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THE EFFECT OF A FLIPPED CLASSROOM MODEL IN STUDENT'S ACHIEVEMENT, ACADEMIC ENGAGEMENT, AND SATISFACTION LEVEL IN ENGLISH

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ABSTRACT

The study assessed the effect of a flipped classroom model in students' achievement, academic engagement, and satisfaction level in English among Grade 10 students of Misamis Oriental National High School, Balingasag, Misamis Oriental. Specifically, it aimed to: (1) determine the level of student's achievement scores in English before and after their exposure to flipped classroom approach; (2) determine the significant difference between student's English achievement scores before and after their exposure to flipped classroom approach; (3) determine the level of academic engagement of students in English in flipped classroom approach ; and (4) determine the student's satisfaction levels in flipped classroom approach at the end of the implementation period.

Quasi-experimental research design using pretest-posttest was employed to determine the student's achievement in Grade 10 English. Also, the mean, standard deviation, and t-test were used to analyze the data which were obtained from the scores of the said tests. The pretest and posttest questionnaires have a reliability result of 0.858. On the other hand, standardized survey Likert-scale questionnaires were used to determine the academic engagement and satisfaction levels of the students in English in flipped classroom approach, mean and standard deviation were also employed to analyze the data.

The findings of the study revealed that the students have higher achievement level of 44.41 indicating "very satisfactory" as exposed to flipped classroom approach. On the other hand, student- respondents' level of academic engagement resulted to 4.22 indicating "high engagement". Lastly, for the students' satisfaction level resulted to 4.52 indicating "very satisfied."

With flipped classroom approach in English teaching, students have higher results in their achievement scores, have high engagement and very satisfied on the said approach. Thus, students can easily learn and understand the concepts and apply these learnings to their daily lives.

Keywords: *flipped classroom model, achievement, academic engagement, satisfaction level*

Introduction

In the current situation, teachers must act as a facilitator to guide and give information to their learners. Teachers must be an expert in the field of his teaching career, he must be standard and excellent in dealing his lessons, and he must be well-equipped to the new trends and innovations to address his learners need. Apart from coping with the 21st century, the increase of the brand-new and new breed of learners requires instructors to take concept shift from the old-style teacher-centered to student-centered learning approach, uniting not only on how to teach but how to facilitate learning as well.

In general, teachers in our school are only teaching based on the context of books and doing the traditional way of teaching and the disadvantages of modular learning. Learners should be given enough resources and proper methods in teaching so that every learner will learn in his utmost best. Aside from the fact, that these learners will be given enough treatment based from their generation so that they can easily learn and understand the lesson. It was focused also to students who have problems in modular learning, (1) no one will supervise their learning because their parents cannot comprehend to the given tasks; (2) students in general, cannot learn on their own; (3) time constraints; and (4) interferences in the learning environment and the likes. In the 21st century, it is indeed the learners belong to generation Z, in which, it is up to the facilitator on what teaching skills or strategies he must use to sustain the needs of his learners without compromising.

This is now the gap that the researcher has observed for five years and counting in the school he currently in. Based from the pre-survey that the researcher has done, teachers in general, are only teaching the lessons using the traditional method and the modular learning, at the end, students got easily bored and no enough learning have applied to them. Students want their teacher to be highly educated in terms of Information Communication Technologies (ICT), for them to learn easily. Lastly, their academic achievement is not good in modular learning or even in the traditional learning, that is why, FC model is used by the researcher to combat their low academic achievement.

In order to bridge this gap is through Flipped Classroom Approach. Flipping speaks the language of today's students (Bergmann and Sams, 2012). In its simplest form, the flipped classroom inverts traditional teaching methods by delivering video instruction outside the classroom and moving homework into the class day (Electronic Education Report, 2011). To summarize, the teacher becomes a facilitator and mentor rather than a pure lecturer and can use the allotted time an effort to reinforce ideas through the following activities such as projects, experiments, and other group learning activities.

Theoretical Framework

The study is anchored to the founders of flipped classroom, Jonathan Bergmann and Aaron Sams in 2012, who were both high school chemistry teachers. In their book: *Flip your classroom: Reach every Student in Every Class Every Day*, teachers Jonathan Bergman and Aaron Sams began working at Woodland Park High School in Woodland Park, Colorado in 2004 where they became the school's new chemistry department. After realizing that their students often missed class due to extended travel for sports and other activities, they were eager to find way of reaching more of their students. The researchers began by converting their current PowerPoint slides into a video file with voice and annotations. The flipped classroom requires technology to participated both parties-the students and the teachers. The flipped classroom has become one of emerging technologies in education and it can be a standard of teaching-learning practice to foster students' active learning in higher education (Hamdan, McKnight, & Arfstrom, 2013).

In 2011, it was the most significant year for flipped classroom, when Khan Academy, founded by Salman Khan, attracted worldwide attention. Its teaching video covered subjects such as physics, mathematics, biology, finance, and contemporary economics.

It is then supported by the constructivism theory founded by Vygotsky in 1978 , based on his views, learning is a process that occurs when a learner is assisted by others who are more competent in the skills being learnt. Learning occurs when a student works either with more skilled adult or peer to solve problems that are just beyond his actual abilities. Hence, while using the Flipped classroom approach, students are assigned problem-solving tasks where they need to utilize the information, they learnt through watching the video outside of the classroom. To solve these tasks students either work individually or in groups under the supervision of the teacher (Eppard & Rochdi, 2017)

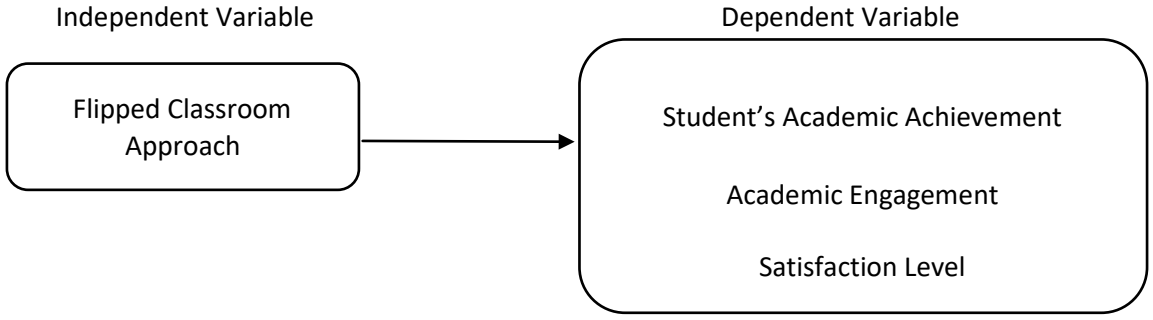

Figure 1: A schematic diagram showing the effects of Flipped Classroom Approach in Student's Academic Achievement, Academic Engagement, and Satisfaction Level in English.

Methodology

Quasi-experimental research design using pretest-posttest was employed to determine the student's achievement in Grade 10 English. Also, the mean, standard deviation, and t-test were used to analyze the data which were obtained from the scores of the said tests. The pretest and posttest questionnaires have a reliability of 0.757. On the other hand, standardized survey Likert-scale questionnaires were used to determine the academic engagement and satisfaction levels of the students in English in flipped classroom approach, mean and standard deviation were employed to analyze the data.

Findings

The findings are presented under the following major headings: (1) What is the level of student's achievement scores in English before and after their exposure to Flipped Classroom Approach; (2) Is there a significant difference between student's English achievement scores before and after their exposure to Flipped Classroom Approach; (3) What is the level of academic engagement of students in English in a Flipped Classroom Approach; and (4) What is the student's satisfaction levels in Flipped Classroom Approach at the end of the implementation period?

Table 1: Students' achievement scores in English before and after exposure to flipped classroom approach

	Pretest	Posttest	t-value	p-value
Mean	22.16	44.41	36.26	0.00001*
SD	5.18	3.93		
Descriptive Level				

Perfect score: 50 **Significance Level at α= 0.05*

Legend: Mean Intervals	***MPS***	***Descriptive Level***
44.50-50.0	*90-100*	*Outstanding*
42.50-44.49	*85-89*	*Very satisfactory*
39.50-42.49	*80-84*	*Satisfactory*
37.50-39.49	*75-79*	*Fairly Satisfactory*
0-37.49	*74-below*	*Did not meet expectation*

Table 1 shows the pretest and posttest mean scores, standard deviation, the computed t-value and p-value. It can be noticed that the pre-test mean score of the students before exposing to flipped classroom approach is 22.16 indicating "did not meet expectation." On the other hand, the post-test mean score of students after exposing to flipped classroom approach is 44.41 indicating "very satisfactory." This shows that the post-test mean score is higher than the pre-test mean score,

meaning the students have applied and learned the lessons after the integration of flipped classroom approach. There were a great increase of the scores of more than 50%, this means that after the students were exposed to flipped classroom approach, students can easily understand the lesson. This result is supported with the study of Rosenberg (2013) , who integrated the flipped classroom approach and resulted in huge increment of students' academic performance. In a year, failure rates dropped down in different subjects such as English, from 52% to 19%, 44% to 19% in Math, 41% to 13% in Science and 41% to 19% in Social Studies. The percentage of students who went to the university after graduation increased from 63% to 80%.

Pre-test standard deviation which is 5.18 is greater than the post-test standard deviation which is 3.93, meaning pre-test scores were more spread compared to the post-test score. The standard deviation scores in the post-test were more homogenous and closer to the mean score of 44.41. This further indicates that more students got score closer to the mean score, meaning more students got higher scores. More spread scores indicate that the students understanding and knowledge during pre-test were more diverse, some students got high scores and some got low scores.

The dependent t-test analysis yielded a t-value of 36.26 which is not in the 95% region of acceptance, hence, the computed p-value of 0.00001 <0.05 level of significance indicates that there were enough evidence to reject the null hypothesis. Thus, this means that there were significant difference between students' English achievement scores before and after their exposure to flipped classroom approach. Students got motivated, interested, had performed well after they were exposed to flipped classroom approach. The flipped classroom approach provides sufficient and convenient time and space for students to explore and experiment to practice and analyze and develop comprehensive knowledge of the lessons. Students exposed to flipped classroom have helped students develop their critical thinking and higher order thinking skills (Blooms, 1956). The study of Domangcas (2019) revealed that there is a significant difference on the level of academic achievement in English who immersed to flipped classroom approach. The students have higher achievement level as exposed to flipped classroom approach.

Table 2: Distribution of Student-Respondents Level of Academic Engagement

Statement	Mean	Standard Deviation	Descriptive Level
1.I feel excited during English class.	4.50	0.73	High Engagement
2.I feel interested in learning English.	4.52	0.70	Very High Engagement
3.I feel happy during English class.	4.30	0.73	High Engagement
4. I have fun learning English.	4.43	0.70	High Engagement
5. I like what I am learning in English.	4.59	0.58	Very High Engagement
6. I enjoy learning new things in English class.	4.68	0.52	Very High Engagement
7. I get really involved in English class activities.	3.98	0.70	High Engagement
8. I feel proud engaging myself in English class because I gained information.	4.48	0.73	High Engagement
9. I actively participate in English class discussions.	4.00	0.78	High Engagement
10. I form new questions in my mind as I join in English class activities.	3.84	0.86	High Engagement
11. In English class, I compare things I am learning with things I already knew.	3.73	0.90	High Engagement

12. In English class, I work with other students and we learn from each other.	3.98	1.0	High Engagement
13. I see similarities and differences between things I learn from the English class.	4.18	0.76	High Engagement
14. When I am in English class, my mind wanders.	3.80	0.88	High Engagement
15.I want to engage myself in English class so that I can learn more.	4.75	0.49	Very High Engagement
16.I think deeply when I take activities in English class.	4.09	0.74	High Engagement
17. In English class, I ask myself some questions as I go along to make sure the work make sense to me.	4.05	0.81	High Engagement
18. I search information from different websites for me to engage myself in English class discussions.	4.14	0.85	High Engagement
19.If I'm not sure about things, I check the module or use other materials maybe it be in online or in print and share during English class discussions.	4.00	0.84	High Engagement
20. My grade in English is surely better because the teacher allows me to engage in his class.	4.30	0.70	High Engagement
Overall	**4.22**	**0.81**	**High Engagement**

Legend:

Range	*Descriptive Level*
4.51-5.00	*Very High Engagement*
3.51-4.50	*High Engagement*
2.51-3.50	*Neutral*
1.51-2.50	*Low Engagement*
1.00-1.50	*Very Low Engagement*

Table 2 shows the overall mean score of student-respondents level of academic engagement which is 4.22 indicates "high engagement." As a result, students have shown high level of academic engagement in flipped classroom approach. Students wanted to learn new concepts and methods in learning, thus, they were at ease and comfortable engaging themselves to the lessons and activities of the teacher. These results of the study are consistent with the study of Aycicek and Yanpar (2018), positive results on the use of flipped classroom model towards classroom engagement in teaching English. Overall, result suggested that the flipped classroom model improved and enhanced the students' engagement.

Out of 20 indicators in Academic Engagement, sixteen (16) indicators indicate "high engagement" and four (4) indicators indicate "very high engagement." The indicator "I feel interested in English" with the mean score of 4.52 indicates "very high engagement"; indicator "I like what I am learning in English" has a mean score of 4.59 indicates "very high engagement"; indicator, "I enjoy learning new things in English class" has a mean score of 4.68 indicates "very high engagement". Lastly, the indicator "I want to engage myself in English class so that I can learn more" has the highest mean score of 4.75 indicates "very high engagement." This means that, , majority of the students really want to engage themselves on how a class will be facilitated by their teacher, the tools used in dealing the activities, and students themselves want to engage and immerse so that they can learn better. The results conform to the study of Gumban (2019) on student's mathematics performance and engagement in flipped classroom approach, in the level of academic engagement, students were found "moderately engaged" before intervention and "very much engaged" after intervention.

However, there were 4 indicators with the lowest rating but still indicates "high engagement." Indicators "I get really involved in English class activities " with the mean score of 3.98; "When I am in English class, my mind wanders" with the mean score of 3.80; "I form new questions in my mind as I join in English class activities" with the mean score of 3.84 and the lowest indicator "In English class, I compare things I am learning with things I already knew" with the mean score of 3.73. The said indicators have rated low, this means that there were some students who could not easily grasp the

activities since the approach is very new to them. This result was also noted in the study of Clark (2015), the students under flipped classroom model were more engaged, more involved and experienced quality instruction. Since this approach is new to the students, they might resist in learning or could not embrace or adapt or engage themselves to the activities given.

The spread of the student's responses is relatively low. Hence, it indicates that the students have homogenous response in relation to the approach introduced to them. In effect, majority of their responses were "highly engaged". The findings confirmed with results of the study of Dixon (2017) examined the impact of flipped classroom on students' engagement and academic performance in Science in an urban High School. The engagement of students in Science increased in the flipped classroom model.

Table 3: Distribution of Student-Respondents on Satisfaction Levels

Statement	Mean	Standard Deviation	Descriptive Level
1. My teacher had a thorough knowledge of the subject content.	4.80	0.46	Very Satisfied
2. My teacher provided opportunities to ask questions.	4.70	0.51	Very Satisfied
3. My teacher treated me with respect.	4.77	0.68	Very Satisfied
4. My teacher understood my learning needs.	4.70	0.51	Very Satisfied
5. My teacher communicated the subject content effectively.	4.52	0.66	Very Satisfied
6. My teacher made the subject as interesting as possible.	4.68	0.56	Very Satisfied
7. My teacher knew how I was going to be assessed.	4.57	0.50	Very Satisfied
8. The way I was assessed was a fair test of my skills.	4.18	0.90	Satisfied
9. I was assessed at appropriate model and methods in class discussions.	4.23	0.71	Satisfied
10. I received useful feedback on my assessment.	4.30	0.88	Satisfied
11. The assessment was a good training to develop my skills and capabilities as a student.	4.66	0.53	Very Satisfied
12. My learning in English developed my skills in problem-solving.	4.25	0.78	Satisfied
13. My learning in English helped me develop my ability to work with my peers.	4.20	0.82	Satisfied
14. My learning in English improved my skills in written communication.	4.57	0.59	Very Satisfied
15. My learning in English helped me develop my ability to plan my own work.	4.34	0.71	Satisfied
16. As a result of my training in English class, I feel more confident on the learning that I have learned.	4.50	0.59	Satisfied
17. I am very satisfied with the teaching method of my teacher.	4.68	0.52	Very Satisfied
18. I feel satisfied with the activities given by my teacher, it enhances my confidence.	4.66	0.53	Very Satisfied
19. As a result, I am more satisfied and positive in English class.	4.61	0.65	Very Satisfied
Overall	**4.52**	**0.67**	**Very Satisfied**

Legend:

Range	*Descriptive Level*
4.51-5.00	*Very Satisfied*
3.51-4.50	*Satisfied*
2.51-3.50	*Neutral*
1.51-2.50	*Dissatisfied*

1.00-1.50 Very Dissatisfied

Table 3 shows the overall mean score of student-respondents on satisfaction levels which is 4.52 indicates "very satisfied." As a result, students have shown high level of satisfaction in flipped classroom approach. Students were very satisfied on the things they have learned in English class. They were satisfied on the teaching method of the teacher, confident of the learnings they have learned, and then this approach, is an avenue for good training to develop their skills and capabilities. The results of the study of O'Flaherty and Philips (2015) was found similar to the current result that flipped classroom approach leads to students improved academic performance and increased satisfaction level. It is then concluded in the research that Flipped classroom approach have impacted the learning of the students, it contributed to the better understanding of the approach and its effects on teaching and learning.

Out of nineteen (19) indicators in Satisfaction level, twelve (12) indicators indicate "very satisfied" and seven (7) indicators indicate "satisfied" at the end of the implementation period. The indicator "My teacher provided opportunities to ask questions" with the mean score of 4.70 indicates "very satisfied"; indicator "My teacher treated me with respect" has a mean score of 4.77 indicates "very satisfied"; indicator "My teacher understood my learning needs" has a mean score of 4.70 indicates "very satisfied"; indicator "My teacher communicated the subject content effectively" has a mean score of 4.52 indicates "very satisfied"; indicator "My teacher made the subject as interesting as possible" has a mean score of 4.68 indicates "very satisfied"; indicator "My teacher knew how I was going to be assessed" has a mean score of 4.57 indicates "very satisfied"; indicator "The assessment was a good training to develop my skills and capabilities as a student" has a mean score of 4.66 indicates "very satisfied"; indicator "My learning in English improved my skills in written communication" has a mean score of 4.57 indicates "very satisfied"; indicator "I am very satisfied with the teaching method of my teacher " has a mean score of 4.68 indicates "very satisfied"; indicator "I feel satisfied with the activities given my teacher, it enhances my confidence" has a mean score of 4.66 indicates "very satisfied"; indicator "As a result, I am more satisfied and positive in the English class" has a mean score of 4.61 indicates "very satisfied". Lastly, the indicator "My teacher had a thorough knowledge of the subject content" has the highest mean score of 4.80 indicates "very satisfied." This means that, factors such as teacher as the facilitator, the methodologies of teaching, the crafting of assessment, the differentiated activities in English through flipped classroom approach, students in general were very satisfied. This research was supported by Gunuc (2014) who investigated the academic achievement and satisfaction level and its relationship of Flipped classroom model. The results proved that there is a significant relationship of students' academic achievement and satisfaction level. Therefore, students have an improvement of their tests and the assessment and activities and the role of the teacher to integrate his teaching strategies, thus, students were highly satisfied.

However, there were seven (7) indicators with the lowest rating but still indicates "satisfied". Indicators "I was assessed at appropriate model and methods in class discussions" has the mean score of 4.23; "I received useful feedback on my assessment" has the mean score of 4.30; "My learning in English developed my skills in problem-solving" has the mean score of 4.25; "My learning in English helped me develop my ability to work with my peers" has the mean score of 4.20; "My learning in English helped me develop my ability to plan my own work" has the mean score of 4.34; "As a result of my training in English class, I feel more confident on the learning that I have learned" has the mean score of 4.50. Lastly, the lowest indicator "The way I was assessed was a fair test of my skills" with the mean score of 4.18. The said indicators have rated low yet belong to "satisfied", this means that, the factors such as the teacher as the facilitator, work with peers, and the level of learning in general could influence and affect the student's satisfaction level. The study of Strayer (2012) was found consistent with the present study, that learning is impossible to get, in which, learners nowadays really rely on the power of technology and with their classmates, some students are dependent to the group, with this, not-so-much learning have been stored to their minds.

The spread of the student's responses in satisfaction level at the end of the implementation period is relatively low. Hence, it indicates that the students have homogenous response in relation to

the approach introduced to them. In effect, majority of their responses were “very satisfied”. The result of the study is consistently similar with the study of Fisher et al., (2014) that the students preferred the flipped approach to the traditional face-to-face delivery and reported increased engagement, satisfaction, and learning outcomes as a result of both the flipped classroom approach and the use of digital technologies in the delivery of the lessons.

Conclusions

Based on the findings of the study, the following conclusions were drawn:

The students exposed to flipped classroom approach had exhibited a highly significant difference between students’ English achievement scores before and after their exposure to flipped classroom approach. The students’ post-test mean score after exposing to flipped classroom approach is “very satisfactory”. Thus, rejects the null hypothesis that there is no significant difference between students’ English achievement scores before and after their exposure to flipped classroom approach.

A “high engagement” result for student-respondents’ level of academic engagement. As a result, students have shown high level of academic engagement in flipped classroom approach.

A “very satisfied” result for student-respondents’ on satisfaction levels. As a result, students have shown high level of satisfaction level in flipped classroom approach.

Recommendations

Based on the findings of the study, the following are the recommendations:

Different instruction methods, including problem-based learning and project-based learning could be blended with the flipped classroom approach and the effectiveness of these methods could be tested.

Training plans could be applied in the flipped classroom in one semester or a year to reveal its comprehensive effects. Extended periods can be imperative to observe and analyze changes in all variables, particularly in students’ achievement.

Individual interviews or focus group interviews in the flipped classroom approach. In this method, insights or perspectives could be attained to understand the effects of increasing students’ participation in the flipped classroom.

The students’ experience through flipped classroom approach increases cognitive learning in English. With the exposure of flipped classroom approach, teachers, may contextualize English learning activities and consider similar performances in other English subjects.

In as much as the academic achievement, engagement, and satisfaction level have increased and developed, English teachers may look on other variables and approaches in English teaching and correlate it.

Further study is recommended to check and improve flipped classroom approach implementation.

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