

Influence of Motivation on Technical Teachers' Performance in Niger State, Nigeria

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Abstract

The research study determined influence of the motivation on technical teachers' performance in Niger State, Nigeria. The study was a survey research in which data was collected through a 30 item questionnaire on a population of 120 respondents randomly sampled from some selected technical colleges in Minna, Suleja, Bida and Kontagora in Niger State, Nigeria. The data was analyzed using Mean and Standard Deviation on a 4-point scale. Findings of the study revealed among others that irregular payment of salaries to technical teachers has negative effect on the technical teachers' performance, creates absenteeism and laziness. The findings also revealed that: the establishment of seminars, workshops and conferences to the teachers has great positive influence in their teaching performance. Inadequate promotion of teachers poses a very big hindrance in the effective and efficient discharge of their duties. The paper recommended among others that there is need for the government to motivate technical teachers through regular payment of salaries, establishment, of seminar, workshops and conferences, in-service training and timely promotion in order to enhance technical teachers' productivity.

Keywords: Motivation, Technical teacher, Education, Technical Vocational Education.

Introduction

Technical education is a form of education that teaches technical skills and technical knowledge in specific occupational area needed for self-reliance in the society. Every citizen have right to enroll for technical education and the key to sustainable development and technological growth within and among countries is in the provision of quality technical education to the populace of such countries. This quality technical education can only be possible through the effort of good technical teachers who are qualified and willing to work. Any nation that wants to be recognized as a developed country must build its human resources firmly. Hence, a country is said to be technologically developed, if majority of her populace are well educated technically. Therefore, those that impart the needed knowledge or those that build and mould character must be motivated adequately because motivation is the key to performance and improvement. Hence it is believed that a motivated technical teacher always complete the tasks set for him, even when such tasks or assignments are difficult or seen uninteresting. However the pertinent question that may rise is; what is motivation?

Motivation comes from the Latin root "movers" which means to move. So motivation can mean the process of arousing the interest of an individual to take a move towards a certain goal. Wolfenson (2000) defined motivation as all those phenomena which are involved in the stimulation of actions toward particular objectives where previously, there was little or no movement towards these goals. Waitley (1996) defined motivation as the inner drive which prompts people act in certain ways. Motivation involves a number of psychological factors that start and maintained activities towards the achievement of personal goals. Motivation of technical teachers can have several effects on how students learn and their behaviour towards technical subjects. According to Wolfenson (2000), motivation of technical teachers and students in teaching and learning process can direct behaviour towards particular goals, lead to increase effort and energy, enhance cognitive processing, increase initiation of and persistence in activities, determine what consequences are reinforcing and it can also lead to improved performance. Orphlims (2002) is of the view that motivated technical teachers always look for better ways to do their teaching jobs; they are more quality oriented and are more productive.

Therefore, it means that motivated technical teachers are determined to give their, best to achieve the maximum output (qualitative technical education). Motivation can be in the form of regular payment of salary, fringe benefits, such as allowance, bonus on the job training, promotion of the teachers, provision of good working environment, maintaining high degree of relationship and improving the technical teachers' general well-being. Hence, any teacher that enjoys the above named items is bound to give all his best in the discharge of his duty because; he would derive satisfaction of being a technical teacher. The learning environment and teachers' motivation upon knowledge development relatively need attention in the field of technical education to ensure effective teaching and learning. What happens in the classroom between psychological implication of technical teachers concerning their motivation and the student ability to study well has an impact on students' opportunity to learn. The activities in the classroom, the repeated actions in which students and teachers engage as they learn are important because they constitute the knowledge that is produced (Cobb, 2008). Availability of teaching/learning resources and teachers' motivation enhances the effectiveness of schools as these are basic things that can bring about good academic performance in the students.

The educational effort that will be helpful in developing human resources needed is not given much attention. In particular, low quality education in technical education is an urgent

issue to be addressed. (Maicibi, 2003) opined that all institutions or organization are made up of human beings (workers) and other non-human resources. He further asserted that when the right quantity and quality of human resources are brought together, such can manipulate other resources towards realizing institutional goals and objectives. Consequently, every institution should strive to attract and retain the best of human resources. The implication of these opinions is that well trained and motivated technical teachers in technical education if well deployed to the technical schools will bring about well-grounded students who will perform academically well in terms of application of technical knowledge and vocational skills in real life situation for self-reliance and national development. Most technical teachers are trained and have clear goals to guide their teachings, but good motivations for the technical teachers and teaching/learning materials seem to be inadequate. It is in the light of this that the researcher deemed it necessary to research into the effects of motivation on technical teacher's performance in Niger State, Nigeria.

Statement of the Problem

It is obvious that professionally trained technical teachers always give in their best in carrying out their duties and responsibilities. However, it is important that technical teachers' activities must be compensated or rewarded as an encouragement as well as enabling them to work harder in order to achieve the main objective of teaching and learning. The absent of motivation has numerous negative effect in the standard of technical education in Niger State as the students are being deprived of the needed technical knowledge and vocational skills because the technical teachers are not motivated as to impact the needed knowledge and skills. Hence, the problems associated with this negative attitude towards motivation result to poor class room instruction, poor attention to practical classes and consequently poor quality of technical education (Ogbuanya, Bakare & Igweh 2010).

Therefore, the resultant influence of this problem affects the society at large, since the educational sector cannot produce the desired result as designed in the national policy of education. These problems necessitated the research into the effects of motivation on technical teacher's performance in Niger State.

Purpose of the Study

The purpose of this research is aimed at finding out the influence of motivation on technical teacher's performance in Niger State. The specific purposes are to:

- 1. determine the influence of irregular payment of salaries on technical teachers performance.
- 2. find out the influence of inadequate promotion on technical teachers performance in the teaching and learning process.
- 3. find out the extent to which teacher development programmes like seminars, conferences and workshops influence their personal academic and professional growth.

Research Questions

The following research questions were raised to guide the study:

- 1. What is the influence of irregular payment of salaries on technical teachers 'performance'?
- 2. What is the influence of inadequate promotion on technical teachers' performance in the teaching and learning process?
- 3. What is the extent to which technical teacher development programmes like seminars, conferences and workshops influences their personal academic and professional growth?

Literature Review

There is a general agreement among psychologists that all behaviours are motivated, people have reasons for doing the things they do and that behaviour is oriented towards meeting certain goals and objectives. That is why Freud (1990) and other psychologists generally agreed that man is motivated by the desire to satisfy a number of needs. Some of which he is not consciously aware of differences of opinions exist as to the nature and relative importance of these needs. This is true because there is no doubt that teachers whose financial needs are not satisfied will be psychologically and socially demoralized in their working attitude and they are of immense effect to the performances of such teachers. But when technical teachers' salaries and allowances are paid at and when due, this will reduce the number of teachers truancy which is rampant in the teaching and learning system of secondary schools. According to Ogbuanya, Bakare and Igweh (2010), many technical teachers come into the school only to put their names in the attendance register and move out in pursuit of other business or jobs which will earn them large amounts of money to make both ends meet since the salary is insufficient. This attitude makes the students to go home after a whole day with nothing done or either one or two technical subjects for the day. This lowers the morale of students towards learning.

A study by Wolfenson (2000) on the role of parental motivational in relation to learners achievement in technical colleges have shown that teachers by some kind of incentives are recognized as being effective. Incentives are often given in the form of money, that is money can be seen as part of the reward system designed to reinforce behaviour and therefore to motivate people to work towards that goals and those of the organization. The realization of the goals and objectives of any establishment or organization largely depends on how the workers perceive and react to their jobs that are attitude which to a great extent determine the output. Without motivation, technical teacher performance would be highly hindered. The level of motivation of technical teachers will determine the teachers' response to the school rules, responsibilities and opportunities. Motivational strategies focused on the psychological and sociological factors in making a teacher to do his or her job better. For instance, in school, if the principal shows appreciation for a "teacher's performance" and says to him or her "you are doing a very good job, thank you" this act alone, makes the teacher feel that his or her contribution is valued and therefore he or she is encouraged to do even more. In this case, the teacher had been psychologically motivated to continue his or her work as efficiently and effectively as possible.

Furthermore, if teachers' hard works are being considered when giving promotion and other benefits in the educational system, it will make teachers to work very hard in the school in order to give in their best effectively and efficiently. An administrator who wants efficiency must provide maximum motivation among his teachers and have keen appreciation of technical teachers' behaviours.

There are many factors, which affect the teaching performance in our educational system and hence include the following: Inadequate provision of facilities; there are inadequate provisions of facilities in the technical schools for effective teaching process. According to Ojogan (1997), the television stimulates the illustration of motion. Osanyande (1998) observed that the school environment is no longer what it used to be. He further observed that dilapidated school infrastructures and instructional materials in the schools have changed the school environment. Ojernido (1998) opined that teachers are ill-equiped to teach the sciences coupled with the chronic problem of lack of motivation. Inadequate provision of fund is another crucial problem. No programme can be carried out successfully without money. The school just like any other organization needs money. Not just money but sufficient amount in orders to carry out their duties effectively.

Insufficiency in the provision of funds needed by the school administrators to operate and run the school will hinder the activities carried out in the classroom. Schools need money for the payment of workers' salaries, putting up structures for classrooms and offices. Purchasing of equipment and where the money is inadequately provided, it becomes an obstacle for the school, to the implementation of its programme. Irregular payment of teachers' salaries or lack of motivation to teachers is another problem militating against teaching performance. That is, no motivation is given to teachers in terms of promotion, seminars and workshops also, there is irregular payment of their salaries at and when due. These affect the teaching performance and academic performance of the students negatively (Ogbuanya, Bakare & Igweh 2010).

Methodology

The study used a survey research design to identify the influence of motivation on technical teachers' performance in some selected technical colleges in Minna, Suleja, Bida and Kontagora in Niger State, Nigeria. The respondents used for the research study were 120 comprising of 90 technical teachers and 30 administrators in the technical colleges. Simple random sampling technique was used to select the numbers of technical colleges used for the research study. The instrument used for data collection was a structured questionnaire, which contained 30 items covering the research questions for the study. The questionnaire was structured on a four point scale. The questionnaire was content validated by three experts drawn from Federal University of Technology, Minna. Corrections were made appropriately before it was administered. A total of 120 copies of the questionnaire were administered to the respondents by the researcher and research assistants. 108 copies of the instrument were collected giving 90% returns. The responses on the questionnaire items were used to answer the research questions and the mean scores rating of the items were computed and used as a guide in analyzing the responses of the respondents. Data collected for this study were analyzed using mean and standard deviation. To determine acceptance level, mean score of 2.50 was used as deciding point to accept or reject an item. Thus a response with a mean of 2.50 and above was considered accepted while a response below 2.50 was considered rejected.

Results Research Question 1

What is the influence of irregular payment of salaries on technical teachers' performance?

Table 1: Mean and Standard Deviation of the Respondents on the Influence of Irregular Payment of Salaries on Technical Teachers' Performance.

S/N	ITEM STATEMENT	$\overline{\mathbf{X}}$	SD	REMARK
1	Technical Teachers, sometimes refuse teaching,	2.54	1.48	Accepted
	because of irregular payment their salaries.			
2	Some of the subjects are not taught because	2.88	1.22	Accepted
	some technical teachers left for banking job.			
3	Irregular payment of teachers' salaries leads to	2.63	1.95	Accepted
	poor academic performance of the students.			
4	Because of the irregular payment of teachers'	3.21	1.12	Accepted
	salaries, they combine the teaching work with			
_	other business.	2.24		
5	Teachers do not put in their best in the	3.21	1.1	Accepted
_	classroom, since they are not paid regularly.	2.42	1.46	75
6	The society is responsible for the irregular	2.43	1.46	Rejected
_	payment of the teachers' salaries.	2.50	1 10	
7	Irregular payment of salaries discourages	3.50	1.12	Accepted
	teachers to carry research for personal			
0	development.	2.70	1.06	A1
8	Irregular salaries hinder quality improvisation by	2.78	1.86	Accepted
0	technical teachers.	2.50	1.24	A
9	It discourages educational advancement.	3.50	1.24	Accepted
10	It increases absenteeism and laziness.	3.21	1.58	Accepted

Analysis on table 1 shows that 9 of the items presented had their weighted mean values ranged from 2.54-3.50. These values are above the cutoff point of 2.50 which implies that the respondents accepted the items as the influence of irregular payment of salaries on technical teachers' performance. While the respondents rejected item 6with weighted mean value of 2.43, hence, the society is not responsible for the irregular payment of the teachers' salaries.

Research Question 2

What is the influence of inadequate promotion on technical teachers' performance in the teaching and learning process?

Table 2: Mean and Standard Deviation of the Respondents on the Influence of Inadequate Promotion on Technical Teachers' Performance in the Teaching and Learning Process.

S/N	ITEM STATEMENT	$\overline{\mathbf{X}}$	SD	REMARK
11	Technical teachers' standard of living is not encouraging because of their inadequate promotion and hence they lack some basic needs.	2.52	1.91	Accepted
12	The inadequate promotion of teachers' at and when due, discourages them in disposing their duties efficiently and effectively and in this case, sometimes, they go on strike.	2.88	1.93	Accepted
13	Teachers are not provided with transport and housing allowance and this hinders the teaching performance in the classroom.	2.62	1.08	Accepted
14	Inadequate promotion of teachers at and when due in our school system, sometimes make them to abandon teaching work and they go for better paid job.	3.25	1.18	Accepted
15	Students should be blamed for the inadequate promotion of teachers, for not protesting for lack of teachers' promotion.	2.21	1.48	Rejected
16	Some subjects in school are neglected because of the ugly situation of the teachers.	2.60	1.11	Accepted
17	Inadequate promotion discourages further teacher education.	2.50	1.12	Accepted
18	Inadequate promotion creates labour conflict and sometimes closure of school.	2.59	1.11	Accepted
19	Inadequate promotion brings about job dissatisfaction and redundancy.	2.50	1.32	Accepted
20	It scares away potential teachers from the teaching profession and lead to scarcity of technical teachers.	3.21	1.28	Accepted

The data presented in table 2 revealed that 9 of the items had their weighted mean values ranged from 2.50-3.25. Since the values are above the cutoff point of 2.50, it indicates that the respondents accepted the items as regards the influence of inadequate promotion on technical teachers' performance in the teaching and learning process. The respondents however rejected item 15 with weighted mean value of 2.21. This implies that students should not be blamed in any way for the inadequate promotion of teachers.

Research Question 3

What is the extent to which technical teacher development programmes like seminars, conferences and workshops influences their personal academic and professional growth?

Table 3: Mean and Standard Deviation of the Respondents on the Extent to which Technical Teacher Development Programmes like Seminars, Conferences and Workshops Influences their Personal Academic and Professional Growth .

S/N	ITEM STATEMENT	$\overline{\mathbf{X}}$	SD	REMARK
21	Seminars, workshops and conferences when established for the technical teachers enable them to improve their academic performance.	2.94	1.36	Accepted
22	The provision of seminars, workshops and conferences for the teachers helps them to put in their best for nation building.	2.77	1.12	Accepted
23	Society is responsible for the establishment of seminars, workshops and conferences for the teachers.	2.12	1.36	Rejected
24	The provision of seminars, workshops and conferences enables teachers to acquire more knowledge that will help them in the classroom.	3.27	1.61	Accepted
25	The establishment of these programmes for teachers leads to the introduction of new subjects in my school because of the teachers more experience in the provision of the programmes.	3.14	1.11	Accepted
26	Teacher development programme stimulates interest and creativity in technical teachers.	2.60	1.13	Accepted
27	It helps to improve the pedagogical skills in technical teachers.	2.50	1.15	Accepted
28	It exposes technical teachers to new technology relevant to teaching.	3.59	1.27	Accepted
29	It helps technical teachers to improve methods of evaluation.	2.59	1.10	Accepted
30	It helps technical teachers to appreciate the teaching profession.	3.32	1.00	Accepted

Table 3 shows that 9 of the items presented had their weighted mean values ranged from 2.50-3.32. These values are above 2.50 indicating that the respondents accepted the items concerning the extent to which technical teacher development programmes like seminars, conferences and workshops influences their personal academic and professional growth. The respondents rejected item 23 with weighted mean value of 2.12 thereby, rejecting the researcher's opinion that the society is responsible for the establishment of seminars, workshops and conferences for the teachers.

Findings of the Study

- **A.** On the influence of irregular payment of salaries on technical teachers performance, the study reveal among others that:
- 1. Technical Teachers, sometimes refuse teaching, because of irregular payment of their salaries.
- 2. Some of the subjects are not taught because some technical teachers left for better paid jobs.
- 3. Irregular payment of teachers' salaries leads to poor academic performance of the students.
- 4. As a result of the irregular payment of teachers' salaries, teachers involve themselves in other businesses along side their teaching job.
- 5. Irregular payment of salaries discourages teachers to carry research for personal development.
- **B.** While on the influence of inadequate promotion on technical teachers' performance in the teaching and learning process, teg research study revealed that:
- 1. Technical teachers' standard of living is not encouraging because of their irregular promotion and lacks some basic needs.
- 2. Inadequate promotion creates labour conflict and sometimes closure of school.
- 3. Inadequate promotion brings about job dissatisfaction and redundancy.
- 4. It scares away potential teachers from the teaching profession and lead to scarcity of technical teachers.
- **C.** Concerning the extent to which technical teacher development programmes like seminars, conferences and workshops influences their personal academic and professional growth, the study pointed out that:
- 1. Seminars, workshops and conferences when established for the technical teachers enable them to improve their academic performance.
- 2. Teacher development programme stimulates interest and creativity in technical teachers.
- 3. It helps to improve the pedagogical skills in technical teachers.
- 4. It helps to improve technical teachers' methods of evaluation.
- 5. It exposes technical teachers to new technology relevant to teaching.

Discussion

On the influence of irregular payment of salaries on technical teachers' performance, analysis on Table 1 shows that 9 of the items presented had their weighted mean values ranged from 2.54-3.50. These values are above the cutoff point of 2.50 which implies that the respondents accepted the items as the effect of irregular payment of salaries on technical teachers' performance. While the respondents rejected item 6 with weighted mean value of 2.43, hence, the society is not responsible for the irregular payment of the teachers' salaries. Thus the respondents respectively accept that irregular payment of technical teachers' salaries affects their teaching performance. This finding shows that teachers refuse to teach because of irregular payment of salaries and hence, this has a negative impact on effecting teaching and learning. It can be concluded that the irregular payment of teachers' salaries leads to teachers reluctance in delivery of their lessons and this leads to general decline in the academic performance of the students which may lead the students getting involve in crime. This goes in line with Browker and Klein (1998), which opined that poor academic performance is known to be a strong predictor of involvement in crime.

The data analyzed in table 2 revealed that 9 of the items had their weighted mean values ranged from 2.50-3.25. Since the values are above the cutoff point of 2.50, it indicates that the respondents accepted the items as regards the influence of inadequate promotion on technical teachers' performance in the teaching and learning process. The respondents however rejected item 15 with weighted mean value of 2.21. This implies that students should not be blamed in any way for the inadequate promotion of teachers. As a result, the respondents respectively indicate that inadequate promotion of technical teachers affects their teaching performance. While item 13 with a mean score of 2.62 accepted that technical teachers are not provided with transportation and housing allowance and as such, it hinders their teaching performance. Also item 17 with a mean score of 2.60 of the responses shows that some subjects are also neglected because of the bad situation of the teachers. This shows that the ugly situation of the teachers, sometimes make them to abandon the teaching work and they look for a better paid job. This goes in line with Ogbuanya, Bakare and Igweh (2010) who revealed that those love teaching, derived satisfaction from impacting knowledge to learners but what repelled them was the poor remuneration.

Table 3 shows that 9 of the items presented had their weighted mean values ranged from 2.50-3.32. These values are above 2.50 indicating that the respondents accepted the items

concerning the extent to which technical teacher development programmes like seminars, conferences and workshops influences their personal academic and professional growth. The respondents rejected item 23 with weighted mean value of 2.12, thereby rejecting the researcher's opinion that the society is responsible for the establishment of seminars, workshops and conferences for the teachers. Thus the respondents respectively indicated that the establishment of seminars, workshop and conferences of teachers influence the teaching and learning performance. From all indications, this shows that the establishment of these development programmes for technical teachers improve the academic performance of the students in the classroom. As pointed out by Ekong (2000), "to achieve effective performance in the teaching and learning process, the technical teacher must be motivated.

Conclusion

Since the main purpose of this study is to identity the influence of motivation on technical teachers' performances, the researcher made the following conclusion from the result of the study. Irregular payment of teachers' salaries adversely affects teaching and learning in our schools. Hence teachers refuse to teach and consequently, some subjects are not taught in the schools and these hinder the effective and efficient teaching and learning in the sampled schools. The establishment of seminars, workshops and conferences to the teachers has a great impact in their teaching performance. These programmes will enable the teachers to improve the academic performance of the students in the classroom and they will also acquire more knowledge which will help them in the classroom work.

Inadequate promotion of teachers poses a very big hindrance in disposing their duties effectively and efficiently. It leads to their low standard of living and hence, they lack some basic needs. Also, it makes teachers not to be serious, sometimes, they abandon their teaching work and they look for better paid job. Teachers lack housing and transport allowance and this also hinders the teaching performance in the sampled schools. The negligent of teachers welfare emanated from all institutions and individuals concerned in education such as the government, the external agencies like the communities and non-governmental organizations (NGO's) and even the individual who are directly involved in the schools such as the school head, and hence teachers always have problem with them in most schools.

Recommendations

Based on the findings of the study the following recommendations are hereby presented:

- 1. There is need for the government to motivate technical teachers through regular payment of salaries, establishment, of seminar, workshops and conferences and in. service training in order to enhance productivity.
- 2. School heads should make use of correct motivational strategies in schools; such as attitude motivation and recognition. Also autocratic /dictatorship leadership styles should be discouraged.
- 3. Technical teachers should work harder to enhance their knowledge and skills.
- 4. The society should respect and recognize teacher's position in nation building.
- 5. Equally, the communities should see the school as an institution that inculcates into individuals the society's value and norms and see it as a responsibility to donate to its welfare.
- 6. Instructional materials and other facilities should be made available for teachers to carry out their duties as no farmer can work without his implements and no doctor can work in filthy and unequipped hospital.

References

- Bowker, W. & Klein, B.S. (1998). *Impact of poor academic performance*. London: oxford pergamon press.
- Cobb, P. (2008). Analyzing the mathematical learning of the classroom community: the case of statistical data analysis. *Proceeding of the 2nd Conference of the International Group for the Psychology of Mathematics Education, University of Stellenbosch, South Africapp*33-48.
- Ekong , F.C.. (2002). *Human resources management in Nigeria: The key components*. Enugu: Mckam Publications.
- Freud, S. (1990). Beyond the pleasure principle. New York: Norton and company.
- Maicibi, N.A. (2003). *Human resource management success. Kampala*. Uganda: Net Media Publication Ltd.

- Ogbuanya, T.C., Bakare, P.A. & Igweh, A.U.(2010). The level of availability of recommended tools and equipment for teaching motor vehicles mechanic works in technical colleges in South Western States, Nigeria, *Nigerian Vocational Journal*. 14(2), 92-103.
- Ojerindo, D. (1998). Enhancing achievement in school sciences. *Journal of Research Champions*, 10(2), 247-250.
- Ojogan, H. (1997). The use of television in instruction. *The Nigeria Teacher Today*, 5(1),1-2.
- Orphlims, S. A. (2002). Crises in Nigeria education. *The Journal of Education Psychology*, 2(3), 8-12.
- Osayende R. (1998,6th July). Thebane of education. Tell Magazine Vol. 4(22), 5-8.
- Waitley, D. (1996). *The new dynamic of goals setting; Flextatics for a fast –changing world.*New York: Williams Morrow Press.
- Wolfenson, O. (2000). The role of parent in student academic performance in Bondo Districts. *Unpublished M. Ed Thesis*, Egerton University, Njoro Kenya.

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