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Website for all Classrooms in Mankessim.

**Description**

The capstone project sought to improve the use of technology in basic schools in Ghana. The use of technology in pre-university education in Ghana is virtually non-existent, resulting in teachers limiting themselves mostly to print based materials for teaching and learning. Some schools have computers that are used in teaching Information and Communication Technology (ICT) but this does not transfer to the teaching of the various contents areas in the classrooms. The schools do not have Websites that host educational resources for students or display students’ projects.

The capstone project involved creating a single Website that has pages for all the classrooms in the twenty-one public schools in the Mankessim Circuit of the Mfantseman Municipal Assembly, Ghana.

**Results**

The project was originally planned to be a fully online project, including the designing of the Website and the collaboration with the classroom teachers on how to update, maintain and use the Website. Limitations with online and telephone communications altered both the delivery and the schedule.

**Elevator Speech.** An elevator speech was made and uploaded to YouTube for the teachers in the target schools to have access to. O’Leary suggests that elevator speeches must be compelling and customized (as cited in Moreillon & Fontichiaro, 2009, p.74). This influenced the drafting and the presentation of the speech, which focused on the need to find solutions to the absence of multimedia and other technologies in Ghanaian classrooms. It also included a portion of a Ghanaian patriotic song. However, it was deemed more appropriate to share the video through the WhatsApp platform where the teachers often communicate with one another. The 4 minutes 17 second video was therefore compressed and shared with the teachers through the platform.

**The Website.** The Pro version of the Weebly web-designing tool was used in designing the Website (http://www.mankessimschools.net). This was to enable the classroom teachers to have access and edit their individual classroom pages. The Website was designed in accordance with the WebAIM’s checklist for HTML documents (2008). There is a homepage and nine other pages for each of the twenty-one public basic schools in Mankessim Circuit.

The *Homepage* welcomes and directs students to enter their classrooms. *My Classroom* links to the list of all the schools in the circuit from which students can select their schools. Upon entering a school page, primary school students can select from classes 1­–6, depending on the grade level of the student, and Junior High School students can select from JHS 1–3. The individual classroom teacher decides what to put on the class page. There is also a *News and Announcements* link in the main menu where school related information could be shared with the students, teachers and the public. The *Teachers’ Forum* link provides the opportunity for the teachers to discuss and share information on educational resources and best practices. There is a *How To* page that provides instructions with video tutorials on how to access and edit the pages.

**Limitations**

The project was planned to take place from September 2014 to April 2015, with the Website design and workshops expected to be completed by December 2014. Project evaluation was scheduled for February to April 2015. However, lack of effective communication with the supporting district coordinator required the need for a change in plan and time schedule. The district coordinator did not distribute the elevator speech to the teachers and as such the teachers were not aware of the project. A contact was made with the district ICT coordinator who eventually shared the speech with a group of teachers on the WhatsApp social platform. Only one of the teachers in the group identified herself as a teacher in the circuit. Having identified an organization of an online workshop to be a problem, a blog page was instead created to direct visiting teachers on whom to contact in order to gain access to their classroom pages for editing. The blog gives the procedure to follow after having been assigned as an editor of a page, and a tutorial on how to use the various elements in Weebly. As of October 22nd, 2014, however, no teacher had submitted an email address necessary to get assigned to a classroom page. An official letter emailed to the Municipal Director of Education asking permission to collaborate and organize workshops for the teachers had also not been printed because of lack of electricity.

The capstone project did not go as planned because, in spite of the existence of the Website, teacher participation and the use of the Website has been encouraging. Being a certified teacher in Ghana, however, the plan is to go and take up a teaching position and start using it to engage students and encourage other teachers to do the same. An interaction will be held with the municipal director of education and the ICT coordinator to identify the best ways possible to implement the project and extend it to all the schools in the municipality.

**Discussion and Reflection**

The capstone project offered experiences in undertaking needs assessments that are crucial in recommending what schools need to do in order to improve student learning. In its implementation, the project exposed the effects of not having proper analysis of available resources before initiating any technology implementation program in schools. It also provided the opportunity to assume a leadership role in organizing stakeholders who are concerned about school improvement.

Inadequate use of multimedia in Ghanaian classrooms due to lack of electricity and teacher readiness to adopt and implement new technologies has made most Ghanaian students gone through education without having experiences with technologies that help to improve learning. This results in low students performance and ill preparedness for higher education that rely on technology in the delivery of courses. Majority of pre-service teachers in Ghana first use computers at the university level (Agyemang, 2012). The capstone project provided the opportunity for teachers to revisit the use of multimedia without having to rely on the electricity in the classrooms. Teachers can now store video files, audio files, and link resources for students to review. Students now have the opportunity of using the Internet at the pre-university level to seek for information and to solve learning problems.

In spite of the opportunities that the capstone project offers, resources needed for a successful implementation served as the major drawback. Internet speed in Ghana was mostly 3G and was expensive for collaborating teachers to willingly participate in synchronous online workshops on how to effectively implement the project in their classrooms. This necessitated the use of blogging as an alternative in educating the teachers on how to implement the project. Blogging reduced the amount of data that the teachers would have otherwise used in participating in a videoconference.

The use of the elevator speech as part of the capstone project sought to shed light on the benefits of integrating online resources in teaching and learning, even though most teachers and students do not have the technology devices needed to access online information. The speech, as shared on YouTube and WhatsApp, can be accessed by students, teachers, and the general public. Educators willing to implement the project may eventually help in promoting the use of online resources for instruction and learning in their schools.

**Standards**

**1.1 Shared vision.** I developed and implemented the shared vision that will enable students improve on their academic performance through the use of technology and to adequately prepare themselves for higher education. Teachers will use the project to implement the use of multimedia in their teaching.

**1.4 Diffusion of innovation and change.** I researched, recommended, and implemented strategies for initiating and sustaining technology innovations and for managing the change process in schools.

**2.6 Instructional Design.** I modeled and facilitated the effective use of research-based best practices in instructional design when designing and developing digital tools, resources, and technology-enhanced learning experiences.

**3.1 Classroom management and collaborative learning.** I modeled and facilitated effective classroom management and collaborative learning strategies to maximize teacher and student use of digital tools and resources.

**3.2 Managing digital tools and resources.** I managed digital tools and resources within the context of student learning experiences.

**3.3 Online and blended learning.** I developed, modeled, and facilitated the use of online and blended learning, digital content, and learning networks to support and extend student learning and expand opportunities and choices for professional learning for teachers and administrators.

The use of technology in schools is greatly influenced by access to technology in general. The socio-economic background of the students can determine the kind of devices the students get access to and the experiences students may have in using them. Technology coaches who seek to promote technology implementation in schools in the developing countries face the challenges of having to deal with lack of resources and teacher readiness to implement any new technology in the schools. Successful implementation of a project like this would require determining a funding strategy to help improve Internet access, increased access to computers, and for organizing workshops. In this project, teachers were made to use their own resources to participate in the workshops, and this adversely reduced the motivation to participate. It is also recommended that any technology coach who wants to start a project like this needs to personally implement the project in the classroom to motivate others.

Perhaps students in the developing countries run the risk of not having full access to technology in the near future, as parents’ income and lack of government funding reduce the chance of having access. However, this should not prevent the technology coach from making recommendations.

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