



DETERMINATION OF TEACHERS' CAPACITY-BUILDING NEEDS FOR DIGITAL LEARNING IN GHANA

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ABSTRACT

This study determines teachers' capacity-building needs for digital learning in Ghana. As part of the National Teaching Council (NTC) Ghana's agreement with the Commonwealth of Learning (COL) project on Integration of Technology in Teaching, Learning and Assessment (ITTLA), teachers' capacity-building needs were determined. The study adopted the descriptive research design with a population consisting of educational professionals and experts in Ghana. The convenience sampling technique was adopted to collect data using a questionnaire that was designed with online Google Forms with a Cronbach's alpha value of 0.87. A total of 466 questionnaires were completed and submitted online. It was found that the key contents needed for providing capacity-building for teachers were learning material development, digital skills, methods of teaching, effective content delivery, generating interest among students, providing learner support, choosing appropriate media, among others. Furthermore, it was identified that the resources needed for providing capacity-building for teachers were android/smart mobile phone, laptop/PC, iPad/tablet, internet data, and internet access. The study, therefore, concluded that there are needs for contents and resources for the teacher capacity-building on digital learning in Ghana, and recommended the use of the identified content and resources for building the capacity of teachers in digital application in teaching and learning.

Keywords: Digital learning content, Digital learning resources, Needs assessment, Teacher capacity-building.

INTRODUCTION

Needs assessment is an important step to identify the needs of any organization or group of people for an intervention to be provided. The assessment of teachers' needs is an important approach to identify and determine the type of capacity to be built in teachers (Nehal & Khan, 2014). Assessment of the needs of teachers has implications on teaching strategies to adopt, learning materials, curriculum, and competencies required. Although research has shown that teachers are the most important factor in students' achievement, provision of instructional needs is key to successful teacher practice (Childress, 2014). Teachers must receive appropriate support to execute the task of instructional delivery. Key to the implementation of digital use in teaching is the content of the instruction and the resources for the application.

Bates (2015) provided some useful contents for the delivery of instruction in a digital age. Among them are skills needed in a digital age, online learning and teaching methods, implementing online learning, understanding the learners, theories of learning, learning support, choosing media, assessment strategies, and quality teaching in a digital age.

Agrinatura and Food and Agriculture Organization (FAO) (2019) stated the following as the resources required for the training course: a well-lit training room with sufficient space for the number of trainees, tables and chairs; facilitation cards; marker pens; flipchart easels and flipchart paper; a laptop, projector, electricity supply, connecting and/or extension leads, whitewall or screen; USB memory sticks; participant name cards; notebooks and pens; and access to printer and photocopier. The resources stated by Agrinatura and FAO (2019) are for face-to-face training. For digital training, the following resources are required: android mobile phone; laptop / PC; iPad / tablet; USB memory sticks; data; and internet access.

In line with the Commonwealth of Learning (COL) agreement with the National Teaching Council (NTC), Ghana to implement the Teacher Education and Enhancement Programme (TEEP), it has become necessary to determine teachers' capacity-building needs for digital learning in Ghana. This assessment aims to determine the teacher capacity building needs of digital learning in Ghana.

METHODOLOGY

This study adopted the descriptive research design. The descriptive survey was deemed appropriate because of the large population that was consulted. The population of the study consisted of educational professionals and experts such as teacher/tutors/lecturers, headteachers, principals, supervisors, ministry of education staff, heads of NGOs in education, and Deans/HoDs. The convenience sampling technique was adopted to reach out to the educational professionals and experts who were available and willing to participate in the study. A questionnaire was sent out to the educational professionals and experts in an online Google Forms. Meeting the recommended Cronbach's alpha threshold of 0.7 (Straub, Boudreau and Gefen, 2004), the reliability of the items was ensured after pre-testing of the question which yielded a Cronbach's alpha of 0.87. The questionnaire consisted of two main parts: (a) respondents' demographic information, and (b) digital learning and assessment-related information. The question with responses was set up in Google Forms and the link was shared on participants' email addresses and existing teachers' group WhatsApp platforms for them to respond and submit. 466 questionnaires were completed and submitted. The data subsequently were subjected to descriptive analysis with the help of statistical package for social sciences (SPSS) version 25.

RESULTS

Respondents Demographic Information

Four hundred and sixty-six (466) questionnaires were completed and submitted online through Google Forms, email and WhatsApp suggesting that 466 educational professionals and experts participated in the survey. Among the respondents, the majority (67.2%) were males while 32.8% were females as shown in Figure 1.

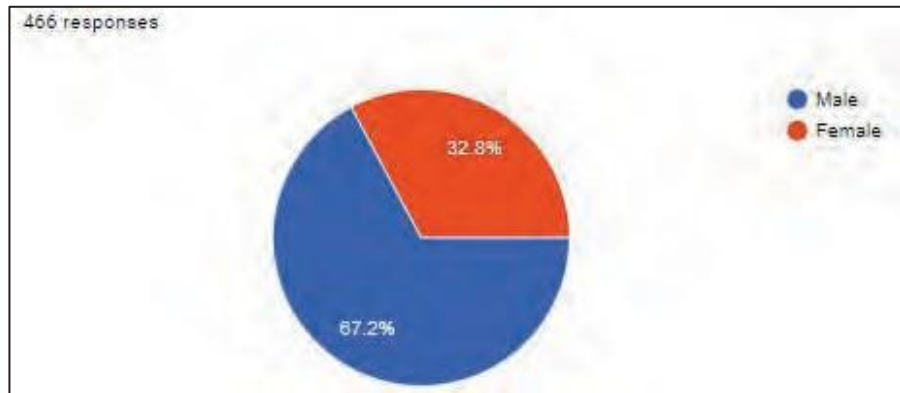


Figure 1: Gender of the respondents

The majority (72.8%) of the respondents were between the ages of 31 and 50 years (see Figure 2). This suggests that most of the respondents are within the middle age group.

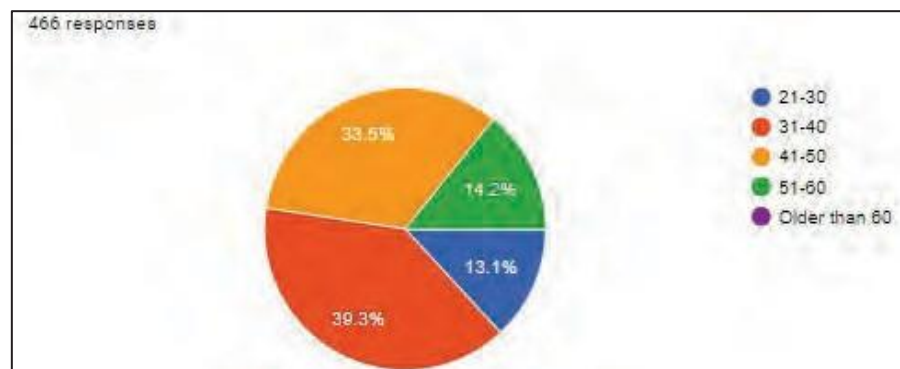


Figure 2: Age range of the respondents

43.1% of the respondents were bachelor's degree holders while 38.8% were master's degree holders as shown in Figure 3. This means that majority of the respondents are university graduates.

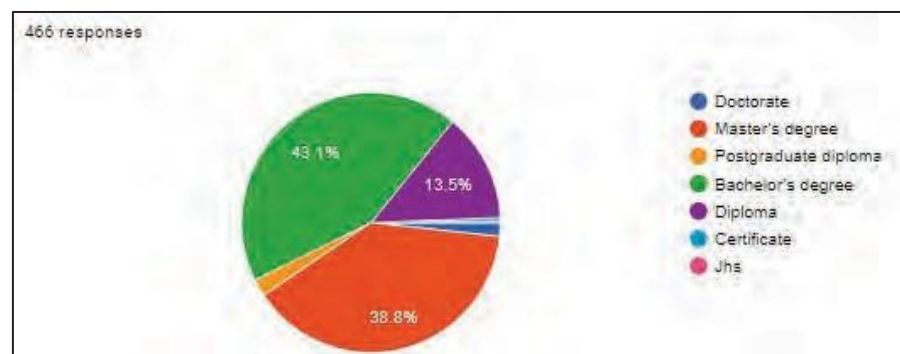


Figure 3: Educational qualification of the respondents

In terms of the place of work, it was identified that the respondents work at primary schools (26.4%), secondary schools (21%), ministry of education, colleges of education among others (see Figure 4).

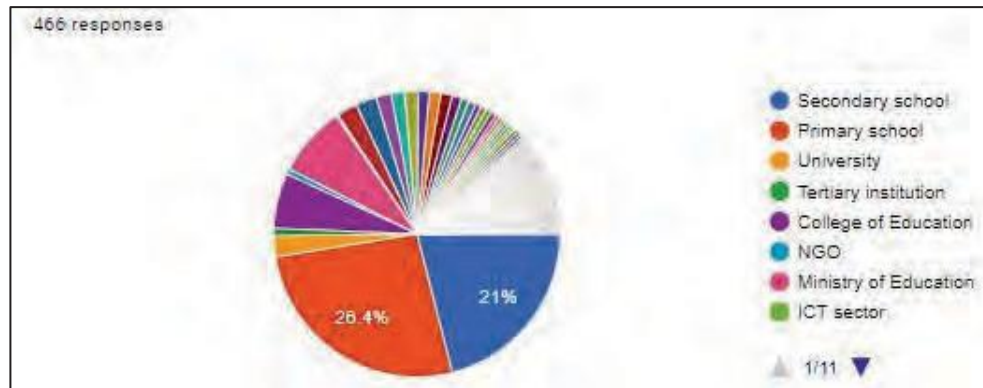


Figure 4: Current work of the respondents

About half (49.7%) of the respondents were teachers, tutors, or lecturers as shown in Figure 5. This means that majority of the respondents are teachers and will be able to provide useful information concerning the digitization of teaching and learning in Ghanaian schools.

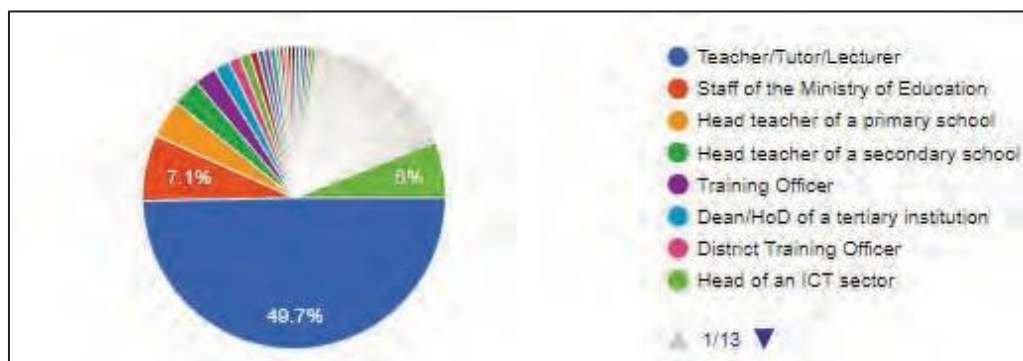


Figure 5: Work position of the respondents

Responses on the Needed Digital Learning Contents

To determine the digital learning content that will be appropriate for building the capacity of teachers in Ghana for digital learning, the respondents were provided with some predetermined responses for them to rate and they were also provided with space to list any content they deemed necessary. The respondents rated the following contents as to a large extent needed for providing capacity building for teachers (see Figure 6):

1. Learning material development
2. Digital skills
3. Methods of teaching
4. Effective content delivery
5. Generating interest among students
6. Providing learner support
7. Choosing appropriate media

8. Choosing appropriate assessment strategies
9. Quality teaching in a digital age
10. Improving the motivation level of students
11. Effective use of technology/ multi-media

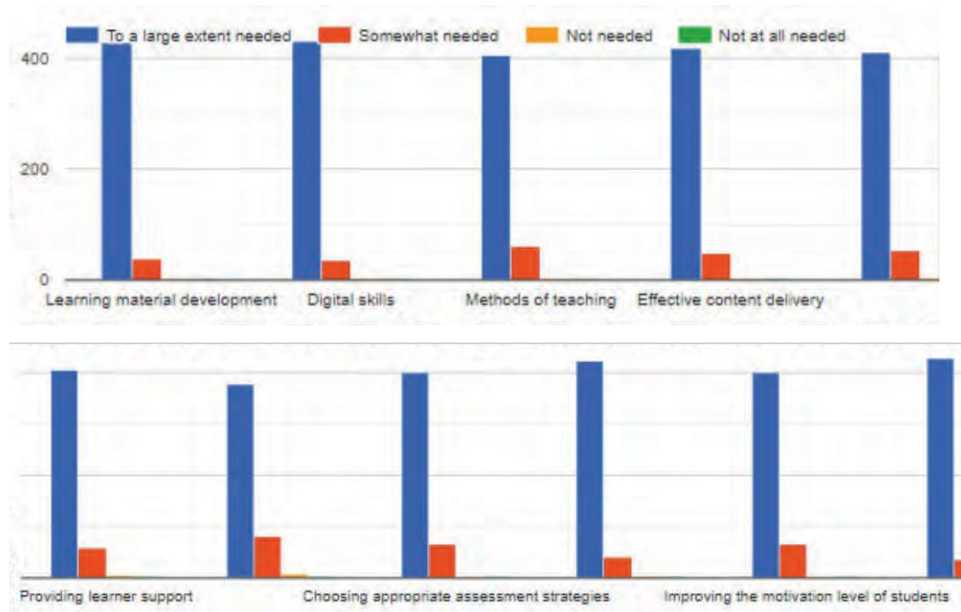


Figure 6: Digital learning content needed for teachers' capacity building

Responses on the Needed Digital Learning Resources

Furthermore, the study sort to identify the digital learning resources that will be appropriate for building the capacity of teachers in Ghana for digital learning. The respondents were provided with some predetermined responses for them to rate and they were also provided with space to list any digital resource they deemed necessary. The respondents rated the following resources as to a large extent needed for providing capacity building for teachers (see Figure 7):

1. Android mobile phone
2. Laptop / PC
3. iPad / Tablet
4. Internet data
5. Internet access

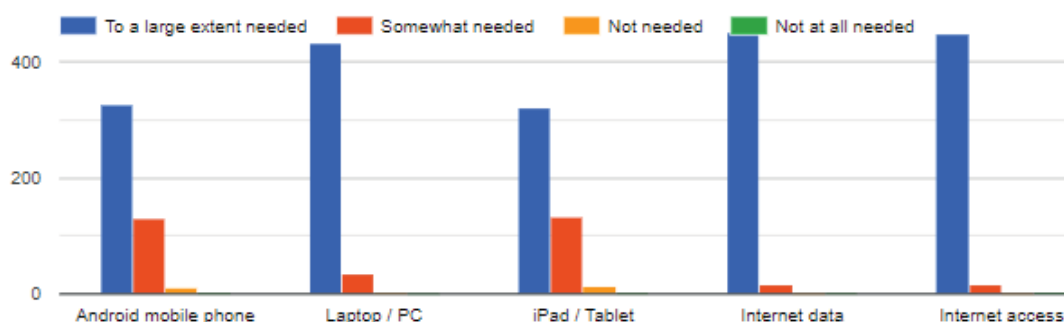


Figure 7: Digital learning resources needed for teachers' capacity building

DISCUSSION OF THE RESULTS

The results of the study indicated that the contents needed for providing capacity-building for teachers for digital learning in Ghana are learning material development, digital skills, methods of teaching, effective content delivery, generating interest among students, providing learner support, choosing appropriate media, choosing appropriate assessment strategies, quality teaching in a digital age, improving the motivation level of students, and effective use of technology/ multi-media. According to Bates (2015), these content are important in building the capacity of teachers in digital age. Mason (2016) explained that selecting the right content in building the capacity of teachers helps to improve teachers' classroom practice. This implies that identifying the contents needed for providing capacity-building for teachers for digital learning is as important as the expected out of teachers.

Android mobile phone, laptop / PC, iPad / tablet, internet data, and internet access were also identified as the resources needed for providing capacity-building for teachers in digital learning. According to Corner (2020), digital learning is becoming an increasingly popular option in modern education, from full digital courses, to classes held remotely, through to activities within the classroom setting that are moved online. Mitchell (2017) explained that while there are many digital resources that can help teachers prepare students for the challenges ahead, it is up to the teachers to help students acquire the mindset and skills necessary to succeed in our complex world. Therefore, building the capacity of teachers in digital resources is important for the selection of the right resources in preparing students for the world of work.

According to Nehal and Khan (2014), the determining of teachers' needs is an important approach to identify and determine the type of capacity to be built in teachers. Childress (2014) explained that provision of instructional needs is key to successful teacher practice, as research has shown that teachers are the most important factor in students' achievement.

CONCLUSION AND RECOMMENDATION

The study aimed to determine teachers' capacity-building needs for digital learning in Ghana. It was found that the contents needed for providing capacity-building for teachers among others are learning material development, digital skills, methods of teaching, effective content delivery, generating interest among students, providing learner support, choosing appropriate media, choosing appropriate assessment strategies, quality teaching in a digital age, improving the motivation level of students, and effective use of technology/ multi-media. Furthermore, it was identified that the resources needed for providing capacity-building for teachers among others are android mobile phone, laptop / PC, iPad / tablet, internet data, and internet access. The study, therefore, concluded that there are needs for contents and resources for the teacher capacity building of digital learning in Ghana, and recommends the use of the identified contents and resources for building the capacity of teachers in digital application in teaching and learning.

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