INFORMATION, COMMUNICATION AND TECHNOLOGY (ICT) USAGE IN TEACHING PRACTICE (TP) AND STUDENTS' INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES): PROBLEMS & PROSPECTS

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Abstract
The uses and proliferation of Information and Communication Technology (ICT) in education cannot be over emphasized. The extent at which ICT have been absorbed in running almost all the routines of teaching and learning in Nigeria is worth looking into. Teaching Practice (TP) & Students Work Experience Scheme (SIWES) have been for long an indispensable tools used to mold Student Teachers & future workers and prepare them for what is to come in the work force. This paper puts into cognizance the concepts of ICT, TP & SIWES, issues/challenges of ICT in TP and SIWES, the importance of ICT in TP & SIWES and solutions to problems bedeviling the subject matter. Conclusion and Recommendations proposed include; adequate funding of TP and SIWES organizing bodies, encouraging students to undergo these trainings only to organizations with adequate ICT department or to avoid organizations with deplorable IT/ICT units.

Keywords: Information & Communication Technology, Teaching Practice, SIWES, Student Teachers, Work Force.

INTRODUCTION

ICT is a broad subject and the concepts are evolving. It covers any product that will store, retrieve, manipulate, transmit, or receive information electronically in a digital form e.g., personal computers including smartphones, digital television, email, or robots (Mathur, 2017).

ICT is an umbrella term that includes any communication device, encompassing radio, television, cell phones, computer and network hardware, satellite systems and so on, as well as the various services and appliances with them such as video conferencing and distance learning (Kondra, 2020).

We live in a world of constantly emerging new technologies that challenge the field of education while at the same time present exciting opportunities. Strategic use of new educational technologies can enhance learning and teaching. However, to be effective, new educational technologies need to be supported by innovative pedagogical approaches which in turn enable collaboration, communication and mobility. Such emerging educational technologies include virtual worlds, wireless technology and the spiraling use of mobile devices (Reggie Kwan et al 2008).

Evidently, the infusion of education and ICT has significant and positive impact on students and teachers alike. As no society can thrive without education, Daniels (2012) implied that ICTs have become within a very short time, one of the basic building blocks of modern society.

Information and Communication Technology in Education is the mode of education that use information and communications technology to support, enhance and optimize the delivery of information. Worldwide research has shown that ICT can lead to an improved student learning and better teaching methods (Linsway, 2017).

Nigerian teacher education is critical to the sustainable education development of the nation. Different teacher education institutions anchor the teacher education in Nigeria, which awards various certificates to their graduates after a stipulated period. These certificates proved that they passed prescribed exams and are certified professional teachers. The certified teachers are specialized in different subjects, which could be Science, Social Sciences or Humanities, and Arts (Kola, 2020).

Before obtaining these certificates, the Student Teacher or future worker (as the case may be) undergoes the Student Industrial Work experience Scheme (SIWES) and Teaching Practice (TP) programs. Student Industrial Work Experience Scheme was established in the year 1973 in order to improve the standard of education in Nigeria in order to achieve the needed technological advancement.

Economists being able to evaluate the role technology plays in a country's economy concluded that for an economy to grow and develop there must be advancement in the technology sector of the country. SIWES was solely funded by Industrial Training Funds (ITF) during its early stage not until it was difficult to continue for economic stress: then the responsibility was shared between Industrial Training Funds and the Federal Government.

The Federal Government took over the funding of the scheme and Industrial Training Funds took over the managerial position by managing the funds given to them by the Federal Government in order to sustain the scheme.

Student's Industrial Work Experience Scheme is a scheme for the duration of sixteen weeks (4 month). SIWES is done after the first year in polytechnics (ND1); and done after Second year or third year in Universities depending on the institutions.

The effective management of Student's Industrial Work Experience Scheme has been as a result of the cooperation and well played roles of the Federal Government, ITF and Supervising agencies.

On the other hand, Teaching Practice (TP) occupies a key position in the teacher education programme. It is an integral part of the teacher education programme which is geared towards preparation of new entrants into the teaching profession. According to Afolabi (1999), teaching practice exercise is to acquaint student teachers with the practical knowledge of teaching and learning process including lesson plan preparation, presentation, class management, communication skills, evaluation and the required personality of professional teachers.

Nwanekezi (2011) remarked that teaching practice is the name of the preparation of student-teacher for teaching by practical training. From the foregoing, it can be inferred that teaching practice is a school-based internship programme with the main aim of introducing prospective teachers to teaching and its routine under the guidance of

qualified professionals to develop skills, attitudes and competence in the profession. The exercise provides trainees the opportunity to utilize the various teaching methods in actual classroom conditions under constant supervision of competent and experienced teachers

Significance of ICT in Teaching Practice

The technological advancements of the 21st century have necessitated the fact that teachers, student teachers, students and other educational Administrators needs to be proficient in IT/ICT related skills. It has been a fact that nowadays education is student centric and this has given room for a two way communication instead of one way communication as it was before. As such IT/ICT came in handy in dissemination and exchange of information in teaching and learning processes.

ICT has enabled better and swifter communication; presentation of ideas in a more effective and relevant way. It is an effective tool for information acquiring-thus students are encouraged to look for information from multiple sources and they are now more informed than before. So for this reason, ICT is very much necessary for Teacher Education. For effective implementation of certain student centric methodologies such as project-based learning which puts the students in the role of active researches and technology becomes the appropriate tool (Bhattacharjee, 2016).

Significance of ICT in SIWES

Students' Industrial Work Experience Scheme is a skill development programme that is designed to prepare students of higher institutions of learning like Universities, Polytechnics, Monotechnics and Colleges of Education for transition from college environment to the world of work. Akerejola (2008) stated that the work experience is an educational programme where students participate in work activities while still attending school. This gives students the opportunity to be directly involved and be part of the actual work situation outside the classroom.

In 21st century workplace, the occupation-specific skills are no longer sufficient for graduates to meet the needs of labour markets. Workers are nowadays expected to have an additional set of skills and attributes, called employability skills. Employability skills become a very important issue at the national, regional, and international labour market (Suarta, 2017).

Apart from Communication skills, problem-solving and decision-making skills, and teamwork skills are the major attributes of employability skills with highest importance level. Graduates are also expected to have a number of personal attributes included: self-awareness, self-confidence, independence, emotional intelligence, flexibility and adaptability, stress tolerance, creativity and initiative, willingness to learn, reflectiveness, lifelong learning, and professional behavior (Suarta, 2017).

The cream of the crop of the employability skills is the Graduate's proficiency in IT/ICT. Organizations are now technology driven because their business models, innovation strategies, growth and productivity are all technology centric as such, the significance of ICT based knowledge of the students is paramount.

One cannot think of any discipline that does not embrace technology, this has in turn necessitate the workers to adapt to the use of the gadgets in place or become replaced.

Workers today are more productive than they've ever been. The impact of technology on work has exponentially increased the rate of production and speed at which business occurs. Technology in the workplace has helped workers become more efficient than ever before (Grant 2019).

Problems Encountered by Students in TP and SIWES

The following are some of the issues/challenges encountered by students during their Student Work Experience Scheme and Teaching Practice:

1. **Technophobia:**
   i. This is a common trait where students are afraid of technology/technological gadgets, as such they tend to switch off learning during/while trying to operate a computer.
   ii. Students in SIWES trainings do not usually have the zeal to embrace their chances of learning how to effectively use the available gadgets in the departments they are assigned to in their various SIWES bodies. This is mostly as a result of fear for tech-gadgets and lack of sound training and/or exposure to the gadgets.
   iii. Student-Teachers are not spontaneous in using ICT related resource materials while undergoing their teaching practice training in their respective schools. This in turn does not improve their overall competitiveness in the field of teaching, hence they cannot be as productive as the 21st century class room teachers.

2. **Lack of proper orientation of students:**
   i. Many students have a wrong mind-set of what industrial training is all about. How far industrial training will enhance one's career potential depends so much on one's attitude and conception of the meaning of industrial training. Therefore, it is necessary to look at the various conceptions of the training by students.
   ii. The teaching profession have been a victim of condescendence in the sense that teachers are seen as inferiors in the Nigerian work force. As such many Student-Teachers are not ethical and proud of the profession they found themselves in.
   iii. Student-Teachers prior to embarking on their compulsory TP experiences lack proper orientation about how technology can assist/ease in the successful dissemination of information and knowledge to pupils and students alike.
   iv. Students do not have contact with experts from outside their schools to share knowledge about how ICT simplify the challenges of the 21st century work force.

3. **Improper and inadequate supervision:**
   i. This is one of the problems encountered in the administration of SIWES. Supervision is essential for the success of any task. Poor or lack of supervision has greatly affected the success of the scheme. SIWES operational guidelines

spelt out that three (3) separate officials should supervise students on industrial attachment, they are
   a) An industry-based supervisor.
   b) A supervisor from the school and
   c) A supervisor from the ITF.

ii. Although the schools ensure that all supervisors assigned to Student-Teachers at various TP locations have made contact, the number of Student-Teachers to be supervised by the supervisor are always on the rise. As such to have the time to ensure that they are using all the resource material (technological gadgets inclusive) will prove cumbersome. Moreover, not all the supervisors are Tech savvy hence they will also not stress on the effective adoption of ICT by the student-teachers.

4. **Unwillingness of various organizations to take students for training:**
   i. This has affected the number of students that can be placed for training at a given point in time. Although the ITF's enabling act specifies sanctions on corporate organizations and their principal officers for refusal to accept students for industrial attachment, the problem is still persisting.
   ii. Many schools also do not accept Students-Teachers for TP and even if they do, they'll not be given proper treatments and exposure needed to achieve the objective.
5. **Limited I.T spaces:**
   i. Firms accepting students for industrial training in the country are relatively few in number. Sometimes, Internship students tend to migrate to only industrial states such as: Lagos, Port-Harcourt, Abuja etc. for their training thereby causing overpopulation and competition.
   ii. Many host schools for Student-Teachers do not have a reserved space or ICT units. This will definitely hamper the efficiency, productivity and effectiveness of the Student-Teacher.

Solutions to the problems

1. Proper SIWES orientation: The academic institutions should always ensure to organize orientation programmes for their internship students. The students should be taught and shown proper ways to
   - Pay, collect and submit their forms and logbooks and also write and forward their application letters.
   - Fill in their logbooks.
   - Write their report.
2. Proper TP orientation: As mentioned above that the teaching is seen as an inferior profession, the Student-Teachers should be groomed to have the love of what they do and be ethical enough to deliver. This can also be achieved by inviting a professional class room teacher that started just like them but at the moment someone respected.
3. Adequate Supervision & Care:

- The schools and departments should ensure to always try and make out time to visit their Internship students in their various workplaces to monitor, grade and advise them on the right things to do. They should also ensure that the students actually benefited from the programme instead of only being interested in signing logbooks and marking reports.
- The intuitions should also care by recognizing exceptional and diligent Student-Teachers that are doing remarkably well in their respective places of Teaching Practice. The recognition should be done at their departments in school to stimulate and boost the morale of next class to embark on such training.

4. Firms/Employers Support: Employers of labour accepting Internship students should always ensure that they're properly monitored, taught and disciplined. The I.T Students shouldn't be treated as servants all because they came for training. They should be supported – no matter how small, with money probably daily, weekly or monthly for their transportation and service.
5. A seminar whereby experts in industrial related fields should be invited for the students preparing to embark for SIWES. The experts should dissect how technology must be coupled with various fields of the work force to boost productivity, this will serve as an orientation pre-SIWES for the students.
6. Lecturers should be able to identify students with technophobia and help them combat this trait in other to be able to adapt and learn easily on how to effectively employ the usage of ICT gadgets.
7. The lecturers should also be able to boost the confidence of Student-Teachers so that they will be prepared for what to come in the latter stage of their training.
8. The course: Introduction to the teaching of computer science should be taught in a way that it'll help Student-Teachers become spontaneous and flexible enough to adapt and embrace various methodologies of imparting knowledge.
9. Micro teaching courses should be encouraged to be delivered by Student-Teachers using ICT/IT resource materials. This will give them insight of what is expected of them during TP.

Conclusion

The adoption and use of ICTs in education have positive impact on teaching, learning, and research and general productivity. ICT can affect the delivery of education and enable wider access. In addition, it will increase flexibility so that learners can access the education regardless of time and geographical barriers. These possibilities can have an impact on student performance and achievement.

Recommendation

The followings are recommendations proposed in respect to this write up:

a) Strict and routine supervision should be enforced on the students undergoing TP and SIWES programs to ensure that they are attending and participating regularly.
b) Student should be encouraged to serve the duration of his/her program in an organization with adequate ICT/IT department so as to commit usage and appropriate engagement with the department.

c) At all higher learning institutions, the government should provide adequate IT/ICT learning environments to be used while training the students.
d) More funding of the TP/SIWES organizing bodies is highly recommended.
e) Courses that can stimulate the students to learn using ICT/IT gadgets should be introduced to the curriculum as this will encourage participation willingly. Example include the introduction to teaching of computer science (CSC 124) & Human computer interaction (currently in the university curriculum).

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