International Journal of Social Science and Human Research

ISSN (print): 2644-0679, ISSN (online): 2644-0695

Volume 07 Issue 01 January 2024

DOI: 10.47191/ijsshr/v7-i01-61, Impact factor- 6.686

Page No: 476-479

Data collected to assess Ugandan Secondary School Teachers' Competencies in Online course design, Digital communication, Basic and Advanced computer skills, and use of Learning Management Systems

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The data set comprises of data collected from 50 secondary school Ugandan science teachers who responded to an online questionnaire. The questionnaire measured the competencies of science teachers in online course design, digital communication, basic and advanced computer skills, and use of Learning Management Systems. The data were collected from June and July, 2023. The online responses were downloaded and transferred to SPSS for analysis. The data is in form of raw data, and it can be analyzed in different forms such as: relationship between digital communication and online cause design, teachers use of learning management systems, and teachers' possession of computer skills. With the current paradigm shift from face-to-face lessons to digital lessons, this data gives a base for other researchers to reuse and explore relationships such as between gender, type of school (single versus mixed) and teachers' competencies in designing and implementing online lessons. Policy makers and school administrators can also base on this data to identify gaps among teachers that may call for refresher training in digital teaching and learning.

Table of Specification

Subject	Digital Platform
Specific Subject Area	Computer Education
Type of Data	MS Excel Spreadsheets
How data were collected	A questionnaire was designed using SurveyMonkey software (available on https://data.mendeley.com/datasets/8644ssny7z/1). The survey was shared out on teachers' platforms and responses received within a period of two months were compiled into an excel sheet (available on https://data.mendeley.com/datasets/v566mwcn6f/1)
Data Format	Raw data Filtered
Parameters for data collection	Before data was collected, a questionnaire was developed. In its introductory section, a sentence was included assuring potential respondents of anonymity and confidentiality of their responses and that data collected was to be used only for academic purposes with possibility of having the findings published in journals. The research instrument was valid and reliable as proven at standard level in an international context.
Description of data collection	After the questionnaire was shared on secondary school teachers' social media, within a period of two months (June and July, 2023), 50 respondents had submitted their responses. The received responses were then downloaded and organized for further analysis.
Data source location	Data was collected online among Ugandan Secondary School teachers. Samples/data: 50 Secondary School Teachers
Data accessibility	Data is freely available to explore and reuse. Repository name: Mendeley Direct URL to data: https://data.mendeley.com/datasets/v566mwcn6f/1

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Value of the Data

This data is of significant importance because it provides insights into what abilities Ugandan teachers have to conduct online classes, what challenges they face and what gaps exist.

Government official and school administrators can base on this information to plan what kind of professional training to provide to teachers in order to effectively implement digit transformations in the education sector.

Researchers in similar fields can follow these results to measure teachers' level of competency in using online systems for instruction, identify gaps and possible remedies hence acting as a reference point.

Data can be analyzed into various variables such as male versus female, rural versus urban based, single or mixed school, level of academic qualification, among others.

Data Description

We collected one set of data to investigate Science Teachers' Competency in designing and implementing online lessons among secondary schools in Uganda. The data was compiled into one MS Excel 2016 file. It is entitled "Raw data to assess teacher's competencies in designing and implementing online courses". The file has two sheets: the first sheet describes the data parameters while the second sheet presents the numerical raw data.

The questionnaire is a word document. It comprises of section A: Background information (gender, school location (rural or urban), School category (boarding only, day only, both day and boarding), school type (single-boys, single-girls, both boys and girls), Teachers' qualification (postgraduate degree, bachelors' degree, diploma, no professional qualification); and section B: Science teachers' online competencies. The competencies are presented into five subtitles: Designing online lessons (12 items), Digital Communication (6 items), Basic Computer Skills (5 times), Advanced Computer Skills (3 items), and Learning Management Systems (4 items). A 5-point Likert Scale was: 5= Strongly Agree (SA), 4 = Agree (A), 3 = Not Sure (NS), 2 = Disagree (D), and 1 = Strongly Disagree (SA).

Variables and their assigned codes

Gender: Male Female	{1, Male}, {2, Female}
Location of your school	{1, Urban based}, {2, Urban based}
Category of the School	{1, Boarding only}, {2, Day only}, {3, Both day and boarding}
Type of the School	{1, Single-boys}, {2, Single-girls}, (3, Both boys and girls}
Highest Level of your Education: Postgraduate (masters, PhD), Bachelors, Dipolma, No professional Qualification	{1, Postgraduate}, {2, Bachelors}, {3, Diploma}, {4, No professional qualification}

MATERIALS AND METHODS

The data set was collected to assess Ugandan Secondary School Teachers' Competencies in Online course design, Digital communication, Basic and Advanced computer skills, and use of Learning Management Systems. A cross-sectional survey design was employed during data collection. A total of 50 Ugandan secondary school teachers submitted their responses. Every secondary school teacher that accessed to online questionnaire was free to participate in the study. The items were first discussed with three other research experts from education to assess their validity in relation to the problem under investigation. It was then pilot tested among eight members randomly selected. The reliability was obtained by computing Cronbach's Alpha Based on Standardized Items which yielded a value of 0.989, this rendered the instrument fit for data collection. Data was collected in the months of June and July 2023

ETHICS STATEMENT

In May 2023, we submitted the research proposal to Valley University of Science and Technology research ethical committee for ethical clearance [The protocol number was 29/VUST/2023]. We got ethical clearance that was used to seek permission to conduct our study. All participants have been explained the purpose of the study and all involved stages. There was no any form of remuneration. Since the data was collected online, those who felt uncomfortable did not respond to the survey.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have or could be perceived to have influenced the work reported in this article.

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Data Availability

Raw data on Teachers' competencies to design and implement online courses (Mendeley Data).

CRediT Author Statement

Janan Mubehamwe and Stella Teddy Kanyesigye: Conceptualization, Methodology, Investigation, Data curation, Writing original draft; Deusdeidit Byabashaija, Jackson Nzarirwehi, and Speria Kyomuhangi: Conceptualization, Validation, Data curation, Writing, review & editing.

ACKNOWLEDGMENTS

Our heartfelt acknowledgment goes to our study participants who pleasantly spared their time and used their own money to purchase data to be able to respond to the online survey

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