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Practices of Top Performing Science Secondary Schools in Baguio City

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Abstract

The progress of any nation has been associated with its scientific and technological expansion. This suggests that science plays a momentous part in the economic, technological, administrative, and ecological improvement of any nation-state because science has saturated all aspects of human existence. The study sought to identify science practices of the school participants that led to their high performance in various science-related activities. This study identified the profile of the school and its stakeholders, including their material resources and practices/methods for achieving high levels of success in science-related activities. Mixed method research was employed in processing the gathered data. It has been found that: (1) positive atmosphere; (2) learner-centred activities; (3) professional development; and (4) strong linkages generally contributed to the high performance of the schools in science-related activities. As a recommendation, a more contrived and intricate manner of assessing learning among student participants leaning towards their high performance in science-related activities and competition should be made.

Keywords: *Science education, Science practices, Top-performing schools*

Introduction

According to the Philippines' Department of Education (2017), schools are appraised based on some listed criteria to be tagged as the nation's best school. To qualify, schools must be guided by the following criteria, namely (1) performance indicators, including cohort, drop-out, and Mean Percentage Score (MPS); (2) financial management, including budget utilisation, the preparation and approval of a Work and Financial Plan (WFP), and monthly transparency board updates; (3) personnel development, including monthly In-Service Training (INSET)/Learning Action Cell (LAC) sessions (all employees having a properly completed Individual Professional Development Plan (IPDP)). and the approval of the School Head/Principal's Office Performance and Commitment Review (OPCR); (4) school environment that is comprised of school site ownership, clean and green program, health nutrition, and child protection policy; (5) partnership that is made up of school community projects/activities within or outside donations received and dissemination of DepEd programs during PTA meeting ; (6) strategic plan; (7) school awards won in municipal/district, division, region, and national levels, respectively.

Students' performance greatly influences the quality of the kind of education offered in a school. Students' ability to assimilate information directly correlates with their ability to process information and infer relationships and connections between and among facts. Hoffenberg and Saxton (2015) even claimed that if students understand how scientific knowledge is built, they can become more sophisticated consumers of scientific knowledge. At the high school level, several countries with high student performance use board examination systems.

As from National Centre on Education and the Economy (NCEE), the "Excellence for All" executed by United States schools is a program that differs from systems in other countries in that students are "tracked" less aggressively; if students do not achieve criteria by the end of sophomore year, their high school will be compelled to examine their results and develop a customised program to bring them up to standard the following year.

For emphasis, the problem-solving approach to learning is something to be considered of great importance. It involves asking the learners, "So what? How are you going to apply it?" in a biology class, rather than simply learning terms; students are presented with real-world situation and asked, "Here's a situation that might emerge in the real world. What would you do if you knew how to apply what you know to the problem?" rather than being investigated separately. These issues are investigated in a collaborative and interactive manner.

As general as it may sound, educational practices in a school also nurture great learners. The implementation of well-planned work plans and identification of the needs and assessments of the school may help school administrators in improving NAT (National Achievement Test) performance. As a result, in addition to the NAT, school procedures in general should be considered, accounted for, reviewed, and most importantly, examined to determine their effectiveness and impact on education. Besides the front runner (the principal), the roles of other stakeholders also make an impact on upgrading school undertakings.

A high-performing learning institution must investigate several factors, such as the organisational goals, teachers' performance, students' performance, and its own practices in keeping up with the set standards (Eslabra, 2019). Apart from that, another important factor contributing to students' high performance is the support from other stakeholders. Stakeholders are people or groups who have an interest or concern for the school. They are made up of parents, school administrators, board members, local government officials, alumni, and socio-civic organisations who all contribute to the school's success. As a result, a positive relationship between teachers and stakeholders is critical because it allows everyone to work together amicably, which will benefit the students. Hence, being "best" in science education means that it is the intertwinement of not only a single factor but also a vast array of educational dynamics.

Other factors for being identified as the best include the kind of teachers, the curriculum applied, availability of up-to-date facilities, and the like. However, Finkel (2012) felt that state-of-the-art facilities, new textbooks, and central administrations should be prioritised over teacher training and salary. Furthermore, Eslabra (2019) elaborated that high educational expenditures do not necessarily lead to high performance. NCEE recognises that education systems that sort pupils and only provide some of them challenging curricula will fail to generate suitably educated citizens for the 21st century. This is evident in high-wage countries like Singapore and Finland, as well as those seeking to be high-wage countries such as China, who understand that education systems that segregate pupils and provide some of them with difficult curricula would not generate suitably educated people for the 21st century (Finkel, 2012). This only suggests that curriculum on its own cannot mould "smart" citizens of the future. However, most importantly, routines and practices in school make one successful. It is the reason why schools put much effort to develop routines that can improve and maximise learning. In addition, the evaluation and assessment of these matters are also carried out continuously.

For the past three school years (2015 to 2016, 2016 to 2017, and 2017 to 2018), the following schools topped different science festival competitions in Baguio City: Baguio City National High School-Main, Pines City National High School-Main, and the

University of the Cordilleras-Senior High School. It is unclear how and why they won science competitions, which is why this study was done to educate others about their science education approaches.

There is a dire need to identify practices in science education. According to March and Peters et al. (2008), best practices help teachers separate instruction (including curriculum) and provide active learning opportunities for students to internalise material by allowing them to set expectations for completing activities/lessons/projects/units. Stone (2014), as cited by Brown et al. (2017), claimed that other best practices include managing the classroom, providing cooperative learning opportunities, setting consistent course standards, enhancing students' transferability skills, increasing learner engagement, and creating sustainable learning for students. To identify and emphasise successful schools, science practices need to be accounted for, assessed, and evaluated. As reasoned by Theall (2017), "Evaluation without development is punitive, and development without evaluation is guesswork." This encourages educational institutions to gear themselves towards constant improvement. The goal of evaluation is the same—to improve student learning (Benton *et al*., 2018).

What qualities/characteristics set performing schools from the rest? What strategies should be implemented to become the "school to beat" as well? What practices should be derived to develop scientific literacy and proficiency? These are only a few of the numerous questions the researcher wishes to explore as a teacher and a learner. Case in point, with all this said and done, this study would likely be of benefit to schools trying to perform well not only in science but also to improve their educational processes in general. This research would not only form the foundation of programme development and policies, but also can be translated into effective educational programmes, specifically that of science. The strength of this study stems from the fact that it is empirical rather than simply speculating on what could be useful or effective. The researcher went out into the field and conducted a study that will offer policymakers with hard data on which to base future decisions.

Bridging the gap between what works in research and what works in the field is one of the major issues in education. This shows that there might be a disconnect between the methods used in the best secondary scientific schools and what is known about the most efficient teaching techniques. Therefore, it is crucial to pinpoint the elements that make these schools successful and investigate how they might be incorporated into other educational environments to close this gap.

This study sought to reveal the science procedures of Baguio City's best performing schools. Particularly, this study investigated the profile of the science teachers along their educational attainment, specialisation, length of service, achievements, seminars attended, affiliations in organisations, and expert services related to science. Furthermore, the students' profiles were also investigated along their General Percentage Average (GPA), science-related awards received, and National Achievement Test (NAT) performance in science. Lastly, this study investigated the material resources, extent of support from the schools' internal and external stakeholders, and practices of science secondary schools in the city of Baguio.

Methodology

The study employed a mixed method; particularly, qualitative and quantitative research. The quantitative approach consists of a survey about the respondent's profile, namely, the science teachers and students. This survey was focused on gathering numerical data and generalising it across groups of people to explain a specific phenomenon. The presence of specific phenomena was determined by the frequency of certain parameters, which were then

correlated to the statements of the problem stated above. Regarding the experience of the unprecedented COVID-19, quota sampling was utilised to identify the participating population of teachers and students from the respective schools. At this point, the population was defined as school heads, science teachers, and students. Furthermore, the sample size was identified as one school head, five teachers, and 15 students per school. After that, the data was acquired, and samples were collected.

Considering the quantitative approach, the descriptive method of research was utilised. Because the study is focused on existing teaching approaches that are demonstrated to be effective in teaching science, this form of research is a fact-finding study that emphasises what exists. Moreover, such a method was also used to secure responses to honest questions and practices of which the respondents are supposed to have information. The responses were then processed using the Warm Analysis Method, which resulted in the generation of encompassing phrases (generic) and several responses. The data, transcribed interviews, sorting, categorisations (cool analysis), and thematised categories (warm analysis) on a repertory grid or a dendrogram paved the way for a better understanding of the value of participants' lived experiences. The descriptive method also includes analysis and is concerned with the effects of the topics discussed, such as school profile, laboratory and library materials, to name a few, as well as emerging trends and existing relationships-particularly the status of the practices in teaching science of Baguio City's top performing secondary schools for the school year 2019 to 2020.

Research Questions:

This study determined the practices of top-performing science secondary schools in Baguio City. Specifically, it sought responses to the following questions:

1. What is the profile of the science teachers along:

1.1 Highest educational attainment and specialisation

1.2 Length of service

1.3 Science-related achievements/awards/innovations

1.4 Science-related seminars attended

1.5 Science club organisation membership/position held

1.6 Expert services related to science

2. What is the profile of the students along:

2.1 Academic Performance (GPA) for the past two years

2.2 Science-related awards received

2.3 NAT performance in science for the past two years

3. What are the material resources along:

3.1 Library holdings

3.2 Laboratory facilities

4. What is the extent of support of the administration and parents along the following parameters:

4.1. Financial

4.2. Moral

4.3. Administrative

5. What are the practices of science secondary schools in Baguio City?

The study's respondents came from the following schools: Pines City National High School (PCNHS), Baguio City National High School (BCNHS), and University of the Cordilleras-Senior High School (UC-SHS). The schools were selected based on the number of first places counted in different Baguio City Division Science Competitions from the three previous school years (2015-2016, 2016-2017, and 2017-2018).

There are 15 students from each school who invited to participate, for a total of 45 participants, consisting of 11 students from 10 graders (NAT results were also acquired), 22 from 11 graders, and 12 students from 12 graders.

Every school, survey sheets/Google Forms were provided to:

School/ Participant- respondents	School Head	Teachers	Students
A	1	5	15
B	1	5	15
C	1	5	15

Description:
A - Baguio City National High School
B - National High School of Pines City
C - University of the Cordilleras- Senior High School

Instrumentation and Data Collection

A letter advising the Schools Division Superintendent of the Education Department of Baguio was produced for the data collection of this study. A basic background on the study was included in the letter, as well as the process for gathering data. The participants were also assured that all information/data gathered from the participant would be kept confidential. Besides, since the study was conducted when the COVID-19 pandemic hit, the data from two school participants were gathered virtually via Google Forms and online interviews upon the approval of the dean and the researcher's adviser.

Two sets of tools were utilised by the researcher. One is a survey form for the profiles of the science teachers and students, and the other is a set of questions planned for the focused group discussion.

A survey was distributed to gather quantitative data on the profiles of the participants. The questionnaire was used to collect data for the study, such as human resources data, which included teachers and students, material resources data that include the library holdings (print & non-print), laboratory facilities (vis-à-vis standards of DepEd), and NAT performance in science for the past two years; and two schools' science practices.

The second set of tools is the interview questions on practices in the science of the top-performing secondary schools in preparation for various science-related events. This was administered during the key informant interview.

Several qualitative instruments were used to gather the data. Key informant interviews that facilitated with semi-structured interview questions were administered to teachers from their respective schools to gather detailed and comparable activities from teachers from each participating school. This method is a form of informal conversation while gathering information from the participants.

Open-format questionnaires were also utilised to further collect individualised responses from the participants. This questionnaire allowed participants to provide free-flowing responses of their views, experiences, and perceptions. It is like a follow-up question to the structured questions beforehand.

In the end, the Interpretative Phenomenological Study (IPS) was utilised. A phenomenological study is a study that attempts to understand people's perceptions, perspectives, and understandings of a particular situation or phenomenon (Leedy & Ormrod, 2001). This method was used to analyse responses to interview questions to determine how participants (interviewees) made sense of a particular phenomenon in a specific setting.

It is also important to note that since data were gathered on various platforms, triangulation was conducted to confirm the correctness of the data collected.

Analysis of Data

The data for the first statement of the problem (SOP) was analysed using frequency counts and percentages. Moreover, SOP 2 was analysed using central tendencies median. In evaluating the data acquired from the key informant interview and survey questionnaire for SOP 3, enumeration was also used.

Transcripts of the focus group discussions were coded using emergent coding for codebook development to classify the responses into meaning units. Similar meaning units were grouped, and a code or sub-code label was assigned. In order to sort the differences and similarities within the meaning units, sub-themes were created, compared and sorted into emerging themes. The questionnaire responses were treated with the same method and synthesised with from the key informant interview findings.

A four-point Likert Scale allowed respondents to express frequency with a particular statement for statistical analysis. The strength/intensity of an attitude is supposed to be linear: for instance, on a scale extending from always to never. The options for the Likert Scale were always, often, seldom, and never.

Results and Discussion

Profile of Science Teachers for Top Performing Schools

Contributory to science practices, there is a dire need to identify the profiles of the primary school stakeholders to correlate their background on the practices in science. The first table shows the summarised science teachers' profile regarding their highest educational attainment, specialisation, length ofservice,science-relatedachievements/awards/innovations,membership in science-related associations/institutions, training/seminars attended related to science, and rendered expert services. Table 1. Science Teachers' Profile .

Of the participating science teachers, 11 or 73 per cent finished their bachelor's degree, three or 20 per cent their master's, and one or seven per cent finished their Doctorate. Additionally, 14 or 93 per cent specialised in science and one or seven per cent in Chemical Engineering.

As to the length of service, seven or 47 per cent of the respondents have served for 5 years and below; three or 20 per cent between 6 and 10 years; two or 13 per cent between 11 and 15 years and 16 and 20 years; and one or seven per cent between 21 and 25 years, correspondingly.

In terms of science-related achievements/awards/innovations, the schoolteachers had four or 27 per cent at the school and division levels; two or 13 per cent at the regional level; and one or six per cent at the nationals. The remaining four, or 27 per cent, also had awards but not science related.

Memberships to science-related organisations are as follows: four or 27 per cent were division-based such as Baguio City Association of Science Teachers (BCAST); three or 20 per cent were school-based such as the Prime Movers Club (PMC); one or six per cent is national-based. The remaining seven or 47 per cent also were members of an organisation, but unrelated to science.

Attending science-related seminars/training might have also oriented and equipped personnel participants with the required and appropriate knowledge, techniques, and practices (Panganiban, 2017). There were four or 27 per cent who attended schoolwide and national level training; three or 20 per cent in the division; and one or six per cent at the regional level. The remaining three or 20 per cent also attended training/seminars but were not science related.

Lastly, the school personnel who participated in this research rendered science-related expert services. Ten or 38 per cent served as coaches; nine or 34 per cent as advisers, two or eight per cent as judges, speakers, and trainers; and one or four per cent as a lecturer, in varied science-affiliated activities. All the teachers are active

members, and they play varied roles in the scientific community.

Table 1. Science Teachers' Profile

Variable	Frequency (n=15)	%
Highest Educational Attainment		
Bachelor's Degree	11	73
MA/ MS Graduate	3	20
PhD/EdD	1	7
Specialisation		
Chemical Engineering	1	7
English		
Mathematics		
Science	14	93
Length of Service in the Institution as an Administrator/teacher		
5 and below	7	47
6-10	3	20
11-15	2	13
16-20	2	13
21-25	1	7
26 and above	0	
Science-related achievements/awards/innovations		
National	1	6
Regional	2	13
Division	4	27
School	4	27
With award/ innovation unrelated to science	4	27
Membership in science-related associations/institutions		
National	1	6
Division	4	27
School	3	20
With membership unrelated to science	7	47
Trainings/seminars attended related to science		
National	4	27
Regional	1	6
Division	3	20
School	4	27
With trainings unrelated to science	3	20
Expert Services		
Adviser	9	34
Coach	10	38
Judge	2	8
Lecturer	1	4
Speaker	2	8
Trainer	2	8

Students' Profile of Top Performing Schools

From the three participating schools in Baguio City, 15 student participants per school were selected in this study. The 11 graders dominated the population comprising 49 per cent, followed by the 12 graders with 27 per cent, and the 10 graders with 24 per cent.

The following are the percentages of students with their corresponding GPAs: Two or four per cent comprise an average of between 80-85 and 96-100; nine or 20 per cent between 86-90; and 32 or 72 per cent of the population had a GPA of 91-95. Given that, the majority of the students had an average of 91-95, it is apparent that they are among the top students in their class.

Table 2. Students' Personal Profile

Variable	Frequency (n=45)	%
School		
A	15	33.33
B	15	33.33
C	15	33.33
Grade Level		
10	11	24
11	22	49
12	12	27
Academic Performance in Science for the past two (2) years (General Point Average, GPA)		
80-85	2	4
86-90	9	20
91-95	32	72
96-100	2	4
Science-related awards		
National	2	4
Regional	5	11
Division	4	9
School	5	11
With awards unrelated to science	29	64

The DepEd's current target is a mean percentage score (MPS) of 75 per cent. From the study conducted, it is evident that such a goal is far from being achieved or is still very elusive.

Table 3. NAT Performance of Grade 10 Students in Science for the past Two (2) Years

NAT results in science SY 2016- 2017		NAT results in science SY 2017- 2018	
M	SD	M	SD
39.15	22.42	34.59	19.01

Participation to Competitions & Seminars, Workshops & Training

Exposure to seminars, workshops, and training are considered as one good tactic contributory to the high performance of learners in science-related activities. Being equipped with strategies in competitions becomes an advantage in competitions.

Table 4. Students' Responses on their Practices in Science

Codes	Frequency	Percentage	Themes
Joining competitions and supplementary activities (seminars and training) in the field of science.	27	60	Participation to competitions & seminars, workshops & training
The presence of laboratory activities and experimentations Varied teaching strategies Cooperative and collaborative activities	33	73	Interactive learning activities

Interactive Learning Activities

The inclusion of experimentation hand in hand with the presence of laboratory activities serves as avenues for exploration, inference, and hands-on learning among learners. Students tend to get uninterested in lectures, but interactive activities involving their participation can pique their interest, resulting in a learner-centred class. When students are engaged in cooperative and collaborative activities, it tends to bring about good results in the student learning process. Besides the conduct of scientific experiments, students also find it effective if teachers employ varied teaching strategies. Altogether, if students are made to be engrossed with exploratory/interactive activities, it affected high performance in science-related activities.

Material Resources in Top Performing Schools

Library Holdings: Print and non-print

A vast array of library resources brings about better opportunities to expand and broaden learners' knowledge in science. In support to this, the availability of resources partnered with their maximised utility have been proven to yield high performance in science. School respondents from this study exceeded the standards set by DepEd for both print and non-print library holdings.

Libraries are viewed as social institutions dedicated to increasing knowledge, preserving cultural heritage, and providing information to a variety of consumers (Benard *et al*, 2014). According to Salman et al. (2014), the availability of books and other non-books enhances children's academic advancement in classrooms. Providing effective and successful library services in the classroom requires the utilisation of school library information resources.

Table 5. Inventory of Library Holdings (Print and Non- print)

Library Holdings	Quantity	DepEd Standards (DepEd Order No. 56, s 2011)	Remarks
Printed science-related library holdings *(Books, General References, Research, etc.)*	19,438	5,000	Exceeded the standard
Non- print science- related library holdings *(Audio- visual materials and electronic resources)*	2,155,287	390	Exceeded the standard.

Science laboratories

A total of 1641 items were listed as the number of equipment required in a laboratory for secondary schools. From these numbers, it can be inferred that the school participants exceeded the expectations and requirements of the Education Department. With the abundance of lab equipment and their maximized utility, laboratory facilities can be attributed and contributed to the participants' best practices in science.

Extent of Support from the Administration and Parents

Stakeholders' involvement in different school activities also contributes to student performance in certain areas, especially competitions.

It can be inferred that parental and administrative involvement is highly evident and apparently contributes to the high performance of learners in science-related activities. Based on the identified parameters, both stakeholders showed their support more in financial form than in moral support. To sum it up, the close ties and communication between stakeholders and the school, along with their support in different areas and active involvement, contribute to the school's practices regarding their high performance in science-related activities.

Practices of Schools

Science teacher and student profiles, library holdings, and laboratory facilities contribute to science practices. Table 8 shows the codes, frequency, percentage, and corresponding themes of the teacher-participants' responses. Transcripts were coded using emergent coding to classify the responses into meaning units.

Positive Learning Atmosphere

Classrooms were efficiently handled and tidy with minimum student misconduct, and students had sufficient assignments. Successful classroom administrators are more experienced in avoiding disturbances (Kounin, 1970, as cited by Dunbar, 2004). Proverbially, one of the most crucial aspects of good teaching is to create a joyful classroom environment. Teachers have the potential for improved classroom discipline and management by developing conducive classroom environments. In keeping behaviour issues to a minimum, a positive classroom atmosphere is essential. It also offers students an opportunity to think and act constructively. In all academic settings, positive classroom environments help to reinforce, support, and promote students' learning. The shared perspectives of students and teachers in the classroom setting may be used to characterise the environment (Fraser & Pickett, 2010, as cited by Fleming and Younger, 2012). Therefore, it is critical to provide an engaging and positive learning environment for learners to improve their knowledge and abilities.

Learner- Centred Type Approach

As to the teaching approach, the teachers usually follow a structured class routine. The class jumpstarts through a motivation/review and is followed by the lesson, then formative assessment and generalisation. This structure is a learner-centred and constructivist approach to teaching. Students in student-centred sections performed significantly better than students in teacher-directed sections in terms of process skill comprehension and application, creativity skill application, development of more constructive behaviours, and the ability to apply science principles in new ways (Akcay and Yager, 2010). This implies that a learner-centred section and a smooth flow of the teaching-learning process contribute to better achievement among learners.

Professional Development

Training sessions and attendance to science-related seminars and workshops are the common opportunities teachers involve themselves in order to achieve high performance in science. As reiterated by a teacher-respondent, "I attend training/workshops where I find applicable to my field. I also attended several webinars

during the lockdown to enhance my knowledge and abilities."

Support System

Support from other school stakeholders also contributes to the sustenance of the science practices because of the financial, moral, and even administrative upkeep provided to the whole school community. As an old cliché goes, "A child is not raised by parents alone but a whole community," implying that other stakeholders outside the school also contribute to the high performance of learners in science-related activities in their respective ways.

The close ties and communication between stakeholders and the school, along with their support in different areas and active involvement, contribute to the schools' practices regarding their high performance in science-related activities.

Conclusion

This research on science practices took among the top three (3) schools in Baguio City in science-related contests, namely, Baguio City National High School-Main, Pines City National High School-Main, and University of the Cordilleras-Senior High School. As a result, the following conclusions are:

1. The science teachers have finished their bachelor's degrees. Some pursued their master's degrees, and only one of the whole populations finished their doctorate. Correspondingly, the same trend is true for the length of service. The majority are novices in the field. As to their science-related achievements/awards/innovations, few made such initiatives. In contrast, they assumed positions in science-related clubs/organizations, attended science-related seminars, training, and workshops, and provided science-related expert services (e.g., coach, adviser, speaker, trainer, etc.) in some way.
2. The 45 student participants, an average number in the population had a GPA of 91-95 per cent, of which few of them earned science-related awards. Notably, the schools' NAT results for the past two years were far from the set goal of DepEd, which is about 75 per percent. For students, their deemed science practices include (1) opportunities for example exposure to varied activities and competitions in the field of science and (2) the conduct of seminars and training in science-related topics.
3. The schools' material resources were also considered. All the school participants possess library holdings and laboratory facilities at par with the DepEd set standards.
4. The extent of support provided by the administration, parents, and other stakeholders was set at a high point in relation to the following parameters: financial, moral, and administrative. They converge to come up with the finest practices in science based on all the data.
5. For teachers, practices in science in general include (1) creating a positive learning environment; (2) using a learner-centred approach; (3) professional development such as immersion in training, seminars, workshops, and competitions; and (4) establishing strong community linkages.

Table 6. Laboratory Facilities

Laboratory Materials	Quantity	DepEd Prescribed Figures	Remarks
A. Glass wares	3,286	239	Exceeded the standard
B. Disposable Lab Wares	897	313	Exceeded the standard
C. Storage Apparatus/ Facilities	3,422	93	Exceeded the standard
D. Experimental Apparatus	13,910	964	Exceeded the standard
E. Analytical Apparatus	475	32	Exceeded the standard
Grand Total	20,050	1,641	

Table 7. Extent of Support from the Administration and Parents

Variable	M (Administrators)	DR	M (Parents)	DR
Financial				
a. There is a provision for pocket money.	3	*O*	4	*A*
b. There is a provision for material needs, registration fees, and transportation.	4	*A*	4	*A*
			4	*A*
c. There is a provision for "extra needs.	3.5	*A*	4	*A*
Moral				
a. Physical presence is sensed during training.	4	*A*	4	*A*
b. Attendance during the competition proper is felt.	4	*A*	3	*O*
c. There is a provision for words of encouragement.	4	*A*	3.5	*A*
	4	*A*	3.5	*A*
Administrative				
a. There is a provision for the training schedule.	4	*A*		
b. There is a provision for incentives.	3	*O*		
	3.5	*A*		

Legend:

3.25- 4.00	=	Always	(A)
2.50- 3.24	=	Often	(O)
1.75- 2.49	=	Seldom	(SE)
1.00- 1.74	=	Never	(N)

Table 8. Teachers' Responses on their Practices in Science

Codes	Frequency	Percentage	Themes
A positive atmosphere where students engage; Fun; Learners are attentive & engaged; Interactive	10	67	*Positive Learning Atmosphere*
Lecture & Laboratory; Student involvement; Classroom management; Hands-on activities; Learning through exploration; Experimentation & demonstration; Helping low performing learners; Student improvement	14	93	*Learner-centered type approach*
Participating in Science fairs & other science- related competitions; Attending training, seminars, & workshops Monthly Professional Development Meetings/ Programs Mentoring and teacher collaborations; Learning Action Cells;	15	100	*Professional Development*
Support system; Provision of needs; Donations; Sponsorships/ Funding; Rewards	15	100	*Establishing Strong Community Linkages (Support System)*

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