

# Teachers' Questioning Style and Learning Behavior of Grade 12 Senior High School Students during Online Class in STI College Tagum

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**ABSTRACT**

**This study aimed to find out the relationship between teacher's questioning style with the indicators: focused questioning, challenging questions, stretching questions, probing questions, and learning behavior of students with the indicators: pessimistic behavior, optimistic behavior, trusting behavior, envious behavior. The study respondents were grade twelve senior high school students of STI College Tagum in the school year 2020-2021. It employed the descriptive correlational research method and utilized Mean and Pearson correlation ( $r$ ) as the statistical tools. The study results revealed that the level of teachers' questioning style under the four indicators is all high. This means that students experience the listed statements oftentimes. With regards to the level of the learning behavior of grade twelve students, Pessimistic and envious behavior marked as moderate, which means that the students were still undecided that they possessed this kind of behavior; Optimistic and Trusting behavior marked as high, which means that the students agree that they possessed this kind of behavior. This revealed that teachers' questioning styles have a significant relationship to the learning behaviors of Grade twelve Senior High School Students during Online Class and interpreted having a strong positive linear relationship. As a result, it is recommended that teachers ask questions that belong to HOTS (Higher Order Thinking Skills) that seek answers with the full use of the student's ability, imparting knowledge and understanding beyond what is expected for them to implement.**

## **CHAPTER 1**

### **THE PROBLEM AND RELATED LITERATURE**

#### **Introduction**

To continue learning in this trying time is the Department of Education's goal to give quality education to all. Further, Croxton (2014) added that online learning is still expected to continue holding a major higher learning place through education. Also, behavior towards learning has always been the best subject for research and psychologists; it may be developed innately or learned from the environment. Thus, molding students to have a positive outlook and good behavior towards learning will help them learn and love their enrolled subjects.

Following the United States report about online learning, Allen and Seaman (2013) reported that during Fall 2012, over 6.7 million students were taking at least one online course, representing 32% of all higher education students. This figure represents an increase of more than 570,000 students over the number reported the previous year. That is a 9.3% growth rate for online enrollment that far exceeds the less than 2% growth of the higher education student population. This means that it is up to the institution's strategy and the teachers' technique to increase students' enrollment and learn in an online class. Mahle (2011) suggested that online courses with high interactivity levels would result in higher levels of students' motivation, improved learning outcomes, and satisfaction rather than having fewer interactive learning environments.

Meanwhile, in the Philippines, Raga, R.C, and Estacio, R.R (2017) numerous notable higher educational institutions have started to implement web-based learning environments capable of delivering online education in a blended learning academic setting. Prasad (2015) added that Blended learning, which is also called hybrid learning or mixed-method learning, involves both face-to-face classroom-style instruction as well as the use of online methods. Moreover, in implementing blended learning like a web-enabled tool or learning management system (LMS) is sometimes utilized to design a particular course in asynchronous mode, Moodle – a software, a free, open-source package which is widely used by the educators to create online courses (Borromeo, 2013; Maila et al., 2014; López et al., 2016).

In a study at Davao Del Sur, Sobejana (2016) identified that HEI's in Davao Del Sur exhibited a high level on the use of e-learning characteristics, especially on the use of the online platform in terms of learner-hardware interaction, learner-faculty interaction, learner-software interaction, collaborations among learners, and provision of learning activities. Asahid, R.L. (2018) added that instructors' responses to the learners' open-ended questions would gauge changes in their online learning perceptions. Hence, the Instructor's influence, especially in giving quick, spontaneous, unprompted, and informal feedback, had an essential contribution to developing and shaping the learners' ideas.

It has been observed that most of the students do have a negative behavior towards learning things independently since they were enrolled in primary school, having lessons evolving from the simplest one going to the complex one. The more negative experiences and emotional dispositions gave to them by the people around them, especially by the subjects being said, the more impossible it is for them to learn the easier way, efficiently, and effectively. Carrying out this kind of problem with regards to the behavior of the students towards learning in this new normal having the online learning as the new modality, this study aimed to know whether the questioning styles of the teachers during the synchronous consultation/meeting can help the senior high school students of STI College Tagum in yielding for a better behavior towards learning amidst the global crisis.

## Review of Related Literature

Presented in this section are the topics related to the study. First is the independent variable- the teachers' questioning style: a) Focused Questions, b) Challenging Questions, c) Stretching Questions, and d) Probing Questions. The second part is about the dependent variable, which is the Learning Behavior of Grade 12 Senior High School Students during online class with its indicators, which are: a) Pessimistic Behavior, b) Optimistic Behavior, c) Trusting Behavior, and d) Envious Behavior.

## Teachers' Questioning Style

As defined by Chidongo (2013), questioning is one of the most frequently employed teaching strategies. He also recommended that prospective teachers must be exposed to and be trained intensively on how to apply various questioning strategies as early as student teaching. This is because the teacher's lack of knowledge about questioning can greatly affect the methods and ask questions. Also, he recommended that questions must be emphasized and should be intensively given during teacher preparation. Shahrill (2013) viewed that questioning is a method used by teachers to examine if students were listening and checking whether students have learned and understood the concepts and ideas taught to them and added that researchers typically classified questions according to their cognitive levels.

Cunningham (1987), Wilen (1991), and Ellis (1993), as cited by Shahrill (2013), examined the roles of questioning in the classroom. They have concluded that teachers' questions stimulate students' interest in the subject, encourage participation, and promote student concentration on the given task. Through questioning, students can contribute to formulating solutions to an issue or problem presented, thus building up their confidence.

The independent variable for this study is the teachers' questioning style. According to the National Society for Education in Art and Design (2009), teachers' questioning style consists of the following indicators: **Focused Questions** are those questions on how a student responds correctly to a sequence of questions; **Challenging Questions** are the questions that encourage students to connect and identify complex questions and to illustrate a concept with one or more examples or more possible outcomes; **Stretching Questions** are those questions who look for answers at the limit of ability, knowledge or understanding of the students; and **Probing Questions** which refers to questions when they encourage the students to speak and express their ideas from a certain topic and to elaborate or improve an idea to give additional inputs to a point already expressed.

### **Focused Questions**

As defined by the National Society for Education in Art and Design (2009), focused questioning is a questioning style used to determine how knowledgeable the students are in a certain topic. This questioning style requires students to recall their prior knowledge. Thus, it can be considered as an open-ended question. To put it simpler, focusing starts from general or broader knowledge to more specific ones. Having such characteristics, it turns out that the teacher, when focusing, should adjust her succeeding questions to the responses of the students to guide and help them progressively construct an outline of ideas.

A sequence of questions such as, "What does this work tell us about how well the student understands the topic of the assignment?", "Is the work good enough?", "What is 'good enough'?", "In what ways does this work meet or fail to meet a particular set of standards?" belongs to this teachers' questioning style, according to National School Reform Faculty (2017).

### **Challenging Questions**

As defined by the National Society for Education in Art and Design (2009), challenging questions are used by the teacher to examine students' reasoning skills. Reasoning skills can be described by terms such as "problem-solving, critical thinking, analysis, comparing, higher-order thinking skills, and judgment" (Reganit, Elicay, and Laguerta, 2010). These problems maximize their critical thinking ability and trigger

creativity. Gone are the days when judgment directly gives the solution to a problem and students passively accept it. Teachers must learn how to elicit the answer from the students.

Challenging questions encourage students to link different concepts to provide proof and to support their previous assumptions. Besides, these questions will lead the students to form predictions and provide illustrations of the concepts using various examples (National Society for Education in Art and Design, 2009).

Examples of challenging questions include, "What made you decide to use that way of solving the given problem?" and "What if people did not discover the Theories, would the Laws and methods will still exist?".

### ***Stretching Questions***

Teachers should formulate questions that invite students to think "outside the box," such questions that do not limit the discussion's direction (Neal, 2017). Teachers must utilize the issues, problems, and situations in society in forming questions that could make sense of the principles, theories, and even mathematical formulas that the students have learned in school. These questions are what we called stretching questions.

The National Society for Education in Art and Design (2009) defined stretching questions as questions used by the teacher when seeking the extended answer to apply a certain principle or theory to another situation. Usually, these situations are existing in the real-life setting and ought to be contextualized so that students could relate and see their relevance. Answers to this type of question are expressed as "transformation of information to another form, comparison, or analogy." Thus, it is safe to say that the stretching question could also be termed as an application or extension question.

Application or extended questioning is branded as "deeper learning" (Corley and Rauscher, 2013). Deeper learning is the process by which the students can transfer knowledge and skills into a new situation.

A question like "How does a certain concept works and when does it not?" belongs to this type of question.

### ***Probing Questions***

Franke et al. (2009) showed that probing questions are used by a teacher when a student tends to provide an ambiguous, incomplete, or incorrect response. Thus, it seeks to encourage students to express themselves, say more about their learning, and add more detail to a point already expressed.(National Society for Education in Art and Design, 2009).

According to Grove and Frazer (2008), a good probing question has the following characteristic: it permits multiple responses - this implies that teachers can probe not only a single student but also the whole class. As a result, students are encouraged to share their different perspectives on the problem or issue at hand. Another is that a well-constructed probing question should empower the student to solve the problem on his own rather than automatically.

Series of questions like "When does that principle apply?", "Always? Only under certain conditions?", and "Would you say, then, that you disagree with the author?" are examples of probing questions.

### **Learning Behaviors of Senior High School Students during Online Class**

Behavior is the actions or reactions of a person in response to the stimulus situation, be it external or internal, Sayed (2014).

According to Fatima (2019), This is crucial to discuss and explore to understate the human's mental state. She also added that it would be simple to understand how people behave in any situation in understanding humans' behavior. Herewith are the identified behaviors of the people living in the world: A **pessimistic person** may doubt things around him or her, but this person can be optimistic in some situations. An **optimistic person** stays confident and hopeful in all situations and keeps trying things out no matter how hard circumstances are. Another one is the **trusting person** who trusts others easily without proving that they are trustworthy. **Envious people** are not close ones; they are outgoing and can be supportive as well.

The following indicators will help enhance or improve the dependent variable: the Learning behaviors of Senior High School Students during Online classes. Virgili, R.I, and Zaragoza (2016) organized a computer-based survey. They have identified that 90% of people actually formed four groups which have four different types of behavior: 20% are those people who have **Pessimistic behavior**, who chooses options which are lesser between the two evils; next are the people who have **Optimistic behavior**, who believe that they and their partner will make the best choice for both of them having 20% of the 90%; another 20% are those people who have **Trusting behavior**, who are born collaborators and who will always cooperate and who don't really mind if they win or lose; and the largest group, accounting for 30%, having **Envious behavior** are those people who don't actually mind what they achieve, as long as they're better than everyone else.

### ***Pessimistic Behavior***

Carver, C. S. et al. (2010) believed that pessimists are more those who are not engaging in any activities, withdrawn to give effort, and coping with denial and wishful thoughts in mind. Moreover, Virgili, R.I, and Zaragoza (2016) recognized that 20% out of 90% are those people who select the option which they see as the lesser of two evils, to the extent that it may not be the best, but at least it is better than the worst thing to happen.

Heinstorm (2010) concluded that people who have pessimistic behavior were generally assumed to be more on negative valence and highly suspicious of missing information. These people are more likely hesitant in deciding with no relevant information available and brooded over possible negative consequences of such a choice.

In connection to this, I have categorized this behavior to anchor all the questions, particularly to the first Dimension of Teaching and Learning, which is Purpose – talking about the standards based on the grade level and skills that must possess after every class and its learning target and teaching points that must be measurable and attainable with a short span of time (Center for Educational Leadership, 2012).

### ***Optimistic Behavior***

Carver and Scheier (2014) said that optimism is a paradigm that elucidates the significance of recognizing that cognitive, emotional, and motivational processes. Additionally, Virgili, R.I, and Zaragoza (2016) identified that there are 20% people out of 90% belongs to this type of behavior are those who believe that they will make the best choice for them, always been positive of what is yet to come, it may have a negative or positive impact.

Beheshtifar (2013) concluded that optimism maintains a positive attitude and has a bright outlook in life amidst hardships and difficulties. Others may say that it exists primarily just in our minds, but it is also possible to say that it is a product of social interaction and experience. The two perspectives in optimism – psychological and social – allow us to balance this type of people approach.

In connection to this, I have categorized this behavior to anchor all the questions, particularly to the Second Dimension of Teaching and Learning, which is Student Engagement – talking about the intellectual



work, engagement strategies, and talk between the student and the teacher (Center for Educational Leadership, 2012).

### ***Trusting Behavior***

Virgili, R.I, and Zaragoza (2016) classified that another 20% are those people who are born collaborators, people who love to participate and be with others even though there is something unlikely to happen, and people who don't really mind if they win or lose.

Kurnianingsih, S., Yuniarti, K.W., Kim, U. (2012) stated that the students trust the teachers because their ability, meaningful knowledge, and intentions are solely to give their needs the classroom setting and be a friend to the students. The students have trust with the teachers because of their role and positions that ranked as the third from the highest one – not far from this category is that they viewed teachers working without expecting anything in return. He also added that teachers' function to facilitate the students in achieving a particular event made them more trustworthy in the students' eye.

In connection to this, I have categorized this behavior to anchor all the questions particularly to the Third Dimension of Teaching and Learning, which is Curriculum and Pedagogy – talking about the curriculum itself, the teaching approaches and/ or strategies, and scaffolds for learning (Center for Educational Leadership, 2012).

### ***Envious Behavior***

Sitinjak (2016) stated that envious behavior of students will sum-up and lead them to a sense of innovation and desiring to learn more to the extent that these have a positive aim in improving the students' academic performance so that each one of them can compete and match the person who made the comparison. In contrast, this behavior would lead the student to a negative impact on others. This would cause them too much pressure to the point that they would become easily frustrated whenever they will fail for something they expected to win.

Rodriguez Mosquera et al. (2010) confirmed this view in two studies that indicated that being envied had a positive outcome like increased self-confidence and a negative outcome like fear of ill will from others. To further discuss, Virgili, R.I, and Zaragoza (2016) have identified that this type of behavior got the largest group of people, accounting for 30%, people who are mindful of other people's accomplishment and don't really mind what they have achieved, as long as they're better than everyone else because the competition is their type of living.

In connection to this, I have categorized this behavior to anchor all the questions, particularly to the fourth Dimension of Teaching and Learning, which is Assessment for Student Learning – talking about the assessment on what kind of assessment tool to administer if ever I have chosen already, I should make sure that this kind of tool would measure the objectives of the lesson and adjustments for the deadlines especially extending the day for the formative and summative test and give feedback from time to time and giving them their grade from time to time (Center for Educational Leadership, 2012).

### **Theoretical Framework**

This study is anchored to the theory of human ecology by Urie Brofenbrenner (1989); the youth is in the middle of the microsystem and exposed to environmental factors such as family, peers, school, and religious settings. These factors will influence and become a part of the elements for behavior development. Furthermore, in his Bioecological theory of development in 1998, he stated that child development occurs through the interaction between the child and the persons, objects, and symbols in its environment. Additionally, Patel (2011) stated that the environment influences the development of the child. This means that the development of a child only arises when there is an interaction between its environment. The child's development includes the development of his/ her behavior, which can be associated with the events

happening in his/ her environment. The events that occur in the environment influence the development of the child in all aspects. Basically, the environment refers to all the child's actual experiences that include his/ her experience in school. Teachers, classmates, and the school greatly impact the child since they are the makeup of a student's environment. They are the contributors of students' disposition towards the subject matter, a positive attitude of a child particular (Candejas, Rebejo, & Oliviera, 2009).

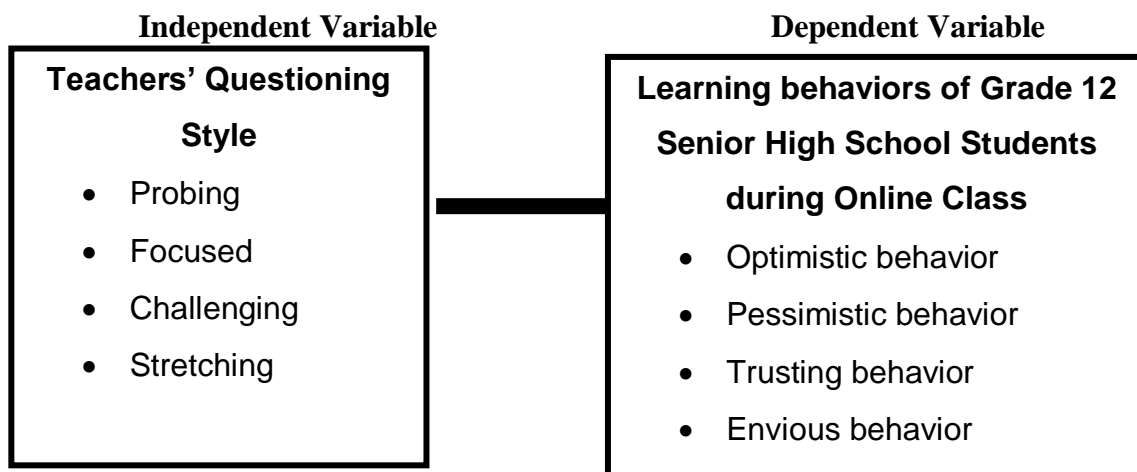
This theory has four distinct concentric systems, the microsystem, mesosystem, exosystem, and macrosystem; each system influences the child's development. Meanwhile, according to Paquette & Ryan (2015), most of the child's behavior is influenced by the microsystem. The microsystem is the most immediate and influential on the child. It has direct contact with the childlike school. The teachers make use of different teaching styles that engage the students in the learning process. According to Gill (2013), every teacher with classroom teaching experiences has a unique teaching style. The teacher's effective teaching style engages the students in the learning process; one of the teaching styles that help the students engage in the learning process is the teacher's questioning style. Teachers' questions are instructional cues that convey to students the content elements to be learned and directions for what they are to do and how they will do it.

This study is also supported by behavioral theory, which states that students' behaviors are caused by external stimuli or environment. One of the external stimuli is the teacher's teaching style, and one of the teaching styles includes the teacher's questioning style, which is to guide the students' learning process. According to McLeod (2020), behaviorists believe and are always concerned with the role of environmental factors that influenced the person's behavior, to the near exclusion of innate or inherited factors. With this, it emphasizes amounts essentially to focus on learning.

**Conceptual Framework**

This study examines the relationship between teachers' questioning style/s and Learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum.

Figure 1 below shows the conceptual framework of the study.



**Figure 1.** The Conceptual Framework Showing the Variables of the Study



### **Statement of the Problem**

The researchers aim to seek answers to the following questions:

1. What is the level of identified teachers' questioning style when asking the students in terms of:
  - a) Focused Questions;
  - b) Challenging Questions;
  - c) Stretching Questions; and
  - d) Probing Questions?
2. What is the level of identified learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum in terms of:
  - a) Pessimistic behavior;
  - b) Optimistic behavior;
  - c) Trusting behavior; and
  - d) Envious behavior?
3. Is there a significant relationship between the teachers' questioning style/s and learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum?

### **Null Hypothesis**

There is no significant relationship between the teachers' questioning style/s and learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum.

## CHAPTER 2 METHOD

This chapter presents the methodology used of this research; this includes the following: Research Design, Research Respondents, Sampling Design, Research Instrument, Data Gathering Procedure, and Data Analysis. It would guide the readers to understand where and how the study was conducted.

### Research Design

This study will employ a quantitative research method, a non-experimental design with a descriptive-correlational method. Quaranta (2015) noted that the researchers used the descriptive correlational study to describe relationships among variables without establishing a causal connection. In this study, the researcher will utilize this type of research to determine the relationship between teachers' questioning style and the learning behavior of grade 12 senior high school students in the online classroom.

### Research Respondents

The respondents involved in the study were the senior high school students of STI College Tagum. The estimated total population enrolled in the Senior High School department is 240 Grade 12 students having 4 sections. However, only 10% or 24 students out of the total population were chosen as the study respondents.

According to Cole, Mahar, and Vindurampulle (2006), adolescents' actions and experiences were significantly influenced by the brain's development. They think more complex than they do, and they have the capacity to regulate and organizing their own learning. Therefore, the Grade 12 students are qualified to be the respondents of this research because of these reasons.

The distribution of the respondents is shown in Table1.

**Table 1** Distribution of the Respondents

Section	Respondents	Percent of Respondents Distribution
Cerulean	6	2.5%
Persimmon	6	2.5%
Chartreuse	6	2.5%
Burgundy	6	2.5%
Total	24	10%

### Sampling Design

The study respondents were chosen through stratified random sampling, a sampling that selects representative samples, which ensures that each member of a population has an equal chance of being selected as a sample. Twenty-four (24) respondents of grade 12 senior high school departments are randomly selected to answer both teachers' questioning style and Learning Behavior of Grade 12 Senior High School Students during online class survey questionnaire. Six (6) students were identified randomly in every section as respondents.

### Research Instrument

The researcher used two researcher-made questionnaires about the teachers' questioning style and Learning Behavior of Grade 12 Senior High School Students during online class in STI College Tagum.

The researchers will use the validated researcher-made questionnaire to gather all the data for independent and dependent variables: the level of complexity of the teachers' questions and the students' frequently shown behaviors. An expert will validate the questionnaires for the correction of their content and grammar. A pilot test was conducted, which was participated by 24 senior high school students of STI College Tagum.

Furthermore, the first survey questionnaire will consist of 20 items measuring the teachers' questioning style variable. It is divided into four indicators: Focused questioning with 5 item statements, Challenging questions with 5 item statements, Stretching questions with 5 item statements, and Probing questions with 5 item statements.

After the students answered all the items, it was calculated and resulted in a 4.57 (Very Good) validity and reliability of 0.884 (Good). Each item was rated with a scale of 1- 5 in rating the teachers' questioning style. The responses followed the following numerical value and descriptive equivalents.

Numerical Value	Descriptive Equivalent	Interpretation
5	Always	The item statement is all times experienced/observed, like 10 out 10 occasions.
4	Oftentimes	The item statement is frequently experienced/observed, like 8 out 10 occasions.
3	Sometimes	The item statement is occasionally experienced/observed, like 5 out of 10 occasions.
2	Rarely	The item statement is seldom experienced/observed, like 3 out of 10 occasions.
1	Never	The item statement is not experienced/observed at all, like 0 out 10 occasions.

The table below further interpreted the response of each item statement accordingly. The range of means stated below is the basis of responses in all item indicators.

Range of Means	Descriptive Equivalent	Interpretation
4.50 to 5.00	Very High	This means that the teachers' questioning style statement is always experienced/ observed.
3.50 to 4.49	High	This means that the teachers' questioning style statement is oftentimes experienced/ observed.
2.50 to 3.49	Moderate	This means that the teachers' questioning style statement is sometimes experienced/ observed.
1.50 to 2.49	Low	This means that the teachers' questioning style statement is rarely experienced/ observed.
1.01 to 1.49	Very Low	This means that the teachers' questioning style statement is never experienced/ observed.

The second survey questionnaire will also consist of 20 items measuring senior high school students' learning behavior in online classroom variables. It is divided into four indicators: Pessimistic behavior with 5 item statements, Optimistic behavior with 5 item statements, Trusting behavior with 5 item statements, and Envious behavior with 5 item statements.

After the students answered all the items, it was calculated and resulted in a 4.57 (Very Good) validity and reliability of 0.712 (Acceptable).

Response for each item indicator used the given scale, descriptive equivalent, and interpretation.

Numerical Value	Descriptive Equivalent	Interpretation
1	Strongly Disagree	This means that you fully disagree with the statement regarding your behavior during the synchronous consultation/meeting.
2	Disagree	This means that you disagree with the statement regarding your behavior during the synchronous consultation/meeting.
3	Neutral/Undecided	This means that you neither agree nor disagree with the statement regarding your behavior during the synchronous consultation/meeting.
4	Agree	This means that you agree to the statement regarding your behavior during the synchronous consultation/meeting.
5	Strongly Agree	This means that you fully agree to the statement regarding your behavior during the synchronous consultation/meeting.

Along with the survey, the researcher developed a range of means reflecting senior high school students' learning behavior in an online classroom.

Range of Means	Descriptive Equivalent	Interpretation
4.50 to 5.00	Very High	This means that the students strongly agree that they possessed this kind of behavior.
3.50 to 4.49	High	This means that the students agree that they possessed this kind of behavior.
2.50 to 3.49	Moderate	This means that the students were still undecided that they possessed this kind of behavior.
1.50 to 2.49	Low	This means that the students disagree that they possessed this kind of behavior.
1.01 to 1.49	Very Low	This means that the students strongly disagree that they possessed this kind of behavior.

### **Data Gathering Procedure**

The researcher wrote a letter to the school principal of STI College Tagum asking for permission and recommendation to conduct a study on the Senior high school students.

The researcher used two researcher-made questionnaires that will satisfy the instrument needed for this research. First, the researcher ensured that the expert validated the survey questionnaire to correct its content and grammar. Then, conducted a pilot study to measure test questionnaires' reliability. After knowing the reliability, the researchers pursue the study by using the tested questionnaires. The researcher formally approached the selected students in the Senior High School Department for the study's conduct. The researcher presented the letter of approval from the school principal asking the respondents to participate in the study before conducting the survey. The respondents were instructed to have a maximum of 30 minutes or less to accomplish the test questionnaires. The tests were conducted during the student's convenient time for it was done through MS form, and the gathering of data lasted for almost 3 days.

The test questionnaires were automatically collected right after the respondents completely answered the survey. After the researcher gathered the data, the researchers tallied the result, which was subjected to computation using the statistical tool chosen to determine the level of complexity of the teachers' questions, the students' frequently shown behaviors, and the significant relationship between them the two variables.

After gathering all the needed data, it was analyzed based on frequencies and was tabulated using the desired statistical tools.

### **Data Analysis**

In the analysis of data, the researcher employed the following statistical tools: *Mean*. The researcher used this to answer problem 1, to determine the level of teachers' questioning style that the teachers are using when asking the students in terms of focused questioning, challenging questions, stretching questions, and probing questions. It was also used to answer question number 2, to identify the level of learning behaviors of senior high school students during online class in STI College Tagum in terms of pessimistic behavior, optimistic behavior, trusting behavior, and envious behavior.

*Pearson Correlation (r)*. The researcher used this to answer problem 3 to verify whether the teachers' questioning style and its indicator will affect the learning behaviors of senior high school students during online class in STI College Tagum.

### CHAPTER 3 RESULTS AND DISCUSSION

Presented in this section are the results of the study consolidated from the two researcher-made survey questionnaires. Results are presented and analyzed by getting the means of every item per indicator. The teachers' questioning style indicators were also correlated to the Learning Behavior of Grade 12 Senior High School Students during online class to know its relationship. The analysis will serve as the answers to the problems pointed in Chapter 1.

#### Teachers' Questioning Style in terms of Focused Questions

Results of this area are shown in Table 2.1 with mean scores ranging from 3.75 – 4.33. Presented of this indicator are five statements with their respective mean scores as follows: The teacher starts questioning that would recall the discussed concept through the WH's questions, 3.75 (*High*); the teacher relates the new lesson to the previous lesson when we are confused about it, 4.21 (*High*); the teacher tests our understanding about the topic by letting us explain the gist of the topic in our own words, 4.33 (*High*); the teacher asks question/s about the previous topic when the discussion is just a continuation, 4.25 (*High*); the teacher asks simple questions first about the topic before proceeding to more difficult ones, 4.21 (*High*). The over-all mean is 4.15, described as *High*. All the items for Focus questions are high, wherein item 3 obtained the highest rank and item 1 as the lowest.

From the data, it can be noted that the students experience the listed items oftentimes. The result implies that the students were already experiencing these kinds of questions during an online class. Hence, according to the National Society for Education in Art and Design (2009), it is very wise if focused questions will throw this kind of questioning part of a review to determine how knowledgeable students are in that certain topic. With this strategy, a teacher will determine if the class can proceed to another topic since the teachers will measure the mastery of the topic through these kinds of questions.

**Table 2.1** Teachers' Questioning Style in terms of Focused Questions

Item	Mean	Descriptive equivalent
Our teacher ...		
1. starts questioning that would recall the discussed concept through the WH's questions.	3.75	High
2. relates the new lesson to the previous lesson when we are confused about it.	4.21	High
3. tests our understanding of the topic by letting us explain the gist of the topic in our own words.	4.33	High
4. asks question/s about the previous topic when the discussion is just a continuation.	4.25	High
5. asks simple questions first about the topic before proceeding to more difficult ones.	4.21	High
<b>Over-all Mean</b>	<b>4.15</b>	<b>High</b>

#### Teachers' Questioning Style in terms of Challenging Questions

Results of this area are shown in Table 2.2 with mean scores ranging from 4.04 – 4.59. Presented of this indicator are five statements with their respective mean scores as follows: The teacher asks questions that encourage us to connect and reorganize complex information, 4.17 (*High*); the teacher asks the basis of our solutions, 4.04 (*High*); the teacher asks the possible outcomes of a given problem, 4.04 (*High*); the teacher asks us to illustrate an identified concept with one or more examples, 4.04 (*High*); the teacher asks our own idea on the given situation 4.69 (*Very High*). The over-all mean is 4.18, described as *High*. All the



Challenging questions are described as high, wherein item 10 obtained the highest rank and items 7, 8, and 9 as the lowest.

From the data, it can be noted that the students experience the listed items oftentimes. The result implies that the students were already experiencing these kinds of questions during an online class. As to link the result to Reganit et al. (2010), these questions are encouraged to be thrown during class instructions because from a certain concept; there will be a connection to another concept to provide proof and support assumptions. For instance, this kind of questioning is commonly applied when discussing theorems and corollaries in mathematics. So, the reasoning skill of the students will be assessed and enhanced.

**Table 2.2** Teachers' Questioning Style in terms of Challenging Questions

Item	Mean	Descriptive equivalent
Our teacher ...		
6. Asks questions that encourage us to connect and reorganize complex information.	4.17	High
7. asks the basis of our solutions.	4.04	High
8. asks the possible outcomes of a given problem.	4.04	High
9. asks us to illustrate an identified concept with one or more examples.	4.04	High
10. asks our own idea on the given situation.	4.59	Very High
<b>Over-all Mean</b>	<b>4.18</b>	<b>High</b>

### Teachers' Questioning Style in terms of Stretching Questions

Results of this area are shown in Table 2.3 with mean scores ranging from 3.50 – 4.04. Presented of this indicator are five statements with their respective mean scores as follows: The teacher asks us how we can apply the concept/s we have learned in a real-life situation, 4.04 (*High*); the teacher asks us to give real-life scenarios that suit the concept/s being discuss, 3.92 (*High*); the teacher asks us to relate the specific lesson to our daily life battle, 3.67 (*High*); the teacher let us compare the difference and similarities between the previous and the present topic, 3.50 (*High*); the teacher asks us when does a certain concept work and when it does not, 3.67 (*High*). The over-all mean is 3.75, described as *High*. All the Stretching questions are described as high, wherein item 11 obtained the highest rank and item 14 as the lowest.

From the data, it can be noted that the students experience the listed items oftentimes. The result implies that the students were already experiencing these kinds of questions during an online class. As to link to Neal (2017), these questions are greatly encouraged to be formulated during instruction since through these questions, students can think outside the box. The context of the topic does not only limit to book-text definitions and rote- memorizations. The teachers will conceptualize the real scenarios to make sense of the mathematical theories and principles (abstract concepts).

**Table 2.3** Teachers' Questioning Style in terms of Stretching Questions

Item	Mean	Descriptive equivalent
Our teacher ...		
11. asks us how we can apply the concept/s we have learned in a real-life situation.	4.04	High
12. asks us to give real-life scenarios that suit the concept/s being discuss.	3.92	High
13. asks us to relate the specific lesson to our daily life battle.	3.67	High
14. let us compare the difference and similarities between the previous and the present topic.	3.50	High
15. asks us when does a certain concept work and when it does not.	3.67	High
<b>Over-all Mean</b>	<b>3.75</b>	<b>High</b>

### Teachers' Questioning Style in terms of Probing Questions

Results of this area are shown in Table 2.4 with mean scores ranging from 3.71 – 4.33. Presented of this indicator are five statements with their respective mean scores as follows: The teacher calls for multiple answers from different students for a single question, 4.33 (*High*); the teacher asks us a question, and if we can answer, he/she asks us to elaborate our answer, even more, 4.29 (*High*); the teacher asks us to give more specific details about the solution, 4.13 (*High*); the teacher asks our point of views about a certain idea whether we agree or not or when is it applicable, 4.21 (*High*); the teacher asks us when does this specific concept can be applied, 3.71 (*High*). The over-all mean is 4.13, described as *High*. All the Probing questions are described as high, wherein item 16 obtained the highest rank and item 20 as the lowest.

From the data, it can be noted that the students experience the listed items oftentimes. The result implies that the students were already experiencing these kinds of questions during an online class. As to link to Franke et al. (2009), this kind of question is considered the common questions yet very effective, particularly in the analysis part. Through this series of follow-up questions, students will refine their statements and ideas, especially during concept building. A teacher can call another student to refine the statement leading to the most accurate concept from already expressed ideas. Instead of spoon-fed instruction, this kind of instruction is more encouraged, which will test the students' comprehension level.

**Table 2.4** Teachers' Questioning Style in terms of Probing Questions

Item	Mean	Descriptive equivalent
Our teacher ...		
16. calls for multiple answers from different students for a single question.	4.33	High
17. asks us a question, and if we can answer, he/she asks us to elaborate our answer even more.	4.29	High
18. asks us to give more specific details about the solution.	4.13	High
19. asks our point of view about a certain idea whether we agree or not or when it is applicable.	4.21	High
20. asks us when does this specific concept can be applied.	3.71	High
<b>Over-all Mean</b>	<b>4.13</b>	<b>High</b>

### Learning Behavior of Grade 12 Senior High School Students during online class in terms of Optimistic Behavior

Results of this area are shown in Table 2.5 with mean scores ranging from 2.25 – 4.33. Presented of this indicator are five statements with their respective mean scores as follows: As a student, I participate because I know I will be rewarded and will receive good grades, 4.33 (*High*); As a student, I do not bother asking questions because I prefer self-understanding, I connect previous and present lesson, 3.08 (*Moderate*); As a student, I do not ask clarification and queries, it will just waste time, 2.25 (*Low*); As a student, I appreciate achieving the target goals on my own rather than disturbing my teachers and classmates, 3.63 (*High*); As a student, I prefer asynchronous quizzes rather than oral recitation during synchronous class, 3.79 (*High*). The over-all mean is 3.42, described as *Moderate*. All the Optimistic Behavior items are described as high, wherein item 3 obtained the highest rank and item 1 as the lowest.

**Table 2.5** Learning Behavior of Grade 12 Senior High School Students during online class in terms of Optimistic Behavior

Item	Mean	Descriptive equivalent
As a student,		
1. I participate because I know I will be rewarded and will receive good grades.	4.33	High
2. I do not bother asking questions because I prefer self-understanding; I connect previous and present lessons.	3.08	Moderate
3. I do not ask for clarification and queries; it will just waste time.	2.25	Low
4. I appreciate achieving the target goals on my own rather than disturbing my teachers and classmates.	3.63	High
5. I prefer asynchronous quizzes rather than oral recitation during synchronous classes.	3.79	High
<b>Over-all Mean</b>	<b>3.42</b>	<b>Moderate</b>

**Learning Behavior of Grade 12 Senior High School Students during online class in terms of Pessimistic Behavior**

Results of this area are shown in Table 2.6, with mean scores ranging from 3.04 – 4.29. Presented of this indicator are five statements with their respective mean scores as follows: As a student, I am willing to cooperate in the activities even if it is not graded, 4.00 (*High*); As a student, I still see rejections of answer as a good way telling me to change my answer, 4.25 (*High*); As a student, I love the idea that my teacher recognizes my answers even if it is too far from what is right, 4.08 (*High*); As a student, I ask clarification and queries for me to learn from different ideas - teachers & classmates, 4.29 (*High*); As a student, I always ask questions during synchronous class as an evidence of engagement and participation, 3.04 (*Moderate*). The over-all mean is 3.93, described as *High*. All the Pessimistic Behavior items are described as high, wherein item 10 obtained the highest rank and item 9 as the lowest.

**Table 2.6** Learning Behavior of Grade 12 Senior High School Students during online class in terms of Pessimistic Behavior

Item	Mean	Descriptive equivalent
As a student,		
6. I am willing to cooperate in the activities even if it is not graded.	4.00	High
7. I still see rejections of answers as a good way of telling me to change my answer.	4.25	High
8. I love the idea that my teacher recognizes my answers even if it is too far from what is right.	4.08	High
9. I ask clarification and queries for me to learn from different ideas - teachers & classmates.	4.29	High
10. I always ask questions during synchronous class as evidence of engagement and participation.	3.04	Moderate
<b>Over-all Mean</b>	<b>3.93</b>	<b>High</b>

### Learning Behavior of Grade 12 Senior High School Students during online class in terms of Trusting Behavior

Results of this area are shown in Table 2.7 with mean scores ranging from 4.08 – 4.54. Presented of this indicator are five statements with their respective mean scores as follows: As a student, I appreciate having online presentation & handout as a sort of discussion, 4.17 (*High*); As a student, I love the role of the teacher that they recognize different learning needs, 4.54 (*Very High*); As a student, I give credits to my classmates and speak about them especially in group works, 4.17 (*High*); As a student, I understand my classmate's thoughts and feelings before I diagnose and give advice, 4.21 (*High*); As a student, I trust my capability and so the teacher that is guiding me and the given materials that is enough to satisfy our needs, 4.08 (*High*). The over-all mean is 4.23, described as *High*. All the items for Trusting Behavior are described as high, wherein item 12 obtained the highest rank and 15 as the lowest.

**Table 2.7** Learning Behavior of Grade 12 Senior High School Students during online class in terms of Trusting Behavior

Item	Mean	Descriptive equivalent
As a student,		
11. I appreciate having an online presentation & handout as a sort of discussion.	4.17	High
12. I love the role of the teacher in that they recognize different learning needs.	4.54	Very High
13. I give credits to my classmates and speak about them, especially in group works.	4.17	High
14. I understand my classmate's thoughts and feelings before I diagnose and give advice.	4.21	High
15. I trust my capability, and so the teacher that is guiding me and the given materials that is enough to satisfy our needs.	4.08	High
<b>Over-all Mean</b>	<b>4.23</b>	<b>High</b>

### Learning Behavior of Grade 12 Senior High School Students during online class in terms of Envious Behavior

Results of this area are shown in Table 2.8 with mean scores ranging from 1.67 – 4.46. Presented of this indicator are five statements with their respective mean scores as follows: As a student, I do not give credits to my classmate's works, especially that I know he is vying to become an honor student, 1.67 (*Low*); As a student, I do not give clues with the asynchronous quizzes and ideas in essay type of question to my classmates because they are my competitors, 1.75 (*Low*); As a student, I feel uncomfortable during synchronous class especially that it is an abrupt oral quiz/ on the spot oral recitation, 3.50 (*High*); As a student, I like that my teacher considers my situation especially in passing activities beyond the deadline, 4.46 (*High*); As a student, I always finish every task and activity early to be recognized as most active & punctual, 2.92 (*Low*). The over-all mean is 2.85, described as *Moderate*. All the Envious Behavior items are described as high, wherein item 19 obtained the highest rank and item 16 as the lowest.

**Table 2.8** Learning Behavior of Grade 12 Senior High School Students during online class in terms of Envious Behavior

Item	Mean	Descriptive equivalent
As a student,		
16.I do not give credits to my classmate's works, especially that I know he is vying to become an honor student.	1.67	Low
17.I do not give clues with the asynchronous quizzes and ideas in essay type of question to my classmates because they are my competitors.	1.75	Low
18.I feel uncomfortable during synchronous class, especially that it is an abrupt oral quiz/on-the-spot oral recitation.	3.50	High
19.I like that my teacher considers my situation, especially in passing activities beyond the deadline.	4.46	High
20.I always finish every task and activity early to be recognized as most active & punctual.	2.92	Moderate
<b>Over-all Mean</b>	<b>2.85</b>	<b>Moderate</b>

**Level of Identified Teachers' Questioning Style when asking the students during online class**

Results of this area are shown in Table 3.1, with mean scores ranging from 3.76 – 4.18. Presented of this variable are 4 indicators identified by the National Society for Education in Art and Design (2009) with their respective mean scores are as follows: The Focused Questions with the mean of 4.15 having the descriptive equivalent of *High*; The Challenging Questions with the mean of 4.18 having the descriptive equivalent of *High*; The Stretching Questions with the mean of 3.76 having the descriptive equivalent of *High*; The Probing Questions with the mean of 4.13 having the descriptive equivalent of *High*.

The over-all mean is 4.05, described as *High*. All the teachers' Questioning Style indicators are high, wherein indicator 2 (Challenging Question) obtained the highest rank and indicator 3 (stretching questions) as the lowest.

In addition, Mutai (2010) emphasized that Challenging questions could trigger critical thinking, especially when a student is being activated through questions that elicit answers from higher-level thinking; this will make the learning last longer than those answerable by yes-or-no only. Throwing challenging questions would involve the students' judgment and imagination and train them to dig out beyond the obvious. The students could no longer be the passive learners in their own classroom; they could be now the inventors and discoverers of their own learning when these questions will just be implemented and asked efficiently. When this happens, the retention will be more effective.

Teachers' Questioning Style	Mean	Standard Deviation	Description
Focused Questions	<b>4.15</b>	<b>0.229</b>	<b>High</b>
Challenging Questions	<b>4.18</b>	<b>0.235</b>	<b>High</b>
Stretching Questions	<b>3.76</b>	<b>0.217</b>	<b>High</b>
Probing Questions	<b>4.13</b>	<b>0.250</b>	<b>High</b>
<b>Over-all Mean</b>	<b>4.05</b>	<b>0.17</b>	<b>High</b>

**Table 3.1** Level of Identified Teachers' Questioning Style when asking the students during online class

In contrast, the National Society for Education in Art and Design (2009), teachers must always prioritize stretching questions once the concept has already been built in the classroom. Even during the building foundation of the concept, it is suggested that they must do it by applying real-life scenarios



wherein everybody can relate. Teachers are encouraged to contextualize their problems, particularly during math problems, to see the significance and relevance of studying mathematics. The learning will be more meaningful and fun when there are simulations about mathematics-related context during the teaching-learning process.

In conclusion, Stretching Questions tend to have the smallest mean among the four indicators because the Grade 12 students now do not have any mathematics subjects. Based on the author, this kind of questioning style is more likely applicable to the subject of mathematics. On the other hand, the challenging questions got the highest among four indicators it is because the subjects they are currently taking up are those subjects that need a deeper understanding and deeper thoughts to answer things like the subject personal development, critical-thinking skills are necessary to apply during the question-and-answer portion specifically in oral recitation and essay writing.

### **Level of Identified Learning Behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum**

Results of this area are shown in Table 3.2 with mean scores ranging from 2.86 – 4.23. Presented of this variable are 4 indicators identified by Virgili, R.I, and Zaragoza (2016) with their respective mean scores are as follows: The Pessimistic behavior with the mean of 3.42 having the descriptive equivalent of *Moderate*; The Optimistic behavior with the mean of 3.93 having the descriptive equivalent of *High*; The Trusting behavior with the mean of 4.23 having the descriptive equivalent of *High*; The Envious behavior with the mean of 2.86 having the descriptive equivalent of *Moderate*.

The over-all mean is 3.61, described as *High*. All the Learning Behaviors of Grade 12 Senior High School Students during Online Class are described as high wherein indicator 3 (Trusting Behavior) obtained the highest rank and indicator 4 (Envious Behavior) as the lowest.

Kurnianingsih, S., Yuniarti K.W., Kim, U. (2012) concluded that the students' trust is established because they see teachers as their parents who have competence in delivering knowledge. Hence, teachers' traits that represent similarly to their parents' behavior at home could produce student's trust and a good foundation to learn better. The teacher's competence in teaching also becomes an important aspect in developing the students' trust towards them, namely: mastery of class dynamics like engaging them in the discussion, mastery in teaching techniques like the use of questioning styles, mastery of lesson material like handouts and instructional materials, as well as the ability to know them very well.

On the other side, Sitinjak (2016) concluded that someone who feels jealous of his competitors would try to race with the comparison that shows improvement, especially in the quality of work, increased capacity, and motivation; in other words, envy will lead someone to increase their performance academically. Hence, being envious must be controlled because it will harm the person and create commotion to others.

The result above concludes that few of the students have shown their envy behavior during the online class since the students were oriented by their teachers to not compete with their classmates and respect their way of learning. They may have that kind of behavior at some point. Still, based on the result, they really have the spirit of helping each other and slowly adjusting to the new environment. They need to be more understanding of the facing, especially in dealing with the deadlines and asking for extensions from the teachers. Thus, most of the students showed trusting behavior frequently in the online class. The students tend to show that truly trust with the new modality of learning they are enrolled with, the materials in them, and their teachers' skills and knowledge.



**Table 3.2** Level of Identified Learning Behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum

<b>Learning Behavior of Grade 12 Senior High School Students during online class</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Description</b>
Pessimistic Behavior	<b>3.42</b>	<b>0.790</b>	<b>Moderate</b>
Optimistic Behavior	<b>3.93</b>	<b>0.512</b>	<b>High</b>
Trusting Behavior	<b>4.23</b>	<b>0.178</b>	<b>High</b>
Envious Behavior	<b>2.86</b>	<b>1.187</b>	<b>Moderate</b>
<b>Over-all Mean</b>	<b>3.61</b>	<b>0.52</b>	<b>High</b>

### Test on the significant relationship between the variables: Teachers' Questioning Style and Learning Behaviors of Grade 12 Senior High School Students during Online Class

This area's results are shown in Table 4.1, and the table shows the significant relationship between teachers' questioning style and learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum. The survey was taken by 24 grade 12 students as respondents of the research. This table also shows the mean and standard deviation of the two variables: Teachers' questioning style (IV) having mean of 3.75 and Standard deviation of 0.74; Learning behaviors of Grade 12 Senior High School Students (DV) ) having a mean of 4.21 and a Standard deviation of 0.88. Also, the  $p$ -value of 0.017, which is less than 0.05 significant alpha, clearly shows to reject the null hypothesis—the  $r$ -value of 0.484, which is interpreted as the two variables having a strong positive linear relationship.

Meanwhile, Chidongo (2013) found out that despite the remarkable improvements in curricula, teaching materials, and teaching methodologies, the teachers' questioning techniques have not improved over the years. He concluded that most teachers asked more low-level questions than high-level ones, which deprives them of being exposed to higher-level cognitive questions that usually offer critical and creative thinking.

Moreover, since all these identified teachers' questioning styles require multiple responses, everybody would be given a chance to answer and raise their ideas. In connection with Grove and Frazer (2008), the interaction will be better if these questions will be addressed to everyone in the class and not solely to only one student. In classroom discussion, these questions stimulate better interaction for students' interests and interaction.

Therefore, asking questions from medium to higher zones means that students must engage more fully to think and respond in the teaching-learning process. Also, these are one of the most important parts of the classroom discourse and can be used for a wider range of purposes that can reflect on how you ask questions to ensure that you do not plan all your questions to push the students to show their behavior, especially those identified learning behaviors of grade 12 senior high school students during the online class.

**Table 4.1** Test on the significant relationship between the variables: Teachers' Questioning Style and Learning Behaviors of Grade 12 Senior High School Students during Online Class

<b>VARIABLES</b>	<b>N</b>	<b>MEAN</b>	<b>SD</b>	<b>r</b>	<b>p</b>	<b>DECISION</b>
<b>Teachers' Questioning Style</b>	24	3.75	0.74	0.484	0.017	Strong Positive Linear Relationship, $P < 0.05$ – reject $H_0$
<b>Learning Behavior of Grade 12 Senior High School Students during online class</b>		4.21	0.88			

\*level of significance at 0.05

Legend:

0.00 – 0.19	No Positive Linear Relationship
0.20 – 0.29	Weak Positive Linear Relationship
0.30 – 0.39	Moderate Positive Linear Relationship
0.40 – 0.69	Strong Positive Linear Relationship
0.70 – 1.00	Very Strong Positive Linear Relationship
-0.70 – -1.00	Very Strong Negative Linear Relationship
-0.40 – -0.69	Strong Negative Linear Relationship
-0.30 – -0.39	Moderate Negative Linear Relationship
-0.20 – -0.29	Weak Negative Linear Relationship
0.00 – -0.19	No Negative Linear Relationship

## CHAPTER 4 CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes and draws conclusions given the findings and proposes recommendations for future researchers.

This study made use of two researcher-made questionnaires on the teachers' questioning style/s and Learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum.

### Conclusions

The study aimed to determine whether teachers' questioning style affects learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum. Having the findings of the study, it drew the following conclusions:

1. The teachers' questioning style has an overall mean of 4.055, which has a high descriptive equivalent. The indicators under the teachers' questioning styles are marked as high based on the given legend for the range of means and descriptive equivalents. These are: (1) focused questions have a mean of 4.15, (2) challenging questions to have a mean of 4.18, (3) stretching questions have a mean of 3.76, and (4) probing questions which have a mean of 4.13.
2. The learning behaviors of Grade 12 Senior High School Students during Online Class has the mean of 3.61, which has a high descriptive equivalent. Two indicators under the learning behaviors of Grade 12 Senior High School Students are marked as moderate based on the given legend for the range of means and descriptive equivalents: (1) Pessimistic behavior has a mean of 3.42 and (2) Envious behavior has a mean of 2.86. The other two indicators are marked as high based on the same given legend for the range of means and descriptive equivalents: (1) Optimistic behavior has a mean of 3.93, and (2) Trusting behavior has a mean of 4.23.
3. The computed  $p$ -value is 0.017 that is less than the level of significance of 0.05, which means reject the null hypothesis. There is a significant relationship between the teachers' questioning styles and learning behaviors of Grade 12 Senior High School Students during Online Class. The  $r$ -value of 0.484 means there is a strong positive linear relationship between the two variables.

### Recommendations

Based on the aforementioned findings and conclusions of this study, the following recommendations are offered:

#### *Department of Education*

Since the result of the study showed that teachers' questioning style affects learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum, the Department of Education may consider specifically those schools who are using the online class as the modality in this time of pandemic:

1. Developing a module in E-Learning sites wherein the problems stated requires a transformation of information to another form like:
  - converting data graph to a narrative form
  - illustrating worded problems
  - transforming mathematical statements to mathematical expressions.
2. Conducting seminars to develop teachers' questioning skills when asking HOTS (Higher Order Thinking Skills) questions, specifically the identified questions like the following:
  - How would you explain this concept to someone from another culture?
  - Can you think of a completely different way to solve that problem?
  - How does this principle apply to an alternative situation?

### ***Teachers***

As the implementers of the curriculum, teachers could/ must:

1. Ask questions that seek answers with the full use of ability, knowledge, or understanding. The teacher should bear in mind when asking students that the answer she wants to get is what the students can offer with their full ability.
2. Make use of some analogy, like to make the students demonstrate how well they understood the concept and communicate it to their peers through think-pair-share activities.
3. Make use of activities like small group discussions. The teacher would ask the students questions, and each group would communicate their ideas within their circle. However, the teacher should emphasize that the students' participation is not to have every student participate in the same way or at the same rate.
4. Consider conducting activities or solving worded problems associated with another term or field that the students have a background of. The teacher may integrate concepts from another field of specialty wherein students are knowledgeable. In that way, the students will not just be interested in the topic, but the teacher can also assess students' knowledge of the integrated concept.

### ***Future Researchers***

Since the result of the study showed that teachers' questioning style gives a significant role in the learning behaviors of Grade 12 Senior High School Students during Online Class in STI College Tagum, future researchers may consider:

1. Including all grade levels in senior high school/ Junior High School as respondents of the study. In that manner, they will be able to identify whether identified teachers' questioning styles can affect the grade 12 students and the other grade levels.
2. Conducting an experimental study wherein the controlled group are the ones dealt with and taught using identified teachers' questioning styles.

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