

# Integrated Project Eureka Intervention: Effect on the Discourse Skills in English Among Grade 11 Students

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## ABSTRACT

This quasi-experimental study was conducted to determine the effect of Integrated Project Eureka Intervention (IPEI) on the Discourse Skills (DS) in English of Grade-11 Humanities and Social Sciences (HUMSS) students at Odiongan National High School. Two intact HUMSS classes were selected and assigned each to control and experimental groups, respectively. In determining the DS, a 20-item standardized assessment for communicative/discourse test was adapted from University of Louisville. T-test for independent samples was used to compare the mean pre-test scores in DS of the experimental and control classes. Analysis of Covariance was used to compare the post-test mean scores in DST between the two classes, using DST mean pre-test scores as covariates. Results of the investigation revealed that the IPEI was effective ( $\eta_p^2 = 0.4$ ) in improving the discourse skills of HUMSS students. A longer period of experimentation to fully ascertain the dosage of the intervention and to test the intervention to different strands in the senior high school program are recommended.

Keywords: *Integrated Project Eureka Intervention, discourse skills, Humanities and Social Sciences, Grade 11*

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## INTRODUCTION

Communication plays a vital role in the development of students across subject areas. The current era is marked by an exponential increase in knowledge. English has been significant in academics, personal and professional growth as the language of information. To succeed in their academic studies and to perform effectively as the expert they dream of becoming, students must be able to possess proficient English-speaking performance. In the Philippines, the pressure on the Filipino students to be a proficient speaker of this language for personal and, eventually, national growth, has increased dramatically (Domantay, & Ramos, 2018).

Language learning is considered to be the foundation of human existence, according to some. Understanding the language may aid in the expression of ideas, hopes, and even dreams (Tavil, 2009).

Furthermore, foreign language instructors have long sought explanations for why some pupils have a tough time learning a foreign language like English while others have a much easier time (Ganschow et al., 1994). Students who have difficulty with English language learning are often described as underachievers, or sometimes, lacking in motivation.

Many students do not understand what their teacher is saying and therefore they cannot follow the lesson. The very reason for this is that the language in school is one they can hardly speak or understand (Bunch et al., 2020).

Senior High School students are expected to be knowledgeable in discourse and research by the time they go to college (Lustry Ro Manna, 2017). This notion is imperative among Humanities and Social Sciences (HUMSS) students since that this strand focuses on law, governance, public administration, and other fields which need discourse or communicative skills (De Vera & De Vera, 2018). More so, most of the subjects are taught using English and, in that case, students who could not understand the language will not also express their ideas in a way that they will also be understood. However, it is observed by the researchers that majority of the students do not have the necessary skills related to discourse, one of the fields in English which is necessary in higher education studies and graduate school. Students must be able to have skills related to

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communication to be able to survive the grueling high school life anchored on such skills.

In Odiongan National High School, an innovative way of determining communicative skills known as Project Eureka is implemented. However, there was no study conducted yet on how effective the intervention is. That is one of the reasons why the researcher wanted to know the effectiveness of Project Eureka intervention. As language teachers, it is important to know how the students will be helped in developing their discourse skills through this intervention since in the process, they will be doing it in a performance-based task oral participation.

This study would be beneficial among students, teachers, and curriculum implementers. Since learners are the heart of the educative process, they would be the main beneficiary of this study. This intervention would be a great help among teachers who find it hard to improve communicative skills and achievement of students in English. More so, curriculum implementers may adopt the intervention in the curriculum guide to reach a wider scope of study.

This study aims to determine the effect of Integrated Project Eureka Intervention (IPEI) on the Discourse Skills in English of Grade 11 students.

## METHODOLOGY

### *Research Design and Participants*

Table 1. Research Design

Group	Pre-Test	Treatment	Post-Test
1	O1	IPEI	O2
2	O1	CTM	O2

Where:

- 1 = Experimental Group (IPEI)
- 2 = Control Group (CTM)
- O1 = Pre-Test of Discourse Skills
- O2 = Post-Test of Discourse Skills

Shown in Table 1 is the research design of the study and the data that were collected from the experimental and control groups throughout the duration of the experiment. The non-equivalent pretest- posttest control group quasi-experimental design was employed because the participants were from two intact classes in a natural school setting where the random assignment is not possible, and the distraction of class structure is avoided to the minimum. This design was suggested to the best option for school-based research where classes were formed at the start of the year and it is not practical nor feasible to assign the students randomly to treatments, as discussed in the work of Fetalvero (2016).

Eighty (80) students from Blocks 2 and 3 of Humanities and Social Sciences (HUMSS) strand, Senior High School Department of the Odiongan

National High School were involved in this study. The control and experimental groups were chosen using fishbowl method. Although both classes were heterogeneously mixed during their sectioning in the first day of class, the pre-test in achievement in English was the basis in determining if both sections were comparable. Pre-test scores in achievement test in English of both classes ( $M=7.30$ ,  $SD=6.98$ ;  $M=6.98$ ,  $SD=2.86$ ) revealed that they do not have any significant difference ( $p=0.076$ ) in mean scores, therefore, both classes are comparable. Also, if the pre-test scores in Discourse Skills Test was used, comparable Discourse Skills ability were seen ( $M=3.52$ ;  $M=3.53$ ).

### *Discourse Skills Test*

In getting the results for discourse skills of students, the researcher used a standardized self-assessment test for communicative/discourse test. This test is a 20-item test statements adapted from the University of Louisville where the respondents answered based from the five-point (5) Likert's Scale. It was administered in a 20-minute period which evaluated the students' discourse skills.

### *The Intervention*

The intervention that was used in the study was termed Integrated Project Eureka Intervention (IPEI). This intervention is a concept of Archimedes' term "EUREKA" which means "I knew it". In Odiongan National High School, the intervention which is project eureka intervention or oral recitation was institutionalized. This intervention was conducted after discussion and before the scheduled assessment. The researcher prepared questions enough for the number of students/sample in a class. To supplement the teaching-learning process, questions were flashed on the screen first, before a student's name was drawn so as to provide a wait-time for them to think about the question and explain why it was the answer. In explaining the answer, student explained his answer subjectively to the given question. In addition, a documenter was requested to capture video while class had been conducted by the teacher. The intervention was done in a period of one (1) month. Below (Table 2) is a sample of the comparative Daily Lesson Log that the teacher implemented in the experimental and control group. Notice that in all parts of the lesson, the groups differ in item G.

All lesson logs and materials used by the teacher were first subjected to content and construct validity of three (3) master teachers in Odiongan National High School. This ensures that all materials are anchored on the curriculum guide set by the Department of Education.

Table 2. Sample of Daily Lesson Log for the IPEI group and CTM group.

DLL SECTION	IPEE	CTM
I. Objectives		
Content Standard	The learners realize that information in written text may be selected and organized to achieve a particular purpose.	
Performance standard	None	
Learning Competencies	Recognize the do's and don'ts of resume making	
II. Content		
II. Content	Resume Making and College Application Making	
III. Learning References		
III. Learning References	DepEd Teachers' guide/ Internet/ Web	
IV. Procedures		
a.) Review or Introduction	The review will be integrated with a game- based approach.	
Reviewing previous lesson or presenting the new lesson	A canister with jumbled letters written in pieces of paper shall be passed to each of the student. Once the music stops, the student holding the canister shall get a paper and answer the question written on it.	
b.) Daily Objective/s	Understand the concept of resume making	
Establishing a purpose for the lesson		
c) Pre-activity	The students will answer the question "How do you see yourself 3-5 years from now?" Their answers will lead to the idea of them going to colleges/universities and the future	
Examples/ instances of the new lesson		
d) Activity	A thorough discussion through Socratic dialogue will be established. Recitation per individual shall also be encouraged.	
Discussing new concepts and practicing new skills		
e). Application	Students will make a draft of their resume following the format and guidelines given.	
Finding practical applications of concepts and skills in daily living		
f). Generalization/ Abstraction	Question and Answer technique shall be done to generalize the whole topic.	
Making generalization and abstraction about the lesson		
g). Assessment	Before the assessment, IPEI will be applied.	20- item pen and paper test shall be done
Evaluating Learning	Questions will be flashed on the screen. After this, 20-item pen and paper test shall be done.	
h). Assignment/ Remediation		
Additional Activities for application on remediation		
i). Remarks		

### Data Analysis

Descriptive analysis was employed to determine the mean and standard deviation of the study variables. Findings from the descriptive analysis was used to calculate the effects of Project Eureka to the Discourse skills of the students. Statistical Package for Social Sciences was used to conduct the analysis of the data. T-test for independent samples was used to compare the mean pre-test scores in Discourse Skills of the classes exposed to IPEI and CTM. Analysis of Covariance was used to compare the mean post test scores in Discourse Skills between the IPEI and CTM classes, using discourse skills (DS) mean pre-test scores as covariates.

## RESULTS AND DISCUSSION

This section presents the results of the analysis on the variable Discourse Skills. This is organized by first comparing the pre-test and post-test mean scores in Discourse Skills Test between the control and experimental groups.

Table 3. The Descriptive Analysis of Pre-Test and Post-Test of Control and Experimental Groups in Discourse Skills

Test	Group	Mean	SD	N
Pre-Test	Control	3.52	2.73	40
	Experimental	3.53	2.68	40
	Total	3.53	2.71	80
Post-Test	Control	3.75	0.39	40
	Experimental	4.01	0.51	40
	Total	3.88	0.45	80

Legend:

1.0 – 2.5	Very poor Communication
2.6 – 3.8	Average Communication
3.9 – 5.0	Effective Communication

Table 3 shows the descriptive statistics of the pre-test and post-test mean scores in discourse skills of the samples in control and experimental groups. Both groups have the same number of students (40) with the total sample of 80. The Pre-test mean scores of the control and experimental groups are 3.52 ( $SD=2.73$ ) & 3.53 ( $SD=2.68$ ) respectively with a mean of 3.53 ( $SD=2.71$ ) (average skills in effective communication). On the other hand, based on the post-test mean scores, the experimental group had a higher mean score of 4.01 (Very Effective in Communication) ( $SD=0.51$ ) compared to the control group with mean score of 3.75 (Average Skill in Effective Communication) ( $SD=0.39$ ) having an average mean of 3.88 ( $SD=0.45$ ).

The above data implies that the intervention applied had been very effective as reflected in the mean scores of both groups. It was made through the questionnaire that was given to the samples before and

after the intervention. In addition, students were eager to increase their skills through oral participation by showing their interests through classroom discussion where they were able to freely express themselves in the topics and questions given to them. Moreover, the use of multi-media added interests to the students (Aljazzaf, 2020). It was found out that students were more motivated if they were given enough time to participate in class discussion. Project Eureka Intervention was successful in shifting teachers' conduct toward more constructive classroom conversation. The finding was particularly noteworthy because a comparison with the CTM revealed that, in the absence of such intervention, teachers tended to narrow their discourse practices (in the form of closed questions and simple feedback) towards more teacher-centered forms of discourse throughout the school year. The results of this study further showed positive changes in students' experiences of autonomy, competence, and social relatedness as well as intrinsic learning motivation, when their teacher used the Project Eureka intervention as being discussed also in the work of Goss and Sonnemann (2017) that students learn better when they participate. The results demonstrated the importance of productive classroom discourse in promoting positive learning outcomes for students' motivational orientations and its role in fostering student interest in English subject. This affirms the study of Murphy et al. (2018) that the development of discourse skills promotes high level of classroom comprehension and learning. Aside from the mean score, which showed that the intervention was effective, overall achievement of students was improved, both oral and written through the process of discourse where they were given enough time to answer subjectively, and in written form which was made through the given examination, where they had to choose the best and correct answer from the given choices.

The results of this undertaking were supported by the research findings of August et.al (2010). Their project was called "QUEST," and they used the same tactics. As a result, regardless of whether students were English Language Learners or native English speakers, the QUEST intervention improved their performance. Furthermore, the QUEST intervention had a beneficial impact on students' Science and Vocabulary outcomes, as evidenced by curriculum-based assessments. Furthermore, the QUEST intervention had beneficial benefits on students' Science and Vocabulary results, as evidenced by curriculum-based assessments that mirrored the material taught in both the treatment and control portions.

Indeed, with the corroboration of other research studies in introducing intervention project and with its positive impact, the intervention is commendable.

Table 4. ANCOVA Tests of Between-Subjects Effects of Discourse Skills Test (Dependent Variable: Post-Test).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.005 <sup>a</sup>	2	1.002	4.950	.009	.114
Intercept	8.920	1	8.920	44.052	.000	.364
PRETEST	.653	1	.653	3.224	.076	.040
GROUP	1.325	1	1.325	6.541	.013	.078
Error	15.592	77	.202			
Total	1222.725	80				
Corrected Total	17.597	79				

R<sup>2</sup> = 0.114 (Adjusted R<sup>2</sup> = 0.091)

Legend:

0.01 - 0.05      small effect  
 0.06 - 0.13      medium effect  
 0.14 and above    large effect

Table 4 shows the ANCOVA results of test between-subject effects in the post-test mean scores of the control and experimental group in Discourse skills test. The results have shown a significance value of 0.013 ( $F=6.541$ ) which is lower than the significance value of 0.005. This only explains that the post-test mean score of the experimental group is significantly higher than the control group. Thus, it implies that the use of the Project Eureka intervention is effective in honing Discourse skills among learners. The result affirms the study of O'Connor et. al. (2013) that classroom discourse interventions showed greater gains from pre- to post-tests than those who received direct instruction without a focus on classroom discourse. Similarly, Reeve et al. (2019) confirmed on the issue that students' engagement was greatly observed aside from a positive result of this study.

## CONCLUSION

Even with the various pedagogical approaches in education, it is undeniable that the quest for best teaching methodology is unending. Nonetheless, not all English classrooms experience almost the same problem, therefore, varied approaches or interventions should be implemented to address each specific challenge.

The Integrated Project Eureka Intervention (IPEI) as being studied in this investigation showed a positive result in improving students' discourse skills. This communicative skill is considered as a very important competency in Humanities and Social

Sciences (HUMSS) which centers in law, governance, public administration, and other related programs (De Vera & De Vera, 2018).

Since that experimentation was only done in one month for a specific competency, it is recommended that this will be extended into a longer timeframe to fully determine the dosage of the intervention.

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## AUTHORS' CONTRIBUTION

A.G.B.L. is the main researcher and the classroom implementer, G.V.V.B planned the research design and served as the Statistician of the study and conducted the data analysis, and E.R.V. served as the consultant and the language expert.

## CONFLICT OF INTEREST

This investigation holds no conflict of interest across and between the samples of the investigation, institution where it was conducted, and other affiliations.

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