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"ATTITUDE AND LEARNING ENVIRONMENT IN SCIENCE, TECHNOLOGY and SOCIETY (STS) AMONG1ST YEAR BSBA STUDENTS OF CAGAYAN STATE UNIVERSITY, ANDREWS CAMPUS"

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ABSTRACT

This study was conducted to determine the attitude and learning environment in Science, Technology and Society among 1st year BSBA students of Cagayan State University, Andrews Campus. The number of respondents was determined using Slovin's formula. A total of 240 students participated in the study. The evaluation questionnaire consists of Likert type rating scales. The following cut-off points were utilized to interpret the ratings: 1.00-1.74 =Poor, 1.75-2.49=Fair. 2.5-3.24= Satisfactory, 3.25-4.00= Very Satisfactory. The responses in the collected filled-up questionnaire were tallied in the data master sheet and encoded in the computer for the processing using Statistical Package for Social Sciences (SPSS).The data were analyzed using descriptive statistics, such as frequency, weighted mean rating, and ranking.

Data reveals that out of 240 respondents, female respondents are greater having a total of 168 than that of males having 72 or 30%. Respondents have an overall very satisfactory rating on attitude towards Science, Technology and Society which implies that they enjoy their STS class, they sees the value, uses and importance of the subject matter in their life. Respondents also participate actively in their STS class.

An overall very satisfactory level in Science, Technology and Society class learning environment among students reveals that 1st year BSBA respondents perceive that there is fairness in grading system and the teacher clearly defined the house rules on discipline and proper behavior. Respondents perceive that the classroom is conducive for learning. This implies that they can focus in studying and learning because of properly arranged and well ventilated class rooms. The respondents recognizes the teachers' effort in providing a positive learning atmosphere for the students to grasp the subject matter. The teacher gets along well with the students and goes out his/her way to assist the students. This implies that learning STS becomes easier because the teacher provide support and concern to the students.

The result of the study shows that the 1st year BSBA students of Cagayan State University, Andrews Campus have a positive learning attitude and good learning environment towards studying Science, Technology and Society subject.

Keywords: *Science, Technology and Society, attitude, learning environment, interest in studying, teachers' performance*

INTRODUCTION

Science and Technology Studies (STS) is a relatively new academic field.STS teaching seeks to promote cross-disciplinary integration, civic engagement, and critical thinking.STS explores in rich and compelling ways what difference it makes to human societies that we, collectively, are producers and users of science and technology.

"Attitudes toward science" is a term that is treated most of the time as a unique concept, but analyses are needed to check whether the scale is uni dimensional as this is important for both reliability and validity concerns (Osborne et al, 2003).Schibeci (1983) argued that various objects can be related to attitudes like science lessons, scientists, science in real life, and etc. The attitudes toward science is related to positive or negative feelings about scientific objects and enables prediction of scientific attitudes (Koballa et al, 1985).

Science process and content are interrelated because process skills are best learned by the students through science context. Therefore, the challenge in integrating science and stimulating student's curiosity and motivation to learn and realize its usefulness and relevance to daily basis is the sole content of science education. For the students to attend scientific issues and subsequently to acquire and apply scientific and technological knowledge for personal, social and global benefit, a positive attitude and interest in responding to science and technology in general should be enhanced including the learning environment (http://www.acer.edu.au/ozpisa/science/).

The teacher as an individual personality is an important element in learning environment or in the failures and success of the learner. The way in which his personality interacts with the personalities of the pupils being taught helps to determine the kind of behaviour which emerges from the learning situation. The supreme value of a teacher is not in the regular performance of routine duties, but in his power to lead and to inspire his pupils through the influence of his moral personality and

example(http://www.yourarticlelibrary.com/learning/7-important-factors-that-may-affect-the-learning-process/6064/).Teachers' feelings and attitudes about science can affect their students' feelings and attitudes. Students who reported having positive experiences during their science class were said to be influenced by their teachers' positive attitudes toward science (Koch, 2005).

Physical conditions needed for learning is under environmental factor. One of the factors that affect efficiency of learning is the condition in which learning takes place. This includes the classrooms, text books, equipments, school supplies and other instructional materials. In the school at home, the conditions for learning must be favourable and adequate if teaching is to produce desired results(http://www.yourarticlelibrary.com/learning/7-important-factors-that-may-affect-the-learning-process/6064/).

STATEMENT OF THE PROBLEM:

This study was conducted to determine the attitude and learning environment in Science, Technology and Society (STS) among 1st year BSBA students of Cagayan State University, Andrews Campus.

Specifically, this study seeks to answer the following questions:

1. What is the profile of the respondents according to sex?

2. What is the attitude of the respondents towards Science, Technology and Society (STS) in terms of:
   2.1 Enjoyment in Science, Technology and Society (STS);
   2.2 Importance of Science, Technology and Society (STS);
   2.3 Interest in studying Science, Technology and Society (STS); and
   2.4 Student's participation

3. What is the learning environment of respondents in terms of:
   3.1 Fairness and clarity of rules and tasks;
   3.2 Classroom ventilation and space; and
   3.3 Teacher performance

MATERIALS AND METHODS

Method

Participants.The participants in this study were 1st year BSBA students. The number of respondents was determined using Slovin's formula. A total of 240 students participated in the study.

Instrumentation.The evaluation questionnaire consists of Likert type rating scales. The following cut-off points were utilized to interpret the ratings: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory.

Data Analysis.The data were analyzed using descriptive statistics, such as frequency, weighted mean rating, and ranking.

Data Gathering Procedure.The actual data gathering was a one-shot survey using evaluation questionnaires as a major data gathering instrument. The responses in the collected filled-up questionnaire were tallied in the data master sheet and encoded in the computer for the processing using Statistical Package for Social Sciences (SPSS).

RESULTS AND DISCUSSION

Table 1.Distribution of respondents according to sex.

Sex	Frequency	Percent
Male	72	30
Female	168	70
Total	240	100.0

Data reveals that the number of female students as shown in the Table 1 is greater having a total of 168 out of 240 than that of males having 72 or 30% only.

Table 2. Attitude Scale

Table 2.1 Comparison of Means as regards to *Enjoyment in Science, Technology and Society (STS) a*mong 1st yr BSBA students

	Mean	Std. Deviation	Descriptive Value
1. STS is fun and fascinating.	3.11	.920	Satisfactory
2. Regardless of my teacher, I enjoy my STS class.	3.24	.763	Satisfactory
3. STS work is interesting.	3.11	.920	Satisfactory
4. During my STS class, I am not mindful if class is over.	3.24	.763	Satisfactory
5. I am never late in my STS class.	2.97	1.182	Satisfactory
General Weighted Mean (GWM)	3.14	1.14	Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

Table 2.1 shows that students are fascinated in Science, Technology and Society (STS) subject and regardless whoever the teacher is, they enjoy their STS class. Students always come to their class on time because they believe that STS is really interesting that is why they take time to learn and do not mindful if it is already the end of their period.

The overall satisfactory level on attitude towards Science, Technology and Society among students reveals that respondents enjoy their STS class.

Table 2.2 Comparison of means as regards to *Importance of Science, Technology and Society* among 1st yr BSBA students

	Mean	Std. Deviation	Descriptive Value
1. I see the value in studying STS.	3.31	.768	Very Satisfactory
2. STS is very important in the scientific age in which we live.	3.63	.596	Very satisfactory
3. Mankind benefits much from STS.	3.44	.639	Very Satisfactory
4. Modern technology brought about by STS has made life easier	3.63	.596	Very Satisfactory
5. Ifind STS useful for problems of everyday life.	2.97	.745	Satisfactory
General Weighted Mean (GWM)	3.40	0.67	Very Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

It can be gleaned from Table 2.2 that students sees the value, uses and importance of Science, Technology and Society subject in their life. Students also think that modern technology brought about by Science, Technology and Society has made life easier and they find STS useful for problems of everyday life.

The overall very satisfactory rating on attitude towards STS among students reveals that 1st year BSBA respondents appreciate the importance of STS in their life.

Table 2.3 Comparison of means as regards to *interest in studying Science, Technology and Society*among 1st yr BSBA students

	Mean	Std. Deviation	Descriptive Value
1. STS makes me aware of the things around me.	3.12	.922	Satisfactory
2. I like to study my STS subject.	3.24	.763	Satisfactory
3. I make it a point to do my STS homework.	2.70	.908	Satisfactory
4. I always help my classmates on STS activities or assignments.	3.24	.763	Satisfactory
5. I usually get good grade in STS.	3.31	.772	Satisfactory
General Weighted Mean (GWM)	3.12	0.826	Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

Table 2.3 presents the comparison of means as regards to interest in studying Science, Technology and Society among 1st yr BSBA students. It reveals that respondents like to study STS exemplified by doing their homework and other assigned activities, thus they usually get good grades. Students reach out to others by helping their classmates understand the subject matter. Respondents also believe that STS makes them aware of the things that happen around them.

The overall satisfactory level on attitude among students reveals that 1st year BSBA respondents shows interest in studying Science, Technology and Society.

Table 2.4 Comparison of means as regards to *Student's Participationof 1st yr BSBA students in Science, Technology and Society*class.

	Mean	Std. Deviation	Descriptive Value
1. Students enjoy their class work.	3.73	.560	Very Satisfactory
2. Students show eagerness to answer questions.	3.67	.705	Satisfactory
3. Students like the teacher.	3.31	.768	Very Satisfactory
4. Students do their best to get good grades.	2.70	.908	Very Satisfactory
5. Most students in this class really pay attention to what the teacher is saying.	3.35	.780	Very Satisfactory
General Weighted Mean (GWM)	3.35	0.745	Very Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

Table 2.4 presents the comparison of means as regards to student's participation of 1st yr BSBA students in Science, Technology and Society class. Students enjoy their class and they show eagerness to answer the questions raised by the teacher. Respondents pay attention to what the teachers discuss in class and because they understand the topic, they get good grades.

The overall very satisfactory level on attitude among students reveals that 1st year BSBA respondents participate actively in their STS class.

Part III. Science, Technology and Society Class Learning Environment

Table 3.1 Comparison of means as regards to *Fairness and Clarity of Rules and Tasks in Science, Technology and Society* class.

	Mean	Std. Deviation	Descriptive Value
1. The teacher is fair in giving grades.	3.63	.596	Very Satisfactory
2. The teacher consistently enforce the class rules on discipline.	3.31	.768	Very satisfactory
3. The teacher explains clearly the rules on proper class behavior.	3.66	.756	Very Satisfactory
4. It is not easy to break a rule in this class.	3.71	.757	Very Satisfactory
5. Students pay attention to the teacher once the class starts.	3.63	.596	Very Satisfactory
General Weighted Mean (GWM)	3.59	0.695	Very Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

Table 3.1 presents the comparison of means as regards to fairness and clarity of rules and tasks in Science, Technology and Society class. Respondents observe fairness of the teacher in giving grades. The teacher is consistent in the enforcement of class rules and proper behaviour and students pay attention to what the teacher says and discuss.

The overall very satisfactory level in STS class learning environment among students reveals that 1st year BSBA respondents perceive that there is fairness in grading system and the teacher clearly defined the house rules on discipline and proper behavior.

Table 3.2 Comparison of means as regards to *Classroom Ventilation and space*

	Mean	Std. Deviation	Descriptive Value
1. The classroom is properly arranged.	3.24	.763	Satisfactory
2. The seating arrangement makes it easy for students to see what is written on the board.	2.70	.908	Satisfactory
3. The time allotted to class is enough.	3.12	.922	Satisfactory
4. The classroom is well ventilated.	2.97	.745	Satisfactory
5. The class schedule is conducive for learning.	3.12	.922	Satisfactory
General Weighted Mean (GWM)	3.03	0.852	Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

It can be gleaned from table 3.2 the comparison of means as regards to classroom ventilation and space. The overall satisfactory rating of respondents reveals that the classroom is conducive for learning. This implies that they can focus in studying and learning because of properly arranged and well ventilated classrooms.

Table 3.3 Comparison of means as regards to *Teachers' support and concern* among 1st yr BSBA students

	Mean	Std. Deviation	Descriptive Value
1. The teacher gets along well with the students.	3.82	.463	Very Satisfactory
2. The teacher goes out his/her way to help students.	3.89	.374	Very Satisfactory
3. The teacher teaches the students the lesson to be covered.	3.81	.484	Very Satisfactory
4. The teacher makes the subject matter interesting to the students.	3.56	.744	Very Satisfactory
5. The teacher shows the class how much fun it is to learn science in a simple yet challenging way.	3.64	.734	Very Satisfactory
General Weighted Mean (GWM)	3.74	0.56	Very Satisfactory

Scale: 1.00-1.74 Poor, 1.75-2.49 Fair. 2.5-3.24 Satisfactory, 3.25-4.00 Very Satisfactory

Table 3.3 shows the comparison of means as regards to teachers'support and concern among 1st yr BSBA students. Data reveals that respondents gave a very satisfactory rating on their teachers' performance. The teacher provides a positive learning atmosphere for the students to grasp the subject matter. The teacher gets along well with the students

and goes out his/her way to assist the students. This implies that learning Science, Technology and Society becomes easier because the teacher provide support and concern to the students.

CONCLUSION

The study reveals that 1st year BSBA respondents show positive attitude towards learning Science, Technology and Society. They enjoy the subject as much as they see the value and importance of the subject to their life. Students show interest in learning the subject by participating actively to class discussions.

Data reveals that respondents are exposed to afavourable learning environment. Arranged and well ventilated classrooms helped them focus in studying and learning. The teachers' performance provided a positive learning atmosphere for the students to grasp the subject matter. This implies that learning Science, Technology and Society becomes easier because the teacher provide support and concern to the students.

RECOMMENDATIONS

1. Students should be exposed to different Science, Technology and Society activities to improve their knowledge level.
2. Teachers should employ different teaching methods and strategies in teaching Science, Technology and Society concepts and give emphasis to the application of process skills that are related to their daily life activities.
3. Teachers should sustain positive relationship with the students which will likely develop active teaching-learning process and can generate active class participation.
4. Improvement and maintenance of class learning environment to elevate not just their academic performance but to enhance their social aspect, healthy status and moral values.

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