

**بيان تأثير الوسائل السمعية-البصرية في
العملية التعليمية و المطبقة في اختبارات
الصف الرابع الابتدائي في مدرسة
الموهوبين في محافظة الانبار اخذين بنظر
الاعتبار الاداء و الكفاءة بمادة اللغة
الانكليزية**

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**The Effect of Using Audio-Visual Learning and Teaching
Aids on Fourth Primary Pupils' Tests in Gifted Students'
School in Anbar: As A Matter of Performance and
Competence Knowledge(Creativity) of English material.**

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ان الهدف الاساسي لهذه الدراسة هو بيان تأثير الوسائل السمعية-البصرية في العملية التعليمية و المطبقة في اختبارات الصف الرابع الابتدائي في مدرسة المتميزون في محافظة الانبار , اخذين بنظر الاعتبار الاداء و الكفاءة بمادة اللغة الانكليزية. و اعتمدت الدراسة على اخذ عينة متكونة من ثمانية طلاب من مرحلة الرابع الابتدائي. و تناولت الدراسة كفاءة و اداء طلاب المرحلة المذكورة في الاختبارات اليومية و الشهرية و النصف سنوية و النهائية للعام الدراسي ٢٠١٧-٢٠١٨. و كذلك تطرقت الدراسة لنوعية الوسائل السمعية و البصرية المستخدمة في الدراسة و كذلك ركزت على جودة تلك الوسائل . و لم تنسى هذه الدراسة الجزلة ان تجر عميقا لتبين العوامل التي جعلت البعض من المدرسين و الطلاب يستخدموا هذه الوسائل و كذلك بالمقابل فانها بينت عوائق عدم استخدام تلك الوسائل . و كذلك فان هذه الدراسة طرحت تساؤلات عن العوائق الأخرى التي أعاققت الأداء والكفاءة في الصف الرابع في مدرسة المتميزين في محافظة الانبار. لقد تم استخدام الكثير من تلك الوسائل في هذه الدراسة منها الصور و الالغاز و غيرها وقد كانت النتائج ان المعلمين و التلاميذ الذين استخدموا هذه الوسائل حققوا نتائج جيدة جدا للعام الدراسي ٢٠١٧-٢٠١٨. و لقد اهتمت هذه الدراسة كثيرا بتوضيح الواجه الايجابية و السلبية من وراء استخدام هذه الوسائل بالنسبة لطلاب الصف الرابع الابتدائي. و قد تم جمع هذه المعلومات من منهج و اختبارات الصف الرابع الابتدائي والتي تظهر أن إدراك التلاميذ للعالم الخارجي ومستويات إبداعهم يتغير اعتمادًا على عوامل مختلفة و التي هي المواد التعليمية التربوية السمعية -البصرية و التي تؤثر على أداء الأطفال ومعرفتهم بالكفاءة (الإبداع).

الكلمات الدالة: التعليم، والوسائل السمعية والبصرية، والتدريس، الصف، الكفاءة، ومدرسة الموهوبين والأداء .

About the researcher

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Abstract in English

This study thought to establish the effect of audio-visual learning and teaching aids on fourth primary pupils' tests of Gifted Students' School in Anbar concerning performance and competence knowledge(creativity) of English material.The study used a sample fourth class of 8 pupils all of them. The study examined the performance and competence of fourth class in 2017-2018 tests concerning daily, monthly, mid-year and final-year.The study inquired also about the kind of audio-visual aids used and their quality. The study also examined the factors that made some pupils and teachers use the aids and the barriers in other pupils and teachers, and lastly, the study inquired about other barriers that inhibited performance and competence in fourth primary class in Gifted Students' School in Anbar .

Tests reviews , paper sheets, pictures, puzzles and cross-examination interviews were used to collect data. The outcomes were that the fourth primary pupils and teacher whom used learning and teaching aids had better results for the consecutive years of 2017-2018 of fourth pupils' performance and competence knowledge concerning English material.

This study investigates what kind of positive and negative effects audio- visual educational aids have on the creativity levels of 10th years old children in primary education. The data obtained from the fourth primary class materials concerning English lessons and tests which show that the pupils' perception of the outer world and their creativity levels change depending on various factors which are audio-visual educational English materials which effect children's performance and competence knowledge (creativity).

Key Words: Teaching, audio-visual aids, learning, class, competence, gifted school, performance.

1.Introduction

Education is considered to be a primary tool for achieving social justice. The educational institutions aim towards moulding a person's personality and providing educational policies, many a times, the marginalized groups are left behind in the process of development. The onus can be put on the persistent discriminatory practices against children of the marginalized groups and also the high drop-out rates of children from these groups(Dahiya, 2018: 40). Human perceive what they see and react based on their perceptions. Healthy and correct visual perception dimension can direct human beings. Since human beings are dynamic, they can be in a continuous motion from birth to death. During the development process, children can intellectualise the material they get from their own environment and concretise these

depending on the age group they are in. Visual and audial aids have a very important place in children's world.

Previous studies show that the children and the young people nowadays spend more than 4-5 hours a day in front of media such as television, video, computer, internet, movie, radio, tape and video games (Taras, 1990) & (Bernard-Bonnin, 1991)& (Woodard and Gridina, 2000). This time is more than the time spent for other activities except for sleep and when such media are used interactivity, this time can go up to 8 hours (Baron and Broughton, 2001). While aids such as computer and the internet provide children and teenagers a suitable and limitless environment in terms of learning (specht, 2002), using these aids for wrong purposes can cause harm. With the recent fast increase in information technologies; CD, DVD and computer systems began to have an important place in our lives (Asutay, 2007: 138). Today, in developed and developing countries, very house has many of the mass media and especially computer and the internet have an important place in the lives of children and teenagers. Today, there are more houses with computers. It can be said that audio visual aids can be useful in every age group as long as they are used with awareness. In our class, computer, speaker, data show, videos , etc. are being used within the pupil and activity books, it has been thought that the pupil's creativity levels will increase as they will be exposed to more information and interaction.

2. Background to the Problem

Audio-visual learning aids on teaching has proved to be effective in the learning outcomes. This study sought to examine whether use or non-use of audio-visual learning aids was the sole cause of performance differential in primary school in Iraq. Audio-visual aids such as pictures, drawings, video, speaker, computer puzzles or dynamic video is often designed to facilitate learning and have a positive effect. From the learning and instruction point of view, the effectiveness of the visual information is concerned with cognitive learning and retention. Moreover, the performance criteria of learning materials are mainly focused on comprehension and recall.

3. Statement of the Problem

How do the audio-visual educational aids affect the performance and competence of knowledge (creativity) of fourth primary class as a process of learning and teaching?

4. Objectives

The study is guided by the following objectives:

4.1 General Objective

The main objective of this study was to examine the effect of use and non-use of audio-visual learning and teaching aids on fourth primary pupils' performance and competence in Gifted Students' School.

4.2. Specific Objectives

The specific objectives are to examine the four form of tests in 2018 which use audio-visual learning and teaching aids in Gifted Students' School, to identify the benefits or barriers which made use of audio-visual aids simplified (useful) or difficulty in fourth primary class and to explore what factors affected the performance and competence of pupils in tests (examination) in Anbar.

5. Research Questions

The study was guided by the following research questions:

1. What types and quality of audio-visual materials are available in the fourth class of Gifted Students' School?
2. How often do lessons and tests use audio-visual materials while teaching?
3. What type of audio-visual materials do lessons and tests use?
4. What are the hindrances to the use of audio-visual materials in school?
5. In the perception of lessons, what benefits do students derive from the use of audio-visual materials?
6. What steps has the English teacher taken to increase the use of audio-visual materials among teachers?
7. What was the performance and the competence knowledge differences between fourth primary pupils which used audio-visual aids.
8. What were the types of audio-visual aids used by English teacher in Gifted Students' school and to what extent were they effective in students learning outcome?
9. What other factors affected the student performance in the examinations in Anbar?
10. What were the barriers towards the use of audio-visual learning aids in Gifted Students' School and how could these barriers be eliminated?

6. Significance of the Study

The study on the effects of using audio-visual aids on Gifted Students' School's fourth primary pupils in Anbar was expected to be of significance to the following:

Audio-visual materials have been in existence for a longtime, but they are often underutilized. It is expected that, following the identification of the hindrances to maximum utilization of audio-visual resources in schools, effort will be made to minimize the effect of the hindrances and promote adequate utilization of the available resources. Discoveries from the study will guide teachers, government, sponsoring bodies and donors on the purchase of not only printed materials but also non-print materials for schools.

When the use of audio-visual materials is encouraged, they will definitely by a high demand for the materials and the procedures will put in more efforts in the production and even come out with more methods of applying them to teaching and learning. This may tend to expose the learner more to thinking than relying on the teacher. The research will also pave the way or research into other areas of concern and interest and will give researchers insight into this topic of investigation.

The study will help young academicians in the field of education by finding research gaps by conducting more researches in field of education. Also the study will help the educational institution understand and so plan in advocate in relation to the provision of audio-visual learning and teaching aids in primary schools in Iraq. The study will increase awareness of the magnitudes of the problem of showing suggestions on how to improve audio-visual learning aids in primary Schools. Finally it was further expected that the concerned authorities at district, regional and national levels would address the problem seriously by providing adequate teaching and learning aids such as science apparatus to community primary schools in order to achieve quality education as anticipated in the primary education development plan.

7. Scope of the Study

The study is limited to the Gifted Students' School in Anbar but the results of the study just like any other study can be used to rectify the hindrances in fourth primary class in Gifted and all Iraqi schools at large.

The study is also limited to the use of audio-visual resources in teaching and learning process, the effectiveness and capabilities in facilitating the flow of information between the teacher and the learners.

8. Limitation of the Study

The researcher chose nearly 8 pupils from fourth primary class in Gifted Students' School in Anbar which were enough to congregate the researchers' requisite in this study, rather than selecting a large area or pupils.

9. Theories of Audio-Visual Aids in Teaching and Learning Processes

9.1 Theory of Learning Process

There are lots of learning theories of which three most important theories about how people learn have been stated below.

1. **Behaviorism:** It is a learning process which focuses on observable behaviors and is concerned with a response to external stimuli.
2. **Cognitivism:** This process is concerned with the mental process that facilitates the process of acquiring and storing information. Cognitive theory defines learning as “a semi-permanent change in mental processes or associations”. Cognitivists do not require an outward exhibition but focus more on the internal processes and connections that take place during learning.
3. **Constructivism:** It is a learning process by which the learners search for the meaningful construction of knowledge. . It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences.

9.2 Maslow's Hierarchy of Need Theory:

According to Maslow, there are basically five sets of needs and these needs are prioritized in the following manner.

- **Physiological needs:** food, clothing, shelter, and other basic physical needs
- **Safety needs:** desire for security, stability, and the absence of pain
- **Social needs:** need to interact and affiliate with others and to feel wanted by others
- **Esteem needs:** needs for power and status
- **Self-actualization needs:** the desire to reach one's full potential by becoming everything one is capable of becoming

10. Effectiveness of Audio-Visual Learning Aids for the Fourth Primary Pupils

The study investigates the effectiveness of audio-visual aids in teaching the topic of reproduction, a lower secondary science topic, in a rural secondary school in Miri, Sarawak. The study is a quasi-experiment with questionnaire survey to provide insight into perception of the experimental group on audio-visual aids. Study participants consisted of 30 Form 3 students of evenly distributed academic performance, with 15 in control group and 15 in experimental group. Students in control group were taught using chalk and talk method while students in experimental group were taught using audio-visual aids. Pre- and post-assessments were administered to the students in both group to monitor how the two teaching approaches affected students' test results. A survey was conducted among students in experimental group to gauge their perceptions towards the use of audio-visual aids in teaching. The pre- and post-assessment results were analysed with ANOVA while the survey findings were analysed with Pearson correlation. SPSS was used for the statistical analyses. The study shows that audio-visual aids are effective in increasing the understanding of students as indicated in the significantly improved marks for post-assessment in the experimental group. Students were observed to be more attentive when audio-visual aids were played. Majority of students in the experimental group agreed that the use of audio-visual aids increased their interest and ability to remember the contents. The students in general expressed that they were motivated to learn if audio-visual aids were incorporated in the teaching and learning process. This study contributes to teaching of lower secondary science in rural schools by suggesting that teachers in rural secondary schools could download the audio-visual aids prior to using them in lesson delivery and the aids should undergo review to ensure appropriateness. In rural schools, financial allocation and maintenance of portable hardware for display of the audio-visual aids in teaching and learning should be looked into for the betterment of teaching and learning (Tang Kuok Ho, 2018: 26).

11. The Impact of Using Technology on Improving Skills Communicatively

The researcher finds that use of audio-visual aids in modernize school faces little limitations. Not all classrooms in rural secondary schools are equipped with LCD projectors and computers to enable display of audio-visual aids. Therefore, teachers often have to either bring projectors and laptops to class or mobilize students to classrooms with multimedia facilities to enable the use of audio-visual aids. Besides, the rural secondary school where the study was conducted did not have stable internet connection and it was not possible to directly access video-sharing websites to play video on the spot during teaching. Teachers often had to download the audio-visual aids beforehand to ensure unobstructed playback (Malik & Agarwal, 2012: 20).

Awasthi (2014) pointed out that attitude of teachers and school management as well lack of fund are among the common obstacles in the use of audio-visual aids for teaching. Similarly, this study unveiled insufficient resources and internet connectivity which lead to elaborate measures for teachers to use audio-visual aids, thus negatively impacting their attitude and intention towards the use of such aids.

Therefore, to enable effective use of audio-visual aids in rural secondary schools, teachers could download the suitable audio-visual aids beforehand and get the help of other teachers teaching the same subject to review the aids to ensure their suitability. Collection of suitable audio-visual aids can be a collaborative effort and securing portable LCD projectors and laptops is crucial. Budget allocation for such purpose should be looked into (Awasthi, 2014; Capper, 2003).

Besides, effectiveness of audio-visual aids in the teaching of other topics and other subjects can be investigated. It is also of interest to investigate the characteristics of audio-visual aids that are effective to increase understanding of students, hence the grades achieved (Mayer, 2001: 3).

12. Data Collection

Advancement of technology has given new dimensions to teaching and learning. It expands teaching and learning beyond classrooms and the conventional chalk and talk method. The use of audio-visual aids in teaching and learning has a long history. Audio-visual aids are materials with both audio and visual presentation to support teaching and learning particularly in improving comprehension and retention (Ashaver & Igyuve, 2013). Prior to the age of radio and television, early audio-visual aids came in the forms of drawings and pictures with oral narrations (DeBernardes & Olsen, 1948: 13). The emergence of radio and television transformed the way audio-visual aids were presented by enabling transmission of learning resources to reach audience in wider geographical regions. Audio-visual aids in the forms of radio broadcast and television programs broke through geographical constraints and, coupled with recording devices, enabled educational programs to be recorded, stored and replicated for trainings and

educational uses (DeBernardes & Olsen, 1948). Educational cassettes and video tapes could be used repeatedly for a particular topic. However, audio-visual quality of magnetic tape recording deteriorates over time and upon repetitive replication. Sophistication in recording technology subsequently enables improved preservation of the quality of audio-visual recordings (Keene, 2006). The early audio-visual aids were generally devoid of interactive capability. Invention of computer introduced animation to audio-visual aids which prior to this, depended on video recording of real-life scenes with narrations and program hosting (Aggarwal, 2009). Animation enables objects at microscopic and particle levels such as bacteria, virus, atoms and molecules to be graphically presented. This revolutionizes teaching and learning by enabling abstract ideas and intangible objects to be vividly demonstrated to learners (Akram, Sufiana, & Malik, 2012). Computer programs for educational purposes provide interactivity to enhance learning experience. This marks the era where audio-visual aids are connected to multimedia. Audio-visual aids assume more diverse presentations by combining pictures, animations, videos, words, sounds and interactions (Mishra & Yadav, 2004). The age of internet confers greater interactivity, connectivity and flexibility to the creation, dissemination and use of audio-visual aids. Now, people in any part of the world can create videos, animations and podcasts about any educational topics to be shared with anyone who is connected via the World Wide Web. Online platforms such as YouTube and Facebook facilitate sharing of the resources and interaction via comments and live chats. It is apparent at this juncture that sophistication of teaching and learning aids is closely knitted with technology advancement (Ranasinghe & Leisher, 2009: 6). Video sharing platforms and social media, with computer technology, catalyse the emergence of audio-visual learning aids. It, now, becomes a common practice for teachers to use audio-visual aids in delivery of various subjects and many studies have been carried out to investigate the usefulness of audio-visual aids in teaching and learning particularly in the teaching of English as Second Language (Keene, 2006; Mathew & Alidmat, 2013; Mishra & Yadav, 2004; Oyesola, 2014). A common problem that was pointed out in numerous studies is the selection of appropriate audio-visual aids in light of the multitude of audio-visual aids available. This is because there seems to be an overuse of audio-visual aids since they are readily available and not all audio-visual aids deliver the outcomes expected (Awasthi, 2014; Capper, 2003; Mathew & Alidmat, 2013). While it is well established that appropriate audio-visual learning aids optimize learning experiences by providing sensory stimulations (Rao & Jyoti, 2012), it is unclear how the aids can be practically used in rural secondary schools in Malaysia to teach lower secondary science. The rural secondary schools in Malaysia are generally faced with problems of insufficient technological resources to support adequate use of audio-visual aids in routine teaching and learning. Teaching in these schools are still heavily reliant on the chalk and talk model, aided by pictures. Though much emphasis is placed on student-centered learning, teaching and learning in these schools are inclined to being teacher-centred where a significant amount of time is devoted to teachers explaining and narrating learning contents (Pandian & Baboo, 2011). Nonetheless, it is obvious that teacher-centred approach is constrained in many ways when it comes to delivering abstract concepts and narrating intangible objects. Also, teachers invariably find it awkward to narrate intimate body parts and processes in the delivery of topics related to reproduction (Akram et al., 2012). The research reflected that this lower secondary topic is delivered primarily via explanation and discussion aided by textbook and pictures. It was observed that some students expressed awkwardness in open discussion of the topic and as a result, did not participate in the discussion. The authors also reflected that students had difficulty understanding the contents even though explanation was given. This was partly because students could not visualise the processes at cellular level. The researcher is of the opinion that it is important for the students to develop adequate understanding of this topic as it is an important topic in the lower secondary science and it is highly probable for questions related to this topic to appear in major assessments (ibid). In this regards, this study aims to identify whether the use of audio-visual aids is effective in the delivery of the topic of reproduction in lower secondary science in a rural secondary school and to gauge the perception of the students in the use of audio-visual aids in their learning. Subsequently, it aims to provide a preliminary framework to optimise the use of audio-visual aids in the teaching and learning of lower secondary science in rural secondary schools. Classroom observation revealed that students in the experimental group were more focused and attentive compared to students in the control group, particularly when the audio-visual aids were played. This is probably because the audio-visual aids managed to draw their attention, which is consistent with higher retention among students reported by Mathew and Alidmat

(2013). Students in the experimental group were more able to answer questions asked by the teacher and seemed to develop a better picture of the contents delivered.

13. New linguistic Perspective of Interrelationship Teaching System and Technology

The use of audio-visual aids in teaching has been promulgated in a number of studies (Jarosievitz, 2011 & De Sousa, Richter, & Nel, 2017) as useful tools to convey complicated concepts and ideas in an interesting and interactive manner as well as to facilitate procedural demonstration. Shah and Khan (2015) highlighted that animation and information presented onscreen provided a different learning experience from printed text which was beneficial to development of critical thinking. Gilakjani (2012) also resonated with the use of effective learning materials including audio-visual aids in enhancing teaching and learning, and visual presentation helped differentiating primary and secondary information sources in approaching questions requiring higher thinking skill. Flipped classroom, being a blended learning mode incorporating online lectures, discussions and audio-visual materials, has been found to encourage reading and watching of visual learning materials among students (Jarosievitz, 2015). Students reflected that they were more engaged in such learning mode. Malik and Agarwal (2012) recognised multimedia as a constructivist learning realm, permitting students to explore and engage in their learning. Audio-visual aids have been applied in multiple teaching and learning settings with encouraging results. Lee and Keckley (2006) revealed higher performance among learners taught via multimedia instruction in driving lessons. De Sousa and Van Eeden (2009) recommended the use of audio-visual materials in teaching history to enhance deep understanding and active learning. Similarly audio-visual aids were reported to be beneficial to the learning of Geography as they vividly presented trends, maps and activities (Ekinci, Karakoc, Hut, & Avci, 2009:9). For the same reason, audio-visual aids were also advocated for the teaching of social science, for instance among pre-service teacher (De Sousa et al., 2017: 11). Audio-visual aids are not new to the teaching of science. Ismail, Othman, Amiruddin and Ariffin (2017:8) used animated video in the delivery of Engineering Drawing among students in a Vocational College of Malaysia and found significant potential of the aids to enhance visualisation of students, hence the quality of learning. Haque and Talukder (2017:5) having investigated the use of audio-visual aids among undergraduate medical courses in Bangladesh, revealed preference of PowerPoint slides presentation over overhead projector and the importance of good quality audio-visual aids for effective learning. The recent studies are mainly survey-based where empirical attempts to proof effectiveness of audio-visual aids in learning are minimal. Also, studies on application of multimedia and audio-visual aids on teaching language seemed to garner more attention than those on teaching of science (Khan, Shah, Farid, & Shah, 2016:9). While the education system in Iraq evolves with the advancement in audio-visual and internet technology (Ismail et al., 2017), the research in this area in the recent years has been scarce especially in the rural setting. It was mentioned in the previous section that teachers frequently faced challenges such as inadequate resources and poor internet connectivity while attempting to incorporate audio-visual materials in teaching. It is instrumental to examine how audio-visual aids impact learning among students in rural schools, the limitations encountered in incorporating the materials and how they can be overcome to raise the quality of teaching and learning in rural schools, thus narrowing the gap between students' performance in urban and rural schools (Mathew & Alidmat, 2013: 23). It has been pointed out that audio-visual aids are beneficial to learning due to the audio-visual processing channels of human mind which register pictures, words and sounds in the sensory memory. This is elicited via the cognitive model of multimedia learning proposed by Mayer (2001:17). Based on the model, pictures and texts entering the eyes and ears are held in the visual and auditory modalities of the short-term memory. Mental conversion between the verbal and pictorial models is possible. The cognitive model culminates at integration which brings the verbal and pictorial models together with prior knowledge in the long-term memory, as learning consolidates (Mayer, 2002:3).

14. Conclusion

The study shows that audio-visual aids are effective in increasing the understanding of students in a rural school in Miri on the topic of reproduction, as indicated in the improved marks acquired in post-assessment. Students were observed to be more attentive when audio-visual aids were played. Majority of students agreed that the use of audio-visual aids increase their interest to learn as well as ability to learn and remember the contents. It is suggested that teachers in rural secondary schools could download the audio-visual aids prior to using them in lesson delivery and the aids should undergo review to ensure appropriateness. In rural schools, allocation and maintenance of portable hardware for display of the

audio-visual aids in teaching and learning should be looked into. By and large, the findings shed empirical insight into the effectiveness of audio-visual aids in the teaching of lower secondary science in rural setting. The specific obstacles to effectively utilizing audio-visual aids have been identified. The study has also proposed suggestions to streamline the use of audio-visual aids in rural schools in order that the teaching and learning quality gap between urban and rural schools in Malaysia can be narrowed or filled in completely.

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