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Class Observation in Science: Tool in Reshaping Teaching and Learning

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ABSTRACT

This study was undertaken by the researcher to determine how class observation reshape teaching and learning. Specifically, this sought to assess the age, gender, position and length of service of Science Teachers, how the respondents assess classroom observation and their perceived impacts of the respondents on the use of classroom observation tool (COT) in improving teaching and learning. In this study, descriptive research was used. The questionnaire was the main instrument used to generate the needed information. The respondents of the study were the nine (9) Science Teachers of the department. No sampling was used since all teachers were involved. Results showed that in terms of classroom observation, Science Teachers strongly agreed that classroom observation encourages teachers to work harder and better, it is a process of learning under democratic approach, it makes natural flow of teaching –learning process, it guides the teachers to improve their instruction for the welfare of the students and the more classroom observation, the more the teachers become more efficient and effective in classroom teaching. Majority of the Science Teachers strongly agreed that the use of classroom observation tool (COT) in improving teaching and learning results to a high performance of the teachers, it helps teachers provide quality learning to students, are student-centered, requiring direct evidence of student engagement and learning and concise and clear enough for teachers and observers to read and understand thoroughly and use easily. It is recommended that Science Teachers should always coordinate the department head for better quality instruction and for possible technical assistance the head can offer to any Science Teachers. Accept positively the suggestions made by the head during pre-post conference. Science Teachers always remember the teaching principle that every day is an observation day so that teachers are always prepared when the department head observes the classes.

CONTEXT AND RATIONALE

Teaching is a complex profession. In some respects, it is difficult to achieve what makes an effective teacher. To be an effective one, several techniques can be used to serve the learning needs of every learners. In – depth knowledge of the subject content and skills must be shared to every learner to inspire and help them in their classes learn successfully with the knowledge of learning process.

To ensure the quality of teacher's learning process, close instructional supervision is incorporated in the duties and responsibilities of the department head. The call for quality education was a directive from DepEd Memorandum No. 0624 s. 2014 stating that classroom observations must be intensified to help ensure the delivery of basic education to all learners under its care.

Class observation is important at every stage of a teacher's career. Typically evaluative by nature, teacher observation is linked to classroom performance. It is also a form of professional development that can improve teacher's teaching practices and student performance.

Teachers play a crucial role in upgrading the quality of teaching-learning process and in improving their performance through different parameters in achieving quality education.

Related to this, the Department of Education (DepEd) noted that the observation by the department head is vital and adheres to the guidelines of the Philippine Professional Standards for Teachers-Results based Performance Management System (PPST-RPMS) and is used for mentoring, coaching, performance review and evaluation which supports the teacher's on- going professional development. It must be agreed upon by the teachers themselves and the observers. Teachers must be prepared in all aspects, on what to prepare and what to teach for the benefits of the students.

In cognizance to the DepEd thrust, the department head of Bilaran National High School Science Department regularly monitors the teaching- learning process of Science Teachers.

Science Teachers are observed twice a month with the agreed schedule and dates of observation. Moreover, the Science Teachers need also to have a pre-conference before the actual teaching. During the pre-conference, the following criteria are being asked to the teachers: the general characteristics of the class, general academic progress the class made, the goals and objectives of the lesson and the procedures and materials to be used.

Aspects of teaching the observer to give particular attention and additional non-curriculum matters to be observed are also considered in the pre-conference.

Then, after the actual teaching, the post conference is conducted by the department head. The department head asked questions on the development of the lesson made by the teacher, the strategy used in the successful conduct of the lesson and the things went well during the teaching- learning process. Then, the department head after all questions has been answered, queires clarified, the comments and suggestions to improve the teaching- learning is given to the teacher as form of technical assistance. Likewise, the teaching –learning process will flow smoothly because of the established learning environment. Thus, pressures and tensions mostly felt by the Science Teachers are avoided because of regular observation.

Relative to this, class observation is vital to the teaching-learning process to see how effective Science Teachers are in delivering the quality of Science education to the young learners and what possible action plan to devise in improving the teaching and learning process.

Thus, a study on classroom observation: tool in reshaping teaching and learning was conducted as a basis for maintaining the efficiency and effectiveness of Science Teachers in daily teaching engagement.

REVIEW OF RELATED LITERATURE AND STUDIES

Literature

Classroom observations aims to evaluate the effectiveness of teaching delivered by the teachers. Congruency of the curriculum to the teaching materials of the teacher must also be considered by the teacher and the department head for effective delivery of the leson. Wagg stated that the purpose of looking at implementation is to see whether there is mismatch between intention and strategies. It has been seen as an effortful task from the side of the teachers. Using classroom observations, educators are capable of providing feedback that may improve the teaching practices in the class.

As cited by Hopkins, there are four (4) methods of observations: open, focused, structured and systematic. Each method needs special instrument. Observation tools are forms that are to be filled out by the observers. Depending on the observation technique, some forms or instruments may simply be a black sheet, a worksheet, a scale, checklists, computer software or a tally sheet.

Furthermore, there are many observation tools used by teachers on their classes or in peer observation settings. (Malamah-Thomas). Such instruments are powerful developmental materials used by the teachers to make the lesson systematically. Therefore, teachers and observers must perceive the instruments similarly to avoid misinterpretation and predispositions of the items within the tools.

According to Allwright, any system of classroom observation must recognize the possibility of multiple perspectives on a classroom event. There can be at least three different perspective, the learner perspective and the observer perspective. Most traditional models of classroom observation have been unidirectional, that is, the information flow is generally from the observer to the teacher, the observer being a supervisor in the case of a practicing teacher, or a teacher educator in the case of a teacher trainee. The traditional models have also been unidimensional that is the basis of observation, which is largely confined to one single perspective, that of the observer. These models only put an emphasis on the observer's perception.

Classroom observation focuses on any one perspective and neglect the other two, usually provides only a distorted view of the classroom event. An understanding of all three perspectives- teacher, learner and observer is indispensable to a critical analyzing and understanding of classroom events.

The emphasis on teacher perspective ensures self- monitoring and self- evaluation on the part of the teacher. It gives an opportunity for teachers to anlyze their own classroom discourse, such a constant and continual reflection resulting in a heightened awareness of one's own teaching behavior.

The emphasis on learner perspective has an important role for the learner in the process of becoming a good teacher. As primary consumers of instruction, learners can bring a unique perspective to the classroom event. As interested and examine, several aspects of classroom discourse including self- evaluation measures, learning strategies, the clarity of instructional guidance given by the teacher to help them achieve their goals, and their attitude towards the nature and scope of classroom activities in general.

Studies

Classroom observation plays an important role on the part of the teachers to make teaching episodes clear and systematic. Much of what beginner teachers need to be aware of cannot be solely in the university class. Therefore, classroom observation helps the teachers to become effective in the teaching- learning process. Teachers will learn a lot from the positive feedbacks given by the observer. Constructive suggestions agreed by the teacher and the observer really contributes to the effective delivery of instruction.

As cited by Baden, classroom observation describes the practice of sitting in on another teacher's class to observe, learn and reflect.

In some parts of Asia, classroom observation contributes to the professional development of a teacher's career. It can often expose teachers to new methods of teaching that might not have occurred to them beforehand.

According to Olenka, classroom observation is beneficial for the observers because they gain insight into one's own strategies and techniques and help create a professional learning environment where students find it comfortable to stay. To the teacher's observed, it is considered the chance to see class through someone else eyes, a chance to reevaluate the classroom from a different perspective, chance to receive input suggested ideas, resources from a department head.

Synthesis

The studies of Baden and Olenka are similar in the sense that classroom observation allows a teacher to get feedback from an objective and in the context of specific discussions about teaching. Classroom observations can be a guide for teachers to reflect on their own teaching practices and those who are observing can also learn.

Olenka (2009) his study was somewhat related to the present study on presenting an opportunity to see real-life teachers in real- life teaching situations that classroom observations influence the way they plan and teach.

Baden, on her study was related to the present study, however, her study focused on various aspects of the class can be examined such as routines, use of time, schedule, participation, teaching strategies, learner interest.

RESEARCH QUESTIONS

This study aims to answer the following:

1. What is the profile of the Science teachers in terms of?
    a. age
    b. gender
    c. position
    d. length of service

2. How do the respondents assess classroom observation?
3. What are the perceived impacts of the respondents on the use of classroom observation tool (COT) in improving teaching and learning?
4. Is there a significant difference between the respondents' responses on the use of classroom observation tool (COT) in improving the teaching and learning process when they are grouped according to their profile variables?
5. What action plan maybe proposed on the conduct of classroom observation?

SCOPE AND LIMITATION

The general focus of the study is to determine the impact of classroom observation in improving teaching and learning process. The respondents of the study will be the nine (9) teachers of Science Department. It focuses on the classroom observation tool (COT) used by the observer in assessing the teacher's instruction.

RESEARCH DESIGN AND METHODOLOGY

Research Design/ Methods of Collecting Data

In this study, the descriptive research was used. The questionnaires were main instrument to be used to generate the needed information in determining how effective classroom observation in Science: a tool in reshaping teaching and learning.

Respondents of the Study

The respondents of the study were the nine (9) Science teachers of Bilaran National High School. No sampling was used since all teachers were all involved.

Data Gathering Instrument Used

The researcher prepared a questionnaire derived and patterned from the classroom observation tool; set A was composed of questions in terms of observation process and the second questionnaire was on the perceived impact of the respondents on the use of classroom observation tool (COT) in improving teaching and learning.

Data Gathering Procedure

To gather pertinent data, the researcher sought the permission of the Principal to conduct a study on Classroom Observation in Science: Tool in Reshaping Teaching and Learning and to distribute questionnaire to the nine (9) Science Teachers of Bilaran National High School which were the subjects of this study. After seeking the permission, the questionnaires were distributed, and a week was allotted for the retrieval. The responses were tabulated, analyzed and interpreted.

Statistical Treatment of Data

To interpret the data gathered, the following statistical measures were used. Frequency, percentage and ranking were used to analyze the responses of the subjects in the questionnaire.

Weighted mean was used in interpreting the responses of Science Teachers in terms of classroom observation and in the perceived impacts of the respondents on the use of classroom observation tool (COT) in improving teaching and learning.

The statistics that were used in this study are the following:

1. Weighted Mean

WM =Fx F

Where:

WM denotes weighted mean.

FX = the sum of the product of the weighted mean

F = the total number of respondents

The obtained weighted average shall be interpreted in terms of the criteria set which will be based on the:

Option	Scale Range	Verbal Interpretation
5	4.5-5.0	Strongly Agree
4	3.5- 4.49	Agree
3	2.5-3.49	Uncertain
2	1.5- 2.49	Disagree
1	1.0-1.49	Strongly Disagree

2. Rank.

This is the highest position in a group of scores based on weighted mean.

PRESENTATION, ANALYSIS AND INTERPRETATION

The gathered data were presented and analyzed in this chapter. The interpretation of the findings is likewise shown.

Profile of Science Teachers. (Table 1.1 – 1.3)

Table 1.1. Age of teachers.

Age	Frequency	Percentage
20-30	1	11.11
31 and above	8	88.89
Total	9	100

The Table 1.1 shows that out of nine (9) respondents, eight (8) respondents or 88.89% of the respondent belongs to age of 31 and above and lastly, there is one (1) respondent or 11.15 belong to age 20-30. The findings showed that majority of the Science Teachers were not young.

Table 1.2. Position as Classroom Teacher.

Position	Frequency	Percentage
Teacher I	3	33.33
Teacher II	2	22.22
Teacher III	3	33.33
Master Teacher 1	1	11.11
Total	0	100

The table 1.2 shows the distribution of respondents in terms of their position as classroom teacher. The table revealed that three (3) respondents 03 33.33% were Teacher 1, two (2) respondents or 22.22% were classified as Teacher II, three (3) respondents or 33.33% were Teachers III and one (1) respondent or 11.11% was the Master Teacher 1.

This showed that all positions of a classroom teacher were filled out by Science Teachers. It also revealed that there were experienced and highly experienced teachers in the Science Department to carry out the best delivery of quality education to young learners.

Table 1.3. Length of Service.

Length of Service	Frequency	Percentage
1-5 yrs	2	22.22
6yrs-10yrs	2	22.22
11-15yrs	2	22.22
16yrs-20yrs	1	11.11
21yrs-25yrs	1	11.11
30yrs and above	1	11.11
Total	9	100

Table 1.3 shows the distribution of respondents by their length of service. It can be gleaned from the Table 3, the number of respondents whose teaching experience range from 1-5 years was 2 or 22.22%, there were also 2 respondents or 22.22% from 6-10years; 2 respondents or 22.22% from 11-15 years; one (1) respondent 0r 11.11% whose teaching experience ranges from 16-20 years, 21-25 years and 30 years and above.

The table clearly showed that majority of the respondents were young in the teaching profession.

Table 2. Assessment of Classroom Observation

In Terms of Class Observation	Weighted Mean	Rank	Verbal Interpretation
1.Announced classroom observation encouraged teachers to work harder and better	5.0	3.5	Strongly Agree
2.Announced classroom observation in a process of learning	5.0	3.5	Strongly Agree
3.Announced observations are under democratic approach	5.0	3.5	Strongly Agree
4.Only conventional department heads make un-announced observations	4.0	10	Agree
5.Announced observation makes natural flow of teaching-learning process	5.0	3.5	Strongly Agree
6.Classroom observation guides the teachers to improve their instruction for the welfare of the students	5.0	3.5	Strongly Agree
7.Invitational observation is best for uplifting teachers moral and self-confidence	4.89	7.5	Strongly Agree
8.Invitational observation reveal the real performance of a teacher	4.89	7.5	Strongly Agree
9.Classroom observation is one of the strategies for helping and guiding teachers to improve their instructional activities	4.78	9	Strongly Agree
10.The more classroom observation, the more the teachers become more efficient and effective in classroom teaching.	5.0	3.5	Strongly Agree
Total	4.856	- Strongly Agree	

As can be seen in the Table 2, in terms of classroom observation, Science Teachers strongly agreed that classroom observation encourages teachers to work harder and better, it is a process of learning under democratic approach, it makes natural flow of teaching –learning process, it guides the teachers to improve their instruction for the welfare of the students and the more classroom observation, the more the teachers become more efficient and effective in classroom teaching with a weighted mean of 5.0

Science Teachers also agreed that invitational observation is best for uplifting teachers moral and self-confidence and invitational observation reveal the real performance of a teachers with a weighted mean of 4.89 ranked second. Only conventional department heads make un-announced observations ranked last in a survey with a weighted mean of 4.0.

Table 3. Perceived Impact on the Use of classroom Observation Tool (COT) in Improving Teaching and Learning.

Perceived Impacts of the Respondents on the Use of classroom Observation Tool (COT) in Improving Teaching and Learning	Weighted Mean	Rank	Verbal Interpretation
1.Criteria and tools cover the classroom performance areas enhance student performance/ outcomes	4.89	5	Strongly Agree
2.The criteria results to high performance of the teachers	5.0	2.5	Strongly Agree
3.Classroom observation tools help teachers provide quality learning to students	5.0	2.5	Strongly Agree
4.Criteria and tools are student-centered, requiring evidence of student engagement and learning	5.0	2.5	Strongly Agree
5.Criteria and tools are concise and clear enough for teacher's and observers to read and understand thoroughly and use easily.	5.0	2.5	Strongly Agree
Total	4.978		Strongly Agree

It can be gleaned from the table that majority of the Science Teachers strongly agreed that the use of classroom observation tool (COT) in improving teaching and learning results to a high performance of the teachers, it helps teachers provide quality learning

to students, are student-centered, requiring direct evidence of student engagement and learning and concise and clear enough for teachers and observers to read and understand thoroughly and use easily with the over-all weighted mean of 5.0
Then, it was followed in the survey that the criteria and tools for observation cover the classroom performance areas enhance student performance/ outcomes with a weighted mean of 4.89.

Table 4. Significant Difference on the Use of Classroom Observation when they are grouped according to profile.

Profile	P-Value	Decision	Remarks
Age	0.645	Fail to reject Ho	Not significant
Gender	0.663	Fail to reject Ho	Not significant
Position	0.170	Fail to reject Ho	Not significant
Length of Service	0.788	Fail to reject Ho	Not significant

Legend: Significant at p 0.05

As shown in Table 4, since the computed p- values of age (p= 0.645), gender (p= 0.663), position (p= 1.70) and length of service (p=0.788) are all greater than the 0.05 level of significance, thus the decision is failed to reject. The data implies that whatever age, gender, position and length of service, the respondents have commonality in terms of classroom observation.

Table 5. Action Plan to Reshape Teaching and Learning.

Program/ Project	Objectives	Strategies	Target Date	Resources Needed	Persons Involved	Success Indicator
1.SUPER-IDOOC (Supervising Direct Instruction of Classes)	To assess toward achieving goals established for students and teachers	Class Observation with RPMS/ COT Sheets	Year Round	-Learning Materials -Powerpoint Presentation -Daily Lesson Log	-Dept. Head -Science Teacher - Students	Increased proficiency level of students and teacher's effectiveness in classroom teaching
2.TTS (Teaching Techniques and Strategies)	To implement teaching techniques and strategies in teaching using the pedagogical approaches in teaching	Demo Teaching LAC session	Year Round	-Learning Materials -Powerpoint Presentation -Daily Lesson Log -Intervention Materials	Dept. Head -Science Teacher - Students	Active classes with well-motivated and participative classes

CONCLUSIONS

This study was undertaken by the researcher to determine how class observation reshape teaching and learning. Specifically, this sought answers to the following questions:

1. What is the profile of the Science teachers in terms of?
    e. age
    f. gender
    g. position
    h. length of service
2. How do the respondents assess classroom observation?
3. What are the perceived impacts of the respondents on the use of classroom observation tool (COT) in improving teaching and learning?
4. Is there a significant difference between the respondents' responses on the use of classroom observation tool (COT) in improving the teaching and learning process when they are grouped according to their profile variables?

5. What action plan maybe proposed on the conduct of classroom observation?

In this study, descriptive research was used. The questionnaire was the main instrument used to generate the needed information. The respondents of the study were the nine (9) Science Teachers of the department. No sampling was used since all teachers were involved.

To interpret the data gathered, the following statistical measures were used. Frequency, percentage and ranking were used to analyze the responses of the subjects in the questionnaire.

Weighted mean was also used in interpreting the responses of the nine (9) Science teachers. The obtained weighted average was interpretd in terms of the indicators used.

The statistics used in the study were the following:

1. **Weighted Mean**

WM =Fx F

Where:

WM denotes weighted mean.

FX = the sum of the product of the weighted mean

F = the total number of respondents

The obtained weighted average was interpreted in terms of the following indicators.

Option	Scale Range	Verbal Interpretation
5	4.5-5.0	Strongly Agree
4	3.5- 4.49	Agree
3	2.5-3.49	Uncertain
2	1.5- 2.49	Disagree
1	1.0-1.49	Strongly Disagree

2. **Rank.**

This is the highest position in a group of scores based on weighted mean.

It can be interpreted that in terms of Age, it showed that out of nine (9) respondents, eight (8) respondents or 88.89% of the respondent belonged to age of 31 and above and lastly, there was one (1) respondent or 11.15 belong to age 20-30. The findings showed that majority of the Science Teachers were not young.

The table 1.2 showed the distribution of respondents in terms of their position as classroom teacher. The table revealed that three (3) respondents 03 33.33% were Teacher 1, two (2) respondents or 22.22% were classified as Teacher II, three (3) respondents or 33.33% were Teachers III and one (1) respondent or 11.11% was the Master Teacher 1. This showed that all positions of a classroom teacher were filled out by Science Teachers. It also revealed that there were experienced and highly experienced teachers in the Science Department to carry out the best delivery of quality education to young learners.

Table1.3 showed the distribution of respondents by their length of service. It can be gleaned from the Table 3, the number of respondents whose teaching experience range from 1-5 years was 2 or 22.22%, there were also 2 respondents or 22.22% from 6-10years; 2 respondents or 22.22% from 11-15 years; one (1) respondent 0r 11.11% whose teaching experience ranges from 16-20 years, 21-25 years and 30 years and above.

The table clearly showed that majority of the respondents were young in the teaching profession.

As can be seen in the Table 2, in terms of classroom observation, Science Teachers strongly agreed that classroom observation encourages teachers to work harder and better, it is a process of learning under democratic approach, it makes natural flow of teaching –learning process, it guides the teachers to improve their instruction for the welfare of the students and the more classroom observation, the more the teachers become more efficient and effective in classroom teaching with a weighted mean of 5.0

Science Teachers also agreed that invitational observation is best for uplifting teachers moral and self-confidence and invitational observation reveal the real performance of a teachers with a weighted mean of 4.89 ranked second.

Only conventional department heads make un-announced observations ranked last in a survey with a weighted mean of 4.0.

Table 3 explained that majority of the Science Teachers strongly agreed that the use of classroom observation tool (COT) in improving teaching and learning results to a high performance of the teachers, it helps teachers provide quality learning to students, are student-centered, requiring direct evidence of student engagement and learning and concise and clear.

enough for teachers and observers to read and understand thoroughly and use easily with the over-all weighted mean of 5.0. Then, it was followed in the survey that the criteria and tools for observation cover the classroom performance areas enhance student performance/ outcomes with a weighted mean of 4.89.

Based on the findings, the following conclusions were drawn:

1. Science Teachers were not young in the teaching profession. They also filled out the positions of a classroom teacher from Teacher 1- Master Teacher 1.
3. Science Teachers strongly agreed that classroom observation encourages teachers to work harder and better, it is a process of learning under democratic approach, it makes natural flow of teaching –learning process, it guides the teachers to improve their instruction for the welfare of the students and the more classroom observation, the more the teachers become more efficient and effective in classroom teaching.
1. 3.Majority of the Science Teachers strongly agreed that the use of classroom observation tool (COT) in improving teaching and learning results to a high performance of the teachers, it helps teachers provide quality learning to students, are student-centered, requiring direct evidence of student engagement and learning and concise and clear enough for teachers and observers to read and understand thoroughly and use easily.
4. Classroom observation is important to all Science Teachers in improving their teaching –learning process. It is a guide for them to reflect on their teaching practices and considered as a learning process.
2. 5.The proposed action plan shall be a guide for the department head and teachers to closely monitor the teaching practices of Science Teachers in carrying out the best quality education.
3. Classroom Observation is an important tool in reshaping teaching and learning.

RECOMMENDATIONS:

Based on the findings and conclusions of the study, the following recommendations are hereby suggested:

5. 1.Science Teachers should always coordinate the department head for better quality instruction and for possible technical assistance the head can offer to any Science Teachers. Accept positively the suggestions made by the head during pre-post conference.
6. 2.Science Teachers always remember the teaching principle that every day is an observation day so that teachers are always prepared when the department observes the classes.

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