

Using the SAMR Model as a Framework for Enhancing English Reading Comprehension of General Secondary Stage Students

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Abstract:

This study aimed at exploring the effectiveness of using the SAMR model as a framework for enhancing English reading comprehension of General Secondary Stage students. The study followed the pre-, post-test quasi-experimental research design. The participants of the study were first year General Secondary Stage students who represented two classrooms which were randomly selected and assigned to two groups, one classroom as the experimental group (n=32), and the other classroom as the control group (n=32). The required reading comprehension skills were determined from a validated checklist. Then, a pre-, post-English reading comprehension test was designed, validated and administered to both groups before and after the experiment. The experimental group received instruction by using technology based on the SAMR model, while the control group received regular instruction as prescribed in the Teacher's Guide. The statistical analysis of the obtained data confirmed a large effect size of using the SAMR model (0.983) on enhancing English reading comprehension of the experimental group. This revealed the usefulness of using the SAMR model as a framework for enhancing English reading comprehension of General Secondary Stage students. Some recommendations and suggestions for further research were provided.

Keywords: The SAMR Model, Reading Comprehension, General Secondary Education

مستخلص الدراسة

هدفت الدراسة الحالية الى التعرف على فاعلية استخدام نموذج (SAMR) في تحسين الفهم القرائي باللغة الإنجليزية لدى طلاب المرحلة الثانوية بالتعليم العام. تمثلت مجموعة الدراسة في فصلين من فصول الصف الأول الثانوي بالتعليم العام والذين تم انتقاؤهم وتقسيمهم عشوائياً الى مجموعتي: فصل يمثل مجموعة تجريبية (ن=٣٢)، والفصل الاخر كمجموعة ضابطة(ن=٣٢). وتم تحديد مهارات الفهم القرائي باللغة الإنجليزية المناسبة لطلاب الصف الأول الثانوي بالتعليم العام عن طريق إعداد قائمة مهارات تم التأكد من صدقها من قِبَل لجنة من المتخصصين في مناهج وطرق تدريس اللغة الإنجليزية، وقد اشتملت الدراسة على اختبار الفهم القرائي باللغة الإنجليزية والذي تم التأكد من صدقه وثباته ثم تم استخدامه في القياسين القبلي والبعدي للمجموعتين التجريبية والضابطة. هذا وقد اثبت التحليل الاحصائي فاعلية استخدام نموذج (SAMR) في تحسين الفهم القرائي باللغة الإنجليزية لدى المجموعة التجريبية، فقد كان حجم تأثير البرنامج مرتفع (٠.٩٨٣) في تحسين الفهم القرائي باللغة الإنجليزية لدى المجموعة التجريبية للدراسة الحالية. وتم إضافة بعض التوصيات والمقترحات لبحوث مستقبلية.

الكلمات المفتاحية: نموذج (SAMR)، الفهم القرائي باللغة الانجليزية

1. Introduction

Reading, reading, speaking, and writing are the major English language skills, where reading and reading are considered as receptive skills which help learners receive and interpret information as the input of language and lay foundations of speaking and writing as productive skills. Therefore, there is a necessity for enhancing reading comprehension of English as a Foreign Language (EFL) learners.

Reading comprehension is the construction of meaning of written language through a dynamic interchange of ideas between the reader and the particular message of the text. It involves intentional thinking and activation of many cognitive capacities (e.g., attention, memory) (Knollman-Porter, 2018). It also includes transforming a text or a graphic representation into ideas or meaning (Kong, 2019). Reading comprehension is extremely essential not just for understanding a text, but for learning more generally and thus education more broadly. It is also vital for social activities because of email, texting, and the numerous communication applications that educated people use on an everyday basis (Oakhill, Cain, & Elbro, 2019).

Researchers developed standards, frameworks, models, and theories to guide research and practice around integrating technology into teaching and learning of a Foreign Language (FL) to ensure the success of practical application of technology integration into teaching practices for student learning. One method of evaluating technology integration is the SAMR model which was founded by Ruben Puentedura in 2006.

The use of the SAMR model for enhancing language skills was recommended by Kurbaniyazov (2018). Moreover, Floris and Renandya (2017) illustrated how to use the SAMR model for teaching reading comprehension. Besides, a study was conducted by Santiago (2017) on the use of the SAMR model to improve EFL learners' willingness to communicate. Furthermore, Lobo

and Jiménez (2017) used the SAMR model to evaluate basic grammar projects. In spite of the importance of the SAMR model in teaching and learning of language, there is a lack of research – according to the researcher’s knowledge – conducted on using the SAMR model to enhance reading comprehension of EFL learners.

Background of the Problem

The researcher works as an EFL teacher at the General Secondary Stage. The researcher noticed that first year General Secondary Stage students have weaknesses in English reading comprehension in spite of its importance.

To make sure of the existence of the problem, the researcher reviewed previous studies carried out in Egypt on General Secondary Stage Students’ English reading comprehension. Studies conducted by El-Shourbagy (2017), El-Dib (2018), Gad (2018) and Muhammed (2019) were carried out because Egyptian General Secondary Stage students have weaknesses in English reading comprehension.

The researcher also interviewed five teachers and three supervisors of English at the General Secondary Stage in Aswan Governorate and discussed with them their opinions about first year General Secondary Stage students’ problems with English reading comprehension. These teachers asserted that most of their first year General Secondary Stage students suffer from weaknesses in English reading comprehension.

A pilot study was conducted by the researcher who adopted a reading comprehension test designed by Muhammed (2019) because it had proved to be valid and reliable for testing first year General Secondary Stage students’ reading comprehension. The scores which these students got on the test were very low. This revealed the weaknesses they have in their reading comprehension.

Statement of the Problem

The pilot study revealed that there were weaknesses in reading comprehension among first year General Secondary Stage students. These weaknesses were represented in their inability to comprehend a written text correctly, identify the author's point of view, identify relationships between ideas and draw conclusions from a text. To solve this problem, the researcher conducted the current study to investigate the effectiveness of using the SAMR model as a framework for enhancing English reading comprehension of first year General Secondary Stage students.

Review of Related Literature

Reading Comprehension

Reading comprehension is the construction of meaning of written language through a dynamic interchange of ideas between the reader and the particular message of the text. It involves intentional thinking and activation of many cognitive capacities (e.g., attention, memory) (Knollman-Porter, 2018). It also includes transforming a text or a graphic representation into ideas or meaning (Kong, 2019).

Significance of Reading Comprehension

Reading comprehension is considered an essential skill critical for knowledge acquisition and global information exchange throughout the world (Mokhtari & Reichard, 2002; Liu, Chen, & Chang, 2010). Reading comprehension is a vital component to the development of any language and literacy program. Therefore, most reading experts and theorists consider it to be "the heart of reading" (Moore & Hall, 2012, p. 24).

According to considerable numbers of research studies, reading comprehension is an important component in ESL and EFL learning process and should be emphasized at different levels of education (Ahmadi, Ismail, & Abdullah, 2013; Hou, 2013). For instance, Duke, Pearson, Strachan, and Billman (2011) maintained that comprehension instruction is an area of

concern and indeed is one of the top priorities of ESL and EFL students after completing elementary English courses.

Schema Theory and Reading Comprehension

Chao (2010) conducted research on reading and comprehension and stated that a schema is a structure of semantic memory that specifies the arrangement of a body of information. The process of comprehension is guided by the principle that each input is mapped against an existing schema. Zhang (2006) indicated that the schemata can improve reading comprehension and can help readers build new and correct schemata. Schema based learning takes place when new information is integrated with what is already known (McLaughlin, 2012). Chao (2010) stated that teachers facilitate reading comprehension in students by making use of the schemata. One reading strategy used to build psychological schemata is making a prediction based on the information of the reading material (Chao, 2010). Chao's (2010) study on teachers using schemata building strategies during reading instruction confirmed that students improved their comprehension of the text. Chao (2010) further explained that the establishment of prediction-making schemata is dependent on what has been stored in the brain such as semantics, syntax, and word meanings related to the reading material.

Reading Comprehension Difficulties

Ghorab (2013, p. 44) concluded that the difficulties in reading are the inability to grasp main idea, inability to read quickly due to limited vocabulary, inability to summarize the text and the lack of appropriate reading strategies. These problems affect reading comprehension. Students cannot comprehend what they have read because they lack the ability to understand the texts.

Reading Comprehension Levels

Literal Level

Literal comprehension obliges the reader to recognize and redact information that is explicitly stated in the text (Carnine,

Silbert, Kame'enuei, & Tarver, 2010). In order to demonstrate competency at this level of comprehension, the reader must be able to identify individual words (word-level processing) and create meaning from word combinations (phrases and sentences). However, these abilities alone are not sufficient, the reader must also have the ability to recognize the specific information and recall that information. Remembering an isolated fact that is read is not sufficient for literal comprehension, because it must match the information sought after in the task; therefore, requiring the reader to recognize the information in the text.

Inferential Level

This level of comprehension is an extension of the recognition done in literal comprehension because it requires the reader to interact with the text about meaning that is not found explicitly in the text (Hosp & Suchey, 2014). At this level, the reader must manipulate information found in the text in order to form or recognize relationships based on the main idea and details (McMaster, Espin, & Broek, 2014). These relationships are used to interpret and draw conclusions about what the author may seek, fill in missing information, or to elaborate based on the author's text. By forcing the reader to maintain information from the text in working memory while searching for additional information within the text, the reader is asked to function at a higher cognitive processing level (Kendeou, Broek, Helder, & Karlsson, 2014).

Evaluative Level

Critical or applied understanding of text requires evaluative comprehension and is therefore the most complex level of reading comprehension. The reader must evaluate or analyze information extraneous to the text (Elbro & Buch-Iverson, 2013). This is a much more difficult and complex task than the interpretative and inferential comprehension because it requires the use of synthesis evaluation, critical analysis, and coherent affective responses. This necessitates that the reader

holds the text being read in short-term memory, while accessing long term information, knowledge, and experiences, which increases significantly the demands made on cognitive processing (Ibid, 2013).

Reading Comprehension Assessment

Passage level reading comprehension can be measured in several ways, including cloze (Ardoin, Witt, Suldo, Connell, Koenig, Resetar, Slider, & Williams, 2004), maze (Clemens, Shapiro, & Thoemmes, 2011), question answering procedures (Calhoon, Sandow, & Hunter, 2010), structure display, application, think aloud, summarizing as well as open-ended recall procedures (Pinnell & Fountas, 2011).

SAMR Model

The SAMR model refers to substitution, augmentation, modification, and redefinition. It is a model detailing how technology is integrated into schools and the different tools used (Puentedura, 2006). The SAMR model provides a framework that can be used to classify and evaluate mLearning activities. Ruben R. Puentedura developed the SAMR model in 2006 as part of his work with The Maine Learning Technologies Initiative (Puentedura, 2006). The name SAMR is an acronym formed by the first letter of each of the four levels that describe the use of technology in the learning environment. The four levels according to Puentedura (2013) are as follows: substitution, augmentation, modification, and redefinition.

The learning activities that fall within the substitution and augmentation classifications are intended to enhance learning, while the learning activities which fall within the modification and redefinition classifications are directed to transform learning (Puentedura, 2013). The SAMR model defines the various levels of technology tools and how they can be utilized within the classroom. According to Romrell, Kidder, and Wood (2014), the SAMR model provides educators and instructional designers with a framework to understand when creating learning

experiences with technology devices within the classroom at what learning level the activity falls within.

Puentedura (2013) noted that as you move into the modification and redefinition categories, there is the opportunity to transform learning while Amer and Ibrahim (2014) suggested that the SAMR model could measure the degree of technology integration within the classroom, which could span from activities that enhance the current material being taught to the development and formation of new ideas, tasks, and practices. The most important point is that the use of technology should be linked closely to the purpose of learning and the expected outcomes so that it enhances the teaching and learning experience (Floris & Renandya, 2017).

The Importance of the SAMR Model

The SAMR model serves as a framework that allows teachers to assess their use of technology and to determine the level of the technology integration in their classrooms. The model also reminds us that successful technology integration is more than merely choosing and using some applications in the classroom. Successful technology integration should focus on how computers, mobile phones and the Internet connection can be used to support and improve student learning. In other words, technology should be embedded purposefully and effectively into language classrooms (Floris & Renandya, 2017).

SAMR Levels

The four levels of the SAMR model according to Puentedura (2013) from lowest to highest are as follows :

1-Substitution: The technology provides a substitute for other learning activities without functional change.

2-Augmentation: The technology provides a substitute for other learning activities but with functional improvements .

3-Modification: The technology allows the learning activity to be redesigned.

4-Redefinition: The technology allows for the creation of tasks that could not have been done without the use of the technology.

At the substitution level, digital technology is substituted for analog technology, but the substitution generates "no functional change". At the augmentation level, technology is exchanged, and the function of the task or tool positively changes in some way. At the modification level, technology integration requires a significant redesign of a task. Finally, the redefinition level is achieved when technology is used to create novel tasks (Puentedura, 2014a).

The levels of the SAMR model are joined to Bloom's Taxonomy levels (Puentedura, 2014b). When SAMR is compared to Bloom's Taxonomy substitution is synonymous to remembering and understanding; augmentation is the equivalent of understanding and applying knowledge gained; modification is the analysis and evaluation stage; and redefinition is the same as the evaluation and creation level (Puentedura, 2014). Therefore, the SAMR integration model reinforces the value of Bloom's Taxonomy (Schrock, 2013).

In a review of the SAMR framework for measuring technology integration for learning, positive benefits such as increased engagement were noted at the substitution and augmentation levels. Modification and redefinition levels transformed learning at a faster and more meaningful rate (Romrell, Kidder, & Wood, 2014, p. 9). Furthermore, at the redefinition level, learning was, "personalized, situated, and connected" and therefore "purposefully designed" to have the effect of transformative learning (Romrell et al., 2014).

Examples of Using the SAMR Model in English Reading Comprehension Classrooms

Floris and Renandya (2017) suggested some activities which can be used in the English reading comprehension classrooms according to the SAMR model as follows:

1-The Substitution Level

- a- Students read online or digital texts determined by the teacher.
- b- While reading, students highlight words representing the key ideas using a free online marker such as Marker. To.

2-The Augmentation Level

- a- Teacher asks students to read an online text embedded with hyperlinks to online dictionaries to check the meaning and the pronunciation of the key vocabulary.
- b- After reading, all students are asked to use Google Sheet to write up a brief summary of their reading and five sentences by using the key words that they got while reading the online texts.

3-The Modification Level

- a- Students are asked to find other online articles on their own and to compare and contrast viewpoints. By visiting the embedded links, students will have the opportunity to get a fuller picture of the topic.
- b- After reading, students work in pairs or groups by using Google Sheet to create a brief summary and provide a commentary on their readings.

4-The Redefinition Level

- a- Teacher asks students to work in groups, read various online texts on a particular issue and prepare a five-minute animated video presenting their stand or point of view on the issue raised.
- b- Before developing the video by using free applications such as PowToon or Animaker, each group should write a video script by using Google Sheet and ask their teacher to provide online feedback.

Hypotheses of the Study

- 1 -There would be statistically significant differences between the mean scores of the experimental group and the control group on the post-reading comprehension test, in favor of the experimental group.

2 -There would be statistically significant differences between the mean scores of the experimental group on the pre- and the post- reading comprehension test.

Aim of the Study

The objective of the current study was to enhance English reading comprehension of first year General Secondary Stage students by using the SAMR model.

Significance of the Study

The results of the present study could be significant as they might:

1 -offer first year General Secondary Stage students a modern and useful framework represented in the SAMR model to be used for enhancing their English reading comprehension.

2 -direct the attention of General Secondary Stage EFL teachers towards the effectiveness of integrating educational technology guided by the SAMR model on reading comprehension classrooms for enhancing their students' reading comprehension.

3 -provide a suggested vision for EFL supervisors to ensure the usefulness of using educational technology based on implementing the SAMR model in reading comprehension classrooms.

4-encourage curriculum developers to include teaching activities based on implementing educational technology in the light of the SAMR model in the reading comprehension lessons given to first year General Secondary Stage students in order to enhance their reading comprehension.

Method

Design of the Study

The present study followed the pre-, post-test quasi-experimental research design which was based on making use of two groups: an experimental group and a control group.

Variables

The independent variable of the present study is the SAMR Model while the dependent variable is first year General Secondary Stage students' reading comprehension.

Definition of Terms

Reading Comprehension

In the current study, reading comprehension is operationally defined as a strategic mental process that can be learned and enhanced by first year General Secondary Stage students at El-Shahed Mohamed Khaled General Secondary School for Boys, Kom Umbo, Aswan Governorate, with the aim of extracting and constructing meaning from written language.

The SAMR Model

In the current study, the SAMR model is operationally defined as a model designed to evaluate and guide technology integration into the first year General Secondary Stage English language classrooms at El-Shahed Mohamed Khaled General Secondary School for Boys, Kom Umbo, Aswan Governorate, by ranking technology integration from the basic form of integration level, substitution, to a more complex level of integration, the redefinition level.

Participants

The participants were first year General Secondary Stage from El-Shahed Mohamed Khaled General Secondary School for Boys, Kom Umbo, Aswan Governorate. They represented two classrooms which were taught by the same teacher. They were randomly selected and assigned into an experimental group (n=32), and a control group (n=32). For equivalence in reading comprehension of the experimental group and the control group before implementing the treatment, the researcher pre-tested them by using the pre-RCT. The researcher taught the experimental group and the control group himself to have a better control of the study variables.

Delimitations of the Study

1 -First year General Secondary Stage students at El-Shaheed Mohammed Khalid General Secondary School for Boys, Kom Umbo, Aswan Governorate.

2 -Six reformulated English reading comprehension lessons from the first year General Secondary Stage Students' Book.

3- Seven weeks during the first term of the school year 2021/2022.

The Reading Comprehension Skills Checklist (Available upon request from the researcher)

Purpose of the Checklist

The researcher designed the reading comprehension skills checklist with the aim of identifying the reading comprehension skills required for first year General Secondary Stage students.

Validity of the Checklist

Validity of the reading comprehension skills checklist was obtained by submitting it to a jury of judges (professors of curriculum and instruction (TEFL) in Egypt) and EFL supervisors and teachers of General Secondary Stage to give their opinions to determine the importance of each skill to first year General Secondary Stage students.

According to the jury members opinions, the final form of the checklist included ten skills. The jury asserted that the final form of the English reading comprehension skills checklist was valid and that the English reading comprehension skills required for first year General Secondary Stage students were clearly identified and categorized.

Instrument (Available upon request from the researcher)

The researcher of the present study designed the following instrument:

- A pre-, post- Reading Comprehension Test (RCT) to assess the reading comprehension of the experimental group and the control group before and after the experiment.

The RCT Validity

In order to validate the RCT, it was submitted to the same jury members to give their opinions and to provide their modifications on the test. The jury members agreed on the RCT items and recommended few modifications to make it valid and appropriate for the purpose it was intended to. All the modifications were taken into consideration and the validity of the RCT was asserted.

The RCT Reliability

In order to assess the reliability of the RCT, it was administered to a pilot group. After the administration, the researcher used the Cronbach Alpha to determine the reliability of the RCT. Cronbach's Alpha showed that the reliability of RCT was 0.81. This value can be trusted and indicated that the RCT was reliable.

Materials of the Study (Available upon request from the researcher)

According to the distribution of the syllabus provided by The Ministry of Education, the experimental group had to learn six units in the first term of the school year (2021/2022). The suggested treatment is a reformulation of the reading comprehension lessons of the Six Units (1, 2, 3, 4, 5, and 6) from the first year General Secondary Stage Students' Textbook (New Hello, English for Secondary Schools, Year One), in addition to one introductory session on the required reading comprehension skills and the SAMR model. The six units are (Getting Away), (Supporting the Community), (Improving Lives), (Making New Friends), (Communication) and (Learning the Literature). Enhancing the required ten English reading comprehension skills was distributed among the six units.

The application of the treatment included the following seven sessions:

- One introductory session on the reading comprehension skills, and the relationship between reading comprehension and the SAMR model.
- Six sessions for the reformulated reading comprehension lessons prescribed for the first year General Secondary Stage students.

Procedures

The Pre-Administration of the RCT

The RCT was pre-administered on 24/10/2021, the experimental group and the control group were given 120 minutes to answer the questions of the test.

Application of the Treatment

The sessions were held with the experimental group. The application started on 1/11/2021 and ended on 9/12/2021. The sessions were held once a week for seven weeks. Each session lasted for sixty minutes.

The Post-Administration of the RCT

After applying the suggested treatment to the experimental group, the RCT was post-administered to the experimental group and the control group on 16/12/2021. Post-testing conditions were relatively the same as those of the pre-administration of the RCT.

Results of the Hypotheses of the Study

The First Hypothesis Results

In order to verify the first hypothesis of the present study which stated that there would be statistically significant differences between the mean scores of the experimental group and the control group on the post-RCT, in favor of the experimental group, the t-test for independent two groups was used.

Table 1: The t Value of the Difference between the Mean Scores of the Experimental Group and the Control Group on the Post-RCT

Group	N	Mean	Std. Deviation	t value	t Tabulated Value	Sig.
Control	32	7.3475	2.3683	24.7265	2.660	0.01
Experimental	32	19.4375	1.3425			

Table (1) shows that the t calculated value of the difference between the mean scores of the experimental group and the control group on the post-RCT on reading comprehension (24.7265) was significantly higher than the t-tabulated value (2.660) with (60) degrees of freedom at (0.01) level of significance. Thus, there was statistically significant difference between the mean scores of the experimental group and the control group on the post-RCT in favor of the experimental group. Moreover, the experimental group's mean score (19.4375) was higher than the control group's mean score (7.3475) on the post-RCT. This is a highly significant difference which showed that the experimental group attained remarkable higher scores than the control group on the post-RCT. Therefore, the enhancement of the experimental group's reading comprehension was due to the training they received by using the SAMR model.

The Second Hypothesis Results

In order to verify the second hypothesis of the present study which stated that there would be statistically significant differences between the mean scores of the experimental group on the pre- and the post-RCT, the researcher used the one sample t-test.

Table 2: The t Value of the Difference between the Mean Scores of the Experimental Group on the Pre- and the Post-RCT

Test	N	Mean	Std. Deviation Difference	t value	t Tabulated Value	Sig.
Pre-RCT	32	7.3750	2.3657	34.1351	2.704	0.01
Post-RCT	32	19.4375	1.3425			

Table (2) revealed that the t calculated value of the difference between the mean scores of the experimental group in the pre- and the post-RCT (34.1351) was significantly higher than the t tabulated value (2.704) with (31) degrees of freedom at (0.01) level of significance. Thus, there was a statistically significant difference between the experimental group's mean scores on the pre- and the post-RCT, in favor of the post-RCT. Additionally, the mean score of the experimental group on the post-RCT (19.4375) was higher than their mean score on the pre-RCT (7.3750). Thus, an enhancement of reading comprehension of the experimental group was ensured, due to using the SAMR model.

The results of applying the effect size formula showed that, the effect size of using the SAMR model on enhancing reading comprehension of the experimental group was (0.9740) which is higher than the value of the large effect size (0.8). This means that using the SAMR model had a large effect size on enhancing the experimental group's reading comprehension.

Moreover, the researcher used the Blake formula to ensure the effectiveness of using the SAMR model on enhancing reading comprehension of the experimental group.

Using the Blake formula showed that the gain ratio was (1.2218) which is more than (1.2), the accepted level of the effectiveness. This reveals that using the SAMR model was effective in enhancing reading comprehension of the experimental group.

Therefore, the present study fulfilled its aim regarding enhancing reading comprehension of the experimental group.

Discussion of the Results

The results of the post-RCT revealed that using the SAMR model had a large effect size on reading comprehension. The results also indicated accepted gain ratio of effectiveness. It was due to some expected good reasons as follows:

First

Using the SAMR model represented an innovative and systematic way of using technology which led to an outstanding advancement in teaching reading comprehension, and the SAMR model proved to be motivating and effective. Using the SAMR model integrated teaching, learning, and technology within the English language classroom and this helped the experimental group comprehend better while reading, imagine and draw pictures inside their brains and transform these pictures to stored data that is easier to be remembered when they need them. In addition, the insertion of visual aids, videos, and the use of colors according to the SAMR model levels created a creative, and exciting learning environment at reading comprehension classrooms.

The SAMR helped include many technological aids which evoked the experimental group's motivation and engagement and shifted the focus from the teacher to students and this led to better learning as the students were engaged in the process of discovery. It also could create a good atmosphere in the teaching-learning process in order to make students motivated to learn and interested during the teaching-learning process. In line with the experimental group's growing interest in reading, the researcher found out that the experimental group actively involved in discussing the reading activities. They were enthusiastic to respond in the lessons because by using guided technology the students could remember the content of texts and memorize again the information while they were actively reading. Due to

all the above mentioned points, the researcher realized that, most of the students had more than enough ability in comprehending the content of reading texts.

Second

The superiority of the experimental group to the control group on the post-RCT came in accordance with those of Pfaffe (2017), Savignano (2017), Alodwan and Almosa (2018), and El Udaini (2018). Those studies highlighted the importance of using technology in general and in teaching reading comprehension in particular.

To sum up, the SAMR model proved to be an important tool in the reading comprehension teaching/learning process. The SAMR model had a large effect size on the experimental group's reading comprehension skills, and it indicated accepted gain ratio of effectiveness.

Conclusions

It can be concluded from the present study that using the SAMR model as a framework helped the experimental group enhance their reading comprehension.

Recommendations

Based on the results and conclusions of the present study, the following recommendations were suggested:

1-The importance of using educational technology based on the SAMR model in classrooms for enhancing reading comprehension should be emphasized in General Secondary Stage in Egypt.

2-EFL teachers should use the SAMR model at reading comprehension classrooms as it enables students to feel motivated and this leads them towards enjoying reading comprehension lessons.

3-EFL teachers should attend training courses that enable them to use modern technological methods guided and controlled by the SAMR model in teaching to help students be more motivated and more active to learn English.

4-Positive feedback should be given immediately by the teacher or peers to help students enhance their reading comprehension during teaching them reading comprehension lessons guided by the SAMR model.

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