Multimedia Instruction and Retention: Case Study

الوسائط المتعددة والقدرة على التذكر: دراسة حالة

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Abstract:

This present paper revolves around a study of first year undergraduate students of English language. It looks at the use of multimedia instruction to teach British culture. The purpose of this study is to find out the effect of using multimedia materials on students' learning of the British cultural knowledge in general and on their memory retention precisely. To this end, a quasi-experiment of two equivalent groups was conducted, one is experimental and the other is control. The lessons were given using multimedia materials to the experimental group, while the other control group was given the same lessons using the traditional method of teaching.

The analyzed results reveal that first-year undergraduate students, over the course of one semester, can significantly improve their overall knowledge and show more recalling of the input.

Keywords: British Culture; Instruction; Learning; Multimedia; Retention.

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ملخص:

يدور هذا المقال حول دراسة عن طلاب السنة الأولى ليسانس لغة انجليزية، تركز حول تدريس الثقافة البريطانية باستخدام الوسائط المتعددة. الغرض من هذه الدراسة هو معرفة تأثير استخدام الوسائط المتعددة على تعلم الطلبة عامة وقدرتهم على الاحتفاظ/تذكر المعرفة المكتسبة حول الثقافة البريطانية خاصة. تحقيقا لهذه الغاية، تم تحديد مجموعتين لتتم الدراسة حولهما، واحدة تجريبية والأخرى شاهدة. تم إعطاء الدروس باستخدام الوسائط المتعددة للمجموعة التجريبية، بينما أعطيت المجموعة الشاهدة نفس الدروس باستخدام الطريقة التقليدية التي تستخدم أسلوب المحاضرة والمناقشة

نتائج البحث تظهر بأنه على مدار فصل دراسي واحد، يمكن للطلاب أن يحسنوا إلى حد كبير من معرفتهم حول الثقافة البريطانية، كما أمكنهم الاحتفاظ وتذكر كمية جيدة من المعرفة الثقافية المكتسبة.

كلمات مفتاحية: الثقافة البريطانية ، تدريس ، التعلم ، الوسائط المتعددة ، التذكر.

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1. INTRODUCTION

Multimedia learning focuses mainly on remembering and understanding that are very important in the learning process. Multimedia tools help students' brains to function better and remember their knowledge through presenting visual, audio and sensory stimuli to the students. This study attempts to demonstrate that multimedia materials afford a better and deep understanding and remembering of the cultural content. By

'remembering' Mayer (2009, p19) means the ability to reproduce or organize presented material that can be tested through a retention test. By understanding he means the ability to use presented material in novel situations.

For the sake of the present study and as a first step to answer our research questions, one has formulated the three following (03) hypotheses:

H1: Students who were taught with multimedia materials (experimental group) will attain higher mean scores in the post-test1 than students of the control group.

H2: The retention of students who were taught using multimedia materials is higher than of students taught traditionally.

H3: Students in the experimental group and teachers show good acceptance and welcome the use of multimedia materials.

The objectives of this research are:

1- To develop nine sessions in which multimedia visuals can be integrated, in order to fully exploit their benefits for students. These sessions will make use of different audio-visual aids through the technological devices available in the classroom. (Laptop, data show and speakers).

2- To examine the teaching/learning situation of the British culture at the level of first-year undergraduate students at Khenchela University.

3- To figure out which aspects of British culture teachers should give much attention in order to increase the students EFL learning efficiency.

2. Theoretical Background

2.1 Multimedia and Culture Teaching

Multimedia has imposed a change in the teaching strategies by providing many choices; as making teaching interesting, creative and more productive in order to attract student's attention. Moreover, multimedia attempts to stimulate more closely the conditions of real world learning, a multisensory world, all at once experiences (Heinich, Molenda, Russell, & Smaldino, 1996, p248). In fact, the vast majority of classroom's most enjoyable experiences involve the stimulation of several senses covering at once many learning styles. Moreover, in Mayer's (2001, p41) words, the presentation of information through text, graphics, images, audio and video; provides a complex multi-sensory experience in exploring our world, where this mixture of words and pictures increases the integration of a large amount of information.

Generally speaking, multimedia means the *"use of multiple forms of media in a presentation"* (Schwartz & Beichner, 1999, p8). It is usually displayed and accessed by technological devices such as computers, projectors and other electronic devices.

The use of multimedia gives teachers various opportunities to create better instructional materials to teach the target culture effectively. Due to the fact that teaching culture has difficult aspects to be explained and learned, the integration of multimedia permits both teachers and students *"to go beyond quick and superficial stops on the information highway and establish meaningful interactive learning scenarios"* (Hellebrandt, 1996, p263).

2.2 Retention as Part of Multimedia Learning

According to Marchetti and Cullen (2016, p.47), multimedia tools are approaches to help students' brains function better in relation to the information upon which they are required to work, due to the visual, audio and sensory stimuli that are presented to the student. Many researchers like Mayer (2001) and others confirm the fact that multimedia can improve learning and retention of material presented during a class session or individual study period, as compared to traditional lectures or study materials that do not use multimedia. Owing to the fact that they save time as validated by Harris & West (1993, p75), who claimed that multimedia are an efficient and effective means; they save time and may increase retention and mastery while involving the user in the learning process. This increase in comprehension and improvement in retention of the material can be during a class session or *"at later testing times"* (Mayer & Moreno, 1998, p312).

3. Experiment

3.1 Methodology

This study took place in the department of English Language at Abbas Laghrour University in Khenchela, in the academic year 2017-2018 during one semester (First semester). For the purpose of this study, we opted for a mixed methods research, which aimed at raising students' interest level, enhancing their understanding, and increasing their retention of the cultural knowledge acquired in the classroom through integrating multimedia materials in the class.

3.2 Sample

For the present study, we dealt with a hundred and twenty two (122) first year undergraduate students, from a total population of a hundred and seventy six (176) students of the English Language department at Khenchela University.

3.3 Materials

The following table presents the ten (10) lessons given to first year undergraduate students in the department of English Language at Abbas Laghrour University (Khenchela), during the first semester of the academic year 2017-2018.

Figure 1. Program of culture and civilization module of the 1st semester

Lesson	Multimedia Device	Session's Time	Number
1. Introducing the Concept of Culture, its Characteristics and Components	(Traditional Lesson => No devices used)	1h 30mins	
2. General Introduction about UK	Video	1h30mins	5 mins 19 sec
	Images		4
3. History of Invaders	PPT	3h	33 slides
4. Famous kings and Queens	PPT	3h	23 slides
5. Multiracial Britain	Video1	3h	4.27mins
	PPT		15 slides
	Video2		7.56mins
6. Holidays, Festivals & Customs	PPT	1h30mins	17 slides
7. Food, Drinks & Food Habits	Video	1h30mins	1.59mins
	audio		2.26mins
	Images		4
8. The Educational System	Video	1h30mins	3.19mins
9. The Political System	PPT	1h30mins	21 slides
10. The Legal	PPT	1h30mins	13 slides

Figure1 shows the materials used by the researcher to provide instruction on the selected content area (British culture) to the students which include: 5 Videos, 1 audio, 8 images and 6 Power Point presentations.

3.4 Procedures

For the purpose of this study, the tools used are pre/post tests, questionnaire and interview. The most important instrument was pre/post tests with students.

a- Pre & Post Tests: The aim behind pre-test and post-test was to measure students' cultural knowledge, and to address their perceptions of the British culture; addressed to both control and experimental groups students. The researcher has followed the following steps:

- A pre-test was administered to both the experimental group and the control group to test students' previous cultural knowledge that is essential for our study.

- After equating both the groups, we have performed our experimental manipulation on the experimental group, while the control group was taught in traditional way.

- Test the participants after the manipulation to see what changes occurred. At the end of the first semester, the students of both the groups were given post-test with the gap of three (3) weeks after the last lecture.

- Re-test the participants (2nd post-test) at the beginning of the academic year 2018-2019.

- All of the pre-test and both post-tests were paper pencil tests.

b- Questionnaire: Its purpose is to support our pre/post-tests. Its main focus was to know students' opinions and reactions about learning British culture using multimedia materials. The questionnaires were composed of closed, multiple-choice questions, and other open-ended questions that allowed the students to write any additional feedback they might have had. The items of the questionnaire were organized in four (04) sections. Each section is intended to elicit a specific set of information.

c- Interviews: Four EFL teachers agreed to take part in the interview. The criterion for selecting these teachers for the interviews was their availability and willingness to take part in the study, in addition to their familiarity with the module (experience in teaching "Culture & Civilization"). Each of the interviews was conducted by the researcher in a face-to-face, semi-structured interview, as the intention was to gain access to teachers' experiences of British culture teaching, and their use of multimedia materials. It consists of 3 parts in which 16 questions are asked. Some of the interview questions were open-ended and others were close-ended questions, including direct questions to obtain information about teachers' attitudes and beliefs underlying the use of multimedia materials in the classroom.

There are two types of analysis considered in this research: A quantitative and a qualitative.

4. Results and Discussion

As the students participants were tested, the following table represents their mean scores to highlight the differences between experimental and control groups:

Table 1. Experimental and control groups mean score

	Test	Exp Group	Ctrl group
	Pre-test	3.63	3.39
Mean	Post-test1	11.36	10.15
score	Post-test2	11.78	09.42

The present study reveals that scores of overall British cultural knowledge were higher on the post-test1 for the experimental group than the control group. Both post-tests findings of the present study show that first year undergraduate students can improve their knowledge of British cultural information from experiencing multimedia-based lessons presented. These findings support our initial hypothesis that first year undergraduate students, over the course of one semester, can significantly improve their overall British cultural knowledge. At the conclusion of the study, the students took a second post-test identical to the pretest and the first post-test, which aimed at testing their retention of the cultural knowledge acquired. As a result, the mean score of the experimental group students were higher than the control group; the matter that supports our second hypothesis that students' retention can be increased as shown in Table 1.

Moreover, results from the interview brought out the importance of using multimedia materials with a necessity of focusing on its advantages. On the other hand, from the analysis of questionnaire responses about students' perceptions it can be stated that, in general, students from the experimental group expressed their enjoyment and interest in multimedia materials and its positive effect on them; also students in the control group

welcomed the idea of using multimedia and expressed their acceptance of these tools.

4.1 Testing the hypotheses

H1: Students who were taught with multimedia materials (experimental group) will attain higher mean scores in the post-test1 than students of the control group.

According to pre-test results gained from the test, there is no significant difference in experimental and control groups, which means the two groups were highly similar to each other in terms of academic success, and the significant difference is in the benefit of post-test1 results of the experimental group as compared to the control group results. Thus, the first hypothesis was confirmed.

H2: The retention of students who were taught using multimedia materials is higher than of students taught traditionally.

The data used to answer this question was based on the students' post-test2 scores. By examining the difference between the post-test2 of both groups, it can be concluded that students who were taught through multimedia instruction (experimental group) obtained higher gain scores than students in the control group who have not been taught using multimedia materials. Thus, the second hypothesis is confirmed.

H3: Students in the experimental group and teachers show good acceptance and welcome the use of multimedia materials.

Students from the both groups appreciated the use of multimedia-based instruction, and they wanted to have this kind of instruction afterwards. On the other hand, the teachers expressed the importance of using multimedia materials with a

necessity of focusing on its advantages on the learning process and put great emphasis on the positive effect of multimedia on students' critical analysis, remembrance and how it leads to successful learning. Thus, the third hypothesis is confirmed.

4. CONCLUSION

The use of multimedia materials as a specific way of teaching foreign culture proves to be valid. Taking into account the teaching materials used throughout this study, it is confirmed that they offer many benefits to enhance the learning process. Most importantly, the integration of these materials has the potential to attract students' attention, enhance and facilitate their comprehension of the British culture, as well as increase students' motivation and help them to memorize and retain the cultural knowledge acquired in the classroom. Moreover, the use of multimedia materials has a positive effect on first year undergraduate students; they are more motivated and interested compared to students belonging to the traditional classroom.

In conclusion, university teachers must accept the integration of multimedia materials in their classrooms, since it offers more authentic and interactive sources to facilitate the learning and to improve the effect of the teaching of foreign cultures.

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6. Appendices

Test:

I.   Geographical Parameters (03points)

1) Great Britain is not made up of

A. England

B. Scotland

C. Wales

D. Northern Ireland

2) Britain consists of four countries. Order the countries according to the size of their territory. (1- the biggest to 4- the smallest)

A- Wales

B- England

C- Northern Ireland

D- Scotland

3) These four countries together form a country whose full name is:

…………………………………………………………………

4) What is the population of the UK?

   A. About 70 millions

   B. About 50 millions

   C. About 40 millions

5) What is the capital of Scotland?

A. Glasgow

B. Edinburgh

C. Swansea

II.   National Symbols (04points)

6) The British flag is popularly known as:

A. Jack Union

B. Jack United

C. Union Jack

7) It embodies the flags of three countries. Which of the countries is not represented in the flag?

A-England

B-Scotland

C-Wales

D-Northern Ireland

8) Who is the current monarch?

A. King George

B. Elizabeth I

C. Elizabeth II

9) The current monarch has been on the throne for:

A- 45 years

B- 50 years

C- Over 60 years

III. Historical Background (05points)

10) The huge changes to industry which took place between 1750 and 1850 are usually referred to as what?

…………………………………………………………………………………………

……………………………………

11) Which tribes originating from northern Europe brought cultural traits which are still a part of British life today?

A. The Celts.

B. The Vikings

C. The Angles and Saxons

12) Where did the Angles, Saxons and Jutes come from?

A. France

B. Germany, Denmark.

C. Rome, France

13) Which group of people invaded Britain in 1066?

A. Romans

B. Normans.

C. Germans.

14) The conflict which raged between the kings of England and France in 1337 is known as which war?

A. Wars of the Roses

B. Eighty Years War

C. The One Hundred Years war.

IV. **Britain Today (4pts)**

15) The 31st of October celebrates:

A. Valentine's Day

B. Guy Fawke's Day

C. Halloween

16) The Notting Hill Carnival is held in:

A. Liverpool

B. Manchester

C. Edinburgh

17) St Patrick's Day is celebrated on:

A. 1st March

B. 17th March

C. 23rd April

18) Which ONE of the following is true:

A. 25% of all ethnic minority people live in London

B. 35% of all ethnic minority people live in London

C. 45% of all ethnic minority people live in London

19) Hogmanay is traditionally celebrated in:

A. England

B. Wales

C. Scotland

20) When do people in the UK wear poppies:

A. Remembrance day

B. New Year

C. Mother's Day

21) What is the most popular food in Britain?

A. Pizza
B. Fish and chips
C. Hamburgers

22) What do the letters BBC stand for?

A. British Broadcast Corporation

B. Baptist Bible College.

C. Big Block Chevy

V.   Political System (04points)

23) What are the main two political parties?

A. Conservative party (Tories)

B. Liberal Democrat Party

C. Labour party (Whigs)

24) Where are the House of Lords and the House of Commons situated?

A. In Buckingham Palace

B. In Westminster Palace

C. In Saint James Palace

25) The English Constitution is based on Conventions and 4 documents. What are those documents?

A. 1832 The First Reform Act
B. 1628 The Petition of Rights
C. 1689 The Bill of Rights
D. 1997-1998 Devolution of Power
E. 1215 Magna Carta
F. 1679 The Habeas Corpus

26) University education in the UK is funded by:

A. The government.

B. Individual students.

C. A combination of the government and the students.