the goods are classified into the various types of consumer goods.	The ability to differentiate the various types of consumer goods that is available in the market.
8	New Products and The Product Life-Cycle	PLC Discussion. Slides of various products are shown to the class and in groups the students are to discuss the stages of the PLC the product is currently experiencing and provide relevant justification on their selection.	To be aware of the characteristics of the various stages of PLC.	An overview of how a product is being developed and ultimately will reach a point where the product will lost its usability and demand.

9	Pricing	<p>Pricing Strategy Exercise</p> <p>Activity of filling up the blanks. A few scenario based case is given to the students and after reading the scenario in groups the students are required to fill in the blanks with the relevant pricing strategy. Justification is needed for the choice made to fill in the blanks.</p>	Enables the students to recognize the various types of pricing strategy.	An overview of how a product is being priced in order to gain awareness and demand.
10 & 11	Marketing Channels & Retailing	Simple face to face lecture. No activities	None	None
12	Advertising and Public Relations	<p>Promotional planning activity.</p> <p>In groups the students are given a random product, they are then to come out with an IMC plan based on their thoughts and understanding on the product characteristics.</p>	Provide an avenue for the students to develop and Integrated Marketing Communication plan based on the scenario given.	An overview of how to develop an IMC program that will attract and persuade the audience to make the necessary action.
13	Personal Selling and Sales Promotion			
14	Direct and Online Marketing			

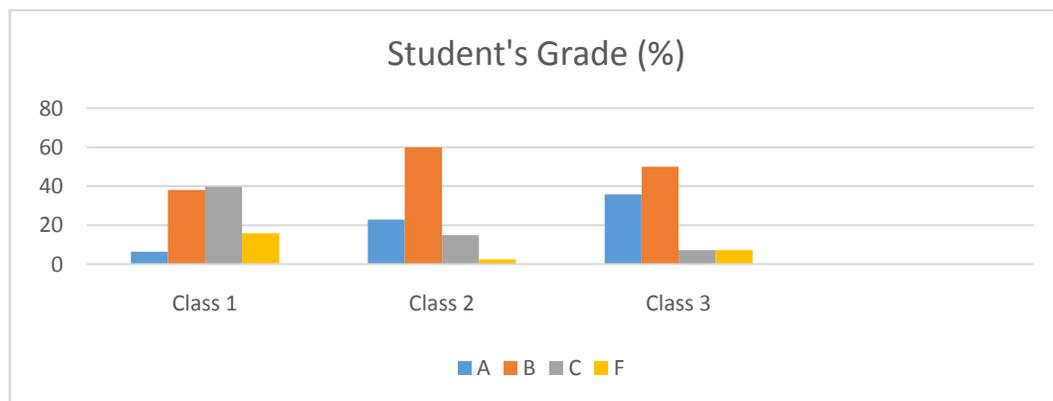
Results and Implications

The result shows that there is a significant improvement in the final exam for Class 2 and 3 which practicing the student-centered approach as compared to Class 1 which practicing the teacher-centred approach. Full results are tabulated in Table 2, student’s grade in Figure 1 and the effectiveness of amended learning techniques shown in Table 3.

Table 2: Comparison between student centered methodology and teacher centered methodology final exam results

	Teacher Centred Methodology (F2F) Class 1 (%)	Student Centered Methodology (F2F and Class Activities) Class 2 (%)	Student Centered Methodology (F2F and Class Activities) Class 3 (%)	
Standard Deviation	12.12	9.52	14.05	
Variance	146.95	90.58	197.38	
Average	57.74	67.26	67.03	
Maximum Marks	84.6	88	88	
Minimum Marks	29.8	34.5	34.4	
Grade (Percentage)				
A	6.35	22.84	35.71	
B	38.10	59.88	50.00	
C(C, C+)	39.68	14.81	7.14	
F (C-, D, D+, F)	15.87	2.47	7.14	
Total Number of Students	72	166	42	

Figure 1: Student’s Grade based on final exam results



The most important point of this research is to reduce the number of failures or students obtaining a “F” grade. The results indicate that Class 1 has the failure rate of 15.87 %, Class 2 is 2.47% and Class 3 is 7.14 %. (The rationale for Class 3 for having a slight increase in failure rate is due to student numbers of 166 students for Class 2 and 62 students for Class 3, and this have raise the percentage). It also indicates that Class 2 and 3 which uses the student-centered methodology have had a higher passing rate as compared to Class 2 which uses teacher-centered methodology. Secondly, the numbers of students obtaining “A” is higher in student-centered approach as Class 2 scores 22.84% and Class 3 with 35.71%.

Furthermore, there is a significant improvement of the minimum marks for Class 2 and Class 3 as compared to Class 1 which uses teacher-centered approach. Nevertheless, the average for students-centered approach is higher by 10 marks as compared to the teacher-centered method in Class 1. Overall, the results in Class 2 and 3 are better than Class 1, thus it shows that the student-centered methodology produces better results and should be encouraged.

**Table 3: Survey results recent undergraduate Principles of Marketing classes (N=211)
Scale: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)**

Question	Mean	SD
1) The group discussion and class activities have improved my understanding of principles of marketing	4.1	0.68
2) I prefer group discussion and class activities to tradition face to face lecture / test assignment to understand the concepts of principle of marketing	3.9	0.95
3) Because of the group discussion and class activities I understand the values of marketing to an organization	4.0	0.75
4) I believe the group discussion and class activities in principle of marketing class will have value for me beyond this class	4.2	0.59
5) I feel the group discussion and class activities were a good use of class time	4.3	0.79

(Survey questions were adapted from Helms, 2014).

The student-centered methodology has been extremely well received and valued by students. Table 3 summarizes survey results of effectiveness of group discussion and class activities based on a set of five questions Likert-type assessment of the class activities. The results in which average above > 4 shows that most students agreed that group discussion and class activities have enhanced their understanding to the concepts of principle of marketing. However, it is noted as the student-centered methodology is still new and not popular among students. Question 2 indicated low average and high standard deviation. This shows that the student-centered methodology is still novice among the students. Probably, this is because only limited classes have been offered to use the blending learning.

Conclusion

The purpose of this research is to find out the effectiveness of blended learning which uses student-centered approach as compared to teacher-centered approach on a university’s fundamental subject - Principles of Marketing. While the study focuses on the non Marketing major students and yet the outcome have shown a favourable result, it would definitely shown a much clearer benefit if the study were to extend to the Marketing major students as well in order to gain a holistic view of the effect of the student-centred methodology. There is a significant improvement in the results of using blended learning which also favoured by the students. Thus, it proves that the blended learning should be implemented at a larger scale of tertiary level in developing countries.

Limitation And Future Research

First limitation, in order to show the impact of Blended Learning is the diverse background of the students and in addition the students are from different degree major. This may indirectly impact the outcome as students may possess different level of interest towards the subject. Therefore for future study, it will be better to include the student background as a variable to consider.

Second limitation is the number of credit hours of the students, as in different semester, the number of credit hours taken by the students differs. This may also impact the effectiveness of Blended Learning. This will aslo lead to issue where, student having higher number of hours will have to divide their concentration as they are focusing on more subjects. Focus on the number of subjects may well be considered as another variable for future study.

Final limitation is the number of students enrolled in the class are not constant, there may be a particular semester with higher number of student enrolled in the subject. The number of students may posed as a barrier for the effect of Blended Learning to take place as the focus of the students during the classes may be disrupted due to inequal opportunity to contribute or participate during the class. Another variable to consider in order to obtain a much accurate result on the effectiveness of Blended Learning.

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