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**CRITICAL THINKING SKILLS AND ACADEMIC PERFORMANCE IN SOCIAL STUDIES OF GRADE 8 HIGH SCHOOL STUDENTS**

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**ABSTRACT**

The study aimed to determine the Grade 8 students' critical thinking quotient measured in terms of the difficulty index of the items on thinking skills, map and globe skills, graph and image analysis skills, and sequencing and chronology skills in a unified test in Social Studies. The research and writing skills described in terms of remembering, understanding, applying, analyzing, evaluating, and creating were determined using the rubrics for critical thinking. The study which used the empirical research method was also undertaken to determine the relationship between the critical thinking quotient and the academic performance in Social Studies. The results of this study showed that mean final grade of the Grade 8 students in Social Studies is 94.49 described as Advance. The Grade 8 students obtained a mean score of 3.47, rated as accomplished (rank 1) in remembering; 3.36 (competent, rank 2) in creating; 3.28 (competent, rank 3) in understanding; 3.17 (competent, rank 4) in analyzing; 3.15 (competent, rank 5) in applying; and 3.11 (competent, rank 6) in evaluating. Overall, the Grade 8 students were rated competent (3.26) in research and writing skills. The test items on sequencing and chronology were the most difficult with a difficulty index of 0.47 (rank 1), followed by graph and image analysis (0.65, rank 2), and map and globe analysis (0.71, rank 3). The test items on thinking were the least difficult with a difficulty index of 0.82 (rank 4). It is recommended that giving of student-centered tasks should be sustained to maintain the research and writing skills of the students at the competent level. More student-centered activities should be integrated in the lessons to improve the sequencing and chronology skills of the students.

**Key Words:** Critical Thinking Skills, Academic Performance, Social Studies, Grade 8 Students, Botolan National High School.

**1. INTRODUCTION**

Educators are aware of the importance of critical thinking skills as an outcome of student learning. Critical thinking skills are necessary to prepare students for post-secondary education and the workforce. The benefits of critical thinking transcend school life, enhancing the quality of life and professionalism in the workplace (Paul, 2008). Critical thinking skills are important because they enable students to deal effectively with social, scientific, and practical problems. Students who are able to think critically are able to solve problems effectively and become effective in the workplace and in their personal lives (Shakirova, 2007).

Critical thinking is not a new concept. Throughout nearly 300 years of policymaking in the United States, educators have promoted eight broad goals of schooling: basic academic skills, critical thinking and problem solving, social skills and work ethic, citizenship, physical health, emotional health, the arts and literature, and preparation for skilled employment (Rothstein, Wilder, & Jacobsen, 2007). Yet many teachers continually struggle to engage students in critical thinking activities (Tempelaar, 2006), and students seldom use critical thinking skills to solve complex, real-world problems (Bartlett, 2002; Rippin, Booth, Bowie, & Jordan, 2002).

Critical thinking is a learned skill that must be developed, practiced, and continually integrated into the curriculum to engage students in active learning. To focus on acquiring critical thinking skills, emphasis must be placed on the application of course content, the process of learning, and the methods of assessment.

One of the goals of Social Studies education is to help students make significant connections and be able to apply knowledge learned to the real world (Kasich, 2015). Another goal of Social Studies learning is to provide students with new perspectives and new points of view and to allow them to see the world in a way they have never seen it before (Nosich, 2001). The Social Studies education should incorporate thinking skills, research and writing skills, interpersonal and group relations skills, sequencing and chronology skills, and graph and image analysis (New York City Department of Education, 2014-2015).

Many students today are weak in critical thinking skills. They do poorly on simple logical reasoning tests (Evans, 2002). Only a fraction of graduating high school seniors (6 percent of 12th graders) can make informed, critical judgments about written text (Perie, Grigg, & Donahue, 2005). This problem applies to both reading and writing. Only 15 percent of 12th graders demonstrate the proficiency to write well-organized essays that consisted of clear arguments (Perie et al., 2005). These observations may be a consequence of using the traditional teaching techniques in Social Studies that usually promote memorization (often temporary knowledge), but do not support critical thinking. Previous researches indicate that traditional instructional methods like lecture and memorization do not lead to long-term knowledge or the ability to apply that knowledge to new situations (Daz-Jefebvre, 2004; Kang & Howren, 2004). Because critical thinking is a mental habit that requires students to think about their thinking and about improving the process, it requires students to use higher-order thinking skills – not memorize data or accept what they read or are told without critically thinking about it (Scriven & Paul, 2008; Tempelaar, 2006).

In many schools including the Philippines, the students are not given the freedom and responsibility to explore content, analyze resources, and apply information. Students are not typically taught to think or learn independently, and rarely learn critical thinking skills on their own (Ladsmann & Gorski, 2007; Rippen, Booth, Bowie, & Jordan, 2002). Critical thinking is not an innate ability. Although some students may be naturally inquisitive, they require training to become systematically analytical, fair, and open-minded in their pursuit of knowledge. However, as with any skill, critical thinking requires training, practice, and patience.

Despite widespread recognition of its importance, there is a notable lack of information that describes the critical thinking skills of secondary school students in the Philippines.

## 2. OBJECTIVES

The study on The Critical Thinking Skills and Academic Performance in Social Studies of Grade 8 High School Students was undertaken to determine the critical thinking skills quotient and its relationship to the academic performance in Social Studies of the Grade 8 high school students during the school year 2015-2016.

### Significance of the Study

The following stakeholders will benefit from the study:

**Educators.** They would be provided with information on the extent to which the academic performance of students is affected by the student's critical thinking quotient that will serve as basis for the implementation of appropriate and relevant teaching practices.

**Curriculum Developers.** They would be provided with information that would provide basis for the design and development of curriculum focused on the application of content, the process of learning, and methods of assessment that will engage students in active learning.

**Policy Makers.** They would be provided with information that would serve as bases for development of guidelines and tools to enable students to learn and acquire effective critical thinking skills.

**Learners.** They would be provided with information on the advantage of acquiring critical thinking skills that will enable them to apply their critical thinking ability to any content area or discipline and to become confident in their reasoning.

**Parents.** They would be encouraged to undertake shared responsibilities that complement the teacher's role towards developing and improving the student's academic achievement.

### Statement of the Problem

The study on The Critical Thinking Skills and Academic Performance in Social Studies of Grade 8 High School Students was undertaken to determine the critical thinking skills quotient and its relationship to the academic performance in Social Studies of the Grade 8 high school students of the Botolan National High School during the school year 2014-2015.

Specifically, it answered the following questions:

1. What is the final grade of the Grade 8 students in Social Studies during the school year 2014-2015?
2. How may the critical thinking quotient in research and writing skills of the Grade 8 students be described in terms of their rubric scores using numerical and descriptive values in:
  - 2.1 Remembering;
  - 2.2 Understanding;
  - 2.3 Applying;
  - 2.4 Analyzing;
  - 2.5 Evaluating; and
  - 2.6 Creating?

3. How may the students' critical thinking be described in terms of the difficulty index of the test items on:
  - 3.1 Thinking skills;
  - 3.2 Sequencing and chronology skills;
  - 3.3 Map and globe skills; and
  - 3.4 Graph and image analysis skills?
4. Is there a significant difference in the difficulty index of the test items on the critical thinking skills in the Grade 8 Social Studies subject?
5. Is there a significant relationship between the Grade 8 student's critical thinking quotient and academic performance in Social Studies?

## Methodology

### Research Design

The study used the empirical research method in order to collect data to describe the critical thinking quotient in Social Studies of Grade 8 students of the Botolan National High School. Empirical Research is research that is based on experimentation or observation that will provide evidence. Such research is often conducted to answer a specific question or to test a hypothesis (UNC Charlotte, 2015). A documentary analysis of the Grade 8 student's academic performance in Social Studies during the school year 2014-2015 was also conducted.

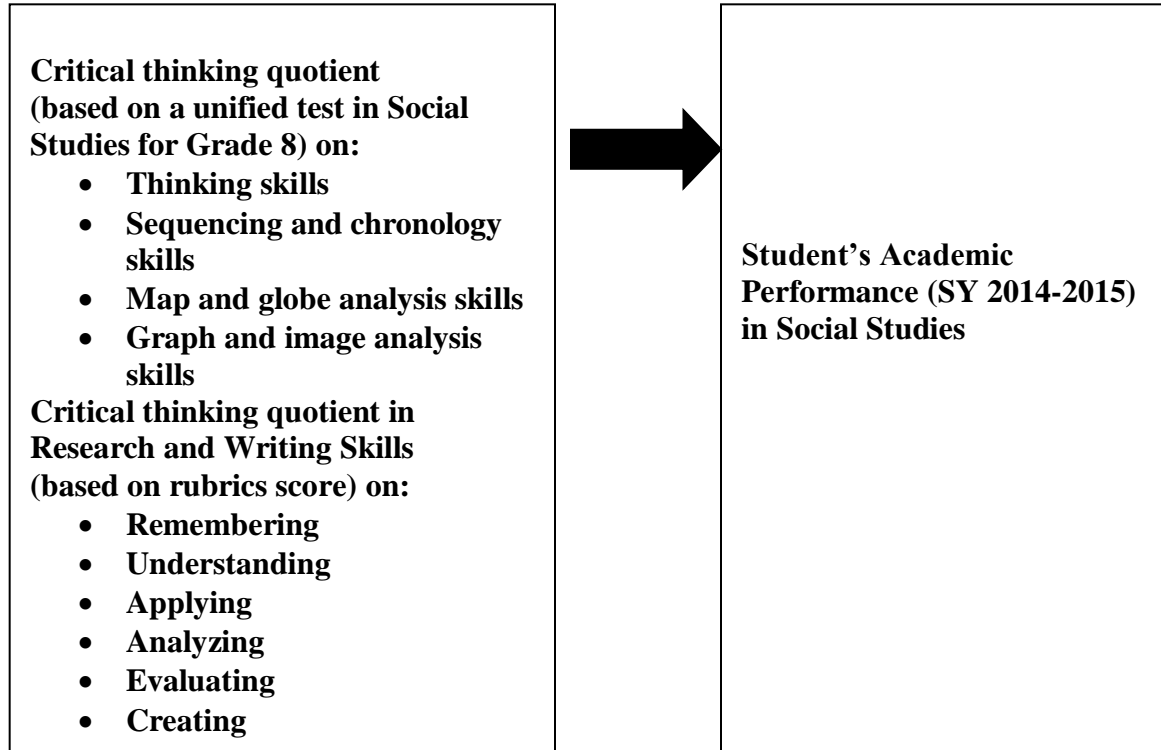
### Theoretical Framework

The theory adapted for this study was derived from the constructivist theory developed by Bruner in 1966. The theory postulates that learning is an active process in which learners construct new ideas or concepts based upon their current or past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provides meaning and organization to experiences and allows the individual to "go beyond the information given".

The paradigm of study which used the independent variable-dependent variable approach (IV-DV) approach is shown in Figure 1. The independent variable as specified in the first frame refers to the Grade 8 student's critical thinking skills quotient in Social Studies using a Grade 8 unified Social Studies test on thinking skills, sequencing and chronology skills, map and globe skills, graph and image analysis skills, and using the rubrics for critical thinking on research and writing skills.

**INDEPENDENT VARIABLE**

**DEPENDENT VARIABLE**



**Figure 1 .The Paradigm of the Study**

The dependent variable as specified in the second frame indicates the Grade 8 student's academic performance in Social Studies during the school year 2014-2015.

**3. MATERIALS AND METHODS**

The unified test in Social Studies was used as the data gathering tool in determining the critical thinking quotient of the Grade 8 students. It consists of twenty questions to test the critical thinking skills in thinking, research and writing, sequencing and chronology, map and globe analysis, and graph and image analysis. A copy of the unified test (adopted from Velez, 2002) is presented in Appendix A.

The numerical score and descriptive rating on the research and writing skills from the same unified test, were assessed using the rubrics (Table 1) adopted from Ammons (2009).The numerical score was based on six criteria that include remembering, understanding, applying, analyzing, evaluating and creating. The score ranges from four (4) as the highest to zero (0) as the lowest. The research and writing skill score is computed as the sum of the scores divided by the number of criteria (=6). The numerical and descriptive ratings for the research and writing skills are: 3.40-4.00 (Accomplished); 3.00-3.39 (Competent); 2.69-2.99 (Developing); 2.40-2.68 (Beginning); and 0.00-2.39 (Remedial).

## Methods

The study used the quantitative research method to determine the Grade 8 student's critical thinking quotient measured in terms of the difficulty index of the items on thinking skills, map and globe skills, graph and image analysis skills, and sequencing and chronology skills in a unified test in Social Studies. Forty seven (47) participants, all of whom are students in Botolan National High School, were the participants of this research.

## 4. RESULTS AND DISCUSSION

### Final Grade of the Grade 8 Students in Social Studies During the School Year 2018-2019

The frequency and percentage distribution of the final grade of the Grade 8 students in Social Studies is shown in Table 2. The final grade of 44 (or 93.62 %) out of 47 Grade 8 students in Social Studies was 90 and above described as Advance. The final grade of 3 (or 6.38 %) was 85-89 described as Approaching Proficiency. No student got a final grade lower than 85.

**Table 2 .Frequency and Percentage Distribution of the Final Grade of the Grade 8 Students in Social Studies**

Final Grade	Descriptive Rating	Frequency	Percentage
90 and above	Advance	44	93.62
85-89	Approaching Proficiency	3	6.38
80-84	Proficient	0	0.00
75-79	Developing	0	0.00
Below 74	Beginning	0	0.00
<b>Total</b>		<b>47</b>	<b>100.00</b>
<b>Mean= 94.49 (Advance)</b>			

The mean final grade of the Grade 8 students in Social Studies during the school year 2014-2015 is 94.49 described as Advance. Using Filipino as the medium of instruction in Social Studies is an advantage in terms of learning as it enhances acquisition of the required critical thinking skills.

### Critical Thinking Rubric Scores in Research and Writing Skills in Social Studies of the Grade 8 Students

The rubric scores in research and writing skills of the Grade 8 Social Studies students described in terms of remembering, understanding, applying, analyzing, evaluating, and creating is presented in Table 3.

Among the criteria in critical thinking in research and writing skills, the Grade 8 students obtained a mean score of 3.47, rated as accomplished (rank 1) in remembering; 3.36 (competent, rank 2) in creating; 3.28 (competent, rank 3) in understanding; 3.17 (competent, rank 4) in analyzing; 3.15 (competent, rank 5) in applying; and 3.11 (competent, rank 6) in evaluating. Overall, the Grade 8 students were rated competent (3.26) in research and writing skills.

**Table 3 .Rubric Scores, Rating and Rank in Research and Writing Skills of the Grade 8 Social Studies Students**

Critical Thinking Criteria	Mean Score	Qualitative Rating	Rank
Remembering	3.47	Accomplished	1
Understanding	3.28	Competent	3
Applying	3.15	Competent	5
Analyzing	3.17	Competent	4
Evaluating	3.11	Competent	6
Creating	3.36	Competent	2
<b>Overall Mean</b>	<b>3.26</b>	<b>Competent</b>	

Being accomplished in remembering, the students were able to recall all relevant facts or theories, and accurately defined specific terms. Being competent in creating, the students were able to derive explanations by using deductive and/or inductive reasoning, and made conclusions based on evidence, facts, and ideas but ignored opposing evidence. The students were rated competent in understanding because they were able to identify most of the main problems, recognized most of the relevant facts that were used in proper context, and expressed most of the key points of the presented content in their own words.

The students were competent in analyzing. They were able to compare and contrast most of the facts. The students were competent in applying. They were able to consistently and accurately create new information and argument about the content. Being competent in evaluating, the students were able to correctly judge an argument’s completeness and validity (Ammons, 2009).

**Difficulty Index of the Test Items on the Critical Thinking Skills in the Grade 8 Social Studies Subject**

The difficulty index of the test items on the critical thinking skills in sequencing and chronology, graph and image analysis, map and globe analysis, and thinking, inthe Grade 8 Social Studies is presented in Table 4. The test items on sequencing and chronology were the most difficult with a difficulty index of 0.47 (rank 1), followed by graph and image analysis (0.65, rank 2), and map and globe analysis (0.71, rank 3). The test items on thinking were the least difficult with a difficulty index of 0.82 (rank 4).

**Table 4 .Difficulty Index of the Test Items on the Critical Thinking Skillsin the Grade 8 Social Studies**

Critical Thinking Skills	Difficulty Index	Rank <sup>a</sup>
Sequencing and chronology	0.47	1
Graph and image analysis	0.65	2
Map and globe analysis	0.71	3
Thinking	0.82	4

<sup>a</sup>-from the most difficult (1) to the least difficult (4)

Chronological thinking is an indispensable tool to structure a historical narrative and to give meaning to a sequence of events. It is not a natural skill, so the conscious inclusion of tasks stimulating that skill in teaching is crucial. It is important to appropriately test students' chronological skills by means of well-constructed examination tasks administered at the conclusion of subsequent stages of education (Sequencing, 2014).

Chronology, however, contributes to children's sense of identity and helps them create a context for understanding the present. In order to grasp and consider the 'big questions' of history, children need to establish in their own minds a chronology of events to enable them to make connections between them and see the wider implications of their studies in history (Sequencing, 2014).

**Difference in the Difficulty Index of the Test Items on the Critical Thinking Skills in the Grade 8 Social Studies Subject**

There was no significant difference in the difficulty index of the test items on the critical thinking skills in the Grade 8 Social Studies subject as indicated by the computed significance value (Sig = 0.259) that is greater than the 0.05 alpha level of significance (Table 5).

**Table 5 Analysis of Variance on the Difference in the Difficulty Index of the Test Items on the Critical Thinking Skills in the Grade 8 Social Studies Subject**

Source of Variation	SS	df	MS	F-computed	Sig.
Between Groups	0.284	4	0.071	1.477 <sup>ns</sup>	0.259
Within Groups	0.720	15	0.048		
<b>Total</b>	<b>1.004</b>	<b>19</b>			

<sup>ns</sup>-not significant

Many students' experiences with social studies courses involve learning lists of events, dates, facts, people, definition of terms, and sometimes learning about the relations among them. They know the parts, but not the whole (Nosich, 2001). Providing students with primary sources, databases, speeches, media sources and discussion of past issues offers students a broader view of events of the past and current concerns (Doolittle and Hicks 2003). Critical thinking allows the parts to become whole.

**Relationship between the Grade 8 Students' Critical Thinking Skills Quotient and their Academic Performance in Social Studies**

**Relationship between the difficulty index of the test items in the various critical thinking skills and the Grade 8 students' academic performance in Social Studies**



The data in Table 6 show the relationship between difficulty index of the test items in the various critical thinking skills and the Grade 8 students' academic performance in Social Studies.

There was a moderate negative relationship ( $r = -0.4130$ ) between the difficulty index of the test items describing the map and globe analysis skills, thinking skills, graph and image analysis skills, and sequencing and chronology skills, and the Grade 8 students' academic performance in Social Studies.

The students who were able to answer the most difficult test items on sequencing and chronology skills had higher academic performance. As the difficulty index increased, students who were able to answer the test items with less difficulty on graph and image analysis skills, map and globe analysis skills, and thinking skills, were those who had high and low academic performances. The relationship was not significant because the computed t-value (0.641) is less than the tabular t-value (2.920) at the 0.05 alpha level of significance.

Learning about the complex concept of chronology is often considered very challenging for young children, yet this understanding underpins children's developing sense of period, as well as key concepts such as change and causation. It is a challenging concept to teach because of its abstract nature and the students' many misconceptions illustrate the difficulties they experience in understanding and using it (Sequencing, 2014).

### **Relationship between the rubric scores in research and writing skills and the Grade 8 students' academic performance in Social Studies**

The data in Table 7 shows the relationship between research and writing skills scores and the Grade 8 students' academic performance in Social Studies. There was a very strong positive relationship ( $r = 0.9433$ ) between the research and writing skills scores and the Grade 8 students' academic performance in Social Studies.

As the research and writing skill scores increased from 2.58 (described as beginning) to 3.53 described as accomplished, the academic performance increased from 90.00 to 94.05. The relationship was significant because the computed t-value (4.019) is greater than the tabular t-value (2.920) at the 0.05 alpha level of significance.

Research and writing skills in Social Studies even if it is done in Filipino requires students to use virtually everything they have learned and stored in long-term memory. This can only be done if knowledge is accessible, either by rapidly retrieving it from long-term memory or by actively maintaining it in short-term working memory.

## **5. CONCLUSION AND RECOMMENDATIONS**

### **Conclusions**

The mean final grade of the Grade 8 students in Social Studies during the school year 2014-2015 is described as Advance. The Grade 8 students are rated competent in research and writing skills. The test items on sequencing and chronology are the most difficult. The test items on thinking are the least difficult. There is no significant difference in the difficulty index of the test items on critical thinking skills in the Grade 8 Social Studies subject. There is a moderate but not significant negative relationship between the difficulty index of the test items describing the map

and globe analysis skills, thinking skills, graph and image analysis skills, and sequencing and chronology skills and the Grade 8 students' academic performance in Social Studies. There is a very strong positive significant relationship between the writing and research skills scores and the Grade 8 students' academic performance in Social Studies.

### Recommendations

Sustain the giving of student-centered tasks to maintain the students' research and writing skills at the competent level. Include more student-centered activities that will improve the sequencing and chronology skills of the students. Continue giving the standardized examinations that appropriately test the students' sequencing and chronology skills, graph and image analysis skills, and map and globe analysis skills. Conduct a similar study on the critical thinking skills and academic performance in Social Studies that will include other year levels and sections in the junior high schools in Zambales.

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