

DEVELOPMENT OF STUDENTS' CRITICAL THINKING SKILLS AT PUBLIC SECONDARY SCHOOLS, DINALUPIHAN DISTRICT: AN ASSESSMENT

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ABSTRACT

The study aimed to assess the development of students' critical thinking skills by Araling Panlipunan (Social Studies) teachers at public secondary schools of Dinalupihan District, Division of Bataan during the School Year 2015-2016. Included in the study are the profiles of the respondents in terms of age, sex, highest educational attainment, length of service, and relevant seminars and trainings attended; the methods utilized in developing critical thinking skills such as asking questions, analyzing situations, interpretation of data, and panel discussion; the difficulties encountered in developing the critical thinking skills of the students; and the measures to develop the students' critical thinking skills. The study used the descriptive method of research with the utilization of survey questionnaire and unstructured interview as the main data gathering instruments. The data gathered were organized, tallied, tabulated and subjected to statistical tools such as frequency counts, percentage, ranking, and mean. From the gathered data, the following conclusions were withdrawn: majority of teacher-respondents were within the 45 to 47 years age bracket and with a mean age of 37.25 years old, females, graduates of Baccalaureate Degree with Master's Degree units, have rendered service from 1 to 9 years, and have attended 1-3 seminars and training relative to critical thinking; teachers always developed the critical thinking skills of the students in terms of asking questions, analyzing situations, interpretation of data, and panel discussion, especially the analysis of data; sometimes encountered difficulties in developing students' critical thinking skills; and always chose their best options and took necessary measures in developing students' critical thinking skills.

Keywords: - Critical Thinking, Public Secondary Schools

1. INTRODUCTION

1.1 Background of the Study and Review of Related Literature

Social studies is an integrated study of the social sciences focusing on the teaching of higher-level thinking skills with the purpose of developing good citizens. The role of teachers is to help students become good citizens by making informed decisions. By developing inquiry-based, problem-solving, and reflective activities for the students, teachers challenge their thinking, stretching them to higher intellectual growth [1]. Hence, social studies' students, in order to acquire good citizenship, needs to challenge their thinking critically and analytically.

Nowadays, the world is changing rapidly as well as the education. But while the quick amendment of the environment has been observed, a 21st-century classroom must engage and energize every individual to prepare young to be an active participant in the exciting global community. In school, students are taught of how to think and not what to think. It is one of the aims of education in teaching the 21st-century learners. Letting the modern student's mind of pure reasons dig deep in any given situation is a vital skill and that how to think should be understood as a matter of conscious choice [2].

By doing such, they will be informed and productive citizens who are aware of social issues and take active participation in civic affairs. Moreover, having such know-how in social studies is a good educational foundation for the future leaders or any country.

In the Philippines, the curriculum of education is now engaged for the sudden changes. One of these changes dealt with the K to 12 Program that has been implemented for the last three years and now exercised by the 21st-century classrooms. The K to 12 curriculum aims for holistic development and acquisition of 21st-century skills. This curriculum considers various philosophical and legal bases and as a learner-centered curriculum, the nature and the needs of the learners were taken into consideration [3]. Moreover, it responds to the need of the young to develop their critical thinking skills to perform in a globally competitive society.

According to [4], critical thinking is the careful and deliberate determination of whether people should accept, reject or suspend a judgment on a certain claim. It can be said further that the more critical people in their thinking become, the greater will be their ability to act on their belief of the true. This is because as people develop their critical thinking, they become more capable of separating issues that are relevant from those that are irrelevant. Moreover, the more people become capable of knowing whether their actions are good and beneficial or just simply nonsense.

By developing the critical thinking of the students, they become more responsive in addressing critical issues and in making decisions and actions integral to the society at large. Those are the skills that compelled them to uphold the truth and live uprightly as human beings.

Critical thinking is not typically an intrinsic part of instruction at any level because as it described the centrality of thinking, it is a seminal goal related to other important goals in education. As what the [5] stated, "Critical thinking is done well and simultaneously facilitates a rainbow of the other ends." Therefore, if students learn to think more critically, they could become proficient at historical, scientific, and mathematical thinking. As students learn this art of taking charge of the mind, they can learn to take charge of their own lives as well.

Scholars have also focused on the various ways on how to improve students' critical thinking skills, particularly with the effectiveness of exercises [6], argument mapping [7] and concept mapping tools [8], reading and writing [9], card game for engagement [10], and inquiry guided learning projects [11].

Such enhancement of students' critical thinking using various methodologies needs a lot of focus and to achieve this kind of goal, the teacher should possess a well-built rational thinking and well-rounded information processing. Critical thinking goes through and at times beyond the usual capacity to think by which the students need to learn to think analytically. In this case, the teacher must have a higher level of thinking than the students. For this, the teacher could offer a good guidance and assistance on developing students' critical thinking.

The researchers dwelt on this study to look out the concurrent level of teacher's competencies in developing critical thinking skills among 21st-century learners. One of the areas measured by the National Achievement Test (NAT) among students is the critical thinking skills, thus, the results of this study may serve as a parameter in gauging how far the teachers in the secondary level were able to help learners be critical thinkers that could make them the competitive individuals that the K-12 curriculum targeted them to become.

1.2 Statement of the Problem

The study aimed to assess how teachers develop students' critical thinking skills in public secondary schools of Dinalupihan District, Division of Bataan during the School Year 2015-2016.

Specifically, the study sought answers to the following questions:

1. What is the profile of the respondents in terms of:
 - 1.1. Age;
 - 1.2. Sex;
 - 1.3. Highest educational attainment;
 - 1.4. Length of service; and
 - 1.5. Relevant seminars and trainings attended?
2. How the respondents develop the students' critical thinking skills in terms of:
 - 2.1. Asking questions;
 - 2.2. Analyzing situations;
 - 2.3. Interpretation of data; and
 - 2.4. Panel discussion?
3. What are the difficulties encountered in developing students' critical thinking skills?
4. What are the measures to develop students' critical thinking skills?

2. METHOD

2.1 Research Design

The researchers used the descriptive method in conducting the study since it aimed to assess the ways on how teachers developed critical thinking skills among the students and involved the analysis and interpretation of what is perceived and described on the account of the teachers' practices.

2.2 Respondents of the Study

The respondents of the study were the Araling Panlipunan (Social Studies) teachers at selected secondary schools in Dinalupihan District, Division of Bataan. In the 32 total numbers of the respondents, 8 or 25.00% were deployed in Magsaysay National High School (MNHS), 7 or 21.88% were teachers of Pagalanggang National High School (PNHS), 6 or 18.75% were stationed at Luakan National High School (LNHS) and Luakan National High School Annex (LNHSA), and lastly 5 or 15.63% were teachers from Jose C. Payumo National High School (JCPNHS).

2.3 Research Instruments

The researchers utilized the survey-questionnaire and unstructured interview as the instruments in gathering the data needed for the study. The questionnaire was self-made and validated by the experts and tested in a dry run. This was supported by an unstructured interview to supplement further evidence on the data gathered.

2.4 Statistical Treatment

The researchers employed descriptive statistics such as frequency count, percentage, and mean in treating the data gathered using the Microsoft Excel Toolpak.

3. RESULTS AND DISCUSSION

3.1 Profile of the Respondents

Table -1: Respondents' Age

Age	Frequency	Percentage
54-56 y/o	4	12.50
48-50 y/o	2	6.25
45-47 y/o	6	18.75
36-38 y/o	2	6.25
33-35 y/o	5	15.63
30-32 y/o	2	6.25
27-29 y/o	1	3.13
24-26 y/o	5	15.63
21-23 y/o	5	15.63
Total	32	100.00
Mean Age	37.25 y/o	

It can be deduced from the data that majority of the teachers were within the 45 to 47 years age bracket and with a mean age of 37.25 who are considerably in their productive years of teaching. Considerably, they are already seasoned and expert in the profession and are capable of developing further the critical thinking skills of the students due to the meaningful experiences they have gained over the years.

Table -2: Respondents' Sex

Sex	Frequency	Percentage
Male	7	21.88
Female	25	78.13
Total	32	100.00

It can be surmised from the data that majority of the teachers were females. This means further that female teachers dominated the teaching profession in Dinalupihan District, Division of Bataan.

Table -3: Respondents' Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage
Master's Degree Graduate with Doctoral Units	2	6.25
Master's Degree Graduate	5	15.63
Baccalaureate Degree Graduate with MA Units	20	62.50
Baccalaureate Degree Graduate	5	15.63
Total	32	100.00

As disclosed by the gathered data, the majority of the teachers were graduates of Baccalaureate Degree and able to earn Master's Degree units. It is interesting to note that most of the teachers were enrolled and on their way of finishing their Graduate School Program.

Table -4: Respondents' Length of Service

Length of Service	Frequency	Percentage
34-36 yrs.	1	3.13
28-30 yrs.	3	9.38
25-27 yrs.	1	3.13
22-24 yrs.	1	3.13
19-21 yrs.	3	9.38
16-18 yrs.	1	3.13
13-15 yrs.	3	9.38
10-12 yrs.	4	12.5
7-9 yrs.	5	15.63
4-6 yrs.	5	15.63
1-3 yrs.	5	15.63
Total	32	100.00

The data implied that the majority of the teachers had rendered services from 7-9 years, 4-6 years and 1-3 years. In addition, the respondents could be considered as skilled in developing the students' critical thinking skills.

Table -5: Respondents' Seminars and Trainings Attended Relative to Critical Thinking

Seminars and Trainings Attended Relative to Critical Thinking	Frequency	Percentage
34-36	1	3.13
31-33	1	3.13
28-30	1	3.13
25-27	2	6.25
22-24	1	3.13
19-21	3	9.38
16-18	1	3.13
13-15	2	6.25
10-12	5	15.63
7-9	3	9.38
4-6	3	9.38
1-3	9	28.13
Total	32	100.00

It can be implied on the data that majority of the teachers had only attended 1-3 seminars and training relative to critical thinking. It can only mean that there was lack of seminars and training that the teachers are attending about critical thinking. And also sometimes there were few selected teachers who are able to attend sufficient seminars and training relative in developing critical thinking skills.

Table -6: Respondents' Seminars and Trainings Attended Relative to Critical Thinking

Methods in Developing Critical Thinking Skills	Weighted Mean	Description	Rank
Asking Questions	2.61	Always	3
Analyzing Situations	2.62	Always	1.5
Interpretation of Data	2.53	Always	4

Panel Discussion	2.62	Always	1.5
Average Weighted Mean	2.60	Always	

The data indicated that majority of the teachers always developed analyzing situations, using panel discussion, asking questions, and interpretation of data in developing the critical thinking of the students. Meanwhile, the overall average weighted mean of 2.60 with a description of “Always” revealed further that teachers in the public secondary schools of Dinalupihan District are always developing the critical thinking skills of students in terms of asking questions, analyzing situations, interpretation of data, and panel discussion. Results of the interviews further attested that teachers nowadays, with the principles and tenets of the 21st-century education and K-12 Program are mandated to develop learners who are globally competitive and productive, thus, intense immersion and integration of learners to different modules and activities are regularly being monitored and undertaken.

3.2 Difficulties Encountered in the Development of Students’ Critical Thinking Skills

Table -7: Difficulties Encountered in the Development of Students’ Critical Thinking Skills

Difficulties Encountered in Developing Students’ Critical Thinking Skills	Weighted Mean	Description	Rank
1. Poor vocabulary of the students.	2.34	Sometimes	4.5
2. Lack of motivation and interest of students to become critical thinker.	2.22	Sometimes	6
3. Failure to have sufficient time in discussing the lesson.	2.09	Sometimes	7
4. Lack of time for preparing and planning critical thinking teaching methodologies, strategies, and techniques.	2.06	Sometimes	8
5. Large class size.	2.38	Sometimes	2.5
6. Lack of knowledge about the topic needed to be discussed.	2.00	Sometimes	10
7. Poor performance of the students in the class.	2.38	Sometimes	2.5
8. Failure of students to participate in the discussion.	2.34	Sometimes	4.5
9. Poor study habits of the students.	2.44	Sometimes	1
10. Failure to check misconception / misunderstanding of the students about the lesson.	2.03	Sometimes	9
Average Weighted Mean	2.23	Sometimes	

As a whole, the teachers sometimes experienced difficulties in developing students’ critical thinking skills as attested by the average weighted mean of 2.23. This indicated further that teachers still encountered the given difficulties in developing students’ critical thinking skills, particularly the poor study habits of the students with a weighted mean of 2.44.

3.3 Measures to Develop Students’ Critical Thinking Skills

Table -8: Measures to Develop Students’ Critical Thinking Skills

Measures to Develop Students’ Critical Thinking Skills	Weighted Mean	Description	Rank
1. Makes students read variety of books.	2.56	Always	7
2. Uses games like “brain twisters” in arousing the student’s interest.	2.47	Sometimes	9
3. Gives students some incentives as a motivation to participate in the class.	2.66	Always	5
4. Gives students adequate support to perform willingly on the classroom discussion.	2.72	Always	3.5
5. Asks divergent and thought-provoking questions.	2.56	Always	7
6. Explains further the lesson on the students to avoid misconceptions.	2.88	Always	1
7. Pays particular attention on the weakness and difficulties encountered by students in expressing their thoughts and discriminating other’s thought.	2.78	Always	2
8. Provides alternative and authentic approaches, remediation and intervention to develop students’ critical thinking.	2.44	Sometimes	10
9. Improves students’ cognitive complexities through formative and progressive activities towards becoming good critical thinkers.	2.56	Always	7

10. Makes students establish good habits of developing higher order thinking skills and analyzing situations.	2.72	Always	3.5
Average Weighted Mean	2.64	Always	

As a whole, the teachers always applied measures in addressing the difficulties they experienced in developing students' critical thinking skills as attested by the average weighted mean of 2.64. This implied that teachers always choose their best options and take necessary measures in developing students' critical thinking skills, particularly in explaining further the lesson on the students to avoid misconceptions with a weighted mean of 2.88.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

In light of the findings presented in this study, the following conclusions were formulated:

1. The majority of teacher-respondents were within the 45 to 47 years age bracket and with a mean age of 37.25 years old, females, graduates of Baccalaureate Degree with MA units, have rendered service from 1 to 9 years, and have attended 1-3 seminars and training relative to critical thinking.
2. Teachers always developed the critical thinking skills of the students in terms of asking questions, analyzing situations, interpretation of data, and panel discussion.
3. Teachers sometimes encountered difficulties in developing students' critical thinking skills.
4. Teachers always chose the best options and took necessary measures in developing students' critical thinking skills.

4.2 Recommendations

Based on the major findings and conclusion drawn, the following are hereby recommended::

1. Recruitment for more male applicants for the teaching profession should be promoted to ensure that they will also be equally represented in the educational arena. Also, more teachers should be encouraged to finish their Master's Degree and obtained relevant and sufficient seminars and training relative to the development of critical thinking skills among students.
2. Teachers should be oriented and be acquainted on the various strategies that can be employed to improve further the critical thinking skills of the students, especially in the analysis of data.
3. Teachers should be assisted in benchmarking to other teachers' expertise and good practices in the dealings with the difficulties encountered by the students in order to improve their critical thinking skills.
4. Teachers should be exposed more on various seminar-workshops to aid them in providing measures to develop further the critical thinking skills which are necessary for the students to become globally competitive and productive learners of the 21st century.

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6. REFERENCES

- [1]. Farris, P. J. (2004). Elementary and middle social studies: An interdisciplinary, multicultural approach, 4th edition. NY, USA: McGraw-Hill.
- [2]. Clive, L. (2014). Thinking skills and how to think. Website copyright by Illumine Ltd, 2014. Retrieved from <http://www.illumine.co.uk/resources/thinking-learning/how-to-think>
- [3]. Southeast Asian Ministers of Education Organization (SEAMEO) – Regional Center for Educational Innovation and Technology (INNOTECH) (2012). K to 12 toolkit: Resource guide for teacher educators, school administrators and teachers. Retrieved from <http://www.gov.ph/downloads/2012/201209-K-to-12-Toolkit.pdf>
- [4]. Buenaflor, L. E. (2009). The art of critical thinking: Logic for Filipino students, revised edition. Mandaluyong City, Phl: Books Atbp. Publishing Corp.
- [5]. The Critical Thinking Community (2013). Critical thinking development: A stage theory. Retrieved from <http://www.criticalthinking.org/pages/critical-thinking-development-a-stage-theory>

- [6]. Wallace, E. D. & Jefferson, R. N. (2013). Developing critical thinking skills for information seeking success. *New Review of Academic Librarianship*, 19(3), 246-255.
- [7]. Kunsch, D. W., Schnarr, K., & van Tyle, R. (2014). The use of argument mapping to enhance critical thinking skills in business education. *Journal of Education for Business*, 89(8), 403-410.
- [8]. Tseng, S.-S. (2015). Concept-mapping tools and the development of students' critical-thinking skills. *Educational Technology*, 55(5), 39-43, September-October.
- [9]. Chittooran, M. M. (2015). Reading and writing for critical reflective thinking. *New Directions for Teaching and Learning*, 143, 79-95, Fall.
- [10]. Davis, D., Fasano, V., & Starling, J. (2013). When every hand is a winner: Developing critical thinking with a card game. *Texas Journal of Literacy Education*, 1(1), 70-76.
- [11]. Bentley, D. C. (2014). Inquiry guided learning projects for the development of critical thinking in the college classroom: A pilot study. *Collected Essays on Learning and Teaching*, 7(2).

7. APPENDIX

Survey-Questionnaire

Methods Utilized in the Development of Students' Critical Thinking Skills

Direction: The following are the different ways of developing students' critical thinking skills. Please check the appropriate score that corresponds to your answer in each item.

Code	Description
3	Always
2	Sometimes
1	Never

A. Asking Questions	3	2	1
1. Asks open-ended questions.			
2. Asks questions that will prompt students to investigate a thought or process.			
3. Stimulates discussion with probing questions.			
4. Encourages students to elaborate their ideas.			
5. Asks students to justify their answers.			
6. Asks questions in different domains of learning like cognitive, affective and psychomotor.			
7. Challenges the students with funneling questions.			
8. Uses elevating questions to develop higher order thinking skills.			
9. Encourages students to formulate questions of their own.			
10. Rephrases questions to make them clear to the students.			
B. Analyzing Situations	3	2	1
1. Cites logical situations that arouse students' curiosity and interest			
2. Encourages students to collaborate their ideas during brainstorming.			
3. Provides students opportunities to correct each other's analysis.			
4. Asks students' reactions on a given situation.			
5. Provides students opportunities to put themselves in a given situation.			
6. Exposes students to situations that require them to think critically.			
7. Asks students to analyze problems that are needed to be solved.			
8. Uses inferential questions as guide for students in analyzing situation.			
9. Guides students to break down concepts that they are learning.			
10. Help students analyze clues and hints in treating various situations.			
C. Interpretation of Data	3	2	1
1. Uses data in teaching and learning instruction.			
2. Makes students analyze, evaluate and synthesize data integral in learning.			
3. Makes students collaborate with another.			
4. Facilitates small group discussion in interpreting data.			
5. Makes on-going use of data as part of the student's habits.			
6. Uses questions to prompt students' assertions and interpretations.			

7. Makes students see concepts from various perspectives during the interpretation of data.			
8. Presents data, either in tables, graphs and other illustrations for analysis.			
9. Makes students discriminate the content of data they are interpreting.			
10. Helps students implicate the data interpreted with other data.			
D. Panel Discussion	3	2	1
1. Presents an issue or topic involving an important conflict in values and/ or interest.			
2. Gives learners opportunity to take part on the roles to panel discussion.			
3. Asks students to provide legal bases about the topic on the panel discussion.			
4. Encourages students to perform collaborative work.			
5. Makes students express their ideas freely.			
6. Indicates objectives before starting the panel discussion.			
7. Helps students understand the need for fair procedures in discussing an issue or topic.			
8. Assists students in preparation for the discussion by directing them to various source materials, authorities in fields, etc.			
9. Makes students criticize important points to ponder.			
10. Makes student research certain topics before the discussion.			

Difficulties Encountered by Respondents in Developing Students' Critical Thinking Skills

Direction: The following are some of the difficulties encountered by teachers in developing students' critical thinking skills. Please check the appropriate score that corresponds to your difficulties being experienced.

Code	Description
3	Always
2	Sometimes
1	Never

Difficulties Encountered in Developing Students' Critical Thinking Skills	3	2	1
1. Poor vocabulary of the students.			
2. Lack of motivation and interest of students to become critical thinker.			
3. Failure to have sufficient time in discussing the lesson.			
4. Lack of time for preparing and planning critical thinking teaching methodologies, strategies, and techniques.			
5. Large class size.			
7. Lack of knowledge about the topic needed to be discussed.			
7. Poor performance of the students in the class.			
8. Failure of students to participate in the discussion.			
9. Poor study habits of the students.			
10. Failure to check misconception/misunderstanding of the students about the lesson.			

Measures to Develop the Students' Critical Thinking Skills

Direction: The following are some of the measures to develop students' critical thinking skills. Please check the appropriate score that corresponds to your answer in each item.

Code	Description
3	Always
2	Sometimes
1	Never

Measures to Develop Students' Critical Thinking Skills	3	2	1
1. Makes students read variety of books.			
2. Uses games like "brain twisters" in arousing the student's interest.			
3. Gives students some incentives as a motivation to participate in the class.			
4. Gives students adequate support to perform willingly on the classroom discussion.			
5. Asks divergent and thought-provoking questions.			
6. Explains further the lesson on the students to avoid misconceptions.			
7. Pays particular attention on the weakness and difficulties encountered by students in expressing			

their thoughts and discriminating other's thought.			
8. Provides alternative and authentic approaches, remediation and intervention to develop students' critical thinking.			
9. Improves students' cognitive complexities through formative and progressive activities towards becoming good critical thinkers.			
10. Makes students establish good habits of developing higher order thinking skills and analyzing situations.			

