

# **CRITICAL THINKING SKILLS AMONG SENIOR HIGH SCHOOL STUDENTS AND ITS EFFECT IN THEIR ACADEMIC PERFORMANCE**

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## **Abstract**

The research was conducted to identify the Critical Thinking Skills and Academic Performance of the Senior High School aside from this it is the most important goal of schooling is to learn. And learning, as numerous educators have repeatedly pointed out, is a consequence of thinking. The purpose of the research is to determine the level of critical thinking skills of the respondents in the SHS of LFG-DNHS, thus the Pearson-R Correlation will use and purposive sampling to select the respondents. This method includes giving standardized critical thinking test to determine the profile, the scores and the level of critical thinking of the respondents. The respondents include a total of 45 senior high school students. On the basis of the aforementioned findings of the study, the following conclusions were drawn: The researcher found the profile of the respondent in their age, gender, religion, civil status, source of information in reading. Among the Area of Academic Performance and Mean of the 45 respondents it has a weighted mean of 3.35; the level of academic performance of 45 SHS students covering Core, Applied and Specialized (marked as 3.35 in the DepEd Grading System) with verbal interpretation of AVERAGE. In this regards, it shows that SHS subjects need to infuse critical thinking skills because they need to think critically or to understand first the problem before they can solve or make a decision especially they are future hope of the nation; The critical thinking skills levels of the respondents are not fully developed yet. They got a mean score of 28.01 that belongs to Beginning Thinker in the Critical Thinking Skills Test using the Critical Thinking Test. The test had proven that they did not attain the appropriate critical thinking level skills of a students enrolled in a General Academic Strand and Tech-Voc in the senior high school level; There is a significant relationship between critical thinking skills and the academic performance of the GAS and Tech-Voc Strand students which is -0.13534233 with a verbal interpretation of SLIGHT CORRELATION. It indicates that there is a need of infusing and developing critical thinking skills of the students as they move from one level to another and in facing the 21st Century Skills and the Outcomes-Based Education in the Senior High School Level.

**Keywords:** Critical Thinking Skills, Senior High School, Academic Performance, etc.

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## **INTRODUCTION**

This action research and study deals with "Critical Thinking Skills among Senior High School Students and Its Effect in their Academic Performance. The Luis – Fe Gomez (LFG) Diamantina National High School Senior High School is one of the key arenas in developing the cognitive and personality of the students with a total population of 93 students, 7 teachers and 1 staff. One of the main goals of the school is to promote give and take relationships. The learners' performance remains to be the top priority for educator, for it will make a change or difference in the life of the learners either in the local, national or global stage. This is the very reason educators continue to explore variables that will contribute effectively for the quality performance of the learner's particularly in academic and character. Academic Performance is one of the 21st century education skills required in the Senior High School level students and a particularly with high impact of importance in the field of outcomes-based education. Training skills related to attributions and academic performance is so important that some scholars called it the main objective of education and experience. Pearson-R Correlation will be used in the study to compare the critical thinking skills and the academic performance among the selected respondents in the Senior High School. The sample and respondents of the study includes a total of 90 students from the GAS and TVL enrolled in the under the General Academic Strand. In determining the level of their attributions and general academic strand. Data was analyzed in the two levels of descriptive and inferential statistics with the help of SPSS software. In descriptive level, statistic traits such as frequency, mean and standard deviation were used to describe data. The most important goal of schooling is to learn. And learning, as numerous educators have repeatedly pointed out, is a consequence of thinking. The learners' success in school is thus heavily dependent on their inclinations as well as their abilities to think skillfully. This also holds true for success in the workplace and in most areas of civic and social life. One way to ensure that students learn more and better than they do now, and to help ensure their success in out-of-school life as well, is to help them improve the quality of their thinking" (Beyer, 1997). Unlike high school teachers who spoon-feed their students, college instructors allow their students to work on their own by only giving them the needed concept. Senior High School requires "high-order thinking" which enables the students to intelligently evaluate ideas and information. The main goal of a college education is not to teach students what to think but to teach them how to think. Department of Education wants to build not just mere students but they want to produce students who possess the characteristics of a critical thinker. The institution of education must recognize its responsibility to teach students to think critically which is vital for the learners to negotiate decisions humanely and intelligently in an ever-changing world. This must be the foremost objective of all educators across education levels (elementary, secondary, tertiary) regardless of the discipline(s) they are into, as business education teachers must inculcate in their minds that the be-all and end-all of education is to equip the learners not just with theoretical knowledge which may soon be obsolete but with the ability to think critically to be functional and competitive in a rapidly changing global society. "Although the word 'critical' is sometimes used in a negative sense, the conception of critical thinking is not negative. Also, it does not treat critical thought as persuasion, but critical thought will, we hope, often be persuasive.

## **Statement of the Problem**

The study aimed to determine the relationship between student and teacher for Academic Year 2016-2017. Specifically, the study aimed to answer the following questions:

1. What are the profiles of the respondents in terms of?
  - a. age
  - b. gender
  - c. religion
  - d. civil status
  - e. source of information in reading
2. What is the level of academic performance of the respondents in terms of?
  - a. Core Subjects;
  - b. Applied Subjects;
  - c. Specialized Subjects?
3. What is the level of Critical Thinking Skills of the respondents in terms of;
  - a. Reading in a Assumption
  - b. Personal Attitudes of CTS
  - c. Accountability of Induction
  - d. Fallacies of CTS?
4. What are the practical significance and theoretical significance of Critical Thinking Skills and the profile of the respondents?
5. Based on the findings, what enhancement program can be developed to upgrade and to improve critical thinking skills and academic performance of the senior high school students?

## **Significance of the Study**

The result of this study will give important information for consideration by some educational sector as basis for improvement of Critical Thinking skills in Academic Performance in Senior High School.

*To the Learners*, the result of this study will motivate them to study hard and improve their performance in school. Also, this study will give them an idea on the importance of knowing critical thinking as one of the factor of student's Academic Performance. Improvement of their critical thinking skills means improvement in their Academic performance.

*To the Parents*, this study will help them in understanding the capacity of their child in the tertiary level as they look on the critical thinking skills of their children. Parents will also be aware of the strengths and weaknesses of their children, thus, will help them interact with their children more effectively.

*To the Teachers*, this study will serve as their guide in teaching Business Education as they develop the critical thinking skills of their students. Knowing the level of critical thinking skills of their students will help them understand how they can help

improve their student's Academic performance, Problem Solving, Analytical and Decision Making Skills as a future Business Leaders and Entrepreneurs.

*To the School Administrators*, the result of the study will provide them with empirical basis in making instructional materials, modules and methods that can improve the critical thinking skills of the students. Knowing that the student's performance depends on his critical thinking skills, they will provide teachers with better directions to follow so that they can give quality education to their students.

*To the Curriculum Planners and Developers, Officials and Staff of CHED*, this study will give them an idea in formulating policies that can help improve the critical thinking skills of the students.

*To the Future Researchers and Text Book Writers*, the result of this study will serve as guide to other similar studies in the future. They can apply the concept and importance of critical thinking in their research study.

## **METHODOLOGY**

It is demonstrated in the figure through the two parallel single-headed lines, the relationship among critical thinking skills and academic performance. It is presented that critical thinking skills and academic performance are directly proportional to each other. If the student has a low level of critical thinking skills then, poor academic performance may be accomplish. And also, students can reach an excellent performance in academic subjects if and only if they obtain a high level of critical thinking skills. It only shows how critical thinking skills of each student affect his/her academic performance.

### **Research Methodology**

Research Methodology describes the research design, the population and sample size of the respondents, the sampling technique, the description of the respondent, the research locale, the instrumentation, the data gathering procedure, and the statistical treatment of data used by the researcher.

### **Research Design**

The purpose of the study is to determine the level of critical thinking skills of the respondents in the SHS of LFG-DNHS, thus the Pearson-R Correlation will use and purposive sampling to select the respondents. This method includes giving standardized critical thinking test to determine the profile, the scores and the level of critical thinking of the respondents. The respondents include a total of 45 senior high school students from General Academic Strand their characteristics are academic inclined for the girls and skills based for the boys as per observation they do on hand task such as creating concept paper, research, automotive activity and cooking as assessment in their national certificate.

## **Data Gathering Procedure**

First, the researchers asked permission from the SHS Focal Person to conduct the study. After the permission is granted, the researcher undertook the following steps:

1. Coordinate with the students and teachers of SHS school year 2016-2017.
2. Do the floating of questionnaire to the respondents.
3. Compute, tabulate, analyze, and interpret the data gathered to arrive at the findings of the study.

## **Statistical Tools Used**

In order to analyze the data gathered for this study, the researchers made use of the following statistical tools:

Percentage. This tool used to reduce the different sets or number or common frequencies of a comparative sets of number. It is employed as a form of numerical analysis. This is utilized to determine the proportion of the respondents in each category.

Formula:

$$P = \frac{f}{n} \times 100$$

Where:

P=percentage

f=frequency

n=number of respondents

100=constant variable

Likert Scale. This will be used to analyse the answered of the respondents through the questionnaire using the following interpretation.

OPTION	QUANTITATIVE DESCRIPTION	INTERVAL
5	Outstanding	90-100
4	Very Satisfactory	85-89
3	Satisfactory	80-84
2	Fairly Satisfactory	75-79
1	Did Not Meet Expectations	Below 75

## **Presentation, Analysis, and Interpretation of Data**

This portion of the study presents and analyzes the data gathered in relation to the general problem of the study. It is organized in accordance with the sequence of sub-problems as stated in the Statement of the Problem.

**A. Profile of the Respondents****Table 1.** Frequency and Percentage Distribution of the Respondents According to Age

AGE	FREQUENCY	PERCENTAGE (%)
11-14	17	37.78
14-16	17	37.78
17-20	10	22.22
21-30	1	2.22
TOTAL	45	100

This table shows that the age 11-14 and 14-16 years old got the highest percentage which gained a percentage of 37.78 and the least was the age of 21-30 years old with 2.22%. There is one special case among the group since Senior High School is a new curriculum in the Philippines they welcomed students through Balik-Estudiyante program and our institution always follow the rule of the division.

**Table 2.** Frequency and Percentage Distribution of the Respondents According to Gender

GENDER	FREQUENCY	PERCENTAGE (%)
Male	10	22.22
Female	35	77.78
TOTAL	45	100

This table shows that majority of the respondents were female with a percentage of 77.78 and the male respondents only got 22.22%.

**Table 3.** Frequency and Percentage Distribution of the Respondents According to Religion

RELIGION	FREQUENCY	PERCENTAGE (%)
Roman Catholic	36	80
Iglesia ni Cristo	3	6.67
Methodist	0	0
Born Again Christian	1	2.22
Baptist	1	2.22
Jehovah Witnesses	0	0
Ispiritista	2	4.44
Others	2	4.44
TOTAL	45	100

This table shows that the highest percentage in the distribution of religion was the Roman Catholic with 80%, and the least was the Methodist and Jehovah Witnesses with 0%. The relationship between students belief and critical thinking skills proved that religion has a big contribution in the students development not only the bible or the words of God but the circle of friends whom they benefitted reading on it as reflected in the open ended questionnaire it is a critical thinking skills among roman catholic

students because they are fan and love more on reading and aside from this is a form of their past time.

**Table 4.** Frequency and Percentage Distribution of the Respondents According to Civil Status

CIVIL STATUS	FREQUENCY	PERCENTAGE (%)
Single	44	97.78
Widow	0	0.00
Separated	0	0.00
Married	1	2.22
TOTAL	45	100

This table shows that the single got the majority with 44 or 95.56% and the widowed and married got only 2.22%.

**Table 5.** Frequency and Percentage Distribution of the Respondents according to source of the information in reading.

HOME ADDRESS	FREQUENCY	PERCENTAGE (%)
Books	20	44.44
Laptop	8	17.78
Cellphone	6	13.33
Magazine	3	6.67
Flyers	1	2.22
Notebook	6	13.34
Tabloid Paper	1	2.22
TOTAL	45	100.00

This table shows that majority of the respondents' source of information is the book with 44.44 and the least among them are the flyers and tabloid papers.

**Table 6.** Academic Performance and Mean of the 45 respondents during First and Second Semester 2016-2017

Indicate if Subject is CORE, APPLIED, or SPECIALIZED	SUBJECTS	General Average/Mean
Core	Earth and Life Science*	85
Core	General Mathematics	80
Core	Personal Development/Pansariling Kaunlaran	88
Core	Physical Education and Health	90
Core	Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino	92
Core	Oral Communication	89
Core	Reading and Writing	87

Core	21st Century Literature from the Philippines and the World	88
Core	Pagbasa at Pagsusuri ng Iba't Ibang Teksto Tungo sa Pananaliksik	91
Core	Physical Education and Health	89
Core	Physical Science*	84
Core	Statistics and Probability	82
Core	Contemporary Philippine Arts from the Regions	84
Core	Introduction to the Philosophy of the Human Person	86
Core	Media and Information Literacy	90
Core	Physical Education and Health 3	92
Core	Understanding Culture, Society and Politics	88
Core	Physical Education and Health 4	93
Overall Core Performance		87.67
Interpretation		Very Satisfactory

The academic performance and mean of the 45 respondents during first and second semester 2016-2017, the passing line is 75% in general 87.67 is the total average of the 45 respondents and interpreted as very satisfactory. Students' achievements in core subject is a wide reader type of the students because most of the available subject some of it is similar with such as *Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino* a prerequisite of the subject *Pagbasa at Pagsusuri ng Iba't Ibang Teksto Tungo sa Pananaliksik* as it was interpreted it was a continuous study both from research and reading.

**Table 7.** Academic Performance and Mean of the 45 respondents during First and Second Semester 2016-2017

Indicate if Subject is CORE, APPLIED, or SPECIALIZED	SUBJECTS	General Average /Mean
Specialized	Disaster Readiness and Risk Reduction	80
Specialized	Creative Writing/Malikhaing Pagsulat	91
Specialized	Introduction to World Religions and Belief Systems	87
Specialized	Philippine Politics and Governance	88
Specialized	Applied Economics	93
Specialized	Bread and Pastry Production 1	89
Specialized	Organization and Management	85
Specialized	Bread and Pastry Production 2	89
Specialized	Work Immersion/Culminating Activity	80
Overall	Applied	Performance
86.88		
Very Satisfactory		



The academic performance and mean of the 45 respondents during first and second semester 2016-2017, the passing line is 75% in general 86.88 is the total average of the 45 respondents and interpreted as very satisfactory. Students' achievements in core subject is highly favorable as remarks them numerical this shows that applied subject in General Academic Strand composed also application skills subject such as Work Immersion/Culminating Activity where students have their on the job training, Bread and Pastry Production 1 and 2 for their national certificate II.

**Table 8.** Academic Performance and Mean of the 45 respondents during First and Second Semester 2016-2017

Indicate if Subject is CORE, APPLIED, or SPECIALIZED	SUBJECTS	MEAN
Applied	English for Academic and Professional Purposes	80
Applied	Entrepreneurship	84
Applied	Empowerment Technologies (for the Strand)	80
Applied	Filipino Sa Piling Larang – Akademik	90
Applied	Practical Research 1	81
Applied	Inquiries, Investigation, and Immersion	82
Applied	Practical Research 2	84
Overall 83	Specialized Performance	
Interpretation Satisfactory		

The academic performance and mean of the 45 respondents during first and second semester 2016-2017, the passing line is 75% in general 83 is the total average of the 45 respondents and interpreted as satisfactory. Students' achievements in specialized needs an assessment since practical research 1 and 2 need more reading materials to enhance comprehension skills and critical thinking skill.

**Table 9.** Percentile Rank and Stanine of the 45 respondents during First and Second Semester 2016-2017.

Percentile Rank	Stanine	Mean Interval	Performance Classification
Above 93	9	4.50-5.00	Average
89-92	8		
75- 88	7	3.50-4.49	
60-74	6		
40-59	5	2.50-3.49	Below Average
23-39	4		
11-22	3	1.50-2.49	
4-10	2		
Below 4	1	1.00-1.49	

**Table 10.** Area of Academic Performance and Mean of the 45 respondents during First and Second Semester 2016-2017.

Area of Academic Performance	Mean	DepEd Grading System Equivalent
Core	3.45	Average
Applied	3.26	Average
Specialized	3.34	Average

Table 11. Area of Significance level in Dimension of reading and profile of the respondents.

Profile of the respondents	Critical Thinking Tests and Its Dimension							
	Assumption		Attitudes		Accountability		Fallacies	
	Corr.	Level of Sig.	Corr.	Level of Sig.	Corr.	Level of Sig.	Corr.	Level of Sig.
Age	0.17 <sub>ns</sub>	0.07	-0.01 <sub>ns</sub>	0.09	0.11 <sub>ns</sub>	0.08	0.10 <sub>ns</sub>	0.07
Gender	0.06 <sub>ns</sub>	0.14	0.12*	0.02	0.18 <sub>ns</sub>	0.06	-0.02 <sub>ns</sub>	0.12
Religion	0.09 <sub>ns</sub>	0.12	0.10 <sub>ns</sub>	0.17	0.12 <sub>ns</sub>	0.09	0.02 <sub>ns</sub>	0.09
Civil Status	0.08 <sub>ns</sub>	0.08	0.12	0.09	0.04 <sub>ns</sub>	0.12	0.14 <sub>ns</sub>	0.06
Source of info. In Reading	0.07 <sub>ns</sub>	0.11	0.02*	0.04	-0.01 <sub>ns</sub>	0.12	0.02 <sub>ns</sub>	0.07

Based on the table the practical significance of critical thinking skills in reading is terms of gender it has *correlational value* na 0.12 at *level of significane* na 0.02 this is contradict of the study of Granada (2017) that gender has no relationships in any dimension in reading. It shows the result that in reading gender has an effect also in source of information in reading gender it has *correlational value* na 0.02 at *level of significane* na 0.04 this is similar with the masters thesis of Ramos (2018) that source of information in reading has an effect in dimension and the profile of the respondents.

**Table 12.** Critical Thinking Tests and Its Dimension and Mean of the 45 respondents during First and Second Semester 2016-2017.

Critical Thinking Tests and Its Dimension	Mean	Reading Norm
Reading in a Assumption	6.89	Beginning Thinker
Personal Attitudes of CTS	7.57	Beginning Thinker
Accountability of Induction	5.78	Beginning Thinker
Fallacies of CTS	7.77	Beginning Thinker
Total CTS	28.01	Beginning Thinker

Based on the result of the research a beginning thinker one who assess propositions he encounters and evaluate his or her own principle in HOTS level meaning you need higher order thinking skills to do so. As the table imply it has a total mean of 28.01 and interpreted as Beginning Thinker.

Variables	Pearson r Correlation	Verbal Interpretation
CTS and C	-0.37811781	Low Correlation
CTS and A	-0.11257854	Slight Correlation
CTS and S	-0.05534233	Slight Correlation

Pearson R Correlation	Verbal Interpretation
0.00 to $\pm$ 0.20	Slight Correlation
0.00 to $\pm$ 0.40	Low Correlation
0.00 to $\pm$ 0.60	Moderate Correlation
0.00 to $\pm$ 0.80	High Correlation
0.00 to $\pm$ 1.00	Very High Correlation

**Legend:**

CTS and C= Critical Thinking Skills and Core

CTS and A= Critical Thinking Skills and Applied

CTS and S= Critical Thinking Skills and Specialized

**CONCLUSION AND RECOMMENDATIONS****Conclusions**

On the basis of the aforementioned findings of the study, the following conclusions were drawn: The respondents has an age 11-14 and 14-16 years old got the highest percentage which gained a percentage of 37.78 and the least was the age of 21-30 years old with 2.22%; Majority of the respondents were female with a percentage of 77.78 and the male respondents only got 22.22%; The highest percentage in the distribution of religion was the Roman Catholic with 80%, and the least was the Methodist and Jehovah Witnesses with 0%; Single students got the majority with 44 or 95.56% and the widowed and married got only 2.22%; This table shows that majority of the respondents source of information is the book with 44.44 and the least among them are the flyers and tabloid papers; Among the Area of Academic Performance and Mean of the 45 respondents it has a weighted mean of 3.35; The level of academic performance of 45 SHS students covering Core, Applied and Specialized (marked as 3.35 in the DepEd Grading System) with verbal interpretation of AVERAGE. In this regards, it shows that SHS subjects need to infuse critical thinking skills because they need to think critically or to understand first the problem before they can solve or make a decision especially they are future hope of the nation; The critical thinking skills levels of the respondents are not fully developed yet. They got a mean score of 28.01 that belongs to Beginning Thinker in the Critical Thinking Skills Test using the Critical Thinking Test. The test had proven that they did not attain the appropriate critical thinking level skills of a students enrolled in a General Academic Strand and Tech-Voc in the senior high school level; There is a significant

relationship between critical thinking skills and the academic performance of the GAS and Tech-Voc Strand students which is -0.13534233 with a verbal interpretation of SLIGHT CORRELATION. It indicates that there is a need of infusing and developing critical thinking skills of the students as they move from one level to another and in facing the 21st Century Skills and the Outcomes-Based Education in the Senior High School Level; Develop a comprehensive teaching and instructional materials such as multi-media contents materials including simulators and video tutorials, modules, and text book that can improved analytical, logical, and problem solving skills, and decision making skills needed in the critical thinking level skills of GAS and Tech-Voc students in the SHS level.

### **Recommendations**

Based on the findings and conclusions of the study, the following recommendations were drawn: 1. General Academic Strand and Tech-Voc instructors and teachers must give more comprehensive examples and inculcate the idea of the importance of analytical, decision making and problem solving skills, and critical thinking skills in their core, applied and specialized subject. They must organize the design of instructions to understand critical thinking at a deep level of enhancement programs. 2. Attend trainings, workshops and seminars that will help enhancing and developing the critical thinking skills of the students using an outcomes-based education model for educators. 3. The administrators' curriculum planner and developers can infuse the critical thinking skills in the curriculum. Hence, the teachers can give and construct a new teaching methodology in infusing the Critical Thinking skills along with the subject matter using the outcomes-based education model to meet the requirements in the 21st century education skills and outcomes-based education model.

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