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Article

Challenges Learners Face in Using the Flipped Classroom Model in the Teaching and Learning of Religious and Moral Education in the Nzema East Municipality of the Western Region of Ghana

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Abstract: Challenges are part and parcel of human activities. Quantitatively, a relational survey model research was adopted for the study. The population for this study comprised all Junior High School (JHS) Religious and Moral Education (RME) students in Bokro M/A JHS and the Eziom Methodist JHS in the Nzema-East Municipality of the Western Region. Purposive and random sampling techniques were used to select the schools and respondents for the study. The main instruments for data collection were a test and a questionnaire. The data from both the control and experimental groups on the challenges learners face in using the flipped classroom model in RME were analysed using means and standard deviations. The study indicates the challenges learners face by employing the flipped classroom model to learn include lack of data to access the internet, frequent light outs, lack of technological devices to access contents, frequent power outages, and difficulty in comprehending some of the materials given to them. Given that learners face frequent power outages during periods that they watch videos assigned to them by their teachers, it is recommended that the government and the Electricity Company of Ghana ensure that there is a constant flow of power to allow learners trying to use the flipped classroom to learn are without any hindrance. It is also recommended that the Ghana education service should organise continuing professional development for RME teachers on effective uses of technology in teaching and learning subject concepts. The government should also supply the basic schools with all the needed technological devices to promote effective teaching, learning and assessment.

Keywords: Challenges, Learners, Flipped Classroom, assessment, Religious and Moral Education

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1. Introduction

Ghana is confronted with major moral issues including corruption and poor attitude to the environment [1]. Meanwhile, learners within the basic schools in Ghana have been studying Religious and Moral Education. This form of education seeks to make learners aware of the dangers that these moral decadences pose to themselves as individuals and the nation as a whole and also, help them acquire values and attitudes that would address these challenges [1]. Yet while the content of the curriculum seeks to instill moral uprightness in the Ghanaian learner, it appears the way by which the subject is taught by teachers does not augment the curriculum, thus, leading to these moral turpitudes. To avert these, researchers over the years, have been scavenging the best approaches to teach Religious and Moral Education. One such approach advocated by researchers is the flipped classroom model. The flipped classroom is a method where the teacher gives the content of a lesson in the form of videos to learners for them to watch at home and prepare before going to class [2]. Studies have revealed that "using this flipped classroom to learn

makes the content of a lesson be presented to learners online before the normal face-to-face lesson". [3]. Writers agree that "flipping the classroom leads to high academic achievement as compared to the traditional teaching approaches" [2, 3]. It is expected that "the high academic performance that the flipped classroom provides would translate to learners' social life and to the realisation of the rationale for learning Religious and Moral Education". This is confirmed by other writers who approve that "flipping a classroom makes learners understand key concepts of a lesson to the highest depth through engagement in practical lessons" [4]. This is in line with the philosophy of teaching Religious and Moral Education in Junior High Schools which stresses the attainment of competencies through learner-centred rather than teacher-centred [1].

Writers state that "the individual in a flipped learning pedagogy gets enough time to view concepts over and over to gain understanding before going to class" [5]. In a similar study, the writer says that "workload, large class size and limited class time do not provide the teacher in the traditional teaching model with an opportunity to pay attention to individuals who may have problems during teaching and learning" [6].

Unfortunately, the flipped classroom has scanty literature in terms of research. Surviving research on the flipped classroom has mostly concentrated on the use of the model in higher educational settings with little research focusing on middle and secondary schools [2, 3-9]. Moreover, these researchers have examined the procedures leading to the effective employment of the flipped classroom, the effectiveness of the process, the challenges of the flipped classroom, students' engagement, comparison between the traditional methods of teaching and the flipped learning model, and academic achievement [2, 4-10].

Most teachers in Ghana have not conceptualized the flipped classroom model to situate it in their teaching and learning [11]. Out of the few existing pieces of research on the flip classroom in Ghana, most of them are in subject areas such as Leatherworks and Science other than Religious and Moral Education [12, 13]. A more recent study involving the use of the flipped classroom model was carried out on teachers' views of the approach and its influence on learners' performance [14]. Despite the positive findings of the flipped classroom's usage in terms of academic performance, there exist a series of challenges in the use of the flipped classroom either as a teacher or learner.

Literature available to the researcher suggests that it appears no research focused on the challenges that JHS Religious and Moral Education learners in the Nzema East Municipality face in using the flipped classroom instructional strategy to learn. This gap created in terms of studies involving the challenges that learners face in using the flipped classroom approach to the learning of Religious and Moral Education in the Nzema East Municipality is what the study sought to fill. The study was guided by this research question - what challenges do JHS Religious and Moral Education learners face when using the flipped classroom model to learn Religious and Moral Education within the Nzema East Municipality?

1.1. Challenges Learners Face in Using the Flipped Classroom Model in Learning

Learners face a wide range of challenges in using the flipped classroom to learn. This section discusses some of the challenges found by studies where the flipped classroom model was used by learners. In a study that examined learners' challenges and attitudes towards the flipped classroom, it was revealed that internet connectivity, problems associated with downloading videos, power outages, incompatibility with phones and large video sizes were the main challenges that learners faced in using the flipped classroom [15]. A previous study employed focus group discussion as its data collection instrument revealed that sixty (60%) of respondents stated that they had issues with internet accessibility and connectivity. However, twenty percent (20%) of the participants in the study indicated difficulty in downloading videos while 10% attributed their biggest challenge to incessant power outages. The remaining 10% of the participants in the study

were torn between phone incompatibility issues and large video sizes. While 5% of the remaining 10% said they had issues trying to play the videos on their phones, the other 5% indicated that the videos were too large for them to watch. It could be seen from the study that a lot of the challenges faced by the students in using the flipped classroom model were beyond the control of the researcher [15].

In another study that sought to find out the impact of the flipped classroom on students' academic achievement, it was revealed through a focus group discussion that learners had challenges with the flipped classroom in terms of motivation, content and learning [16]. It was revealed through the focus group discussion that three (3) participants indicated they made no effort to study the materials that they were to study out of class, another three (3) students indicated that they were burned out while two (2) participants said the activities were boring and unnecessary. Regarding the content challenges, three (3) participants of the focus group discussion indicated that the topics were too difficult and posed a challenge to them. Five (5) participants stated that they had not enough resources to complete the learning activities outside the class while one person indicated that there were too many terms. Three (3) students said they did not have time to perform the out-of-class activity due to their schedules while one person said he had difficulty in relating what he was learning to his field of study [16]. This is in contradiction with a similar study in which the writer revealed that "learners had enough time to watch videos to understand concepts clearly before going to class" [17]. Six (6) students, however, said "they did not have any challenges with the flipped classroom" [17]. The above review has shown that "though there are a lot of advantages to using the flipped classroom model in learning, students face a lot of challenges in trying to learn through the flipped classroom model".

2. Materials and Methods

Quantitatively, a relational survey model research was adopted for the study. The main purpose of this model was to understand the degrees of relationships between variables and how they change together. The population for this study comprised one hundred thirty-five (135) Junior High Schools Religious and Moral Education students in Bokro M/A JHS and the Eziom Methodist JHS in the Nzema-East Municipality of the Western Region. Purposive and random sampling techniques were used to select the schools and respondents for the study. These schools were selected within the municipality because they have the required technological devices for the study. The sample for the study was made up of 100 JHS students who were randomly selected. The main instruments for data collection were a test and a questionnaire. The questionnaire comprised four-point Likert closed-ended questions on the challenges learners face in using the flipped classroom model to learn RME. It was made up of 15 statements in total and learners were required to tick whether they Strongly Agree (SA), Agree (A), Disagree (D) or Strongly Disagree (SD).

The research instruments were pre-tested in the Ahanta West Municipality of the Western Region. The area was selected due to its proximity to the Nzema-East Municipality. Again, the students in the Ahanta West Municipality shared similar characteristics with their counterparts in the Nzema-East Municipality, hence, their choice as the area to test the instruments. Two different schools were selected for the tryout of the instruments. One of the schools had its students answering the test items while the other school had its students answering the questionnaire.

In other to ensure the validity of the instrument, the results of pilot testing were entered into SPSS and split into two groups with a Cronbach Alpha used to determine its internal consistency. The results from the SPSS produced a reliability coefficient of 0.876. A writer indicated that "a Cronbach Alpha of .70 is acceptable, the researcher deemed the reliability coefficient obtained from the pilot testing (0.87) as acceptable [18]. The

questionnaires were adapted from researchers who have tried and tested theirs and produced valid and positive outcomes.

In terms of the test, all learners in the experimental and control group were given a pretest to answer before the research work began. The two schools were visited by the researcher and data on students who would be able to access the Google form either through their smartphones or that of their parent's device were ascertained. Having received an encouraging number of students who could answer through a Google form, the learner's contact numbers were taken and a WhatsApp group platform was created for that purpose. Links to the pretest were posted to learners on the platform and learners were asked to fill out the form. To prevent learners from copying and exiting screens to check answers using their devices, the researcher embedded the form with a plugin (add-on) called Form Presenter+Timer to set the time for the test. Each test-taker was given one minute to answer a test item and five minutes to review answers before submitting. This means learners used a total of 25 minutes to write the pretest. The timer started counting down as soon as learners logged in to begin the test. A total of 59 students from both the treatment and control groups answered the pretest using the Google form.

Students who could not have access to any device were made to answer the questions using a print-out version of the same items used for the Google form. They also used the same 25 minutes to answer the questions. In all 41 learners answered the paper-based pretest under the auspices of the researcher and their class teachers. The learners' question papers were retrieved, and marked and their scores were entered into SPSS.

After the pretest result was entered, three weeks were used to administer the treatment to the experimental group. Each week dealt with one major topic. Slides were prepared from the topics in the Religious and Moral Education curriculum that were chosen for this study. The slides contained questions at the end of each session that learners were expected to use to check their understanding of what they were learning before they met face-to-face. An Ashampoo Snap 12 screencasting software was used to record videos of slides alongside the teacher delivering the content. Recorded videos were later compressed but maintained video quality and sent to the learners' smartphones. To save learners from buying data bundles, they were given specific days and times to bring their smartphones to the researcher to load the contents onto them. This was done to save the learners from the financial burden of obtaining data bundles to download the videos. The same videos were also uploaded to YouTube and links were provided on students' WhatsApp group platforms for those who were not able to submit their devices to download at their cost. Learners were instructed never to share the links with their friends since they would be attended to after theirs.

Those who did not have smartphones were given DVDs that contained the same content as their friends with smartphones. In some instances, reading materials were also given to learners to supplement the video that they watched. After watching the videos, all learners were engaged in class discussions during face-to-face meetings. This was usually done through the teacher calling some of the learners to discuss what they had seen in the video they watched at home or discussed what they read. After brief discussions, learners were given tasks to perform in groups. In all these situations, the teacher remained with them for the entire lesson period. Students who had challenges in dealing with the problems given were at liberty to call their teacher to explain things further to them.

One week after the treatment was applied to teach the selected topics, the researcher administered a posttest to learners of both experimental and control groups. The posttest contained the same content as the pretest but was reshuffled. This changed the order in which the questions appeared. Both the treatment and control groups wrote the posttest. The number of students who wrote the pretest using the Google form increased to 61 while those who wrote the paper-based test reduced to 39. This was because two learners whose parents had acquired smartphones within the research period accessed their

questions on their parents' devices. The results were pulled from Google Drive and entered into an SPSS spreadsheet together with the results from the paper-based test.

To find out the perception of learners on the approach used by the researcher, learners were given questionnaires to fill out. Some answered the questionnaire through Google Forms while others answered paper-based. Just like the researcher did initially, the researcher visited the experimental group's school and sought permission from the headteacher to make enquiries about the number of students who had smartphones and computers to access the internet and those who did not have smartphones and computers. Upon receiving the information and a sizeable number of students in the experimental group had means of accessing the internet, a Google form was also developed for the learners. The researcher created a WhatsApp group platform for participants who had smartphones and sent them the Google form link. They were briefed face-to-face and on the WhatsApp platform to fill out the questionnaire and report any challenges they faced to the researcher. Learners who had no access to any smartphone but used televisions to watch video tutorials had their questionnaires printed on paper and were given four days to fill them. Such learners were also encouraged to alert the researcher on situations where they faced challenges in filling out the questionnaire. Since the majority of the students answered the questionnaire through a Google form, retrieval of the questionnaire was not a problem for the researcher. The return rate of the tests and questionnaire was 100%. No changes were made to the data collected. The data from both the control and experimental groups on the challenges learners face in using the flipped classroom model in RME lessons were analysed using means and standard deviations.

3. Results

This section presents results on the research question - *What are the challenges JHS Religious and Moral Education learners face in using the flipped classroom model to learn*? This research question sought the challenges learners in the experimental group face in using the flipped classroom model to learn Religious and Moral Education. Like the case of learners' perception of challenges they face in the use of flip classrooms, the questionnaire presented 15 items for learners to respond to on a four-point Likert scale. The results obtained from respondents have been presented in Table 1.

Table 1. Challenges Learners Face in Using the Flipped Classroom Model to Learn Religious and Moral Education

Statement	SD (%)	D (%)	A (%)	SA (%)	Mean	Std. Dev.
I do not understand concepts clearly when the videos are prepared by a different person rather than my teacher.	2(4)	3(6)	21(42)	24(48)	3.34	.772
In some instances, I exhaust data mid-way through the watching of online videos.	0(0)	1(2)	5(10)	44(88)	3.86	.405
Some of the videos are too long and make me lose focus.	3(6)	13(26)	21(42)	13(26)	2.88	.872
Pre-class activities are too much and become a burden when I add to my household duties.	11(22)	22(44)	5(10)	12(24)	2.36	1.083
I do not get the opportunity to ask questions immediately when I am not clear on some issues.	5(10)	5(10)	20(40)	20(40)	3.10	.953
Watching videos are boring and passive.	26(52)	11(22)	9(18)	4(8)	1.82	1.004
I do not get enough time to do other tasks assigned by different subject area teachers.	5(10)	16(32)	5(10)	24(48)	2.96	1.106
I do not enjoy watching the videos.	22(44)	15(30)	5(10)	8(16)	1.98	1.097
My relatives sometimes feel reluctant to let me use their devices to access information on the internet.	1(2)	3(6)	16(32)	30(60)	3.50	.707
I do not have a good network to access the internet sites given by my teacher.	20(40)	15(30)	8(16)	7(14)	2.04	1.068

My household members feel I deprive them of their favourite television programmes when I use the television to watch the CDs given by my teacher.	1(2)	2(4)	18(36)	29(58)	3.50	.678
Some of the words in the reading materials assigned to me are difficult to understand.	2(4)	4(8)	17(34)	28(54)	3.38	.805
I am not given extra money to buy data for my online activities.	0(0)	0(0)	15(30)	35(70)	3.70	.463
I find it difficult to make notes when watching videos or reading material.	31(62)	14(28)	2(4)	3(6)	1.54	.838
Frequent lightouts in my village prevent me from watching videos most of the time.	0(0)	5(10)	12(24)	33(66)	3.56	.675

Source: Field survey; Mean of means = 2.901

From Table 1, it is seen that five items produced a mean greater than or equal to 3.50. For instance, a mean of 3.86 and a standard deviation of .405 of the statement that sought to find out if learners exhaust data mid-way through the watching of online videos, shows that learners had bigger challenges related to data. Similar other statements that produced means greater than or equal to 3.50 include relatives sometimes feeling reluctant to let students use their devices to access information on the internet (M = 3.50, SD =.707), household members feeling learners deprive them of their favourite television programmes when using the television to watch the CDs or DVDs given by their teacher (M = 3.50, SD = .678), students not getting money to buy data for online activities (M = 3.70, SD =.463), and frequent light outs preventing learners from watching videos most of the time before going to the classroom (M = 3.56, SD = .675).

Table 1 also shows that most of the respondents agreed that they did not understand concepts clearly when the videos were prepared by a different person rather than their teacher (M = 3.34, SD = .772). It also revealed that many respondents agreed with the statement that they did not get the opportunity to ask questions immediately when they were not clear on some issues (M = 3.10, SD = .953). Yet, most of the respondents said that some of the words in the reading materials assigned to them to read were difficult to understand (M = 3.38, SD = .805). This shows that one of the greatest challenges learners face in using the flipped classroom model to learn Religious and Moral Education is related to content [16]. Other challenges that were revealed by the questionnaire administered to learners include lengthy videos (M = 2.88, SD = .872), and lack of time to work on other subjects (M = 2.96, SD = 1.106). With a mean of 2.901, the research revealed that learners face many challenges when using the flipped classroom to learn.

4. Discussion

This section also presents a discussion of the research question. What challenges do JHS Religious and Moral Education learners face when using the flipped classroom model to learn Religious and Moral Education within the Nzema East Municipality? Challenges are part and parcel of human activities. It is in light of this that the study explored the challenges that students face in learning within the context of the flipped classroom. As seen in Table 1, 10 of the proposed challenges attracted the endorsement of the students while the remaining five items were dismissed as challenges associated with the flipped classroom. The findings revealed that "the greatest challenges that learners face in using the flipped classroom model in learning RME were not related to themselves but related to logistics and community service". This confirms a study that was carried out at the University of Ibadan that showed that "internet connectivity, problems associated with downloading videos, and power outages were the main challenges that learners faced in using the flipped classroom" [15]. The mean of means of 2.901 indicates that a lot of the learners using the flipped classroom model agree that they face a lot of challenges in using the model to learn. These challenges ranged from logistics and community service to content and timing of videos as revealed in the literature [15, 19-21]. In light of these challenges, it is crucial to indicate that "effective implementation of the flipped classroom model is not solely the burden of the teacher. However, teachers hoping to use the flipped

classroom in teaching Religious and Moral Education should ensure that they see to it that the majority of the obstacles are removed". This implies that flipped classrooms provide valuable tools, and insight to boost higher-order thinking skills and perspectives on fostering behavioural engagement in ongoing learning environments. This posits that a flipped classroom is a game changer in the learning environment and the challenges associated with it should be controlled to promote students learning [22, 23].

5. Conclusions and Recommendations

The study indicates the challenges learners face by employing the flipped classroom model to learn RME include a lack of data to access the internet, frequent light outs, lack of technological devices to access contents, frequent power outages, and difficulty in comprehending some of the materials given to them. Given that learners face frequent power outages during periods that they watch videos assigned to them by their teachers, it is recommended that the government and the Electricity Company of Ghana ensure that there is a constant flow of power to allow learners trying to use the flipped classroom model to learn without any hindrance. It is also recommended that the Ghana Education Service should organise continuing professional development for RME teachers on the effective uses of technology in teaching and learning subject concepts. The government should also supply the basic schools with the needed technological devices to promote effective teaching, learning and assessment.

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