

Parents' Perception of Chemistry Teachers' Instructional Efficiency in Secondary Schools in Idah Local Government Area, Kogi State

American Journal of Education and Learning

Vol. 4, No. 1, 157-163, 2019
e-ISSN:2518-6647



 Lawrence Achimugu

Dept. of Science Education, Kogi State University, Anyigba, Nigeria
Email: larvachi88@gmail.com

ABSTRACT

The study investigated the parents' perception of chemistry teachers' level of instructional efficiency in secondary schools in Idah Local Government Area of Kogi State. Two research questions guided the study. A descriptive survey design was used. The entire population of 718 parents from 8 public senior secondary schools were samples. The instrument used for data collection was a 22-items structured questionnaire developed by the researcher. The instrument was validated and the reliability was established using Combach alpha ($r=0.77$). Mean and standard deviation were used to answer research questions. The results revealed the chemistry teachers were inefficient in their following tasks: punctuality to the class, encouraging students to participate in science club, inviting parents/community resource persons as guest instructors among others. Also the study revealed the factors that inhibit chemistry teachers' efficiency in their instructional roles to include: lack of fund, inadequate instructional materials, poor payment/delay in payment of teachers' salaries, shortage and inadequate training of teachers. Recommendations were made to include that parents should be encouraged to assess chemistry teachers regularly and the feedback should be used to improve chemistry teacher instructional roles among others.

Keywords: *Chemistry teachers, Instructional efficiency, Parents, Perception, Senior secondary schools.*

DOI: 10.20448/804.4.1.157.163

Citation | Lawrence Achimugu (2019). Parents' Perception of Chemistry Teachers' Instructional Efficiency in Secondary Schools in Idah Local Government Area, Kogi State. *American Journal of Education and Learning*, 4(1): 157-163.

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Funding: This study received no specific financial support.

Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.

History: Received: 12 February 2019/ Revised: 14 March 2019/ Accepted: 16 April 2019/ Published: 5 July 2019

Publisher: Online Science Publishing

Highlights of this paper

- The study investigated the parents' perception of chemistry teachers' level of instructional efficiency in secondary schools in Idah Local Government Area of Kogi State.
- The find of this study includes that parents should be encouraged to assess chemistry teachers regularly and the feedback should be used to improve chemistry teacher instructional roles among others.

1. INTRODUCTION

Chemistry is one of the three major basic sciences along with biology and physics. Mital (2014) defined Chemistry as the science that is concerned with the composition, structure and properties of matter, as well as the changes it undergoes during chemical reactions. According to Egbutu (2014) Chemistry as a subject is made of concepts which require complex mental process that involves visualizing, manipulating, analyzing, abstracting and associating with idea. This implies, that the study of chemistry requires effective and efficient teaching for the students to learn meaningfully. But, chemistry teachers are at the centre of teaching chemistry and it takes an effective and efficient chemistry teacher to do his/her job properly. Oshodi (2007) defined an efficient teacher as one who has the ability to produce desired results in the course of his/her duties. Empirical studies carried out by chemistry educators have revealed instructional tasks for teachers' efficiency and effectiveness, (Nwosu, 1998; Achimugu, 2016a). Nwosu (1998) specifically found the following as instructional tasks or evaluating factors for teachers' efficiency: communication ability, enthusiasm, use of teaching aids, use of lesson plans, evaluation techniques, attitude to students and work, involvement in practical works and co-curricular activities. Achimugu (2016a) on his own contribution, pointed out: use of teaching methods, use of instructional materials, giving of assignment to students, communication abilities, attitudes to work and use of evaluation techniques, etc.

Despite the optimistic picture of the positive roles of chemistry teachers in enhancing efficient teaching and learning of chemistry, literature is replete with examples of factors that inhibit chemistry teachers from playing their instructional roles such as: poor funding, poor remuneration, lack of qualified teachers, lack of instructional materials, large class size, poor training, inadequate infrastructures among others (Ajeyalemi, 1983; Ezeliora, 2003; Ayeni and Akinfolari, 2014; Achimugu, 2016a). To ensure the efficiency of chemistry teachers, there is the need for all stakeholders including Parent Teachers Association (PTA) to encourage chemistry teachers to be at their best.

Ajayi (1999) defined PTA as a democratic body which attempt to bring parents and teachers together in the interest of the students. PTA is a voluntary association of parents and teachers in particular school established for its development (Ugwulashi, 2012). Ekundayo and Alonge (2014) highlighted some aims and objectives of PTA to include; provision of platform for parents and teachers to meet and exchange views, deeply analyzing issues and make recommendations, effective implementation of decisions on matters affecting education, supporting the school morally and financially, enhancing student's academic performance, amongst others. Indeed, it is an organization that ensures mutual relationship between the school and the parents. Despite the notable role of parents in the senior secondary schools in Kogi State, it appears that the parents are not given opportunity to be seriously involved in assessing what happens in the school system. Indeed, there are preponderance of literature on the assessment of chemistry teachers and students. But hardly could one find the same assessment by the parents. Thus, this work is focused on determining the parents' perception of chemistry teachers' level of instructional efficiency in senior secondary schools in Idah Local Government Area (LGA) of Kogi State.

1.1. Problem of the Study

There is increasing display of the societal dissatisfaction over poor academic achievement in chemistry in Public Secondary Schools in Nigeria (West Africa Examination Council (WAEC), 2007). As result of this, every

secondary school struggle to improve the image of her school especially on the area of academic performance in external examinations. Thus, the need to involve the PTA in running the affairs of the school. But the parent's involvement in most of the schools limited to one of the objectives of PTA-financial contribution to the schools (Ayeni, 2012). The assessment or perception of parents on the level of efficiency of the chemistry teachers have been ignored. Therefore, researchers in education are challenged to carry out research in this direction. Thus, this study seeks to examine the perception of parents on chemistry teachers' level of instructional efficiency in secondary schools in Idah Local Government Area of Kogi State.

1.2. Purpose of the Study

The main purpose of this study is to survey parents' perception of chemistry teachers' instructional efficiency in senior secondary schools in Idah LGA of Kogi State.

Specifically, the study sought to:

1. Reveal the parents' perception on the various levels of chemistry teachers' instructional roles that enhance their efficiency in the school system
2. Reveal the parents' perception on various factors, that inhibit chemistry teachers high level of instructional efficiency.

1.3. Research Questions

1. What are the chemistry teachers' instructional efficiency as perceived by the parents?
2. What factors inhibit chemistry teachers' instructional efficiency as perceived by the parents?

2. METHODS

A descriptive survey design was used for this study and it was carried out in public senior secondary schools in Idah Local Government of Kogi State. The target population was all the parents in 8 public senior secondary schools in Idah LGA. There was no sampling as the entire population of all parents (718) who attended the PTA or open day meeting for the eight secondary schools responded to the questionnaire. The instrument for data collection was 22-items structured questionnaire developed by the researcher, titled "Parents' perception of teachers' questionnaire (PPTQ)". The questionnaire was weighted on 4-point likert type scale as follows: Strongly Agree (SA)=4; Agree (A) =3; Disagree (D)=2; Strongly Disagree (SD)=1 for positive statements as per the research questions, while SA=1, A=2, D=3 and SD=4, for the negative statements as per the research questions. The PPTQ consisted of two sections: section one have 11 statements that require the parents to indicate the chemistry teachers' instructional roles that enhance efficient teaching and learning of chemistry respectively, while section three were 11 statements that sought from the parents possible factors that inhibit principals and chemistry teachers instructional efficiency. The questionnaire was validated by two specialists in chemistry education and one specialist in measurement and evaluation. Their views and suggestions were incorporated in building up the final draft of the instrument. To determine the reliability, the instrument was trial tested on 106 parents from neighbouring schools in Edo State that were not part of the sample. The result was used to calculate the reliability index using Cronbach Alfa technique and it was 0.77. It was considered adequate and reliable for this study. The researcher administered the questionnaire to the parents during each of the PTA meeting/open day on face-to-face method to ensure 100% percent return. Mean and standard deviation was used in answering the research questions. The criterion mean value was 2.50 and any item that scored the mean of 2.50 and above was regarded significant or efficient while those that scored mean value of less than 2.50 were regarded as insignificant or inefficient.

3. RESULTS

The results of this study are presented in Tables 1 and 2 according to the research questions.

Research Question 1

What are the chemistry teachers' instructional efficiency as perceived by the parents?

Table-1. Mean Rating and Standard Deviation of Parents Responses on Chemistry Teachers Instructional Performance.

S/NO	Questionnaire Items	Mean	SD	Remarks
1	Chemistry teachers attend their classes on regular basis.	2.84	0.83	Efficient
2	Chemistry teachers are always punctual in attending their classes.	2.13	0.72	Inefficient
3	Chemistry teachers always prepare their lesson notes.	2.75	0.88	Efficient
4	Chemistry teachers give notes to the students regularly.	3.65	0.58	Efficient
5	Chemistry teachers give class assignments/home works on regular basis to the students.	2.22	0.69	Inefficient
6	Chemistry teachers conduct continuous assessment on regular basis.	3.38	0.64	Efficient
7	Chemistry teachers regularly give feedback to the students on their academic performance.	2.96	0.66	Efficient
8	Chemistry teachers always encourage their students to participate actively in science club, quizzes and debates.	1.82	0.88	Inefficient
9	Chemistry teachers take students out for excursion/field trip on regular basis.	1.87	0.74	Inefficient
10	Chemistry teachers conduct practical classes regularly	2.14	0.075	Inefficient
11	Chemistry teachers do invite parents or members of the community as guest instructors.	1.25	0.89	Inefficient

From Table 1, mean rating of items 12,14,15,17 and 18 were above the criterion mean of 2.50. This shows that the chemistry teachers performed well in the above mentioned instructional roles as perceived by the parents. In other hand, the mean rating of items 13,16,19,20,21 and 22 (i.e. 6 out of 11) were below criterion mean of 2.50. This shows that the chemistry teachers performed poorly or below expectation on their instructional roles as perceived by the parents.

Research Question 2

What factors inhibit principals and chemistry teachers' instructional efficiency as perceived by the parents?

Table-2. Mean Rating and Standard Deviation of Parents' Responses on the Factors Inhibiting the Chemistry Teachers Instructional Efficiency.

S/NO	Questionnaire Items	Mean	SD
12	The school is adequately funded by the Government.	3.16	0.99
13	Government provides adequate instructional materials.	3.62	0.55
14	The principals and teachers are well paid.	2.96	0.73
15	The principals and teachers are paid as and when due.	3.08	0.88
16	The number of classrooms in the school are adequate.	2.38	0.59
17	The students' knockers and chairs are adequately provided.	2.12	0.68
18	The school has upto date and adequate textbooks in the library.	3.21	0.73
19	The school has adequate science equipment in the chemistry laboratory.	3.88	0.68
20	The staff rooms and principals' offices are well furnished.	2.27	0.70
21	The school has enough and qualified teaching staff.	3.10	0.66
22	Teachers are adequately trained.	2.95	0.72

Table 2 shows item statements of factors which enhance chemistry teachers' instructional roles, instead of factors that inhibit their roles i.e. the statements are negatively cued to the research question. The mean rating of items 23, 24, 25, 26, 29, 30, 32 and 33 were above the criterion mean of 2.50. This implies that the parents' agreed that the item statements do inhibit the chemistry teachers' performance of their instructional roles. In other words, lack of fund, inadequate instructional materials, poor payment of teachers salaries, delay in payments of teachers'

salary, inadequate textbooks, inadequate science equipment, lack of qualified and inadequate training of teachers are factors that inhibit principals and chemistry teachers from performing the efficiently as perceived by the parents. However, items 27, 28 and 31 were below the criterion mean of 2.50. This implies that parents disagreed that the item statements inhibit the principals and chemistry teachers' instructional efficiency.

4. DISCUSSION

The result of data analysis from [Table 1](#) showed that the parents sampled, were of the view that chemistry teachers were effective and efficient in their instructional roles in the following areas: regular attendance to classes, preparation of their lesson notes, giving of notes to students, conduct of continuous assessment and feeding students back on their academic performances. This finding is in conformity with the findings of chemistry educators ([Ayeni and Akinfolari, 2014](#); [Achimugu, 2016a](#)) who pointed out that the above instructional tasks are crucial for effective and efficient teaching and learning of Chemistry. The assessment of chemistry teachers by the parents were negative on the following instructional tasks: punctuality to the class, giving class assignments/home works, encouraging students to participate in science club/quizzes/debates, taking students out for excursion, conducting regular practical classes and inviting community members as guest instructors.

[Table 2](#) revealed that certain factors in the schools inhibit the chemistry teachers' high level of efficiency in their instructional roles. The factors include: lack of fund, inadequate instructional materials, poor payment of teachers' salaries, inadequate textbooks, inadequate science equipment, shortage of qualified teachers and inadequate training of teachers. This finding is in consonance with the earlier findings of chemistry educators ([Ajeyalemi, 1983](#); [Ezeliora, 2003](#); [Ejidike and Oyelana, 2015](#); [Achimugu, 2016b](#)). Indeed, [Achimugu \(2016b\)](#) lamented that the issue of poor funding, poor motivation of teachers and inadequate instructional materials are becoming re-occurring decimals in science education report and only hope that government at various levels are listening and doing something. Again parents have added their voices to the same cankerworms hampering effective implementation of science education in Nigeria. Once again, government is called upon to ensure strict implementation of this research report in order to enhance efficient teaching and learning of chemistry in our senior secondary schools. The parents opined that lack of classrooms, knockers/chairs and furniture do not inhibit the efficiency of the principals and chemistry teachers. The views of parents in this direction, maybe as a result of the poor teaching and learning conditions of our public secondary schools, which have compelled parents to seek admission for their children/wards in private secondary schools, thereby depopulating public secondary schools.

5. CONCLUSION

The roles of the school principal can be classified into managerial and instructional roles. Through, series of instructional leadership roles, the principal is expected to create an environment where chemistry teachers can comfortably actualize their own instructional tasks. Therefore, the objectives of senior secondary education chemistry curriculum cannot be achieved, if chemistry teachers are found wanting on their instructional roles. Parents as undisputable stakeholder in the school system have great potentials to assess the chemistry teachers' instructional efficiency. This assessment has two dimensional merits: firstly the chemistry teachers are made aware, that they are accountable to the parents and the hosting community, and therefore they have to be committed and dedicated to their duties. Secondly, the extents to which the parents and community can possibly impact on the achievement of school goals, depend on their conviction that the teachers are effective and efficient on their instructional duties. This paper concludes that parents' involvement on the assessment of chemistry teachers' effectiveness and efficiency, enhance the achievement of schools goals.

6. RECOMMENDATIONS

In the light of the above, the paper recommends that:

- 1) Parents should assess chemistry teachers on regular basis and the feedback should be used to improve the instructional roles of the chemistry teachers.
- 2) Chemistry teachers should be dedicated to their duty by: being punctual to their classes; encouraging students to participate actively in science club/quizzes/debates and inviting parents or community members as guest instructors.
- 3) Parents through PTA levies and other fund raising activities should employ PTA teachers and purchase for the school adequate number of recommended instructional materials, among others.
- 4) Government should provide adequate fund schools as well as ensure that teachers are adequately remunerated and paid as and when due.
- 5) Chemistry teachers are encouraged to attend workshops, seminars and conferences that are relevant to their fields in order to update their knowledge and skills, which will at long run, promote their professional development.

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