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Research Article

A Flipped Classroom Approach as an Educational Tool for Economics Instruction

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ABSTRACT

The traditional classroom strategy has evolved as a technological advancement that has been introduced into the academic learning environment nowadays. Through different improvement with the classroom arrangement and among other advances, the traditional classroom has shifted into flipped classrooms and geared its focus toward the students themselves in order to facilitate independent learning skills. To look into the effect of using flipped classroom model in teaching the Economics subject among undergraduate students, this paper sought to investigate this issue in a state university situated in the Philippines. It has been observed and the results showed that proves that flipped classroom model improved the performance of students in learning Economics. Also, it was revealed in the study that there is a significant different between the performance of the students without or with flipped classroom strategy. Therefore, such a methodology of learning can be further designed as an educational tool for a better delivery of the instruction in Economics.

Keywords: Economics course, flipped classroom, Philippines, state university, educational tool

1 INTRODUCTION:

The cognitive development theory stresses on the how knowledge is acquired based on what students have previously learned [1]. By this, it addresses the problem on how information is received, organized, and retrieved by minds. On the other hand, according to the social-cognitive theory, socializing with others can greatly affect the behaviour of one person [2]. Also, the impact of other people can change a certain individual's mindset. This has been practiced for several decades already, though at first found to be good, but as the evolution of learners' behavior and the advent of technology, the teaching pedagogy continues to demand changes [3], [4], [5], [6], [7].

This method has been put at a strong test as traditional teaching approach, which is commonly known as teacher-focused, does not allow students to have the time to be with others and collaborate their ideas [8]and [9]. Hence, the communication and socialization skills of every person is lacking. An instruction that merely focused on the teacher can make the class boring because students do not have more time to think or wander things. They will become very dependent on the lecture of the teacher. Furthermore, instruction does not really give them the opportunities to open up their minds on the ideas which lead to a very poor academic performance and the learning will never become holistic [10].

Based on social constructivism, it is believed that for a learner to stay focused, doing things collaboratively will greatly help for the students to learn the best [11]. It is in socializing others that students develop their cognitive skills well because they can mingle with the outside world and learn the things which they have not met inside the class. For the students to learn most, they first make contact with his or her environment so that intrapersonal and interpersonal skills be developed. In Vygotskian classroom, having a very considerate and active support are provided based on the students' needs, but never had to force or even dictate them. They are more open to discussions, collaborations on research, using internet information resources, and group projects that mostly do the problem analysis. Both

Vygotsky (1978) and Piaget [11] recognized the importance of constructing and internalizing what knowledge is given. As a constructivist point of view, having an environment that is friendly for learners can promote them to get together, analyze on the results and reflect on the information given or even provided and to give comment on the ideas so that it will result to a very comprehensive learning.

Though teacher-centered instruction has gained its value in studies, during 1970's and 1980's, findings shown that "it is still effective to have instructional method" [12]. In an education that has been practiced over years, leaders had a chance to meet last 2002 to share the best practices they have in education or write about how effective their teaching style towards their students is, unlike the traditional way of instruction gets no respect. These leaders had suggested to have a pedagogical and classroom approaches, methods and instruction. This has started to revisit the curriculum into outcomes-based from content-based, and therefore, Outcomes-based Education was introduced. This kind of education is steadily gaining popularity and has later been adopted by many countries across the globe, such as Australia, Canada, Taiwan, Hong Kong, India, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Sri Lanka, Turkey, the United Kingdom and the United States, among others [13],[14], [15], [16], [17], [18], [19] and [20].

Outcomes-based education is anchored on the Jerome Bruner's Constructivism Theory; it is based on doing some experimentation and clearly observed the scientific study and this is about how students learn things [21]. It has been mentioned that people made their own ways of understanding their ideas and how things go into the world, by experiencing things and reflecting on it. When a person has to experience new things, he has even considered his earlier concept and previous ideas and experiences, or maybe change things that he believes, or maybe the new information as irrelevant be discarded [22]. In any case, the student is always the center to be the active receiver of the knowledge, discover skills and absorb the ideas taught with the attitude out of their learning experiences.

A shift from the traditional learning to flipped classroom strategy

The traditional way of conducting classes has changed with the influx of technology [23]. In fact, the skills of students have also changed rapidly as technology is introduced. However, the series of activities done in classrooms have not changed at all. Instead of having the traditional way of lecturing the students with videos, different ways in teaching students are employed especially when time is limited among individual learning or in doing more works in the laboratory as well as in asking more questions [24]. Originally, the idea is to help students who cannot attend the class, therefore, a new strategy of learning called flipped classroom. In this modified learning setting, the lecture of the teacher is being recorded via video to synchronize the viewing and allow the students to spend more valuable classroom time having an interaction with each other [25].

As such adoption of the flipped classroom, it is primarily driven by the ability to teach or deliver a better learning environment for the students. It facilitates how students do the among them, and between the students and the skill they acquired, as well as knowledge and also show good attitude or behavior towards learning the different subjects [26]. In an environment of learning that uses the flipped classroom strategy, the lesson has been taught through having lectures using recorded videos to capture the teachers' discussion which can be used to upload the file online. These lessons are shorter compared to the ones which are traditionally used, and because they are watched from their own convenient time and place, students can fully participate in the different small group discussions prepared by the teacher in a regular scheduled of having the class. Thus, meeting the instructor has been changed in the manner that regular class has been practiced[25].

It is believed that in having the lecture presentations, it is usually almost or always delivered as a monologue to a passive disengaged audience in the classroom [26]. Lecture simply encourages the feeling of the learners to master and memorize things because they see it as the most frequently and effective step in learning. On the other hand, it is believed that students enjoy lectures because it is easy and comfortable; "easy to turn up and listen. It's a lazy technique for lazy learners" [27]. Also, it is emphasized that learning things too much may lead to an over emphasized way of learning wherein students tend to feel bored. These can add burdensome to many of the students to have the lecture in one setting in which they find it a waste of time, having poor class type discussion. Therefore, many agreed with the flipped style of learning since students are free to learn in their own pace. In fact, this strategy is deemed effective by prior implementations in the literature including undergraduate nursing education [28], public healthcare education course [29], anatomy and physiology [30], cake decorating art club [31], computational thinking

skills [32] mathematical area [33], construction education [34], nutrition education [35] and cognitive knowledge learning and intrinsic motivation in secondary physical education [36], among others.

Research objectives

The transition from traditional to flipped classroom strategy provided various benefits to both teachers and students in some ways. For one, the teacher's role in flipped classroom is transformed to helping students rather than merely delivering information [37]. At the same time, students are encouraged to be more responsible for their learning process and pace. For another, teachers are able to find other means of engaging with students by using other alternate learning activities including those done hands-on. It has been shown in previous research works in the literature that the student learning achievement and satisfaction may be enhanced when flipped classroom model is used [38]. Along with the satisfaction of students with the flipped classroom methodology, it can also be considered to be more economical than the traditional forms of instruction [39].

In fact, a complete review of related literature is conducted to explore a more comprehensive view about the advantages of flipped classroom strategy [40]. From among the papers reviewed, common advantages found in the application of flipped classroom model included learner outcomes [41], [42], [43], [44], [45], [46], [47], [48], [49], and [50]. (i.e., improves learning performance, engagement, satisfaction, motivation, increases knowledge, improves critical thinking skills, feeling more confident, promotes creativity, focus on problem solving skills, better retention, improves application skills, and improves ICT skills), pedagogical contributions [51], [52], [53], [54],[44], [55], [56], [57], [58], [59], [60], [61], and [62] (i.e., flexible learning, enables individualized learning, enhances enjoyment, better preparation before class, fosters autonomy, offers collaboration opportunities, enables more feedback, fosters higher self-efficacy, provides peer-based learning, increases study effort, supports interest in the course, improves attendance, suitable for large group teaching, decreases withdrawals), time efficiency [63], [64](i.e., more efficient class time, more time for practice), disposition [65], [66], [67], [68] (i.e., positive feedback from students, positive perceptions from both students and teachers, and positive attitudes), interaction [69], [24], [70] (i.e., among students, instructor, and general interaction), and other factors such as less anxiety, cost-effective, and quick student adaptability [71], [72] and [73].

The flipped classroom strategy also has its fair share of limitations despite the growing number of evidence being considerably helpful and positive in terms of educational outcomes. First, there appears to be more challenges including more required time to redesign a course into a flipped classroom [74]. Second, low-regulated behaviors by some students may also be evident [75]. Third, failure of some students to properly manage their schedule to comprehend the out-of-the-class learning content may also exist [37]. These

challenges, among others, form part of the reasons for which flipped classroom model may not always work in all cases. Additionally, some other inductive categories have also been found as serious challenges that hamper the application of flipped classroom model [40]. Such categories include pedagogical [48], [53],[49], [76], [46], [43] (i.e., limited student preparation before class, students need guidelines at home, unable to get help while out of class, inability of instructors to know if students watched videos or not), students' perspectives [77], [43], [78], [59], [78] (i.e., time-consuming, workload increase, students do not prefer it, adoption problems, anxious about the new method, resistance to change, students find the method unfair/unreasonable), teachers' perspective [53], [48], [40], [79] (i.e., time consuming, higher workload, difficult to manage tasks, planning the sequence of activities), technical and technological [64], [40], [79], [80], [60], [78]) (i.e., quality of videos, inequality of technology accessibility, need for technology competency for both students and teachers, cost, and requirements of specific infrastructure), and others such as parental bias and lack of institutional support [81] and [53].

In fact, improvements in the performance and learning curve of students have become evident across various case applications including Economics. Some applications of the flipped classroom have been designed to investigate first-year undergraduate students as a way to acquire critical thinking, data handling and reasoning skills, which are altogether significant in the Economics curriculum [82]. In another case, the use of flipped classroom also showed a significant increase in student final exam performance relative to the use of the traditional instructional format [83].Not limiting to college students, the implementation of flipped classroom also proved to be useful among postgraduate Economics students as a core course in the Masters in Socio-Ecological Economics and Policy [84]. As Economics play a role in various programs, the use of flipped classroom as applied among engineering students has also been looked into [85]. It further showed that such a method improved the quality of students' learning. Aside

from that, flipped classroom also served as a driver for an alternative assessment strategy at institutions of higher education in a Teacher Education Course [86]. Such case studies has altogether proved that using the flipped classroom strategy do improve the performance of students (see also, [87], [88], [89] and [90].

Therefore, this paper aims to achieve an objective of assessing how the implementation of flipped classroom strategy can benefit college students in completing the Economics course. As a case study, a state university in the Philippines that conducts Economics classes to students are looked into. By strategically allowing technological advancements in the classroom setting of a state university, the performance of students and university administrators alike are explored such that a new teaching scheme may be introduced should a significant improvement to learning become evident. Furthermore, looking into the success of flipped classroom strategy in the extant literature, gives this paper an opportunity to investigate whether such a success can also be found in teaching Economics course via flipped classroom setting. That is, while the use of flipped classroom has been well studied and evidence has shown that it can become an essential tool as a learning guide to various courses in college, no work has tackled the possible implementation of such a tool into the Economics course. Ultimately, this paper advances the gap of implementing a flipped classroom strategy in the Economics course among college students in a state university.

Therefore, the specific research objectives laid down in this paper are as follows:

- To identify the performance of students using the traditional classroom method;
- To identify the performance of students using the flipped classroom method; and,
- To identify the significant difference between the use of traditional classroom and flipped classroom strategy.

2.METHODS AND METHODOLOGY:

This section presents the research methodology carried out to achieve the objective of this paper. It includes the research environment, respondents, instruments, and flow. Recall that the main objective of this paper is to assess the effectiveness of a flipped classroom strategy in teaching Economics among college students as a basis for learning guide.

Research environment

As a case study, the assessment of the effectiveness of flipped classroom strategy is tested at a state university in Cebu, Philippines. This university has five colleges namely College of Education, College of Engineering, College of Technology, College of Arts and Sciences and the Graduate School. Also, the university has offered several undergraduate, online, and graduate studies. With the imposition and challenge of the new K to 12 curriculum, the university currently caters grade 11 senior high school students who have taken Science Technology, Engineering and Mathematics (STEM), Electronic Processing and Servicing (EPAS), Humanities and Social Sciences (HUMMS) Track, Accounting, Business and Management (ABM) and Technical, Vocational and Livelihood (TVL) Tracks for Academic Year 2017-2018 to augment the Philippine Department of Education in rendering a better educational service.

Research respondents

To aid in the assessment of flipped classroom strategy, two groups of the AB-English fourth year students composed of $N = 13$ students from IV-A as the control group exposed to traditional teaching method and $N = 13$ students IV-2 exposed to flipped classroom strategy as the experimental group from the College of Arts and Sciences who have Economics subjects. They are given the same type of guide questions for them to answer during the period of the experimentation. These two groups are divided accordingly following the guide questions given. The first group are those students who usually attend the class and the other group are those who meet the instructor once in a while. These second group of students practiced the flipped classroom strategy.

Research instruments

This paper used a modified questionnaire adapted from Roberta Laraga Omas-as in his book Introductory Economics with Taxation, Agrarian Reform and Cooperatives in gathering the data of the students. This will serve as the primary tool in gathering of data. To determine the pre-post test scores of the students as to the implementation of the flipped classroom approach in the class, some modifications are made to suit to the different competencies in a class. Also, in terms of rating the answers of the respondents, the rubrics that is used was adapted from Claudia Stanny, the

Director of the University of Florida in the Center for University Teaching, Learning and Assessment. This rubric is modified to fit the recent study.

Research flow

This study utilized the quasi-experimental design using the non-equivalent control group. It is a design that is used to compare a certain group which can be of similar to the group that has to be experimented in terms of the different characteristics shown. Also, this is a design that investigates cause and effect relationships where the researcher does not have the control to look into the assignment given that can possibly change its variable of interest. This method used is considered appropriate in presenting the differences of mean gain of pre-tests between the control and experimental groups and the possible differences of the post-tests scores between the control and experimental groups after the intervention is done.

Data is gathered through letting the experimental and control groups took the pre-test examination. Next, the control group is exposed to traditional classroom instruction while the experimental group into the flipped classroom strategy. Then both groups took the post-test examination to identify its comparison in using the two strategies in teaching. After administering the questionnaire, the responses of the respondents to the three competencies are graded according to the scoring procedure shown in Table 1. The, the rubric for grading answers and the scores are tallied.

Table 1. Rubric for Grading

Criteria & Assigned points	**Many are missing or have serious problems**	**Expectations are Low**	**Have met the correct Expectations**	**Work is excellent**	**POINTS EARNED**
	0	**1**	**2-3**	**4-5**	
Relevance and presentation of the answer	It did not answer the question	The answer is incomplete and there are more unrelated issues and/or significant errors in content	There are insufficient detail with brief answers and there were unrelated issues introduced and/or minor errors in content.	The completeness and sufficiency of answer is clearly stated and only focuses on sufficient details provided	
Completeness of answer	None of the relevant details were included	Serious gaps in the needed basic details	Most of the basic information are included but some answers are missing	The entire question has fully answered	
Organization of the answers	The organization is weak; sentences pointless; repetition of ideas	Minor problems seen in organization and needs transitions in the creation of ideas	Presentation is clear and logical; the argument has a good development; Clear and smooth		

			transitions are done		
All mechanics of writing are present	Major problems with mechanics of language; Awkward sentence construction; Poor or absent transitions; Frequently difficult to understand	Frequent problems with mechanics of language; Occasional awkward sentences and poor transitions; reduce readability	The prose are clearly readable. Transitions are of good use; spelling, punctuation, or grammar is not a problem		
				TOTAL POINTS	

The proficiency of the respondents to the three competencies is determined by evaluating the mean of the pre-post-test scores with the help of the following tool (see Table 2).

Table 2. Means and its corresponding scales

Mean	Scale
4.1 – 5.0	Advance
3.1 – 4.0	Proficient
2.1 – 3.0	Approaching Proficiency
1.1 – 2.0	Developing
1.0 below	Beginning

The following statistical treatments are used in the analysis in gathering the data. First, a weighted mean is employed to determine the distribution of scores using the traditional and flipped classroom approach. Second, a t-test independent groups is used to determine the significant difference on the post test results of the flipped classroom approach and the traditional.

3.RESULTS AND DISCUSSION

This chapter presents, analyses, and interprets the results in relation to the problems of the paper including the pre-test and post-test results of the control and experimental groups without or with the use of the flipped classroom strategy. Also, the significant mean gain and the difference of such methods are discussed in the succeeding sections.

Pre-test and post-test results with and without flipped classroom strategy

The pre-test and post-test means are the average scores of the respondents from the administered examination in these three following competencies: (1) knowing the importance of studying economics as a social being, (2) explain the basic economic problems and its relationship to different economic activities, and (3) discuss the different economic system that is suitable to Philippine setting during the 2nd semester of school year 2017-2018. Using the tool presented, these means signified the respondents' level of proficiency in these competencies. The pre-test mean is compared to the post-test mean to ascertain the effectiveness of the two strategies: (a) traditional and (b) flipped classroom strategy.

Pre-test of the Control Group Without Using the Flipped Classroom

Table 3 shows the mean of the scores of the respondents' pre-test in each competency with its corresponding level of proficiency. It can be seen that prior to the implementation of the traditional method, the competency across each category is 2.15, 2.46, 1.92, respectively. The sample activity that used is the "think-pair-share activity" where some of the students presented out of class a material or had controversial quiz question given from a prior assignment in which students reflected on it individually following the teachers' discussion.

During the "think phase" the students worked independently on the different arguments given through writing their ideas while in the "pair phase" they are able to discuss the different responses with their partner and lastly with the "share phase", the teacher elicited responses from all the students in the class and began to engage them in a wider discussion demonstrating many different perspectives. In the first and second competency, *know the importance of studying economics as a social being,* and *explain the basic economic problems and its relationship to different economic activities* have means of 2.15 and 2.46, respectively, showing a level of *Approaching Proficiency*. These implied that the students acquired already acquaintance why they studied economics and what the basic economic problems are and its relation to different economic activities.

It could be due to the fact that students already gained ideas on these economic problems through social media and news since an easy access to current events because of technology is already available. It can also suggest that students are conscious enough on the problems they may encounter in their real life with regards to economy. For the third competency, *discuss the different economic system that is suitable to Philippine setting*, a mean of 1.92 showed that the students' level of proficiency is *Developing*. This revealed that students are still gaining ideas on the different economic system that would suit in the Philippine setting. Discussion to the different economic system would deepen the knowledge of the students and internalization of this knowledge would ease the students in choosing which economic system fits in the Philippine setting. Utilization of any strategy may have a great impact in achieving the students' learning.

Table 3. Pre-test Mean of the Control Group Without Using the Flipped Classroom

Competency	N	Pre-Test Mean	Level of Proficiency
Know the importance of studying economics as a social being	12	2.15	Approaching Proficiency
Explain the basic economic problems and its relationship to different economic activities	12	2.46	Approaching Proficiency
Discuss the different economic system that is suitable to Philippine setting	12	1.92	Developing

Pre-test of the Experimental Group Prior to the Implementation of the Flipped Classroom

For the experimental group, the pre-test mean of the respondents' scores to each competencies and level of proficiency are presented in Table 4. The activity used is the "Affinity Grouping" in which the class is divided into three to five groups. The teacher allowed the students to write their ideas individually on a piece of paper and classify

their answers through a small group discussion. This activity ensured that students are on the same pace of learning before going through another set of a more complicated in-class activity.

Table 4. Pre-test Mean of the Experimental Group Prior to the Implementation of the Flipped Classroom

Competency	N	Pre-Test Mean	Level of Proficiency
Know the importance of studying economics as a social being	12	2.58	Approaching Proficiency
Explain the basic economic problems and its relationship to different economic activities	12	2.33	Approaching Proficiency
Discuss the different economic system that is suitable to Philippine setting	12	2.17	Approaching Proficiency

Table 4 also revealed the students' pre-test means are 2.58, 2.33, and 2.17 in the three competencies respectively had consistently *Approaching Proficiency* as level of proficiency. This implied that the students had a slight idea on these three competencies as economics is also a subject in high school and still it is rather interesting to find ways on how to uplift their knowledge/proficiency in these topics. The result could be a good mark as to which method could be used to elevate their knowledge and gain a long retention of learning.

Post-test Mean of the Control Group After the Implementation of the Traditional Method

Similar to pre-test, the mean of the scores of respondents' post-test in each competency are computed and its respective level of proficiency as in Table 5. The "team matrix" activity is used during this time. This is done through introducing of new concepts that are quite similar to one another in which this activity will help the students in identifying the most salient features of the different concept while having its differentiation. Students are able to present their ideas by pairs with the list of characteristics that they have been shared between concepts and have the students determined which characteristics they belonged. Afterwards, whole entire class has to check their comprehension skills by evaluating their answers.

Table 5. Post-test Mean of the Control Group After the Implementation of the Traditional Method

COMPETENCY	N	POST-TEST MEAN	LEVEL OF PROFICIENCY
Know the importance of studying economics as a social being	12	3.77	Proficient
Explain the basic economic problems and its relationship to different economic activities	12	3.77	Proficient
Discuss the different economic system that is suitable to Philippine setting	12	3.62	Proficient

As reflected in Table 5, the post-test mean of the respondents' score for the three competencies are 3.77, 3.77, 3.62. Consistently, the students gained *Proficient* as level of proficiency after the administration of the traditional method and the lessons are administered through lecture discussion, textbook-based, long explanation and teacher-focused activity.

The post-test mean 3.77 for competency, *know the importance of studying economics as a social being*, had a mean gain of 1.61 from the pre-test; post-test mean of 3.77 for competency, *explain the basic economic problems and its*

relationship to different economic activities, had a mean gain of 1.31 from the pre-test; lastly, the post-test mean of 3.62 for competency, *discuss the different economic system that is suitable to Philippine setting*, had a mean gain of 1.69 from the pre-test.

The results implied that the traditional method had increased significantly the scores and mean gain of the respondents in the three competencies. This showed that traditional method or teacher-centered approach is still an effective way, thus, depends on how the teacher delivered or carried out the method.

Post-test of the Experimental Group After the Implementation of the Flipped Classroom

When the flipped classroom has already been implemented, the students' scores are tallied. The mean of the scores is computed in each competencies and its corresponding level of proficiency are presented in Table 6. The activity was the "fishbowl discussion" wherein the teacher asked them to group themselves with 3 to 5 members for each group. They are given 15-30 minutes to engage in a peer-mediated discussion while other students sat in a larger circle and watched the discussion, took notes, critique the content and the logic of the discussion. From this, the learners students can discuss and interact with each other and provide additional insights into the topic provided by the teacher which they can give constructive feedbacks.

Table 6. Post-test Mean of the Experimental Group After the Implementation of the Flipped Classroom

COMPETENCY	N	POST-TEST MEAN	LEVEL OF PROFICIENCY
Know the importance of studying economics as a social being	12	4.25	Advance
Explain the basic economic problems and its relationship to different economic activities	12	4.42	Advance
Discuss the different economic system that is suitable to Philippine setting	12	4.67	Advance

As revealed in Table 6, after the implementation of the flipped classroom to experimental group, the students had a consistent level of proficiency of *Advance* for each competency**.** The post-test mean of 4.25 – *Advance* for competency, *know the importance of studying economics as a social being,* had a mean gain of 1.67 from the pre-test; mean of 4.42 – *Advance* for competency, *explain the basic economic problems and its relationship to different economic activities*, had a mean gain of 2.08 from the pre-test; and mean of 4.67 – *Advance* for competency, *discuss the different economic system that is suitable to Philippine setting*, had a mean gain of 2.5 from the pre-test.

This implied that flipped classroom strategy contributed much to students in the acquisition of knowledge or learning the subject. It had a significant increase of the scores and mean gain of the students on their post-tests of the three competencies. This a manifestation that the students tend to learn more by flipping the classroom, imparting knowledge or discussion through video clippings, made the students more interested, well-motivated, easy grasp concepts, thus promoting easy absorption and understanding of the intended learning outcome.

Significant Mean Difference Between the Post-Tests of The Traditional and Flipped Classroom Strategy

This study opted to determine the significant difference between the post-tests of the traditional and flipped classroom and served as basis as to what method contributed much to the acquisition of what students learned or increased their performance.

To test the null hypothesis that there is no significant mean difference between the performances of the students with or without flipped classroom strategy, the values found in Table 7 below are utilized.

Table 7. Significant Mean Difference between the Post-Tests of the Traditional and Flipped Classroom Strategy

Post-Test	Mean	SD	Critical t-value, α=0.05, df=23, two tailed	Computed t-value	Decision
Traditional	3.72	0.56	2.07	2.99	Reject the null hypothesis
Flipped	4.44	0.17			

As posted in Table 7, the result indicated that t −critical (2.07) is less than the t −computed (2.99) that leads to the rejection of the null hypothesis stating the use of flipped classroom significantly increases the performance of the students. This is a sufficient evidence that flipped classroom contributed much in the acquisition of knowledge and increase the performance of the students. This made the students well-motivated, participative, and attentive, thus, promotes utmost learning outcomes.

4.CONCLUSION

This paper aimed to determine the effect of implementing a flipped classroom strategy in teaching college students at a state university in the Philippines. In specific, competencies are tapped in order to know the importance of studying economics as a social being, explain the basic economic problems and its relationship to different economic activities, and discuss the different economic system that is suitable to Philippine setting. Also, this paper investigates whether a significant difference between the performance of the students without or with flipped classroom strategy exists.

A quasi-experimental type of research methodology is carried out to compare a certain group that is almost the same in characteristics which is possible to treat particular group in terms of different characteristics. It is a design that investigates cause and effect relationships where the researcher does not have any control over a specific condition. This design is appropriate in presenting the differences of mean gain of pre-tests between the control and experimental groups and the possible differences of the post-tests scores between the control and experimental groups after the intervention is done. To assess the competencies of the respondents, a modified questionnaire is used to obtain the results of the pre-post test scores of the respondents.

The key results of the investigation are as follows. First, the students' level of proficiency on pre-test means prior to the implementation of the traditional method showed *Approaching Proficiency* in the first and second competencies and on the third competency the students' level of proficiency, *Developing*. On the other hand, for the experimental group pre-test, the students acquired the level of *Approaching Proficiency* in the three competencies. For the post-test mean of the control group after the implementation of the traditional method, students consistently gained *Proficient* as level of proficiency while for the experimental group after implementing the flipped classroom, learners had a consistent level of proficiency *Advance* for each competency.

The results strongly show that there was a significant difference between the performance of the students without or with flipped classroom strategy exists. Therefore, as a learning guide, administrators of the university are encouraged to consider implementing flipped classroom strategy to enhance the educational experience of students and to thereby increase their proficiency levels. Also, this strategy can also be considered for implementation across other allied courses, although, specific investigations have to be made to ensure that the results of this paper also correspond to that of other courses. A complete guideline is also recommended to be outlined to make certain that the implementation of the said strategy is able to achieve maximum potentials of students and teachers alike.

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6. CONFLICT OF INTEREST:

The author declares that there is no conflict of interest.

7. DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author.

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