

Using Mobile Technology to Help Visual Impairment Students

Heba S. Toukhy

(Faculty of Education, Tanta University, Egypt)

Abstract: The aim of this study is to examine the use of mobile technology for supporting E-Learning of visual impairment students in the governmental schools, primary stage. For this purpose; certain APPS were adapted, other was created to help such students. 14 students were selected randomly and applied upon. The findings of the study revealed that using Mobile Technology raised the students listening and reading skills achievements also raised their self- esteem.

Key words: mobile technology, APPS, E-Learning, visual impairment students

1. Introduction

The Importance of using technology in the educational process of students with disabilities was discussed throughout many articles around the world. Nowadays, Egypt started to focus on such topic and take into account such students after long neglecting. Supporting E-learning for visual impaired students has become life time opportunities to the most neglected students in classrooms in Egypt in order to raise their self-esteem and start living normally also learning a new language with its skills.

Researches show that the same principles of teaching English to normal students that appear in curriculum are valid for teaching students with disabilities; yet, language instruction to the disabled students is more effective when teachers start to:

- 1) Create a language-rich environment
- 2) Adjust teaching to the individual pace of each student
- 3) Break down the learning into sub- tasks in keeping with students needs
- 4) Provide extensive drilling, memorization and repetition of the learning material

From such principles came the idea of using Mobile Technology. To motivate students, teachers and parents use the apps created; apps needed to be simple, clear, and most of all free to download, also, available to the students at schools and homes offline. For such reasons, the researcher integrated it into the students' individual education plan at every stage, presentation, assessment, implementation and evaluation.

The importance of using educational computer software to teach Visual disabled children can be attributed to a number of reasons, including:

- 1) Educational computer software offers a feature of interaction that provides better educational experiences and more activities; they minimize the effect of isolation of which the visual impairment students suffer. As a result, such software creates opportunities for interaction between the learner and the software.

- 2) Educational software, especially individualized instruction, considers individual differences among the learners so that each student will master the material, as the software designed for the Visual impairment students (in terms of self-learning) provides them with an opportunity to control and follow up the presentation time and to repeat it according to their needs
- 3) Educational software offers the feature of variation since they are composed of various elements such as sound, animation, pictures etc. which will increase the visual impairment students' ability to deal with them.
- 4) Educational computerized software addresses the visual senses due to containing pictures, drawings and texts. In addition, they address the sense of sight, touch and smell by using the virtual status technology, then making use of the other senses to learn the material.

As a result for the various uses and benefits of computers, Mobiles and technology, the researchers sought to teach English to visual impairment students in the elementary stage through technology software in an attempt to improve learning the skills of reading and listening in English at the beginning of their education.

2. Problem of the Study

Visual Impairment students communicate with the others normally as if they were normal through they need a lot of attention and special and various methods to be taught with. Such methods requires a specialized, patient and a capable teacher who can teach Visual Impairment children according to their pace and needs

In this regard, the importance of this study stems from our attempt to search for new and developed means to teach disabled children in such a way that helps in improving their quality of learning and raising its efficacy. It also updates this group of children with the current rapid developments that may help make them more knowledgeable about the community and allow them to enjoy the latest developments.

All of the above has urged the researchers to implement this research on the efficiency of Mobile and computer software in teaching visual impairment children the skills of reading and listening in English — an experimental study for the elementary stage in the Tanta, Egypt. This method relies on using Mobile app as software to learn reading and listening in order to save effort and time.

3. Hypothesis of the Study

The study set out a group of hypotheses that are relevant to the nature of the research. It uses the experimental methodology based on an experimental group to measure the efficiency of using Mobile app in teaching visual impairment students the skills of reading and listening in English. The hypotheses are as follows:

- 1) There are no significant statistical differences between the means of the scores of both pre-post tests in the reading achievement test.
- 2) There are no significant statistical differences between the means of the scores of both pre- post tests in the listening achievement test.
- 3) There are no significant statistical differences between the means of the scores of both pre- post scales in the self-esteem scale.

4. Methodology and Procedures

4.1 Sample of the Study

The sample was chosen from Ali Mobark primary school, Tanta, Egypt. Then the program was applied to a sample consisting of 19 Visual impairment students of the second grade, five of them were excluded as they didn't want to complete using the app, who were studying the English language course during the First month of the second academic semester of the academic year 2018-2019.

4.2 Instruments of the Study

- 1) The Mobile app, software and books of the academic year so as to become compatible with self-learning.
- 2) Mobile educational software that was prepared and developed by the researcher and an It designer and other computer programs to make use of them in teaching the Visual impairment students.
- 3) The achievement tests that were prepared by the researcher to measure achievement in the skills of English reading and Listening.
- 4) Self- esteem scale that were prepared and developed by the researcher to measure the improvement of the Visual impairment students' self-esteem.

The results showed that the abilities of visual impairment students who learn by Mobile app are better than learn by the traditional method. In addition, the results showed that using Mobiles in the tests helps to minimize worries and concerns from the tests that take a traditional form.

Moreover, the results confirmed improvement for the benefit of Visual impairment students who learn by Mobile app and due to the visual feedback, which plays a significant role in such improvement in learning and raising their self- esteem. This was noted by the researcher and was mentioned in the results, as this study confirmed raising the efficiency of learning and training by Mobile Technology.

5. Results of the First Hypothesis

In testing the first research hypothesis that states: there are no significant statistical differences between the means of the scores of both pre- post tests in the reading achievement test. By referring to Table 1 and 2, the researcher obtained the following results as shown in the table from the statistical tests.

Table 1 Results of T-test for the First Hypothesis

Group	No. of Participants	Means	SD	t. value	Sig	Sig. (2. tailed)
Experimental	14	8.79	.893	15.74	0.276	0.00
Control	14	15.57	1.342			

Table 2 Results of T-test for the First Hypothesis

Group	No. of Participants	Means	SD	t. value	Sig	Sig. (2. tailed)
Experimental pre	14	10.00	1.284	16.237	0.034	0.00
Experimental post	14	15.57				

Table 1 confirms that there is a significant statistical difference between the two groups (Control and Experimental) in the post test due to the progress of the participants from the experimental group who learned by using the Mobile Technology and computers software compared with the control group who learned by the

traditional method.

Table 2 confirms that there is a significant statistical difference between the (pre and post) in the post test due to the progress of the participants from the experimental group who learned by using the Mobile Technology and computers software compared with the control group who learned by the traditional method.

6. Results of the Second Hypothesis

In testing the first research hypothesis that states: There are no significant statistical differences between the means of the scores of both pre-post tests in the listening achievement test. By referring to Table 3 and 4, the researcher obtained the following results as shown in the table from the statistical tests.

Table 3 Results of T-test for the Second Hypothesis

Group	No. of Participants	Means	SD	Freedom Degree	t. value	Sig	Sig.(2.tailed)
Experimental	14	8.50	1.95	26	11.574	0.308	0.00
Control	14	16.29	1.59	24.98			

Table 4 Results of T-test for the Second Hypothesis

Group	No. of Participants	Means	SD	t. value	Sig	Sig.(2.tailed)
Experimental pre	14	9.50	1.562	16.427	0.059	0.00
Experimental post	14	16.36				

Table 3 confirms that there is a significant statistical difference between the two groups (Control and Experimental) in the post test due to the progress of the participants from the experimental group who learned by using the Mobile Technology and computers software compared with the control group who learned by the traditional method.

Table 4 confirms that there is a significant statistical difference between the (pre and post) in the post test due to the progress of the participants from the experimental group who learned by using the Mobile Technology and computers software compared with the control group who learned by the traditional method.

7. Results of the Third Hypothesis

In testing the first research hypothesis that states, there are no significant statistical differences between the means of the scores of both pre- post scales in the self-esteem scale. By referring to Table 5 and 6, the researcher obtained the following results as shown in the table from the statistical tests.

Table 5 Results of T-test for the Third Hypothesis

Group	No. of Participants	Means	SD	t. value	Sig	Sig.(2.tailed)
Experimental	14	9.93	1.81	11.462	0.133	0.00
Control	14	16.71	1.26			

Table 6 Results of T-test for the Third Hypothesis

Group	No. of Participants	Means	SD	t. value	Sig	Sig.(2.tailed)
Experimental pre	14	8.64	1.385	21.809	0.422	0.00
Experimental post	14	16.71				

Table 5 confirms that there is a significant statistical difference between the two groups (Control and Experimental) in the post test due to the progress of the participants from the experimental group who learned by using the Mobile Technology and computers software compared with the control group who learned by the traditional method.

Table 6 confirms that there is a significant statistical difference between the (pre and post) in the post test due to the progress of the participants from the experimental group who learned by using the Mobile Technology and computers software compared with the control group who learned by the traditional method.

8. Summary and Discussion

The results showed that the abilities of Visual impairment students who learn by computer are better than the Visual impairment students who learn by the traditional method. In addition, the results showed that using computers in the tests helps to minimize worries and concerns from the tests that take a traditional form. Moreover, the results confirmed improvement for the benefit of Visual impairment students who learn by computer software and due to the visual feedback, which plays a significant role in such improvement in learning. This study confirmed raising the efficiency of learning and training by computer software.

9. Recommendations

- 1) Have access to the international trends and recommendations regarding the dual language instruction.
- 2) Prepare and qualify specialized teachers in English for the Visual impairment and expose them to training courses in using Mobiles technology and computers in the English curriculum.
- 3) Due to the spread of computers and multimedia software in large quantities, the researcher would suggest encouraging and developing self-learning by using computers through adopting appropriate computer software that is specially designed for the Visual impairment students and extend them to the audio impairment students by the educational institutions. This will enable the special disabled students to use them in self-learning and practice it at home.
- 4) Among the most important motivations of this research is extending teaching the use of the technology to the deaf students, as that will open various fields for them in continuing education and self-learning. Currently, English is the universal language for communication and self-learning through the world web.
- 5) To apply the same research on other syllabuses and curriculums to examine the efficiency of learning with the help of computers.

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