

Factors Affecting the Teaching Performance of the Biology Teachers in Aurora Zamboangadel Sur: Basis for Improvement

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Abstract

Teaching is self-sacrificing profession but full of excitement. However, teaching continuously upgraded and modified to meet the individual needs of the learners and at the same time keep abreast to the modern world. In this study, factors that affect the teaching performance of biology teachers in Aurora Zambonagadel Sur were surveyed. Fifteen (15) biology teachers from the different Junior High Schools purposively selected and participated the study. Using a descriptive survey research design, survey questionnaire, informal interview and ocular inspection of the school were the process involved in data gathering. Variable investigated confined into two main categories; the teacher profile and the school profile, and how these profiles affect the biology teachers' performance. Based on the analysis of data, findings revealed that the biology teachers are not all graduated in a Biology/Science courses, eligible, has very satisfactory teaching performance, but limited professional growth and trainings. For the school profile, results revealed that the schools have adequate book supplies, poor laboratory equipment, average class size and classroom size. Results further showed that field of specialization, books, laboratory equipment, and trainings are significantly correlated to the teachers teaching performance in biology. Thus, it is recommended that school facilities and teachers professional growth is given priority by the Department of Education in order to provide a continuous quality service to the learners resulting to quality education and quality graduates. Replication of this study to other municipality could be conducted to assess the status of the profile of the teachers and the school as needs assessment analysis.

Keywords: factors, teaching performance, biology teachers, improvement.

Introduction

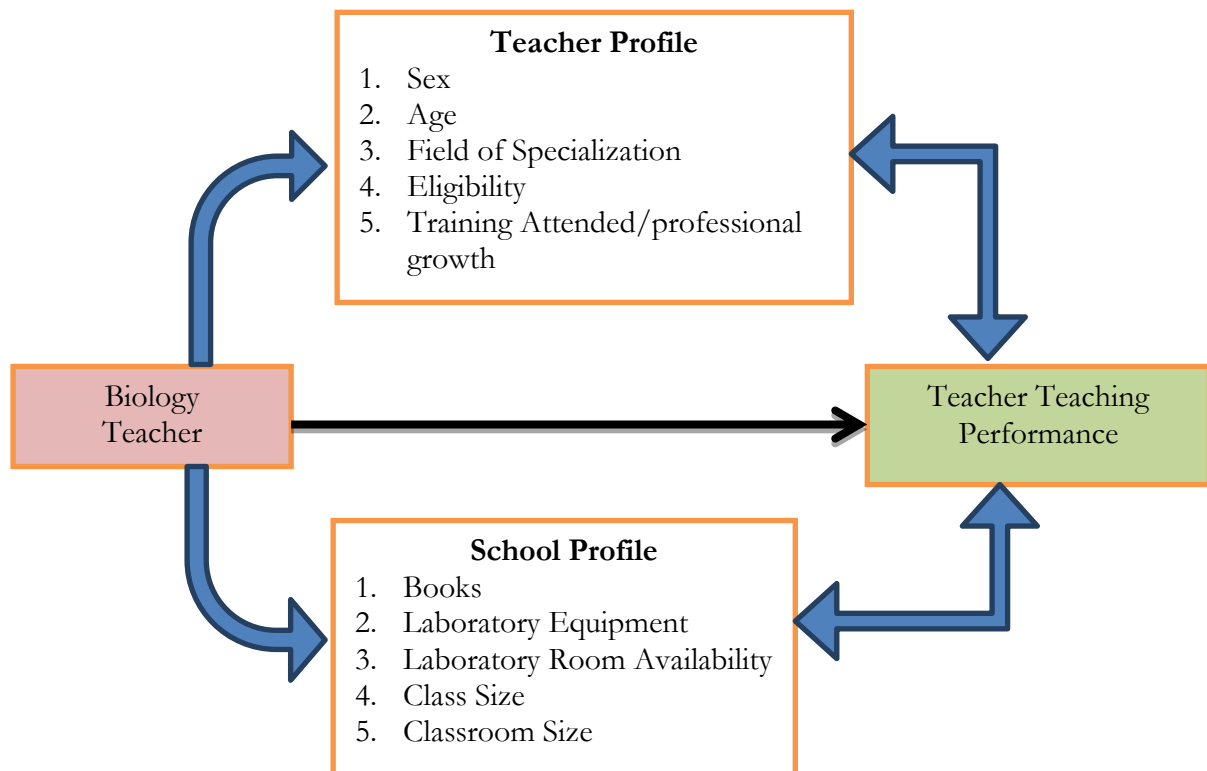
Attaining quality education is a great challenge. Regular assessment for both faculty and school profile is necessary as monitoring and evaluation process for the quality of service the school has offered. The performance of the students depends on the competency of the teachers and the facilities of the school. Leask (2000) said that the teachers successfully attended to the contents of the subject matter if their performance is better. Improvement in science education begins with the assignment of science teacher who has a good science background, knows how students learn and wants to be a good teacher. The teacher is the key to the learning situation Adeyemo Oladipupo & Omisore (2013) and Alimi, Akungba & Alabi (2012) revealed that textbooks are important tools for learning of students. Facilities and equipment could not also ensure superior

teaching and learning if the teacher is not competent to teach and to use the said equipment due to inadequate teaching experience. Teachers must be aware of different teaching pedagogies and learning materials to fully use it in the teaching-learning process (Valdez, 2015).

Good science teaching cannot go on classes that are too large class size. There must be space, time and opportunity for the students to handle materials and do some investigations individually and in small group. Teachers are motivated to teach if class size is smaller (25-30 students) (Adeyemo Oladipupo & Omisore, 2013). This study is anchored on the premise that teacher is the key factor in the educational process that serve as model, mentor, guide, counsellor and inspire the students in their journey to success. Attempt to improve the quality of education begins with the training of the teachers themselves.

Framework of the Study

Framework of the study employed a more complex causal model of direct and indirect causal links of variables. These variables are the considered factors that directly or indirectly affects or influence the biology teachers' teaching performance.



Literature Review

Competent teacher is one who knows the subject matter. Subject expertise is necessary in the delivery of instruction to the learners. The teachers must teach according to their field of specialization. Valdez (2015) mentioned that qualities of teachers are measured through their performance that gives the teacher a chance to monitor and update their professional qualities. Nsoka & Orodho (2014) stressed out in his research findings that teaching must be given ample time and assistance through various professional trainings, and other professional development. Quality of teachers teaching performance in all areas is dependent upon the quality of teaching.

Teachers' characteristics have bearing in his performance. Availability of instructional materials and other teaching and learning resources needed to teach and learn is very important in delivering the lessons effectively to the students (Aguado, Garcia, Laguardor & Deligero, 2015).

Teachers' educational characteristics' affects teaching performance. Leask (2000) mentioned that teaching become more effective when the teaching process is structured through experiences that matches the needs of the learners. Teachers should teach the students according to their pace of learning from basic to complicated (Alimi, 2012). Teachers should endeavour with their area of specialization to provide the best training for their students. Government and school administrators also must provide quality-learning environment for both teachers and students. Other factors related to teaching performance are the school facilities. Learning to teach is designed to meet the needs of the new approach to the teaching education. Class size is also considered as factor in teaching – learning situation. Smaller class size produce significantly higher academic performance than larger classes.

Teaching is both an art and science. However, there is no set of skills, techniques, and procedures that the teacher to master. Work values and attitudes also matters on the teachers competence in teaching. Henard & Rosevare, (2012) said that in an academe positive work values is very important to generate optimum learning outcomes of the students particularly in sustaining students work progress and learners development thinking skills. When teachers has positive outlook in life it resulted to teach the students competently through quality teaching and learning. Teachers are unique that can bring out the best of their students. However, teacher is not only the key person to sustain quality education, school administration also play crucial role particularly in supporting the school environment that is conducive to teaching and learning activities. School administrations have the power to help improve the quality of teachers and students by providing the needed materials in the delivery of instructions and encourage them to perform their teaching responsibilities effectively and efficiently (Aarabi, Subramaniam & Akeel, 2013).

Methods

Participants of the Study

The study was conducted in the seven (7) junior high schools in Aurora Zamboangadel Sur, both private and public schools. The participants were the biology teachers of the seven junior high schools fifteen (15) biology teachers that purposively selected. Table 1 is the frequency distribution of the participants

Table 1. Distribution of Respondents per School Participants

No.	Name of School	Number of Biology Teachers
1	Aurora Pioneer Memorial School	3
2	Aurora National High School	3
3	Mahayahay National High School	2
4	Commonwealth National High School	2
5	Saint Therese Academy	1
6	Lintugop National High School	2
7	Lantungan National High School	2
		15 teachers

Design

This study is a longitudinal research using descriptive-correlational research design. It aimed to describe and analyse the existing condition of each junior high school in Aurora Zamboangadel Sur.

Instruments

The instruments used in data gathering includes questionnaire, loosely structures interview guide questions, observations, analysis of documents, and performance rating sheet for the biology teachers.

Procedure

In data gathering, the researcher observes proper protocol. There was letter request for the school division head asking permission to conduct the study in the seven schools. Letter was also sent to the principal of each participating school. There was a preliminary school immersion to each school for establishing rapport and orientation of the participants. After securing necessary permit and preliminary data, the researcher gathered the data.

Analysis of Data

Data gathered was analysed quantitatively and qualitatively. Using statistical software, which includes descriptive statistics and correlation, was used in quantitative data analysis. Data gathered from observations, informal interviews and document analysis was qualitatively analysed.

Results

Data gathered was analysed quantitatively using Statistical Package for Social Science (SPSS).

Descriptive Statistics

1. Teachers' Profile

Table 2. Frequency and Percentage Distribution of Teachers' Profile

Teachers' Profile		Frequency	Percentage
Age	25 below	3	20
	26-30	5	33.33
	31-35	2	13.33
	36-40	2	13.33
	41 above	3	20
Total		15	100
Sex	Male	4	26.7
	Female	11	73.3
Total		15	100
Field of Specialization	BSE	8	53.3
	BSE Biology/General Science	4	26.7
	Others	3	20.0
Total		15	100
Eligibility	None	7	46.7
	PBET	8	53.3
Total		15	100
Trainings/Professional Devt.	None	9	60
	Attended trainings	6	40
Total		15	100

2. School Profile

Table 3. Frequency and Percentage Distribution of School Profile

School Profile		Frequency	Percentage
Books	Poor	1	6.7
	Inadequate	4	26.6
	Adequate	10	66.7
Total		15	100
Laboratory Equipment	Poor	12	80
	Inadequate	1	6.7
	Adequate	2	13.3
Total		15	100
Laboratory Room	Poor	13	86.7
	Inadequate	2	13.3
	Adequate	0	0
Total		15	100
Class Size	25-30 students	0	0
	31-36 students	8	53.3
	37-42 students	7	46.7
Total	Ave. class size = 40.2	15	100
Classroom Size	Small (30 students)	3	20
	Regular (40 students)	8	53.3
	Large (60 students)	4	26.7
Total		15	100

3. Teachers' Performance

Table 4. Average Rating of the Biology Teachers in each part of the Performance Rating Sheet

Part of the Performance Rating Sheet	Mean Rating	Qualitative Description Equivalent
Student Achievement	7.5	Very Satisfactory
Teachers' Competence	7.8	Very Satisfactory
Teachers' Personality & Human Relation	9.0	Very Satisfactory
Plus Factor	0.20	Unsatisfactory

Scaling: 9.3 = above Outstanding 7.5 – 9.2 = Very Satisfactory
 5.0 – 7.4. = Satisfactory 3.0 – 4.9 = Fair 2.0 – 2.9 = Unsatisfactory

Table 5. Frequency and Percentage Distribution of Biology Teachers New Performance Appraisal System

Performance Rating	Frequency	Percentage
Outstanding	0	
Very Satisfactory	11	73.3
Satisfactory	4	26.7
Fair	0	
Unsatisfactory	0	
Mean = 8.18 Very Satisfactory		

Scaling: 9.3 = above Outstanding 7.5 – 9.2 = Very Satisfactory 5.0 – 7.4. = Satisfactory
 3.0 – 4.9 = Fair 2.0 – 2.9 = Unsatisfactory

4. Relationship between Teachers Performance and Teachers Profile

Table 6. Relationship of Teachers Performance and Teachers Profile

Correlated Variable	r- value	t - computed	Interpretation
Teachers Performance & Sex	-0.01	-0.04	No correlation & Not Significant
Teachers Performance & Age	0.01	0.39	No correlation & Not Significant
Teachers Performance & Field of Specialization	-0.38	-1.32	Low correlated & Significant
Teachers Performance & Eligibility	-0.07	-0.26	No correlation & Not Significant
Teachers Performance & Trainings	0.42	1.67	Moderately Correlated and Significant

Legend for r value: +/- 0.8 – 1.0 very high correlation critical value = 1.16 at 0.05 level of significance

- +/- 0.6 – 0.79 high correlation
- +/- 0.4 – 0.59 moderate correlation
- +/- 0.20 – 0.39 low correlation
- +/- 0.01 -0.19 negligible correlation

5. Relationship between Teachers Performance and School Profile

Table 7. Relationship of Teachers Performance and School Profile

Correlated Variable	r- value	t - computed	Interpretation
Teachers Performance & Class size	0.34	1.33	Low correlation and significant
Teachers Performance & Books	-0.30	1.16	Low correlation and significant
Teachers Performance & Laboratory Facilities	0.27	1.03	Low correlation but not significant
Teachers Performance & Classroom size	0.04	0.16	No correlation and not significant
Teachers Performance & Laboratory room availability	0.17	0.65	No correlation and not significant

Legend for r value: +/- 0.8 – 1.0 very high correlation critical value of t = 1.16

- +/- 0.6 – 0.79 high correlation
- +/- 0.4 – 0.59 moderate correlation
- +/- 0.20 – 0.39 low correlation
- +/- 0.01 -0.19 negligible correlation

Discussion

Surveyed on the factors affecting the Biology Teacher Teaching Performance of the Junior High Schools in Aurora Zamboangadel Sur, Philippines were guided on the following research questions;

1. What is the profile of the biology teachers in the junior high schools in Aurora Zamboangadel Sur?
2. What is the school profile of the junior high schools in Aurora Zamboangadel Sur?
3. What is the level of biology teachers teaching performance?
4. What is the extent of relationship between the teachers profile and teaching performance, and school profile and teaching performance?

Based on the statistical findings presented in Table 2 to Table 5, findings are summarized below:

1. Majority of the biology teachers are non-science degree holder, licensed teachers, young ones and have limited trainings or professional growth.
2. For the school profile, results showed that the junior high schools has adequate supply of books, has an average class size, and enough or regular classroom size but, it has poor laboratory facilities and no laboratory rooms.
3. In terms of the teachers' performance, the teacher has a very satisfactory rating on student achievement, teachers' competence and teachers' personality and human relation. However, they rated unsatisfactory in the plus factor. "Plus factor" includes preparation and utilization of materials, students' evaluation, professional growth, and records and report management.
4. Of the teachers profile and teachers performance, results revealed that only the field of specialization and trainings or professional growth significantly correlated and affects the teachers' performance.
5. Among the school profile, only class size, books and laboratory facilities shows correlation that is it may affect the teachers teaching performance.

Considering that biology teachers are mostly non-science major, competent in the delivery of instructions is questionable. Vandiver (2011) said that viewing teachers includes teaching effectiveness, personal qualification, actual teaching, and teacher impact on student behaviour. This finding is triangulated with the teachers' performance assessment in which they are unsatisfactory in the "Plus Factor" (preparation and utilization of materials, student's evaluation, professional growth, and records and report management). Appropriate qualification and experienced both in teaching and administrative works are one characteristic of a trained schoolteacher. Teachers teaching should be dynamic in order to cope with the new trends of methods and techniques. Laguador & Agena (2013) said that teachers organize their primacies and responsibilities especially the novel teachers teaching a subject that is not in their field of specialization. Furthermore, Moussaouy, Abderbi & Daoudi (2014) pointed out that continuous professional growth is a major provider of having extraordinary teaching performance. Teachers should continue to learn and invest for constant education and trainings.

School profile specifically books, facilities and class size really affects the teacher teaching performance. Leask (2000) stressed out that class size affects learning and teaching interaction. Similarly developing oral skills in the class of thirty is a different matter to developing them with a class of twenty (20). Alimi, Akungba, & Alabi (2012) added that facilities to support teaching especially in biology teaching should base on sound educational specification on the objectives of science programs. School facilities are the space explanation and physical expression of the school curriculum. Conducive learning environment is very important in teaching since the school s is established for the purpose of teaching and learning (Alimi, 2012). A conducive learning environment will facilitate efficient and effective teaching and learning (Philius & Wanjobi 2011).

Laguador, De Castro & Portugal (2014) reiterate the importance of the school officials' role in promoting quality learning and school environment, which needed to demonstrate maximum teaching and learning outcomes. Study of Cynthia & Megan (2008) supports the findings of this study stating the importance of quality school facilities in promoting quality education and higher academic performance of both teachers and students. Conducive working and learning environment motivate the teachers and students to accomplish their task efficiently and effectively. Teachers can also vary their teaching strategies any moment as long as instructional materials are readily available in the classroom (Blount & Napolitano, 2014).

Akinfolarin (2008) mentioned that classroom fixtures, amusing equipment, library facilities, and laboratory equipment are major factors that could affect teaching and student performance. Ayodele (2000) and Vandiver (2011) research findings revealed that school facilities and students' academic performance are significantly influence each other. Ajayi (2006) found out that the nature of school could influence students' academic performance. In addition, Philiat & Wanjobi (2011) findings revealed that the type of schools, (single sex or mixed, private or public) can also affect the academic performance of students.

Adeyemo, Oladipupo, and Omisore (2013) pointed out in their research findings that the educational qualification of teachers and student's academic performance are significantly related and affect each other. Teachers incentives, promotion and motivation can also relatively impact student's academic performance. In any educational system, the quality of education really depends on the quality of teachers, school facilities and other instructional materials. Stimulating and favourable working and learning environment will help promote the teachers in giving quality education to the students (D'Silva& Hamid, 2014). School administrators that are supportive in giving insights, motivation, and facilities to the teachers surely burn the teachers to teach proficiently in providing excellent education to the students (Geraki, 2014).

Conclusion

This study provides insights to the school administrators and teachers to take seriously the needed materials and professional qualities to provide exceptional education to the learners. Proper and effective delivery of instructions is very important so as with the school facilities and learning environment play a substantial role in the transmission of instruction and knowledge. Thus, giving quality education needs competent human capital and continuous financial assistance. Proper program implementation, continuous professional growth, quality learning environment and other external supports has significant contributions to provide and maintain quality education.

Recommendation

To improve teaching performance and quality of learners and learning environment, the following are recommended based on the findings of the study:

1. Continuous support for professional growth of the teachers is encouraged particularly on continuous education to their field of specialization and training.
2. Concerted efforts of the school administrators for a compulsory attendance of teachers to science seminar-workshops, sandwich programs and other related field of trainings is encourage.
3. School administrators design in-service training programs for the science teachers to enhance their pedagogical content knowledge in science.
4. There should be annual budget to update school profile/facilities and teachers professional growth.

5. Parallel study is encouraged to assess the status of teachers' performance and school facilities. The findings will provide feedback reports on the factors that affect teachers and learners performance for the government to take appropriate action on the weaknesses results.

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