ENGLISH LANGUAGE ACQUISITION: A COMPARATIVE STUDY ABOUT USAGE OF MULTIMEDIA AND CONVENTIONAL DIRECT METHODS OF TEACHING IN AWUTU SENYA EAST MUNICIPAL OF GHANA

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Abstract

This study compares the effects of Multimedia method (MMT) of teaching and the Conventional Direct method (CDT) of teaching English Language to Junior High School (JHS) students in Ghana. It sought to measure the achievement of Junior High School (JHS) students in the various domains of the English language course – which is a core component of the JHS curriculum. The study was structured as a quasi-experimental research design. The setting of the study was in Awutu Senya East Municipality in the Central Region of Ghana. Two schools, matched by intellectual competencies and had computers, were sampled for the study. In all one hundred and eighteen (118) students participated in the study. Sixty-two (62) students from one school – constituting the controlled group were instructed using Multimedia approach, whereas another fifty-nine (59) from the other school were taught using the Conventional Direct method. Subsequently, both groups received Multimedia and Conventional instructions respectively. The levels of achievements of the groups were measured in the form of Pre-test and Post-test achievement test. The findings of the study indicated that both Conventional Direct and Multimedia Methods helped students to improve upon their English Language scores. However, the Multimedia Methods was found to be more effective than the Conventional Direct Methods. The study did not find a statistical significant difference between the achievements of the MMT group and that of the CDT group on the English Language components grammar, and vocabulary. Since both methods (MMT and (CDT) contributed to the improvement students English Language proficiency, it is recommended in a typical English Language teaching scenarios, both approaches should be blended to enhance student acquisition of the language in a more interactive settings.

Keywords: Multimedia in language teaching, English Language proficiency, ICT in Ghanaian schools.

1 INTRODUCTION

Education plays a vital role in the development of a nation, the implication is that the extent of the quality of a nation’s education, will go a long way to reflect the social and economic outlook of its citizenry, and in addition provided the needed manpower requirements for national development. Various global agenda; 1) The World Declaration on Education for All in Jomtien, Thailand in 1990, 2) Dakar Framework for Action (2000), had sought to advance the course for quality, relevant and inclusive education for all. The 2014’s Education for All (EFA) Global Monitoring Report acknowledged the considerable achievements in education, but quick to add that too many countries were unable to meet the targets set for 2015 [1]. In this article, the authors argue that technology integration in teaching specific subjects of specialization can make teaching and knowledge construction more effective. Hence, this paper looked into technology usage in teaching English Language in Ghanaian schools.

[2] asserts that multimedia learning systems improve student understanding during language proficiency studies. [3] identified three major points for using ICT in the classroom and these are, the need for wider skills for effective use of tools, the need to focus on the power of technology and the need to shift familiar patterns of classroom interaction by introducing technology. On the part of [4], using Multimedia in teaching languages have the potential to promote students’ motivation and learning interest, because it makes the language learning process practical. [5] shared the view that the use of multimedia techniques involving voice, sound, pictures, videos and text create a rich
language learning environment. In this article it is acknowledged by the authors that the usage of ICT resources in teaching English Language to Ghanaian school children could be of great benefit in the development of their language proficiencies. It is noticed that in Ghana strong emphasis is being placed in integrating Information Communication Technology (ICT) into teaching and learning in schools. In 2007, a New Education Reform in Ghana placed high emphasis on the integration of ICT tools and resources as a cross-cut approach in all subject areas - including English Language – in schools.

English Language is the medium of instruction in Ghanaian schools, and all examinations are written using the English Language – except other language specific ones. In spite of the crucial nature of the English Language proficiency to students; and the potentials ICT holds for language teaching the language it appears much has not be done in the targeted district of the study – as to using technology to improve the proficiency of the students. There seems to be concerned deficiencies in the English Language proficiency among the students and pupils in the district Ghana as a whole. For instance, the Chief Examiners’ reports for pre-tertiary examinations (BECE and WASSCE) over the past years indicated that student performances in the English Language were poor [6].

In this article it is argued that the use of multimedia tools and resources as instructional medium for English Language teaching and learning in Ghanaian schools can mitigate the challenge of poor English Language proficiency among students. However, this cause is hindered by several challenges that require the attention of academicians and stakeholders in the educational industry. Consequently, this study explored the use of multimedia tools and resources in teaching English Language in selected basic schools; and further sought answer to question as to whether the use of the digital tools and resources will impact significantly on the proficiency levels of students, as opposed to use the of the Conventional direct method of teaching. In this light this study set out with the following objectives;

1) To find the extent to which the use of multimedia helps students in Awutu Senya East Municipal to improve upon their Reading Comprehension scores, 2) To find the extent to which the use of multimedia helps students in Awutu Senya East Municipal to improve upon their Grammar scores, 3) To find the extent to which the use of multimedia helps students in Awutu Senya East Municipal to improve upon their Vocabulary scores, 4) To find the extent to which the use of conventional direct method helps students in Awutu Senya East Municipal to improve upon their Reading Comprehension scores, 5) To find the extent to which the use of conventional direct method helps students in Awutu Senya East Municipal to improve upon their Grammar scores and 3) To find the extent to which the use of conventional direct method help students in Awutu Senya East Municipal to improve upon their Vocabulary scores. To guide the study, four hypotheses were advanced as follows:

**Hypothesis One:**
- \( H_0 \): There is no statistically significant difference between the academic achievements of students taught by the use of multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching.
- \( H_1 \): There is statistically significant difference between the academic achievements of students taught by the use of multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching.

**Hypothesis Two**
- \( H_0 \): There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of reading comprehension.
- \( H_1 \): There is statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of reading comprehension.

**Hypothesis Three**
- \( H_0 \): There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of grammar.
- \( H_1 \): There is statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of grammar.
Hypothesis Four

- $H_0$: There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of vocabulary test.

- $H_1$: There is statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of vocabulary test.

2 METHODOLOGY

The study was designed as a quasi experimental design and thus, gave room for the variables of the study to be manipulated in line with the research objectives as supported by literature [7], [8]. Apparently all data gather were in the quantitative form, hence the study was equally a quantitative research activity, which establish offered bases for the relations among the variables of the study to be established.

The study setting was within the Awutu Senya East Municipal Area, and it focused on the Junior High Schools. In order to meet the assumptions associated with the selected research design, some specific procedures were followed to select the schools. Firstly, a visit to the Municipal Education was made to obtain relevant information on the academic ratings and statuses of the schools in the population of the research. This action was to enable the selection of schools with equal abilities for the experiment. Secondly, based on the expert information from the education office some schools were purposively sampled and further evaluating conducted on them. Thirdly, since the study required the use of digital tools and equipment, several schools were visited were conducted to establish the ICT capabilities and likelihood to be sampled for the study. In the final outcome, two schools met the pre-established criterion to participate in the study, they were; 1) Emmanuel Presby Junior High School and 2) Odupong-Kpehe Junior High School. Within the schools, the second years (JHS 2 students) were selected and a census approach was adopted in enlisting the participating students.

In all a total of 118 students participated in the exercise, with the gender distribution as follows; 56 girls and 62 boys. The respective roles of the schools were assigned accordingly; Emmanuel Presby Junior High School was assigned to be the group to receive English Language learning instructions via the conventional method - (CDT), whiles Odupong-Kpehe Junior High School was assigned a the group to receive instructions using the multimedia approach – (MMT).

The instruments used for the study were teacher-made achievement test and it contained 30 items covering the structure of the English Language course in Ghana's basic schools - Reading and Comprehension, Grammar, and Vocabulary. The tests were organized in two different phases, the pretest and the post-test that covered all the three indicated core areas (reading and comprehension, grammar and vocabulary). The validity and reality issue related to the instruments and the results of the study were addressed as follows; 1) an expert evaluation of the items was done by professional English Language teachers from two senior high schools, 2) a pilot study was carried out using the instruments and the identified inconsistencies were addressed accordingly and 3) reliability test was conducted with respect to the pilot study and the results indicated that the expected threshold of the reliability coefficient ($\alpha = .70$) was met accordingly [9].

Added to the instruments (test items) English Language study software was designed (see Appendix). The English Language Software was developed using Microsoft office power point 2010. Within the Power point application the design incorporated visual basic and micro media to enhance the interactivity of the learning software. The application was designed to last 35 minutes to 70 minutes a section in other to fit into the Junior High School timetable; and it covered; 1) Reading and Comprehension, 2) Grammar, and 3) Vocabulary (See Appendix). The application was tested in a school which is not part of the sample in order to validate its accuracy and efficiency.

The principal author of this article conducted the test and gathered the needed data. Preceding the data collection activities ethical issues were addressed - permission was sought from the head teachers of the selected schools and the consent of both the English Language and Information Technology teachers of the two schools were obtained. In the schools, the students were briefed about the study. It was also agreed that the exercise will not relate their individual performances to their identities in the report of the study. Eventually, an agreement of participation and the commencement date was hatched based on the consensus reached with the students. The experimentation process was organized in phases as follows:
a) Phase 1: Pre-treatment assessment: This was administered to the two groups, at their various schools to obtain a pretest or a baseline data, and lasted for one day.

b) Phase 2: Treatment package: Different methods of teaching were adopted in the 2 schools. Participants were taken through 70 minutes of teaching the selected English Language topics twice in a week for five weeks.
   - The MMT group received instruction through the Multimedia Software and the teaching covered all the English Languages aspect - Grammar, Reading Comprehension and Vocabulary.
   - The CDT group received instructions via the Conventional direct method of teaching of the English Languages aspect - Grammar, Reading Comprehension and Vocabulary.

c) Phase 3: Post-treatment assessment: At the end of the treatment, students in both schools were re-tested using the assessment instruments, the exercise lasted for a day. This was done to ascertain the effects of the two treatments on the participants. Scores obtained from the two schools constituted the final posttest data.

Finally, the obtained student results were subjected statistical analysis. The Pretest and Posttest were analysed using the statistical application SPSS. Both descriptive and inferential statistical approaches were used to make inferences about the study.

3 RESULTS

This part of the article covers the findings and discussion of the study. The study aimed at comparing the effectiveness in the use of MMT and CDT approaches for teaching the English Language, together with their ultimate outcome of how those approaches influence the level of students' English Language Proficiency attainment. Two schools – 1) Emmanuel Presby JHS and 2) Odukpong-Kpehe JHS were assign their respective pre-test roles in the study as follows, schools one (1) received instructions using Multi-media teaching approach, while school Two (2) received through the CDT approach. During the treatment stage, students in school One (1) studied English Language using computers and educational applications, whiles students in school Two(2) were taught for the same contents of study as School one, for couple of weeks using the Conventional Direct Teaching approach. Sections 3.1 and 3.2 of this paper provide elaborate outcome of the experiment.

3.1 Descriptive overview students' performances in the Pre-test and Post-test activities

On the Table 1, the descriptive results of pre-test and post-test of the students are presented. The test covered the main components of the English Language studies in Ghana's basic schools. These are:

- Reading and Comprehension
- Grammar
- Vocabulary

<table>
<thead>
<tr>
<th>English Language aspect tested</th>
<th>Test Category</th>
<th>No.</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students’ performance based on using the Multimedia teaching method of teaching Reading and Comprehension, Grammar and Vocabulary (School One)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Pre-test</td>
<td>62</td>
<td>5.69</td>
<td>2.13</td>
<td>0.271</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>62</td>
<td>6.95</td>
<td>2.07</td>
<td>0.230</td>
</tr>
<tr>
<td>Grammar</td>
<td>Pre-test</td>
<td>62</td>
<td>5.81</td>
<td>2.46</td>
<td>0.312</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>62</td>
<td>7.19</td>
<td>2.21</td>
<td>0.281</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Pre-test</td>
<td>62</td>
<td>5.66</td>
<td>2.28</td>
<td>0.290</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>62</td>
<td>6.94</td>
<td>1.99</td>
<td>0.253</td>
</tr>
</tbody>
</table>
Table 1 displays the pre-tests and post-tests results of students both per their respective approaches of instruction – either MMT or CDT. The result suggests that in each of teaching approaches used the students improved in their performances. For instance, on Table 1 it is observed that among the Multimedia group, there was improvement in Reading, Grammar and Vocabulary performances. However, performance change in Grammar appeared remarkable Pre-test (M = 5.81, SD = 2.46) and Post-test (M = 7.19, SD = 2.46) with an improved level of homogeneity as well. The trend did not change with CDT group; there was improvement across Reading, Grammar and Vocabulary test; with very remarkable improvement in Grammar and Vocabulary. However, improvement in the Vocabulary (Post-test (M = 6.05, SD = 2.50); Post-test (M = 6.59, SD 0.295) was remarkable because there was a huge improvement in the level in the dispersion of the student performances. At this juncture it could be argued both the Multimedia and the Conventional Traditional approaches are able to improve the English Language proficiency of the students in the same with no spectacular differences. Yet it is premature to make such inferences, in the ensuing discourse further analysis of the approaches are presented on this line of argument.

### 3.2 Comparative analysis of the differences Multimedia and Conventional Direct teaching approaches and students’ performances

The study advanced the following four (4) hypotheses which were tested using independent sample t-test. The significance levels of the test for evaluating the hypotheses were set at 0.05. The hypotheses were as follows:

1. **H₀**: There is no statistically significant difference between the academic achievements of students taught by the use of multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching.

2. **H₀**: There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of reading comprehension.

3. **H₀**: There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of grammar.

4. **H₀**: There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of vocabulary test.

#### 3.2.1 Hypothesis One

**H₀**: There is no statistically significant difference between the academic achievements of students taught by the use of multimedia and those taught with the conventional direct method of teaching.

With this hypothesis as the datum, tests were conducted to analysis the differences in performance between the Multimedia and Conventional group by using an independent sample t-test. The test compared the differences in Pretest and Posttest scores obtained by the Multimedia group and the Conventional groups. On average, participants in the Multimedia group achieved higher results (M=21.08, SE=0.390), than participants in Conventional group (M=20.05, SE=0.328). This difference was significant ($t (116) = 1.99, p < 0.05$ with an effect sized of $r = 0.182$). Hence the null hypothesis $H₀$ stating “There is no statistically significant difference between the academic achievements of students taught by Multimedia and those taught with the Conventional method of teaching” was
rejected. This suggests that there is a significant difference between the Multimedia and Conventional methods of teaching English Language.

This finding supports the constructivist perspective which emphasizes the active role of the learner in building understanding, and making sense of information presented to him [10]. This is the case, because the students taught by the Multimedia, had opportunities for knowledge discovery and interaction with the media, it resulted a significant difference in their academic achievement. It can therefore be concluded that students achievement in English Language did significantly improved due to the use of the Multimedia.

3.2.2 Hypothesis Two

\( H_0: \text{There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of reading comprehension.} \)

This hypothesis tested differences in the performances of the Multimedia group and the Conventional group on English Language reading proficiency. On average, participants in the Multimedia group achieved higher results (M=6.95, SE=2.063), than participants in Conventional group (M=6.63, SE=1.722). This difference was not significant \( t(116) = 0.927, p >0.05, r =0.086 \). This implies that there is no significant difference between the academic achievements on Reading Comprehension, between the Multimedia group and the Conventional group. Therefore, the null hypothesis \( H_0 \) stating “There is no statistical significant difference between the academic achievements of students taught by Multimedia and those taught with the Conventional direct method of teaching in terms of Reading Comprehension.” was retained.

3.2.3 Hypothesis Three

\( H_0: \text{There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of grammar.} \)

This hypothesis tested differences in the performances of the Multimedia group and the Conventional group on English Language grammar proficiency. On average, participants in the Multimedia group achieved higher results (M=7.19, SE=2.209), than participants in Conventional group (M=6.84, SE=2.214). This difference was not significant \( t(116) = 0.869, p >0.05, r =0.080 \). This implies that there is no significant difference between the academic achievements on Grammar, between the Multimedia group and the Conventional group. Therefore, the null hypothesis \( H_0 \) stating “There is no statistical significant difference between the academic achievements of students taught by Multimedia and those taught with the Conventional direct method of teaching in terms of Grammar.” was retained.

This confirm the constructivists believe and can be concluded that the students in the Multimedia group who learned with the software on the computer, obtained the needed academic information on Grammar required likewise the Conventional group who were taught by a teacher. It also supports the assertion of [11] that, should schools be wealthy enough to afford hardware for each pupil, then the teachers’ roles in learning would be of no strong relevance. Moreover, computers will have the usual advantage over the teacher factor of offering personal attention and instruction for each student. In this instant, [11] in his time, will have preferred computers to teachers had it not been the cost of computers; because in some cases they can produce the same output, as that of paid teachers.

3.2.4 Hypothesis Four

\( H_0: \text{There is no statistical significant difference between the academic achievements of students taught by multimedia (MMT) and those taught with the conventional direct (CDT) method of teaching in terms of vocabulary test.} \)

This hypothesis tested differences in the performances of the Multimedia group and the Conventional group on English Language Vocabulary proficiency. On average, participants in the Multimedia group achieved higher results (M=6.94, SE=1.99), than participants in Conventional group (M=6.59, SE=2.21). This difference was not significant \( t(116) = 0.896, p >0.05, r =0.083 \). This implies that there is no significant difference between the academic achievements on Vocabulary, between the Multimedia group and the Conventional group. Therefore, the null hypothesis \( H_0 \) stating “There is no statistical significant difference between the academic achievements of students taught by Multimedia and those taught with the Conventional direct method of teaching in terms of Vocabulary.” was retained. This is similar to investigation carried by [12]. He investigated the development of students’
controlled and free productive vocabulary through the application of the social constructivist model to a classroom vocabulary based on multimedia. The results suggested that the social constructivist model supported by internet and multimedia does have certain influence on students’ vocabulary learning, especially on their free-productive vocabulary acquisition. The study concluded that although there is no clear significant difference between the experimental and the controlled group about their controlled-productive vocabulary, the mean between them can, more or less, demonstrate the effect of social constructivist model in helping learners improve their vocabulary. The findings of can be concluded that the Multimedia method of instruction can produce similar results as the Conventional method of instruction in some subjects, of which Vocabulary in English Language is no exception.

4 CONCLUSIONS

This article reported the results of a study that sought answers for questions relating to the use of multimedia and conventional traditional approaches to teaching English Language; and the effects these approaches have on students’ proficiency attainments. The study was designed as a quasi-experimental in nature.

The test conducted on the four hypotheses advanced indicated that in the overall analysis there was a statistical significant difference between the two approaches in relation to students’ improvement in test performances. However, apart from the overall statistically significance observed the differences on the individual English Language course components – reading, grammar and vocabulary the impact made by the multimedia approach over conventional traditional approach on students English Language proficiency we not statistically significant. Basically, no impressive impact was made in reading, grammar and the vocabulary proficiency among the students. So this discussion waves into the question “does ICT bring about improvement student performances or improvement of teaching and learning activities?” Nonetheless, since in the overall analysis it was found that there is a significance difference across the approaches, the results of this study demonstrates that usage of Multimedia approaches could be an effective mode for teaching English Language as much as the Conventional traditional approach in Ghana’s basic schools, both multimedia usage be brought into the main stream teaching activities, because the Conventional direct teaching approach is what is prevalent in the teaching of English Language in the Ghanaian basic schools. Holistically, the results of the study is in consonance with results of many studies that suggest the potential effectiveness of Multimedia approaches of teaching in facilitating student’s achievement - a claim shared by [13] and [14]. In the light of the above, it is recommended that Multimedia tools and resources should be used - not to be a replacement for Conventional Methods of teaching English - rather as a supplement so as to make the language learning more attractive and student centered.

REFERENCES


**APPENDIX**

Interfaces of application for English Language teaching