

MONITORING AND EVALUATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) PROJECTS IN EDUCATION: A CASE OF E-ACCESSIBILITY, FEDERAL COLLEGE OF EDUCATION (SPECIAL), OYO

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ABSTRACT

Despite the huge amount of money invested on ICT projects in education, little or no effort has been put in place to monitor and evaluate these projects to ensure that they fulfil the objectives for which the projects were executed. It is insufficient to just place computers in schools to have an impact on student learning, there is a need for training, policy formulation and the development of a monitoring and evaluation plan. This study examined the influence of monitoring and evaluation on the e-accessibility project at Federal College of Education (Special), Oyo. To achieve the objectives of the study, three research questions were formulated. Case study research design was adopted, and data were collected using both structured and unstructured questionnaires. The sample for the study consisted of ten students with visual impairment, two lecturers, and two staff of the e-accessibility centre. Data collected using the structured questionnaire were analyzed using frequency table, while data collected using the unstructured questionnaire were analyzed using inductive analysis. Findings revealed among others that the level of awareness of the project within the college community is high, that the e-accessibility project has partially impacted the students of the college and that there is need for teachers of persons with visual impairment to employ these facilities when teaching their students. It was recommended among others that; a monitoring and evaluation plan should be developed for any ICT project and should be incorporated at the beginning of the project before it is implemented; donor organizations should organize training for the staff and students from whom the project is intended; and that donor organizations should also monitor and evaluate their projects from time to time.

Keywords: Monitoring, Evaluation, ICT Projects, Education

Introduction

Technology advocates have continued to call for the introduction of Information and Communication Technologies (ICTs) in the education sector. Research evidence shows that ICT can contribute to changes in teaching practices, school innovation and community services (Kozma, 2005). It is used for school administration and management, teaching, and learning of ICT related skills for enhancing the presentation of classroom work, teaching/learning repetitive tasks, teaching/learning intellectual,

thinking, and problem-solving, stimulating creativity and imagination, teachers' and students' research, and communication tools. (Derbyshire, 2003; Collis & Moonen, 2001). According to Kozma (2005), ICT can help teachers and students acquire new skills that are required for 21st-century learning.

ICT has had an impact on the field of education, affecting both teaching and research (Yusuf, 2005). ICT's value in boosting educational quality has been established by a large body of research (Al Ansari, 2006). As a result, developed countries have incorporated information and communication technology (ICT) into their educational systems and developing countries have also taken steps to integrate ICT into their education system. According to Adomi and Kpangban (2010), there have been advances in the Nigerian education sector that imply some amount of ICT use in schools. Adomi and Kpangban traced the origins of computer education back to 1988 when the Nigerian government approved a policy on the subject. Nigeria's Federal Government acknowledged the importance of ICTs in the modern world in its Nation Policy on Education of 2004 and has integrated them into the educational system (Adomi & Kpangbani, 2010). To actualize this goal, the document states that government will provide basic infrastructure and training at the schools.

According to Wagner, Day, James, Kozma, Miller, and Unwin (2005), simply putting computers into schools was not enough to impact on students' learning. ICT *can* positively impact on students' knowledge, skills, and attitudes, as well as teaching practices, school innovation, and community services if adequately monitored and evaluated. Weiss cited in Kwaghbo and Okwori (2019) defines monitoring and evaluation as the systematic assessment and tracking of the operation and/or outcomes of a programme or policy, compared to a set of explicit or implicit standards as a means of contributing to the improvement or adjustments of the programme or policy. Monitoring and evaluation activities can help the stakeholders keep track of happening and be informed about the progress of the ICT project in education. Monitoring and evaluation (M&E) refer to the continuous assessment of the achievements of a project, to improve performance and adjust activities while the project is running (Wagner et al, 2005). It should be a part of any ICT project because, and without effective M&E, it becomes difficult to say if the project is a success or a failure (Kusek, 2004).

Monitoring and evaluation, as defined by Weiss cited in Kwaghbo and Okwori (2019), is the systematic examination and tracking of a program's operation and/or outcomes against a set of explicit or implicit standards as a means of contributing to the program's improvement or changes. Monitoring and evaluation activities can assist stakeholders in keeping track of what is going on and staying informed about the ICT project's development in education. Monitoring and evaluation (M&E) is the process of continuously assessing a project's accomplishments to enhance performance and change activities while the project is still in progress (Wagner et al, 2005). Although monitoring and evaluation (M&E) are sometimes confused, they are distinct concepts with distinct goals. Monitoring is a constant process of supervising or checking activity to keep things

on track and guarantee that a program or project is implemented successfully. Monitoring, according to Cashin (2012), is the systematic collection and analysis of data as projects/programs are developed to enhance a project's or organization's efficiency and effectiveness.

Monitoring is a fundamental component of management that tries to determine whether resources are being spent as planned and whether the program is providing the intended results. The goal of monitoring is to give management and stakeholders the information they need to make educated decisions about program effectiveness and resource allocation for high-quality education. Monitoring and evaluation (M&E) are critical components of any program, big or small (Kwaghbo & Okwori, 2019). It can tell us if a program is working and for whom; it can reveal program sections that are on track or components of a program that needs to be altered or replaced. M&E data can help program managers make better judgments about where to put their money. It might also show that program implementers and funders are getting a return on their investment. The primary purpose of monitoring and evaluating data is to improve programs; however, some data will be used for accountability purposes as well as to share information and lessons learned with the public (Wagner et al, 2005).

Fortunately, recent trends have shifted toward a participatory learning approach, with increased local ownership of M&E projects and greater collaboration among policymakers, implementers, and learners. These necessitate the establishment of effective M&E frameworks and procedures at the outset of a program or research project, rather than as an afterthought once implementation is well underway. The M&E framework should be completely integrated with the program design or study approach, and it should include both quantitative and qualitative data (Wagner et al, 2005). Ongoing monitoring and evaluation then become a project outcome in and of itself, with the added benefit of learning from previous experiences. The outputs from a well-designed M&E plan can in turn influence the future directions that an ICT in education program may take and allow levels of flexibility and adaptability to change circumstances (International Bank for Reconstruction and Development, 2005).

According to Wagner et al (2005), the three main issues to be considered when monitoring and evaluating ICT projects in education are the impact of the ICT project on (a) students' outcomes such as higher scores in school subjects or the learning of entirely new skills needed for a developing economy; (b) teacher and classroom outcomes such as the development of teachers' technology skills and knowledge of new pedagogical approaches, as well as improved attitudes toward teaching; and (c) other outcomes such as increased innovativeness in schools and increased access of community members to adult education and literacy.

The field of ICT for Development (ICT4D) has been characterized by a high failure rate of development initiatives (Heeks, 2011). In this context, M&E is a tool used to inform the Management of the status of such projects aiming to recognize deficiencies and problems during different phases in running the project and take measures to

mitigate them. As governments, donors and the public become more interested in the results and the value produced by development projects, it becomes increasingly important to have the means to substantiate the results of those projects which may generally be seen as successful (Jackson, 2012) and introduce a timely correction for those showing risk of failure.

The Universal Service Provision Fund (USPF) was established to aid in the quick implementation of national policy goals for universal service and universal access to Information and Communication Technologies (ICTs) in Nigeria's rural, underserved, and unserved areas. The mission of the USPF is to make network and application services more widely available and used in Nigeria by providing money for the provision of these services to rural, unserved, and underserved areas and groups. To accomplish this goal, the USPF identified institutions and schools in Nigeria that cater for people with disabilities (PWDs) and set aside monies in its 2016 budget to offer ICT facilities to these institutions and schools.

The E-accessibility project is the USPF's response to the promotion of access for persons with disabilities to new information and communications technologies and systems in line with the United Nations (UN) Convention on the Rights of Persons with Disabilities, as well as the aim of International Telecommunication Union (ITU's) member states to achieve global inclusive ICT. This project is implemented through the deployment of assistive technologies to relevant institutions to address the peculiar needs of the target beneficiaries. The project provides ICT tools and Assistive Technologies (ATs) to the blind, the deaf, dumb, crippled, cognitively impaired, and other categories of people living with disabilities. As disadvantaged members of society, the project is designed to assist in improving the quality of life of people living with disabilities by:

- Providing support to identified groups in accessing Information and Communication Technologies (ICTs).

- Improving the overall learning experience of persons living with disabilities by equipping educators with the right hardware and software

- Providing ICT and assistive solutions to cover as many areas of disabilities as possible, including but not limited to sight, hearing, mobility etc. (Universal Service Provision Fund, 2022)

The project offers the provision of internet connectivity and assistive technologies in line with the principle of ICT inclusion. The project was implemented for fourteen (14) institutions that cater for People Living with Disabilities (PLWD). Before the implementation, a study was conducted to assess the state of the institutions, identify its needs, and proposed solutions to address the needs. The Federal College of Education (Special), Oyo is one of the institutions provided with connectivity and assistive technology by the USPF.

The Federal College of Education (Special), Oyo's E-Accessibility project is one of the USPF Projects for 2013. It was a two-phase project. First, an E-Accessibility Library for People with Special Needs was installed, and second, hearing aids were installed for approximately seventy (70) students with hearing impairment. The E-Accessibility library for people with disabilities was installed in a room in the Department of Computer Science in the college. The library has 20 computers (each with a screen reader), solar-inverter power, a server (with a one-year internet subscription), and various assistive devices like SmartNav, Trackball, Projector, Beam Edge, Trackball, Braille Embosser, Thermoforming Machine, an Audiometer. The centre's users are divided into two groups. Students with special needs who are being taught how to use the library's computer and internet facilities and interested members of the college staff who are using the library's internet resources for studying and other academic work.

Some studies have tried to examine the influence of monitoring and evaluation on ICT projects in education (Rodriguez, Nussbaum, Lopez & Sepulveda, 2010; Habinshuti, 2016). Research on the influence of monitoring and evaluation on ICT projects in education in Nigeria showed that, despite the recommendation of the Nigeria National Policy of ICT in Education that periodic Monitoring & Evaluation (M&E) of programmes and projects of ICT in Education be carried out to assess the impact and extent to which the objectives of the policy have been achieved, the lack of monitoring and evaluation of ICT projects in education may be responsible for the failure of the numerous ICT projects in the nation's institutions, despite the government's huge investment in ICT projects.

This paper is aimed at investigating the influence of monitoring and evaluation on the e-accessibility project at the Federal College of Education (Special), Oyo, which provides access to ICT tools and Assistive Technologies (ATs) to persons with visual impairments, hearing impairments and physical and health impairments.

To achieve this, the following research questions were raised:

- i. How does monitoring of activities involved in project execution help in the achievements of the success of the ICT project?
- ii. What is the effect of the ICT project on students with visual impairment?
- iii. What is the effect of the ICT project on the lecturers of students with visual impairment?

Research Methodology

This research work employed the descriptive survey research design. This method is appropriate because it makes it possible for the researchers to collect facts relating to the opinions and views of teachers and students with visual impairment on the e-accessibility project.

The population of this study includes five (5) lecturers in the Department of Education for Students with Visual Impairment, twenty (20) students with visual impairment and two (2) staff of the e-accessibility unit at the Federal College of Education (Special), Oyo. The sample consists of 10 students, 2 lecturers from the

department of the education for learners with visual impairment and 2 staff of the e-accessibility centre. To select the sample for the study, purposive sampling technique was employed.

The researcher made use of structured and unstructured questionnaires as the research instrument. The structured questionnaire consists of two sections. Section A focused on the demographic information of the respondents. Section B focused on respondents' opinions on the E-Accessibility project and contained ten questions. The Yes or No format questionnaire was used. Two types of structured questionnaires were used, the Lecturers' questionnaire was administered to the Lecturers while the students' questionnaire was administered to the students. An unstructured questionnaire was administered to the staff of the centre. It allows the researcher to collect rich and detailed information from them. The reliability of the instrument is the stability and consistency of the instrument measured. A test-retest was used to determine the reliability of the instrument and a co-efficient of 0.76 was obtained. This means that the instrument is reliable.

Data collected using the structured questionnaire were analyzed using frequency distribution table and simple percentage. Data collected were entered into the package. They were cleaned by removing all outliers. Frequency tables were created to interpret the data collected. Data collected using the unstructured questionnaire were analysed using inductive analysis.

Result

Demographic Information of the Respondents

The study involved 10 students, out of which 50% were female, while the remaining 50% were male. It was also observed that 20% of the students were in 200L, while 80% were in 300L. This means that majority of the students were in their final year. This made them very suitable for the study. Results from data analysis showed that 60% of the students were blind, while 40% were partially sighted.

Two lecturers were involved in the study, and they were all males. One of the lecturers held a Master in Education (M.Ed) degree, while the other lecturer was a PhD holder. They are both sighted. Of the two staff at the centre, one was male, while the other was female. None of them held a certificate in special education, but one of them held a master of science degree in Information Technology (M.Sc). All staff involved had spent more than ten (10) years in the service of the college.

Research Question One: How does monitoring of activities involved in project execution help the achievements of the success of the ICT project?

The project was established with the following objectives:

to get students with special needs familiarized.

Provision of computers installed with disability friendly software.

(Staff A)

The result of the data analysis shows that the college did not have a monitoring and evaluation plan for the project. According to one of the staff at the centre, Staff A:

“Presently, no evaluation has been done to assess the impact of the project in achieving digital inclusion of the visually impaired students. As it is now, it is hard to say if the objectives of the project have been attained. We cannot determine if the project has in any way contributed towards achieving digital inclusion of the visually impaired students.”

He then added that:

“From time to time, the donor organization do visit the centre to take inventory of the resources at the centre. No study has been conducted to assess the impact of the project”.

Staff B stated that the “centre has the following equipment:

- Braille printer
- Disability friendly software
- Printer
- Server
- Audiometer
- Braille Embosser”

Staff A further added that:

“the equipment was properly installed and are maintained regularly. The college is responsible for maintaining the centre. The internet connectivity is down for now. The e-accessibility centre has equipment useful for students with visual impairment”.

Staff A also confirmed that:

“The tools are of great importance to students with visual impairment”.

Training of persons with visual impairment

Staff A confirmed that:

“Some teachers were trained on how to use the equipment at the centre and all newly admitted students are trained on how to use the facilities and access the internet during their computer training programmes. He also added that students only visit the centre during this period, after which they no longer visit the centre. Teachers of students with visual impairment occasionally visit the centre but do not use the facilities when teaching their students.”

Challenges of the centre

There are challenges confronting the centre and they included the following as stated by staff B:

We would need more of the facilities as the ones onground cannot adequately cater for the large number of disabled students that we have.

The room is not well ventilated because the windows are not opening properly.

The floor needs to be tiled.
Air Conditioner needs to be installed.

Research Question Two: What is the effect of the ICT project on students with visual impairment?

Table 1: Students' Questionnaire

SN	Items	Yes	No
1	Are you aware that there is a centre for e -accessibility in the college?	100%	0%
2	Were you trained to use the equipment at the centre?	100%	0%
3	Have you ever visited the centre	100%	0%
4	Do your teachers use the facilities at the centre when teaching you	0%	100%
5	Are you allowed to use the facilities at the centre?	20%	80%
6	Has the centre influenced your development?	40%	60%

Results from Table 1 show that all the students were aware of the existence of the centre in the college and all of them also confirmed that they had visited the centre at one time or another. When probed further, the students established that, they visit the centre for the college's mandatory ICT training programme for the newly admitted 100 Level students. This means that the ICT training for students with visual impairment is held at the centre.

It was also observed that all the students affirmed that they were trained to use the equipment at the centre. All the students also stated that their lecturers do not use the centre to teach them, they only use the centre for the mandatory ICT training and not for courses in their subject area. It was also established that only 20% of the students confirmed that they were allowed to use the system whenever they visited the centre outside the training period and only 40% of them believed that the centre influenced their development.

Research Question Three: What is the effect of the ICT project on the lecturers of students with visual impairment?

Table 2: Lecturers' Questionnaire

SN	Items	Yes	No
1	Are you aware that there is a centre for e-accessibility in the college?	100%	0%
2	Were you trained to use the equipment at the centre?	50%	50%
3	Have you ever visited the centre?	100%	0%
4	Do you use facilities in the centre when teaching your students?	0%	100%
5	Do your students have access to the resources at the e -accessibility centre?	50%	50%
6	Do you think that the project has positively influenced the education of students with visual impairment in the college?	50%	50%

Table 2 shows that all the lecturers involved in the study were aware that the college had an e-accessibility centre and had visited the centre. The result from the table also showed that none of the lecturers used these facilities when teaching their students. It was also established that 50% of the lecturers affirmed that they were trained to use the centre, students have access to the resources at the centre and that the project has positively impacted the students.

Discussion of Findings

This study aimed at investigating the influence of monitoring and evaluation on the e-accessibility project at the Federal College of Education (Special), Oyo. Findings show that there is no monitoring evaluation and evaluation plan for the e-accessibility project, and this has prevented the staff of the centre from evaluating the project. According to the staff of the centre, no evaluation has been done to assess the impact of the project in line with the stated objective. Therefore, it is difficult to tell if the objective of the centre is achieved. The centre is basically used for the mandatory ICT training, as against the objective of the establishment of the centre, which is to improve the quality of life of people living with disabilities. According to Wagner et al (2005), monitoring and evaluation (M&E) will ensure that a project meets its objectives and fulfils its expectations. They further stated that it should be incorporated into the project from its inception during the planning stage. Findings from the study also showed that the centre has some very important assistive technology tools but most of the other equipment like audiometer, thermoforming at the centre were never used. This is because these pieces of equipment were not needed for the mandatory ICT training. Lecturers who are experts in education for persons with visual impairment, who are expected to use the facilities, did not use them when teaching their students. The study also showed that the equipment was well installed and are maintained by the beneficiary institutions, but has not contributed significantly towards achieving digital inclusion of the visually impaired students

Furthermore, the result gathered from the study showed that students are aware that the centre exists, but only visit the centre during the period of the mandatory ICT training, after which they no longer visit the centre. This implied that students who used the centre, only used it when they were at 100 level. Students were trained to use the speech-to-text software, Windows operating system, Microsoft Word, Microsoft Excel, and Microsoft PowerPoint, but they still depend on their sighted counterparts to access the internet for their course registration and other internet related services.

Findings also showed that some teachers were trained on how to use the equipment at the centre, but because they do not use them when teaching their students, it becomes difficult to tell if it has any effect on them. Teachers of students with visual impairment occasionally visit the centre for power supply and to use the facilities for their assignments.

Conclusion

This study examined the influence of monitoring and evaluation on the e-accessibility project at the Federal College of Education (Special), Oyo. Findings from the study showed the non-existence of a monitoring and evaluation plan. This made it difficult for either the donor organization or the beneficiary institutions to assess the performance of the project. Monitoring and evaluation (M&E) of development activities gives government officials, development managers, and civil society better tools for learning from past mistakes, improving service delivery, planning, allocating resources, and demonstrating results to key stakeholders as part of accountability. M&E will help reduce the failures associated with most ICT projects in Nigeria and ensure that the huge investment in ICT projects is justified.

This study is limited to students with visual impairments, their lecturers, and the staff of the centre. The impact of the project on students with other forms of disabilities was not included. The impact of the project on the school and the community were also excluded from the study.

Recommendation

Arising from the findings, the following recommendations were made.

- Monitoring and Evaluation plan should be developed for any ICT project and should be incorporated at the beginning of the execution of the project.
- Donor organizations should organize training for the staff and students for whom the project is intended.
- Donor organizations should also monitor and evaluate their projects from time to time. This will help them determine if the project is a success or a failure. Information obtained from the evaluation exercise will help them advise the beneficiary institutions on how to use the project and help them when planning another project in the future.
- Students should be encouraged to make use of the few facilities that are available in the centre.

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