Computer Teachers' In-service Training Needs in Computer Appreciation Skills in Secondary Schools in Nsukka Education Zone of Enugu State, Nigeria

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Abstract:
Background: This paper focuses on the computer appreciation skills of secondary school computer studies teachers in Nsukka education zone, Enugu state, Nigeria. The purpose of this study was to find out the skills needed by computer studies teachers in secondary schools in Nsukka education zone, Enugu state Nigeria.
Materials and Methods: 80 copies of questionnaire were administered to computer studies teachers in eighteen secondary schools, of which sixty eight was completed and returned.
Results: The study shows that the respondents are conscious of the reality that computer appreciation skills are very vital in their career. The study concluded that secondary schools computer teachers needed in-service training in computer appreciation skills for effective teaching and learning of computer studies in secondary schools in Nsukka educational zone. That the identified computer appreciation skills should be used by curriculum planners at State and federal levels to further improve the existing curriculums at secondary in the State and the nation in general.
Key Word: Computer teachers; In-service training; Computer appreciation; Skills.

I. Introduction

Computer studies, for more than a decade has been included in the curriculum of Nigerian secondary school education. As a subject in secondary education, it focuses on the computer hardware and software, how computer works. As a teacher, teaching computer studies in secondary school, they are supposed to be exposed and have wider knowledge of using computer in their teaching environment. Conversely, in secondary schools in Nsukka educational zone of Enugu state, there is need to get hold on both mastery of the subject matter and the instructive skills that will allow computer teachers present the material to students at suitable stage of learning.

It has been realized by educators that the awareness of how to use technological tools is not enough, that what is really needed is the capability of using these tools successfully and efficiently to make smooth the progress of learning processes of their pupils[1]. Hence, study interest has on ways to out together technological tools in teaching.

Computer appreciation is knowing the common things of the computer like: knowing its components (Central Processing Unit, Visual Display Unit, Keyboard, Mouse, Speakers, etc),switching it on and off, working around with the computer packages like: Microsoft(Microsoft word, Microsoft excel, outlook, etc),PowerPoint, Corel drawled and every other basic knowledge. After this step, someone will be ready to really work and produce outputs (results) from his or her personal computer like: typing out vital office letters, memo, curriculum vitae (CV),etc. However, some people decided to relent at this stage which they consider is enough for them while others out of curiosity still press forward to know or acquire more skills or knowledge of the world acclaimed machine[2].

Secondary schools in Nsukka Educational zone of Enugu state have a good percentage of teachers who are not skilled or exposed to the use of technology[3]. This is as a result of the government inability to expose the teachers to the necessary in-service training needs for advancement. Most of the teachers are not familiar with some components of computer, switching on and off of computers, working around with the computer packages like Microsoft word and Microsoft excel.

Among the inhibitors that prevent this revolution from becoming widespread and comprehensive are inadequate provision of the basic and the most fundamental in-service training in computer appreciation, for computer teachers.

Secondary school in Nsukka are so well equipped with computers and its accessories, but when one take a closer look, one finds out that the computer laboratories are not used, they are covered up with dust and cobwebs. Most of the cables have been eaten up by rats and termites. A computer teacher in one the secondary schools in Nsukka education zone, owned up that they cannot use the computers because they are not skilled on how to use the computer even to type with it, talk more of teaching the students with it. Even as government have inculcated computer studies in secondary schools, that Nsukka is lagging behind as per the use of these computers in teaching. So these calls for in-service training needs for computer teachers in secondary schools in Nsukka, as to understand the basics of computer appreciation skills.

Computer teachers

A computer teacher is a career educator in the teaching of computer knowledge and associated technical areas, who coaches and teaches students in the rudiments of computer software and hardware. Creates lesson plans that are apposite for the age and abilities of the students in the class[4].

The work depiction of a computer teacher is to teach the values of computers to students of diverse ages and at different levels. Computer teachers may be employed in primary, junior secondary, senior secondary schools of both private and public schools.

Computer teacher is an education professional that is responsible for teaching computer programming or usage skills to students in school[3]. He went further to include computer teachers' duties to include developing classroom lesson plans, delivering lectures and info to the class, and working with students on a one on one basis. The qualifications needed for a career as a computer instructor include a degree in computer science education, master's degree and significant experience with computers. If you want to teach at the primary or secondary level, you need at least a National Certificate in Education (NCE). A computer teacher needs strong teaching skills and a firm understanding of computers[3].

In-service training

In-service training is a systematic process of altering the behaviour and/or attitudes of employees in a direction to increase organizational goal achievement[5]. A formal in-service training programme is an effort by the employer to provide opportunities for the employee to acquire job-related skills, attitudes, and knowledge. Learning is the act by which the individual acquires skills, knowledge, and abilities which result in a relatively permanent change in his behaviour. In-service training is part of the process of development that advances and maintains individuals within an organisation. In-service training is a tool, it is instruction in a myriad of forms and settings, where both technical and conceptual knowledge and skills are imparted to employees, both non-mangers and managers[6,7].

In-service training stated that employee training is a major undertaking for employers. The reasons given tend to relate to the kind of training being offered[6]. They include:

- To improve the quantity of output.
- To improve the quality of output.
- To lower the expenses of waste and equipment maintenance
- To lower number and costs of accidents.
- To lower turnover and absenteeism and increase job satisfaction, since training can improve the employee's' self-esteem[6].

One of the first step in managing in-service training needs and objectives is to determine training needs and set objectives for these needs[7]. One way to analyse training needs is in a framework of three levels of analysis; organisational, operational, and individual:

Organizational Analysis: Training managers examine the strategic objective and strategic plans to determine if there are added training needs. These usually can be derived from the results of employment planning or past training.

Operational analysis: At this level, training mangers analyse the specific ability needs determined by job descriptions and job specifications of the jobs in a work area or work unit. They may also observe the job performance of work groups and survey jobholders, supervisors, training committees and others. The results of a unit's output- its efficiency and effectiveness - can also be analysed to determine training needs.

Person Analysis: Moving to the individual employee's training needs, training managers can measure individual performance (efficiency and effectiveness) against standards. This can be done by interviews, observation, attitude surveys, or objective records of performance. Thus, all three levels-organisation, operational, and individual gap between expected results and actual results can suggest training needs.

It was noted[8] that both training for the unskilled and retraining for the obsolete employee follow one of four approaches, which combine elements of the where and what of training. The four principal types of in-service training are; apprenticeship, vestibule, on-the-job training, and off-the-job training.

Apprentice Training: Apprentice training is a combination of on-the-job- and off-the-job training. It requires the co-operation of the employer, trainers at the work place and in schools (such as vocational schools), government agencies, and the skill trade unions. The apprentice commits herself or himself to a period of training and learning that involves both formal classroom learning and practical on-the-job experience.

Vestibule Training: Here, the trainee learns the job in an environment that stimulates the real working environment as closely as possible but is not involved in actual work. The trainee may, for example, run a machine under the supervision of a trainer until he or she learns how to use it properly, and only then be sent to the shop floor or store/supermarket.

On-the-Job Training: Probably the most widely used method of training (formal and informal) is on-the-job training. The employee is placed into the real work situation and shown the job and the tricks of the trade by an experienced worker or the supervisor. Apparently this programme is simple and relatively less costly.

Off-the-Job Training: Other than apprenticeship, on-the-job training, and vestibule training, all other training is off the job, whether it is done in organization classrooms, vocational schools, or elsewhere. Organizations with the biggest training programmes often use off-the-job training.

Development programmes for professionals such as Scientists and Engineers usually involve their return to universities or research centres for seminars, or sabbaticals may be granted for work leading to post-doctoral programmes or advanced degrees (e.g. sandwich programme) [7].

The following are types of training[9];

Orientation and Induction: Orientation involves introducing the newly recruited staff to the organisation, the "working relationship, organigram, organizational hierarchy.

Refresher Course: This is the type of training where workers are withdrawn for short period from their employment to enable them receive training. This takes place especially when there are new discoveries, innovations or new work tools procured.

Management Seminars, Conferences and Workshops: This type of training enables the employees to share ideas and rob minds with other people. However, participants learn a lot, papers during such training are normally presented by authorities and experts in different fields. It keeps participants abreast of new developments in the field.

University-based Training: Most organizations adopt a policy to grant study leave with or without pay to enable their employees pursue full time studies in the tertiary institutions within the country or overseas.

University-based Part-time Programme: With the advent of university of the air, mature students and other part-time, evening or sandwich programmes in tertiary institutions employers now make great use of the opportunity. Some employers have a policy to sponsor employees participating in the programme or agree with them on times to be on or off duty to enable them pursue their programmes. Many employers and employees have benefited immensely from such programmes.

Computer Appreciation Skills

Computer, a vital tool, which has brought about remarkable changes in our lives, making it compulsory on everyone to learn it. Computer today has become a ever present tool used at homes, schools, offices, hospitals and even prisons. You can no longer do anything today without using PC or labtop. For this reason, everyone needs to be literate about it. There are basis skills needed for one to be said to have computer appreciation skills[2] of which includes;

Word Processing Skills: computer studies teacher should be able to use some type of word processing program to complete written tasks in a timely manner.

Spreadsheets Skills: Computer studies teacher should be able to use some type of spreadsheet program to compile grades and chart data.

Database Skills: Computer studies teacher should be able to use some type of database program to create tables, store and retrieve data, and query data.

Electronic Presentation Skills: Computer studies teacher should be able to use electronic presentation software like PowerPoint, to create and give electronic presentations.

World Wide Web Navigation Skills: Computer studies teacher should be able to navigate the World Wide Web and search effectively for data on the Internet.

Web site Design Skills: Computer studies teacher should be able to design, create, and maintain a faculty/educator Web page/site.

E-Mail Management Skills: Computer studies teacher should be able to use e-mail to converse and be able to send attachments and create e-mail folders.

Digital Cameras Knowledge: Computer studies teacher should know how to operate a digital camera and understand how digital imagery can be used.

Network knowledge applicable to your organization: Computer studies teacher should know the basics of computer networks and understand how their school network works.

Downloading Software from the Web Knowledge: Computer studies teacher should be able to download software from the web and know of the major sites that can be used for this purpose.

II.   Materials and Method

This study was used in investigating Computer studies teachers' in-service training needs in computer appreciation skills in secondary schools in Nsukka education zone. Specifically, a questionnaire was designed and distributed to targeted audience who are computer teachers in secondary schools. Eighty copies of the questionnaire were distributed among the computer teachers. Sixty eight copies of the questionnaire were completed, returned and found utilizable.

Study Design: The survey research method

Study Location: This study was carried in Nsukka education zone, Enugu state Nigeria. In Nsukka educational zone, computer studies is taught in the three local government area that made the education zone; namely Igbo-Etiti, Nsukka, and Uzo-Uwani local government areas. This three local government area have 58 government owned secondary schools. Computer studies is taught by computer teachers holding an undergraduate degree in Computer Education, Computer Science with a Professional Diploma in Education, masters in Computer education. Secondary education in Nigeria is divided into two; the Junior secondary and the senior secondary. Computer studies in taught in both junior and senior secondary schools. In general, the objective of computer studies as a subject in Nigerian curriculum is to enable students use the computer and thereby acquire basic skills such as using the keyboard, accessing and editing a file at the operating system level; use the computer to facilitate learning; and develop rudimentary skills in the use of computer for text writing, computation and data[10].

Sample size: 68 respondents.

III. Analysis/Results

Out of the 80 copies of the questionnaire distributed to the respondents, 68 (85%) were completed, returned and found useable for the purpose of this analysis. The age bracket of the respondents was, 25-30 (42.64%) while 31-40 (38.24%) and 41-50 (19.12%).A higher number of female 36 (52.94%) as against 32 (47.06%) males, constitute the study's respondents

Table no 1: Distribution of Respondents by Year of teaching experience

	Respondents	Frequency
1-5	33	48.52%
6-10	18	26.47%
11-15	12	17.65%
Above 15	5	7.36%

From the above table, the computer studies teachers from $1 - 5$ years has the maximum number of respondents (48.52%) while computer studies teachers between $6 - 10$years (26.47%), $11 - 15$ years (17.65%) and 15 years above (7.36%) in that order

Table no 2: Distribution of Respondents by Qualification

	Respondents	Frequency
B.Sc (Ed)	33	48.53%
PGDE	15	22.06%
M.Sc.(Ed)	20	29.41%

The table shows the level of education of the respondents , Bsc (ed)
had the highest (48.53%) while PGDE had (22.06%) while M.Sc (ed) (29.41%)
respectively.

Table no 3: Mean Ratings of the Respondents on In-service Training Needs of Computer Teachers in Computer Appreciation Skills in Secondary School in Nsukka Educational Zone (N = 68).

S/N	Computer appreciation skills	X(Bar)	SD	Remarks
1.	Understanding the functions of various computer hardware and peripheral.	3.64	0.59	Highly Needed
2.	Being able to recognize different types of input/output devices and what they can be used for.	3.45	0.62	Averagely Needed
3.	Ability to troubleshoot basic problems relating to hardware devices.	3.50	0.59	Highly Needed
4.	Understanding the different types of storage and their specific uses and capacities.	3.30	0.60	Averagely Needed
5.	Ability to name multiple software applications and their common uses	3.38	0.58	Averagely Needed
6.	Ability to know the terminology relating to storage component.	3.41	0.58	Averagely Needed
7.	Ability to utilize the computer hardware and peripherals.	3.68	0.57	Highly Needed

8.	Ability to access the features of windows when needed.	3.37	0.59	Averagely Needed
9.	Ability to use window help menu to search for topics.	3.60	0.55	Highly Needed
10.	Ability to start a personal computer (PC) and log on to window environment.	5.55	0.56	Highly Needed
	Cluster Summary	3.51	0.49	Highly Needed

Note: *X = Mean*
SD = Standard Deviation
N = Number of Respondents

Data presented in Table 3 showed that the mean ratings of the responses of the respondents on 5 out of the 10 identified computer appreciation skills had mean values that ranged from 3.50 to 3.68 which fell within real limit of number 3.50 – 4.00. This indicated that computer teachers highly needed in-service training on the 5 identified computer appreciation skills in Secondary schools in Nsukka education zone. The mean values of the remaining 5 computer appreciation skills ranged from 3.30 to 3.45 which fell within real limit of number 2.50 – 3.49. This indicated that the computer teachers averagely needed in-service training skills in the remaining 5 appreciation skills in Secondary schools in the study area. The standard deviation values of the 10 items in the table ranged from 0.55 to 0.62 which indicated that the responses of the respondents are close to one another and to the mean.

III. Discussion

The findings of this study on research question one revealed that computer teachers in secondary schools in Nsukka education zone needed in-service training in computer appreciation skills which include: understanding the functions of various computer hardware and peripheral, being able to recognize different types of input/output devices and what they can be used for, ability to troubleshoot basic problems relating to hardware devices, ability to utilize the computer hardware and peripherals, ability to access the features of windows when needed, ability to use window help menu to search for topics, ability to start a personal computer (PC) and log on to window environment and ability to name multiple software applications and their common uses.

The findings of this study on computer appreciation where computer teachers needed in-service training agreed with the findings of the study conducted by International Labour Organization[11] on training youth for employment where the findings showed that computer appreciation skills required by youth for job include: understanding the functions of various computer hardware and peripheral, troubleshooting basic problems relating to hardware devices, naming multiple software applications and their common uses and knowing the terminology relating to storage component.

In addition, the findings of this study conformed with a study that revealed that the Business Education graduates require basic electronic office skills in computer appreciation in order to gain employment and be productive on their jobs[12]. The study recommended that authorities should make conscious effort to ensure that educational institutions are well equipped with computers, internet facilities, word processors, printers, scanners, photocopiers and other relevant equipments. This will help to ensure that the requisite skills are instilled in the students. Computer appreciation is the first step for anybody wanting to do stuff with computer[2]. No matter the form of industry or the size, computer appreciation plays great roles from the beginning to the end of organizational structure.

IV. Conclusion

There is adequate number of computer teachers in secondary schools in Nsukka but without sufficient computer appreciation skills to use the available facilities in the school for meaningful instructional delivery. This might have resulted from the teachers' inability to get exposed to the necessary advancement programmes through in-service training for skill update. It is against this background that this study was carried out to identify skills in computer appreciation where secondary school computer teachers needed in-service training for effective teaching of computer in secondary schools in the study area.

The study thereby concluded that secondary schools computer teachers needed in-service training in computer appreciation skills for effective teaching and learning of computer studies in secondary schools in Nsukka educational zone. This finding when properly utilized by the major stakeholders in Enugu state education sector could possibly help to address the current trend of inadequate computer appreciation skills of secondary school teachers for effective instructional delivery in line with the current struggle for e-learning and advancement technological development.

Based on the findings and conclusions drawn from the study, the following recommendations were made for implementation by the government:

1. That the State government through its ministry of education should help put together the identified computer appreciation skills into programmes for re-training the teachers for skill update in the State.

2.   That the identified computer appreciation skills should be used by curriculum planners at State and federal levels to further improve the existing curriculums at secondary in the State and the nation in general.

3.   That, as part of improved welfare package of teachers, government should provide secondary school computer teachers with personal laptops which will further facilitate skill acquisition of the computer teachers for effective use of computer appreciation for instructional delivery in the area.

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