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Not a Panacea: ICT and eLearning Integration in Primary Schools in Africa

Issue at-hand

ICT integration in the teaching and learning processes is slowly and profoundly transforming African education systems. In an increasing number of schools, blackboards are giving way to interactive whiteboards, textbooks are being replaced by digital content supported by laptop computers, tablets, mobile phones; the teacher too is slowly becoming a facilitator instead of the “dispenser” of knowledge he or she used to be given that eLearning is student-centered in essence. This major paradigm shift is premised on the assumption that ICT and eLearning offer opportunities to raise not only educational quality in schools but also to make education and training more accessible by many who hitherto could not be reached. Furthermore, there is a common agreement worldwide that eLearning is the way to the future and traditional education as we know it will one day disappear. A few African governments have embraced this paradigm and as a result are investing millions of dollars to modernize their education systems through ICTs and eLearning.

In Kenya, for example, the government has embarked on a major transformation of its public primary schools which consists of introducing eLearning by providing “one laptop per Child” nationwide. This initiative is in line with both the country’s “vision 2030” which aims at developing a computer-literate society by the year 2030 as well as Kenya’s 2010 Constitution which provides children’s right to free and compulsory basic education, including quality services, learning resources and access for all.

This type of initiative carries with it major implications in terms of policy, infrastructure, curriculum and teacher training reforms and there is a growing chorus of voices coming from

education pundits and researchers pointing to the fact that ICT and eLearning integration is no panacea; above all if it is reduced to providing hardware and basic infrastructure.

Policy Recommendation: Develop a usability conceptual framework to investigate the integration of 'digital content and learning' in educational systems.

In a study entitled “*Pupils’ Usability of Multimedia-Based eLearning Resources in Kenyan Primary Schools*” presented by Mondri, Nzuki and Njoroge during AVU’s 2016 International Conference, the issue of the efficiency of eLearning resources in impacting students’ learning was explored. More specifically, the researchers set out to *investigate pupils’ usability of multimedia-based eLearning resources, and how these influence their learning experience.*

The concept of usability is broadly defined as *extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use*” and in the particular case of this study it is defined as *the extent to which pupils utilize multimedia-based eLearning resources to enrich their learning experience.*

The researchers used the following factors to measure the usability of the multimedia-based eLearning resources in Kenyan primary schools: (i) Perceived Ease-of-Use, (b) Perceived Usefulness, (iii) Perceived Enjoyment, (iv) Perceived Attractiveness, and (v) Perceived Attractiveness of the digital systems.

In terms of methodology, questionnaires, observation guides, semi-structured interview schedules and focus group discussions (FGD) protocols were used. The questionnaire was administered to 120 pupils randomly selected from three different schools. Qualitative data was obtained from interviews with six Class-one primary school teachers (purposively selected), classroom observations, and moderated focus-group discussions with the pupils. In addition, an experimental design was used whereby pupils were tasked to use and rate two (2) uniquely designed multimedia-based Class-one-level prototype Science lessons pupils (PROT.1 and PROT. 2).

With regard to findings, the following were obtained: (i) the pupils rated Prototype 2 higher than Prototype 1 in terms of their perceived usability factors and (ii) after corroborating this finding with qualitative data it became evident that optimizing the usability features of eLearning resources is a necessary prerequisite to maximize their potential to engage and enrich pupils’ eLearning experience.

Recommendations

In spite of the limitations underscored by the researchers, this study points to an important policy and technical imperative: *without subjecting eLearning resources to rigorous usability procedures may lead to failure in achieving the desired outcomes*. Therefore, any government implementing an ICT and eLearning integration policy should:

- ensure that a usability conceptual framework to investigate the integration of ‘digital content and learning’ in educational systems is in place. As indicated by the researchers, *usability testing and evaluation require development of numerous iterations of an eLearning resource and several cycles of testing and redesign before an application i.e. a multimedia-based eLearning resource is deployed*.
- commission more research and development geared testing various parameters that may influence the success of integration of multimedia-based eLearning resources in primary schools. This is currently what Kenya is doing and it is justified by the fact that the *“field of development and deployment of interactive-and-immersive multimedia-based learning environments is still at experimental stage; largely untapped in spite of the fact that eLearning systems have the powerful potential for a total transformation in the teaching-and-learning process.”*

References

Mondi, Makingu; Nzuki, David and Njoroge, Rose.2016. *Pupils’ Usability of Multimedia-Based eLearning Resources in Kenyan Primary Schools”*. Unpublished paper presented at AVU’s 2016 International Conference, Nairobi, Kenya.

Mose, Patrick. 2014. Closing the Digital Divide: Kenya’s One Laptop Per Child Initiative. Ohio University. http://kessa.org/yahoo_site_admin/assets/docs/5_MoseKessa14proceedings-post.6161214.pdf

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African Virtual University| Université Virtuelle Africaine
Cape Office Park, Ring Road, Kilimani
P. O Box 25405 – 00603, Nairobi, Kenya.
Tel: +254 20 2528333; +254 20 3861458/59
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Research & Development Unit at submissions@avu.org