

Validating the framework for integrating e-learning in the Primary Schools in Bundibugyo District

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Abstract

The purpose of this study was to validate the framework for integrating e-learning in the Primary Schools in Bundibugyo District. The study used a cross-sectional research design with a sample size of 189 respondents (60 pupils and 129 teachers). Stratified and simple random samplings were used as sampling techniques while questionnaires and interviews were used as research instruments. This study comes up with the most effective framework for integrating ICT in primary schools. This framework captures aspects of availability of ICT resources, accessibility, and usability, with both electricity and internet connection. In addition, the framework presents teachers, learners, and administrators' preparedness as possibilities of ICT integration.

The study recommended that: Teachers should be made prepared to use integrated ICT at primary school level by receiving frequent ICT related trainings. The National Curriculum Development Centre (NCDC) should ensure that the approach is incorporated in the curriculum.

The learners should be mentally prepared and gradually introduced to use integrated ICT so that they can grasp the content progressively without getting discouraged or frustrated with the ICT-enhanced learning process. Finally, the school administrators should support learners by providing ICT-related books in the library so that the learners can make further discoveries. Similarly, the school administrators and Primary Teacher Association (PTA) members to ICT technical experts in their schools to provide technical assistance such as repair, installation, maintenance, technical advice to teachers and learners.

Key Words: ICT integration, ICT Integration framework, ICT in primary schools, ICT framework design, ICT in Bundibugyo

Background of the study

The rapid growth in Information Communication Technology (ICT) in the 1960s brought about the birth of e-learning in education system in the United States and European Schools. This brought remarkable changes in the twenty-first century especially in the education sector. This is because Education in the world over has been recognized as an important means for promoting economic and social development both at individual and national levels (Zulaikah & Rebecca, 2023). In most parts of Africa, the purpose of e-learning integration has been to catalyze a pattern shift towards "21st century

learning" and support "Education for All" goals at various levels throughout the regions education system (Victoria et al., 2023). In Uganda, It comes as no surprise that the ICT facilities in most cases have been used for administrative computing and computer skills development with no activity related to e-learning. This has been attributed to the limited infrastructure and resources, students to computer ratio, lack of online pedagogical skills among others (Anthony, Kazaara, Kazaara, et al., 2023). This study adopted TPACK Model for Technology Integration by Mishra and Koehler (2008) for teaching –

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Technological Pedagogical Content Knowledge. TPACK is a way of thinking about the knowledge teachers need to understand to integrate technology effectively into their classrooms (Anthony, Kazaara, Kazaara, et al., 2023). The district has 15 sub counties, 83 parishes and 587 villages. The district

has over 198 Schools currently (2020) with 25 Nursery Schools, 157 Primary Schools, 13 secondary Schools, 1 Bivet Schools, and 1 Teachers College. This study will assess the extent to which e-learning has been integrated in the Primary Schools in the district.

Problem Statement

E-learning integration into the classroom teaching using 3D pictures, videos, and audio tapes, can make pupils' learning more learner-centered and participatory than the conventional learning approach (Anthony, Kazaara, & Kazaara, 2023). This is because when pupils watch a 3D animated English language lesson or Mathematics, or religious education or any other subject; they will be more interested in the motion pictures because it interests them. Accordingly, when the teacher explains to them what is in the motion pictures, they will be able to remember it so easily (Anthony, Kazaara, Kazaara, et al., 2023). For example, when ABCD alphabets are given to pupils in lower classes in cartoon format, they will be more interested in learning thus their learning will be enhanced. Unfortunately, majority of primary schools in Uganda, Bundibugyo inclusive still use teacher-centered approach of teaching hence making children less involved and thus making them become consumers of information disseminated by the teachers (Anthony, Kazaara, & Kazaara, 2023).

Limited infrastructure and little expertise in the use of digital technology tools (Oye et al. 2011); attitude towards the technology, quality of the content in the eLearning and multimedia technology, e-learning and multimedia technology quality, support by ICT technical staff, and stakeholder involvement (Racheal et al., 2023).

To further compound the lack of eLearning integration in education system of Uganda, there are only a few researches to attest to this fact and the few have been done at the secondary school level (Okidi, 2006), or university level (Godfrey et al., 2023). To the best of the researcher's knowledge, there is no empirical study on eLearning integration at the primary school level in Uganda. Unfortunately, it is also still difficult to integrate ICT into the primary school setting because of lack of a suitable framework (Victor et al., 2023). It was therefore imperative that the current study be done to come up with a comprehensive framework for integrating ICT in primary school setting. Several factors that hinder the full scale integration of eLearning in the education system of Uganda have been noted to include but not limited to: high cost involved, socioeconomic and technological conditions, lack of a systematic approach to teaching and learning, awareness and attitudes towards digital technologies, administrative and technical support, staff development, limited infrastructure and little expertise in the use of digital technology tools (Christopher et al., 2022); attitude towards the technology, quality of the content in the eLearning and multimedia technology, e-learning and multimedia technology quality, support by ICT technical staff, and stakeholder involvement (Richard et al., 2023).

Objectives of the Study

To validate the framework for integrating e-learning in the Primary Schools in Bundibugyo District

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Review of related Literature

The use of TPACK Model by (Richard et al., 2022) independently in this study is limited because it looks at only the aspect of how teachers can develop and apply technological pedagogical content knowledge (TPACK) in their teaching. It does not look at learners preparedness to embrace e-learning such as Affective (learning) in terms of attention (arousal, curiosity, interest), or confidence (positive expectations, persistence and challenge) thus providing need for e-learning usability framework by (Godfrey et al., 2023). However, e-learning usability framework does not address the issue of sustainable learning environment such as organizational priorities like administrative preparedness in terms of e-learning maintenance [i.e. financial support to purchase e-learning resources (hardware & software), technical support such as teacher training, and management support by drafting institutional e-learning policy thus necessitating the use of E-learning Integration Model by Newton and Ellis (2006) and E-learning framework by Khan (2001) to address the above short comings.

Methodology

The study used a cross-sectional research design. Cooper & Schindler, 2003; Best and Khan (2009) argued that cross-sectional research describes and interprets phenomena and is concerned with conditions relationships that exists, opinions that are held, processes that are going on, and effects that are evident or trend that are developing. The choice of this research design is justified since the study aims at identifying the general characteristics of Primary Schools in integrating ICT. The study population was 4,553 participants who included teachers, head teachers, and pupils from 157 Primary Schools in Bundibugyo (Bundibugyo District Education Report, 2018). However, the study using stratification method targeted 12 Schools thus making the target population to be 363 teachers, head teachers, and pupils. On the other hand, one head teacher was selected from each School to participate in an interview.

The sample size was determined using Krejcie and Morgan (1970). According to Morgan Table, a sample of 363 participants is estimated at 191 respondents. In this study, a structured questionnaire was designed with specified answers and restriction of respondents' ideas limited. This makes it simpler to analyze considering the use of a standardized analytical tool in analyzing huge sample size in this study (Rogers, et al., 2011). The study adopted inflexible interview approach. Inflexible (rigid) interview approach is when the wording and the wording sequence of questions are planned before and they are also asked in a planned manner (Kumar, 2011).

Data Analysis was done using Statistical Package for Social Scientists (IBM SPSS, version 22.0) software (Nelson et al., 2022). This process involves data editing, data coding and data entry into the computer for analysis. After processing (i.e. editing, coding, entry into the computer, and checking) the collected data, the researcher analyzed it. The analysis involved frequency counts and percentage distributions were used to analyze data on the demographic characteristics of the respondents. In addition, frequency, and percentage distribution table were used to determine teachers and administrative preparedness in integrating ICT and availability, accessibility, and usability of ICT resources.

Results

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In regard to *ICT resources*, majority (95%) of the respondents agreed that availability of ICT resources enables ICT integration in the learning/teaching process, (84%) agreed that accessibility of ICT resources enables ICT integration in the learning/teaching process, (86%) agreed that usability of ICT resources enables ICT integration in the learning/teaching process, (76%) agreed that availability of electricity connection enables ICT integration in the learning/teaching process (76%), while 88% of the respondents agreed that availability of internet connection enables ICT integration in the learning/teaching process.

In regard to *teacher preparedness*, majority (95%) of the respondents agreed that teacher training in ICT enables ICT integration in the learning/teaching process, 93% agreed that teachers' ability to teach using a projector enables ICT integration in the learning/teaching process, 83% agreed that teachers' ability to teach students how to prepare a PowerPoint presentation enables ICT integration in the learning/teaching process, 87% agreed that teachers' ability to use internet enables ICT integration in the learning/teaching process, 77% agreed that teachers' competence in using ICT enables ICT integration in the learning/teaching process, while 84% of the respondents agreed that teachers' ability to teach using whiteboard enables ICT integration in the learning/teaching process.

In regard to *learners preparedness*, majority (85%) of the respondents agreed that learner's interest in using ICT resources enables ICT integration in the learning/teaching process, 68% agreed that learner's curiosity to use ICT resources enables ICT integration in the learning/teaching process, 61% agreed that learner's motivation to use ICT resources enables ICT integration in the learning/teaching process, 71% agreed that learner's familiarity with ICT resources enables ICT integration in the learning/teaching process, and 74% agreed that learner's confidence in using ICT resources enables ICT integration.

In regard to *administrative preparedness*, majority (81%) of the respondents agreed that ICT training opportunities for teachers enable integration of ICT, 91% agreed that buying ICT resources enable integration of ICT in learning, 79% agreed that employing ICT technician enables ICT integration in the learning/teaching process, and 94% agreed that encouraging teachers to use ICT resources when teaching enable ICT integration.

Conclusion

This study has come up with the most effective framework for integrating ICT in primary schools. This framework captures aspects of availability of ICT resources, accessibility, and usability, with both electricity and internet connection. In addition, the framework presents teachers, learners, and administrators' preparedness as possibilities of ICT integration.

Recommendations

Teachers should be made prepared to use integrated ICT at primary school level by receiving frequent ICT related trainings. That is to say, the National Curriculum Development Centre (NCDC) should ensure that the approach is incorporated in the curriculum. It should be holistic, i.e., cater for all learners in all spheres.



Furthermore, the learners should be mentally prepared and gradually introduced to use integrated ICT so that they can grasp the content progressively without getting discouraged or frustrated with the ICT-enhanced learning process.

Additionally, the school administrators should support learners by providing ICT-related books in the library so that the learners can find time to make further discoveries on their own.

Similarly, the school administrators and Primary Teacher Association (PTA) members should employ ICT technical experts in their schools to help provide technical assistance such as repair, installation, maintenance, or technical advice to teachers and learners



References

- Anthony, D., Kazaara, A. G., & Kazaara, A. I. (2023). *PERFORMANCE IN ENGLISH SUBJECT IN SECONDARY*. 2(2), 347–362.
- Anthony, D., Kazaara, A. G., Kazaara, A. I., Ismail, L., & Prudence, K. (2023). *The Impact of Teachers ' Teaching Methods on Students ' Performance in English Subject in Secondary Schools In Uganda , A Case Study Of Selected Secondary Schools In Kampala & Wakiso*. 7(3), 290–297.
- Christopher, F., Komunda, T. R., & Milton, N. (2022). *The Impact of Supervision on the Quality-Of-Service Delivery at Kirima Community Secondary School in Kanungu District , South Western Uganda*. 6(5), 157–162.
- Godfrey, W., Silvia, N., Kazaara, A. G., Nelson, K., Christopher, F., Deus, T., Micheal, T., & Catherine, M. (2023). *The Effect Of Teacher ' s Instructional Methods On The Learners Academic Performance In Mathematics Subject In Secondary Schools , A Case Study Of Buwesswa Secondary School In Manafwa District*. 7(2), 100–107.
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. 6(7), 84–122.
- Racheal, N., Enock, Z., & Kazaara, A. G. (2023). *Impact of quality financial reporting on an organization resource management: a case study of humuza holding limited kampala uganda 1*. 2(2), 408–425.
- Richard, A., B, A. I., Janice, B., Omolaja, M., & James, T. (2022). *Course completion among the students in Public and Private Universities in Uganda .* 6(7), 47–48.
- Richard, A., Deus, T., James, T., Ijeoma, A., & Janice, B. (2023). *The impacts of using music instruments on learning in post- secondary institutions in Uganda*. 7(3), 35–39.
- Victor, N., Kazaara, A. G., & Kazaara, A. I. (2023). *Analysing The Effects Of Bullying On Child School Dropout In Secondary Schools In Uganda A Case Of Bwanda Secondary School Masaka District*. 7(3), 213–220.
- Victoria, N., Nelson, K., Kazaara, A. G., & Kazaara, A. I. (2023). *The Impact Of Staff Development On The Pupils ' Academic Performance In Primary Schools In Kimaanya Sub-County , Masaka District A Case Study Of Kimaanya Sub-County , Masaka District*. 7(3), 179–186.
- Zulaikah, W., & Rebecca, N. (2023). *The Study on the Effect of Child Labour on the Learners Academic Performance in Secondary Schools . A Case Study of Nansana Municipality*. 7(3), 160–167.