Adapting Instructional Design Principles to Integrate Technology in EFL Classrooms: Third Year Middle School Class as Case Study

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Abstract ;

The subject of technology integration in EFL classrooms has long been a focus point of the concerned literature. Nevertheless, often technology is reduced to merely tools to be used. This paper tries to look at the theoretical foundation that vindicates the utilization of technology in language classrooms. The research makes use of the mix-method approach relying heavily on an experiment to determine the extent to which the utilization of instructional design principles in EFL classrooms is beneficial. The results indicate that the instructional design principles keep the learning process-oriented around technology rendering the latter an integral part of the classroom. Consequently, this study recommends that further research has to be carried out about the adaptation of instructional design theories.

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1. Introduction

Studies that deal with the subject of education and technology often neglect the fact that many technological devices were not developed for education in the first place, but they were often made to address particular and often practical issues. For example, medical devices are created to ease doctors' work, computers were first created to tackle complex computation tasks. Yet, technology has found its way to our houses since devices are getting smaller and smaller, the computer that weighed a ton now can be part of a small mobile phone or a smartwatch. Despite being an integral part of our home, the same cannot be said about schools, and though no one questions the advantages of the use of technology in daily life activities, its use inside classrooms and the benefits it brings are still the subject of debates of many studies.

This paper tries to look at the matter differently, assuming that technology is a must in education but it tries to find a suitable pedagogical container that allows cooperating technology with previous findings of learning. The attempt to find such a container will necessitate searching for fields that relate technology with education and incorporate the various elements that are involved in schooling.

Nonetheless, the overlapping nature of fields related to the subject of integrating technology in classrooms poses many challenges. The first challenge is choosing which field is suited for this research, fields such as educational technology, instructional design, and instructional technology share many similarities when it comes to the focus laid on the importance of technology in learning. The second challenge is the frequent interchangeable use of the names of the fields, which sometimes raises the question of whether these fields are different from each other.

To overcome the complexity, the study constricts itself to learning that occurs in classrooms. In a classroom, technology is not a teacher, it is merely a tool. The answers to the questions of what are the reasons that vindicate the use of this tool and how it should be used demand searching for other elements involved in a classroom like teachers, learners, syllabi, teaching methods and strategies, and evaluation. In the endeavor to select a field that best describes the interplay of all components in a school system and the integration of technology, instructional design stands as a prominent field. In this regard, the current paper attempts to address the following questions :

- How do instructional design theories differ from educational theories?

- What is the effect of implementing instructional design theories to integrate technology in an EFL classroom?

To address the questions, the paper starts with a literature review on the subject of instructional design. Details about the methodology chosen for the research will be discussed. Lastly, a conclusion will be drawn in light of the data analysis and interpretation.

2. Literature Review

2.1. Instructional Design in Teaching

In education, often learning theories are criticized for the fact that they do not offer solutions and clear ways to address issues teachers and instructors encounter. This concern comes from the point that learning theories are descriptive and make a general statement about how learning occurs (Allen & Allen, 2007). Teachers being equipped with the knowledge learning theories provide can have insight into the processes that take place during learning, but how effective this knowledge is when the teachers try to translate it into practice is the issue. On the other hand, instructional design theories are prescriptive. They explicitly provide detailed guidelines on the best way people learn which makes them more

applicable to educational problems (Armstrong, 2004). This does not mean that learning theories have no place in education, on the contrary, they provide the foundation of instructional design theories.

Three things are considered important in any instructional design theory. First, it has to include one or more models. Second, it specifies a set of conditions under which each model will be used. Third, it defines the desired or actual outcomes of the use of each model under a set of conditions. Moreover, unlike learning theories, instructional design theories are based on three important elements: effectiveness, efficiency, and appeal (Botturi & Stubbs, 2008).

The effectiveness of the instruction is measured by the achievement of the preset goals by learners. Instructional design theories assure the probability of attaining objectives by aligning the appropriate methods with situations. Therefore, methods of instructional design theories are called probabilistic methods as they take into consideration all the variables that are included in a learning context (Boukhechba & Bouhania, 2019). Though it would be impossible to assume that an instructional design theory will achieve hundred percent success, the goal is to achieve the highest probability (Burkman, 1987). Efficiency is another crucial element in

measuring the success of instruction, as reaching the desired outcomes should be put in relation to cost and time. Hence, evaluation in instructional design theories is more about the efficiency of the methods used than the outcomes. In fact, it should be noticed that learners' outcome is only a part of instructional design theories as the focus is on the instruction (Sweller, 2021). The appeal of the instruction is a vital aspect of instructional design theories. The first two elements can hardly exist without learners being interested and having the will to continue learning (Conrad, 2000).

According to Merill (1997, p.01), reference to instructional design theories : "if a product does not teach, it has no value". Merill further criticized learning theory for being not able to address educational problems head-on. On the other hand, instructional design theories can systematically produce instructions that are tailored for specific situations and goals. The literature on the subject offers many theories; however, as it is the nature of these theories to be precise about situations and conditions in which learning occurs, this discussion will be limited to the theories which can be applied in schools with regard to the use of educational technology. In this research, Robert Gagné's theory of instruction will be discussed.

2.2. Conditions of Learning

Robert M. Gagné introduced his theory in the first edition of his book *The Conditions of Learning* in 1965 and the fourth one in 1985. In this period, the theory has changed from being based on behaviorist's views to one which is cognitive in nature. The theory is seen as a result of Gagné's work as a pilot trainer during the Second World War and what he considered to be an effective way of giving instruction. Gagné's theory comprises three elements: a taxonomy of learning outcomes, specific conditions that are needed to achieve defined outcomes, and the nine events of instructions (Burkman, 1987).

3. Methodology

The data collected in the research is provided mainly by an experiment. Given the nature of the experiment, data gathered by observation are needed to conclude, as the experiment is not an exact science and numbers alone can not explain what happens inside the classroom. Therefore, although the experiment provides quantitative data, the final conclusion is largely based on qualitative data.

3.1. Setting and Participants

The experiment is conducted at Mohamed Ben Cheikh Middle school in Bouffadi (Adrar- Algeria). The school is located in a rural area about twenty kilometers from Adrar. The school contains eight classrooms with four levels, with each

level consisting of two classrooms. The experiment involves two classrooms: Third-year 1 classroom that contains thirty one learners (Female: 16 , Males: 15) and third-year 2 which holds 29) learners (Females 14, Males: 15).

3.2. *The Experiment Design*

The experiment involves two classrooms, one is the control group, and the other is the experimental one. In the experiment, there were two conditions: the first condition is represented in the way learners have been learning through the adaptation of the Competency-Based Approach which is recommended by the ministry of education. The second condition is the use of Gagné's theory of instructional design with technology integration. The period of the experiment is three sessions equivalent to three hours. Each session took one hour, as this is the regular session in middle schools across Algeria. Empirical data are gathered by analyzing the score of both the pretest and the posttest.

3.3. *The Classroom Layout (treatment group)*

Integrating technology does not mean that the teacher brings with him/her tools each time he or she is going to teach. Hence, a dedicated classroom is arranged with advanced technological equipment: one multimedia projector, six laptops (each group is assigned one laptop), and one

printer. A projector is an important tool in the classroom because it enables the teacher to present the content of the lessons and learners' work directly on the board. The experiment could have been better if there was a smartboard, as it could have allowed direct access to the computer by touching the board itself, not the computer mouse. The laptops are used with Microsoft Office software installed on them and they are all linked to a network that allows the teacher to see what the learners are doing directly from his desk and to be able to show their work on the board with the projector. Microsoft Office is used to write essays and to help the learners to correct their spelling mistakes.

The printer in the classroom is not intended to be used by the teacher, it is planned to be used by the learners. It renders their work into real objects that later are used as part of the solution to the problem learners encountered.

3.4. *The Pretest*

The pretest is designed to test various skills, the same format found in official exams is used. The reason behind using the same questioning model, which learners are familiar with, is to minimize the risk of learners being surprised by the form of the question paper. Thus, the test included a text with reading comprehension questions that are divided into three activities: answering questions,

an activity in which learners have to determine whether statements are true or false, and one about lexis.

The second section of the test includes three activities. First, an activity about grammar, the activity is centered on the past simple. The second activity has the question of spotting the mistakes and correcting them. Since the main theme of the test is the past simple, the third activity in the second section is about the pronunciation of the final "ed". The last part of the test is devoted to the integration phase. The latter is considered important as learners apply the knowledge they have acquired throughout the lessons in some sort of a small project that needs to be done during the exam.

The pretest is used to obtain a baseline to compare the performance of the two classes and the performance variance between learners themselves. More important is the comparison between the scores obtained from both the pretest and posttest.

3.5. The Posttest

The posttest activities are designed in the same way as the pretest so the experiment can yield better results. There is the problem of learners getting used to the test, which might interfere with the results of the posttest. This could be easily interpreted when comparing the pretest and posttest results. Despite the fact that

the way both the pretest and posttest are designed is questionable in the light of all that has been said about   assessment, altering the method of assessment between the pretest and posttest could probably confuse learners, and that could interfere with the results making a comparison between tests less accurate.

3.6. The Scoring System

Usually, tests and exams done at schools are scored whether twenty or sixty points , to ease the analysis process, the scores of the tests have to be converted into percentage. Each activity has a specific number of correct answers which could be turned into a percentage. The overall score of a learner is calculated by the average score of all the activities. Whereas all activities can be easily corrected, as there are just two options, whether an answer is correct or not. The same can not be said about the integration phase. Consequently,   the   scoring integration phase activity has to be divided into six points. To give more credibility to the experiment, all the tests are designed and corrected by another teacher who is not told about the experiment. The teacher has fifteen years of experience in teaching English in middle school.

3.7.   The Topic

The main learning objective that is set in the curriculum is "describe past events" and the communicative task is "write an account of past experiences/holidays" (set by the teacher). These two statements are supposed to guide the teacher in his planning and assessment. The third-year textbook does not contain a lesson that can be adapted for such an objective. Fortunately, teachers are not obliged to follow blindly the textbook; in fact, they are always encouraged to come up with their own resources. The topic that is chosen to achieve the aim is car accidents. The increasing number of car accidents in Adrar and the importance of making learners aware of the phenomenon are the reasons behind the choice. Although both classrooms have the same topic, the way it is delivered is different.

3.8.   Lesson Plans

3.8.1.   The Control Group

3.8.1.1. Session One (Listen and Speak)

The use of the Competency-Based Approach compels the teacher to set the objective in the target skills. Although, in language teaching, it is difficult to separate the four skills at least one or two skills will receive emphasis. It is customary that a unit or a new topic starts with a 'listen and speak' session where learners are introduced to the subject, and usually in such a session, the focus is to

enable the learners to communicate the topic.

The objective of the lesson is set so that "learners will be able to speak about reasons for car accidents" (set by the teacher). To pursue the objective, the first step is attracting the attention of the learners by using a video; it is the only technological tool that they had access to. Along with the video, learners are asked to answer comprehension questions. The video contains events of reckless driving that lead to accidents.

In the second activity in the lesson, learners are supposed to supply answers to the questions and it involves some discussion about the video. In the third activity, learners are asked to write two or three cases of the accidents that they have seen.

3.8.1.2. Session Two (Reading)

On a regular basis, the session should be 'read and write'. Thus, the emphasis will be on the two skills, but on many occasions, teachers in Adrar have complained that one hour is just too short to be devoted to both skills. Thus, one hour is dedicated to reading and another to writing. The session started with a warm-up activity that is supposed to help learners recall what they had in the previous session. Next, they are presented with reading comprehension activities

that consist of answering questions and lexis activities.

Along with reading, learners are introduced to another activity which is about the pronunciation of the final 'ed'. In addition, grammar is implicitly introduced in the lesson highlighting the use of the past simple tense.

3.8.1.3. Session three (writing)

Probably one of the most difficult skills that English teachers in Adrar have to deal with is writing, as learners always score less when it comes to the integration phase in exams. The first two sessions are supposed to provide the learners with the important tools to enable them to write a short paragraph about a car accident or recall similar events.

3.8.2. The Experimental Group

Unlike the method that is used with the control group, the lesson delivered to the experimental group is centered around a problem. Each lesson is planned to arrive closer at the solution to the problem that learners are aware of right from the beginning of the first session. The first challenge when trying to devise lesson plans that employ Gagné's theory is about setting the objectives, as the main objective that is set in the curriculum is not clear. Therefore, the teacher sets the main objective of writing a police report about a car accident. The main objective

also has to include sub-objectives that are linked to verbal information, attitudes, and cognitive strategies.

3.8.2.1. Session One

At the beginning of the session, a video about the topic in English is played for the learners; the same video as the control group, however, with no comprehension questions written. Learners are asked about their impression of the video and what they have understood from it. Next activity, each group of learners is presented with a text on the computer screens. The text is about car accidents in which a brother and his sister were involved.

Learners are made aware of the problem which is writing a police report about the accident. The first session is mostly about the reading skill, unlike the control group, learners are not simply reading to answer some questions but rather to list events that have led to the accident. Thus, learners' focus is always oriented toward the main goal.

The first session also includes some instructions on how to use the computer and the printer. Learners are repeatedly advised to use all the tools on the computers such as an electronic dictionary and the integrated checking system in Microsoft Office.

3.8.2.2. Session Two

Since the problem has been established in the first session, the division between the sessions is only a matter of time, as for learners what matters is not the sessions but arriving at a solution to the problem. In the second session, learners have to present a list of events they deemed important. Along with the problem, grammar and new vocabulary items are explained to the learners. In fact, learners in the second session started to feel familiar with Microsoft Office and began to correct their mistakes. Unlike the notion of teaching grammar implicitly, with the experimental group grammar is taught both implicitly and explicitly as learners are constantly instructed to mind the rules of the past simple in their work.

3.8.2.3. Session Three

In the last session, learners have to write a report on their computers and print it. Each time, the teacher chooses a group and displays their work on the giant screen to be corrected by other groups. At this stage, learners have to print their work to be handed to the teacher, and sometimes they have to print it several times until it is mistake-free. Assessment and evaluation are part of the nine events. Therefore, learners are asked to submit their work to the class to be assessed. The work is in a format of a printed A4 paper.

4. Data Analysis Procedures

Both scores of the pretest and posttest are analyzed using Microsoft Excel. The number of activities in the tests is seven. However, the regular scoring system used at schools is slightly modified to ease the process of analysis. Each activity score is calculated as a percentage. Later, the average score of all activities is calculated to get the average score of each learner. Scores resulting from the pretest are used to draw a baseline that is used to detect any performance variation between the control and the experimental group. Moreover, the pretest is used to spot deficiencies learners might have.

5. Findings and Discussion

5.1. The Pretest Scores

Scores obtained in the pretest for both classrooms are almost equal. The average score of the learners in the control group is 27.96 % and 26.52 % for the experimental group. When it comes to variability in the scores taken in both classes the picture changes. With the standard deviation in the control group of 6.65 % and 14.76% in the experimental group, it is clear that in the experimental group learners' performance varies more than in the control group. Despite the difference in variance, the arithmetic means of both classes are almost identical, thus, both classrooms can be considered having the same performance.

Looking beyond the average scores of the learners, the pretest shows important information concerning the scores of the activities themselves (Figures 1 and 2). It is clear that learners have faced difficulties with the second section of the test "Mastery of language". In both classes, the average score of any of the three activities in that section did exceed 10 %. The result in fact might correspond to the idea that teachers have in teaching grammar implicitly. Learners are not able

to recall the notion of the past simple and apply it to the activities, despite the fact that some learners indicate in their answers in the comprehension question that the text is referring to past events.

In addition to mastery of language activities, the integration phase is also a source of difficulty for the learners. The highest average score is 17.74 % (Figure 2) which is very low considering that the
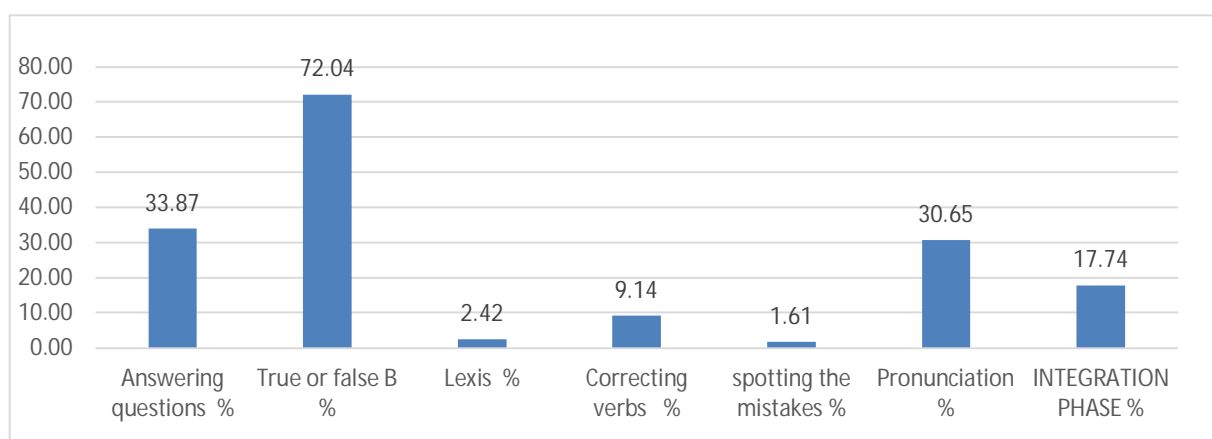

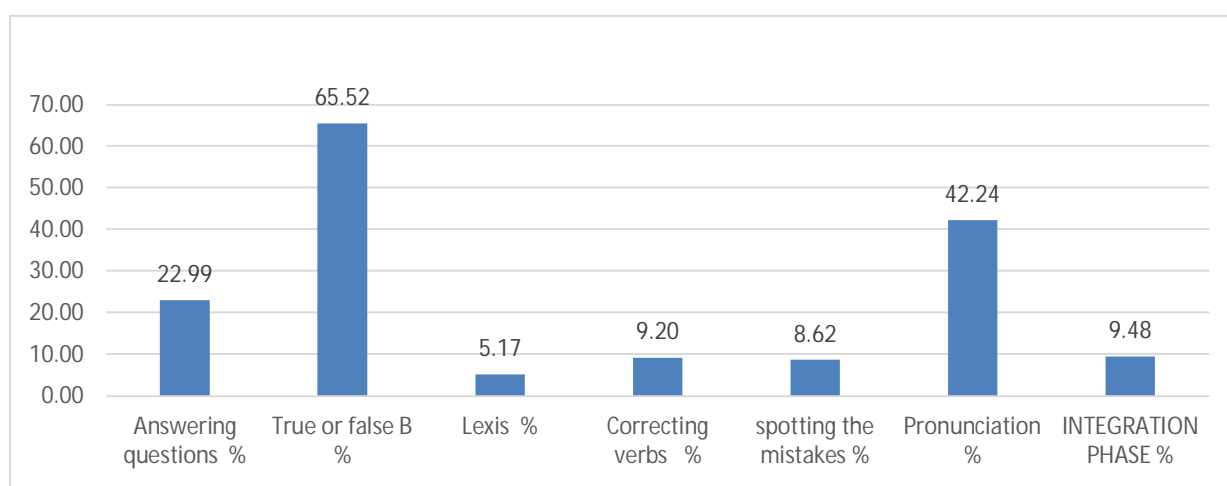**Fig.1. Pretest Average Scores of all the activities   (The Control group)**

Fig.2. Pretest Average Scores of all the Activities (Experimental group)

emphasis is laid on written skills in any

exams. Yet, this kind of score will not surprise teachers of English in Adrar, as many teachers complain about learners' difficulty to deal with the subjects of written expression. Moreover, the number of learners who have not written anything n the last activity is rather remarkable.

5.2. *Posttest Result*

The results that are obtained from the posttest will be compared with that of the pretest to draw a clear picture of the changes in the learners' scores. At the beginning of the experiment, both groups show the same performance with the

(figure. 3). However, the posttest results display different result, as the experimental group has 48.77 % the average score the learners against 37.40 % the control group. The difference between the two groups is more than 10 %.

To complete the picture, the standard deviation needs to be calculated for both classrooms and both tests. In the pretest, variation in learners' scores is different between the two groups (figure. 4). Nevertheless, in the post-test, both classrooms show almost the same degree of variation (figure. 4). Hence, the conclusion that can be drawn from these results is that both groups have benefited from the
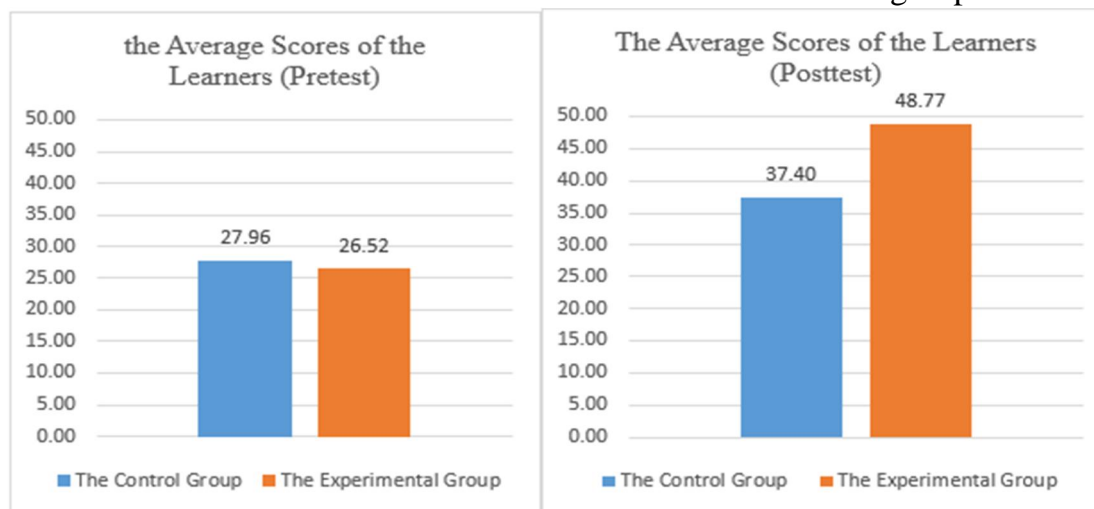

Fig.3. The Average scores

control group being slightly ahead

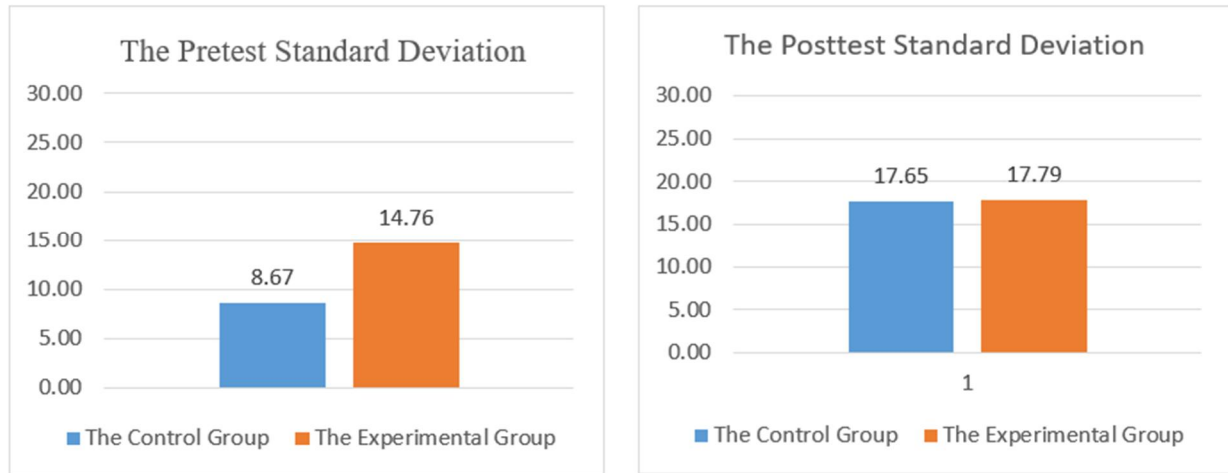lessons given to them. However, the experimental group has the edge over the control group.

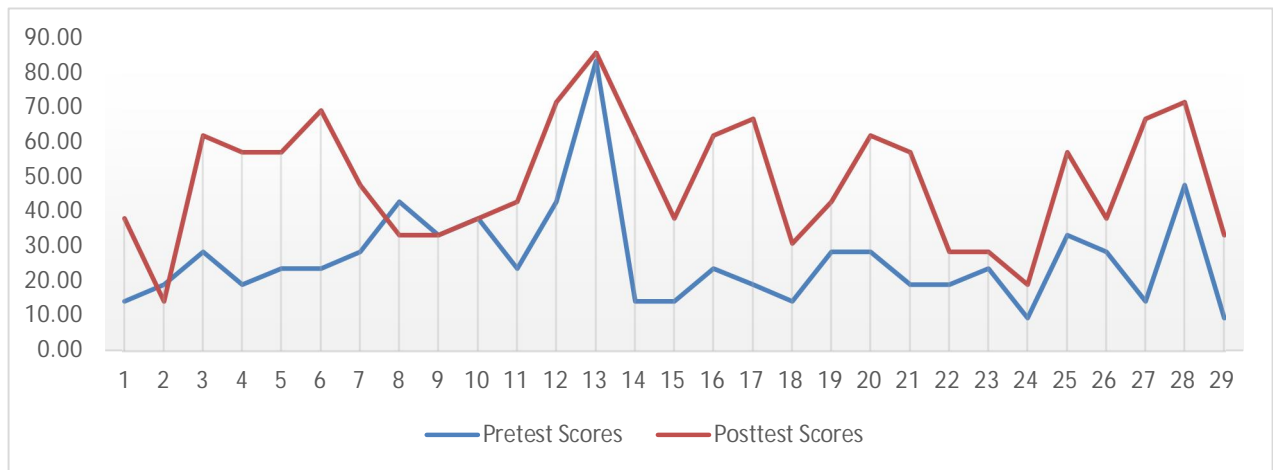**Fig.4. The Standard Deviation scores**

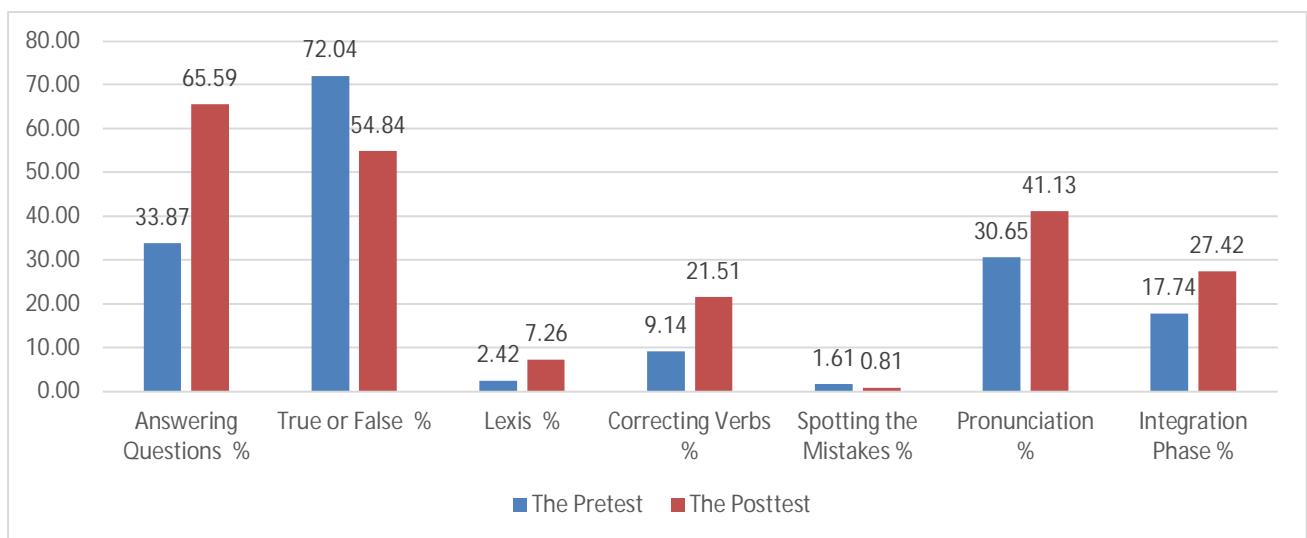**Fig.5. Comparing Results of the Pretest and Posttest (The Control Group)**

Fig.6. Comparing Results of the Pretest and Posttest (The Experimental Group)
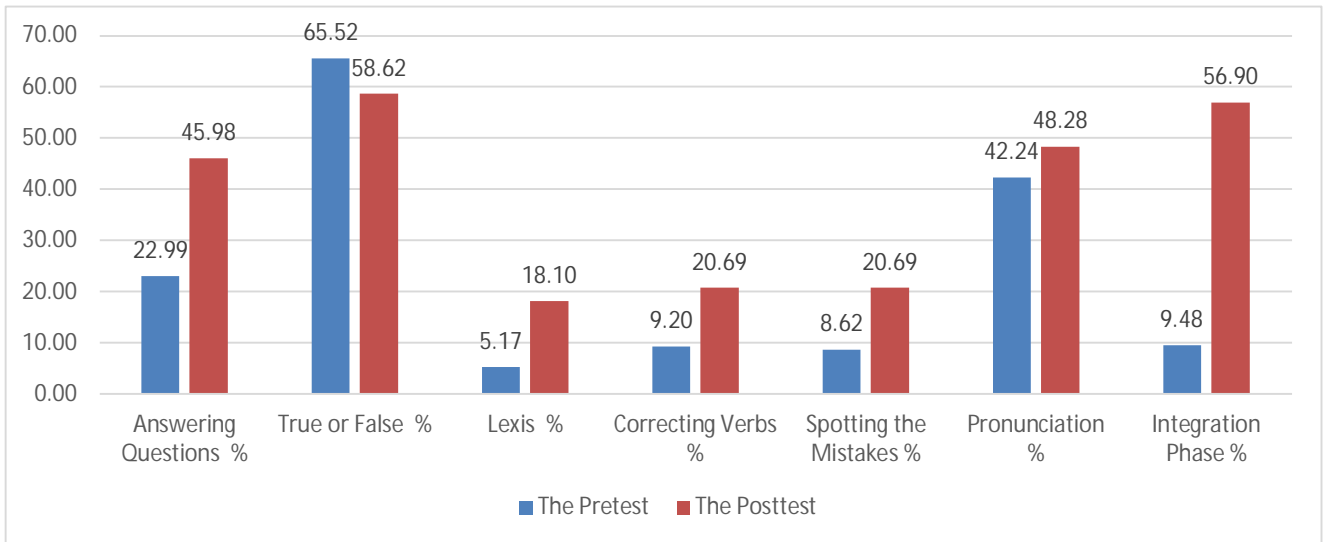
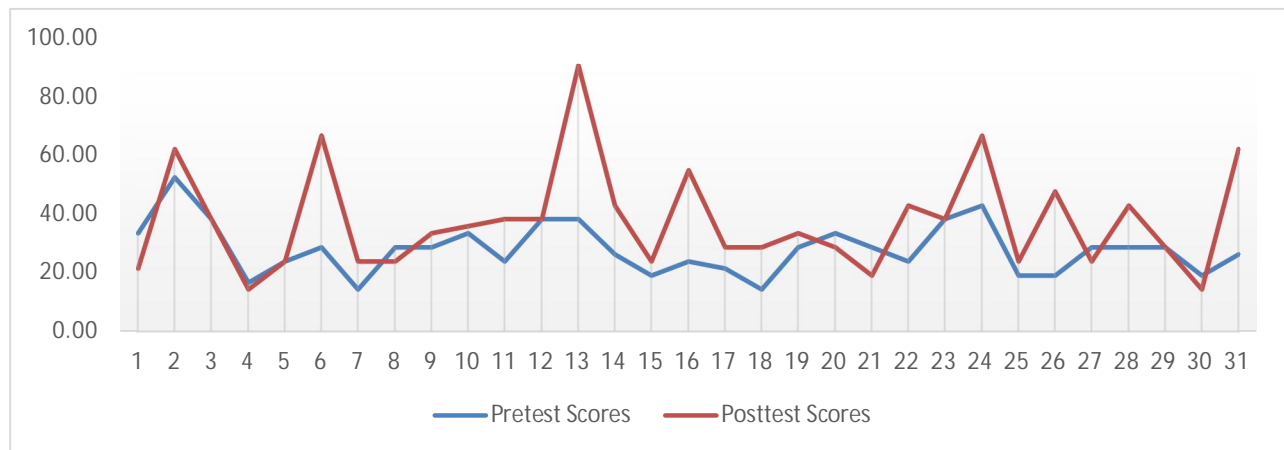**Fig.7. Average Scores of all the Activities (The Control Group)**

Fig.8. Average Scores of all The Activities (The Experimental Group)

Figures 5 and 6 demonstrate important information. In the control group, many learners 1, 3, 4, 5, 20, 21, 23, 27, 29, 30 have not progressed at all or have scored lower than the pretest, while other learners have scored significantly higher than the pretest. Therefore, only excellent learners have contributed to the overall

Score of the classroom. On the other hand, scores of most learners in the experimental group (except three learners 2, 8, 9) have improved. Looking at the overall scores of the learners is not sufficient to draw a clear picture about the learners' performance; a detailed analysis

of all the activities is needed. Figures7 and 8 show scores of all the groups and for both scores of the pretest and posttest.

5.2.1. Reading Comprehension Activities

When it comes to reading comprehension, learners in both classrooms show the same kind of improvement. Both have gained about 25% in the first activity, yet dipped in the second with 20%. In the third one, scores of the learners in the experimental group increased with 15% while in the control group only 5%. The information shows that while both groups have benefited from the lectures given to them, however, there is no significant performance improvement between the two groups. (Figure 7 and 8)

5.2.2. Mastery of Language Activities

Again, in the posttest, learners faced problems with mastery of language activities. There is a slight improvement in the second activity in the experimental group.

In this kind of activities, learners are required to recall information from different lessons. For example, in correcting verbs activity, most learners have conjugated verbs in the past simple since it is the frequently used tense in the sessions. The same can be said about spotting the mistake

activity, as learners have to deploy all the knowledge to solve the problem.

Comparing the result obtained from both classrooms and both tests, it is clear that there is no substantial improvement. Thus, so far the experiment has yielded a null outcome when it comes to these activities.

5.2.3. Integration Phase

This phase in the test is always given importance. Initially, the integration phase is scored out of eight points as any other module in Middle Schools. But now it is scored only out of six, which means that the integration phase score represents thirty percent of the overall score. The importance of the integration phase comes from the fact that it represents a problem for the learners to solve by integrating all the skills they have acquired. The average score of the integration phase in the control group has increased from 17.74 % to 27.42% while the learners in the experimental group show a considerable increase in their writing skills jumping from 9.48 % to 56.90 %. Going further in the analysis of the integration phase activity figures 7 and 8 show in detail the score of each learner.

In the control group, the performance of fourteen learners has improved from the pretest to the posttest, while the

performance of seven learners has decreased. For the remaining ten learners, the score has remained the same, which is zero in the pretest and posttest.

Learners in the experimental group show no decrease in performance with only four learners who have not improved and have scored zero on both tests. Remarkably, there are learners who have scored zero in the pretest and have high scores in the posttest, reaching the maximum score such as the learners 20, 21, and 27. Another important element in the posttest concerning the experimental group is the frequency of the highest score, as there are ten learners who have scored one hundred percent in the integration phase, which represents thirty percent of the classroom.

Unlike the previous activities, comparing the scores of both classrooms in the test reveals a considerable improvement in the performance of the experimental group. Consequently, from a statistical point of view, technology integration and the adaptation of Gagné's theory in the experimental group have yielded promising results. While numbers speak for themselves, the reason behind this improvement requires pondering over the elements that could have led to this situation.

5.3. Quality of Writing

Reviewing the test papers of the learners of the control group shows that learners who have good writing skills have improved, as they become aware of the new subject. They have kept the same style used in the pretest. While other learners have delivered poor answers or could not write at all.

On the other hand, many learners have delivered what can be considered acceptable answers. However, after reading their work, one thing comes clear; there are similarities in the way of writing. It turns out that these similarities are the result of learners working in groups. Furthermore, the attempt to group learners' papers in the same way they are in the classroom, reveals that each group has developed the same style of writing and almost the same information. The situation raises the question of why learners in the control group do not behave in the same way.

The answer to this question lies in the method of teaching. Whereas, the focus in the control group is on all the skills, solving the problem in the experiment group requires only the writing skill, so, all instructions are oriented toward it. Nevertheless, this could not have been achieved without learners' engagement.

5.4. Learners' Engagement

In a Competency-Based classroom, learners are supposed to do most of the work, and the teacher is a facilitator. While the situation demands less work from the teacher, learners have to be seriously engaged in learning. Nevertheless, often teachers complain about group work in crowded classes, as some learners tend to get distracted while only a few are concentrating. The control group is no exception.

In contrast, right from the start, learners in the experimental group are intrigued by the new classroom layout and the seriousness of the atmosphere the technological tools have brought. Applying the nine events of Gagné's theory results in a teacher-centered classroom, as the teacher is constantly checking and instructing learners, leaving no room for learners to be distracted. Unlike the control group, cooperation between learners is clear with only a few who have problems coping with others.

5.5. The Role of the Teacher

Changing methods of teaching ultimately will change the role of the teacher. In the experiment, particularly in the experiment group, the teacher is more of a trainer than an actual teacher, probably this remark shows the seriousness of the situation. Training differs from teaching as it focuses on the notion of learning by doing, as it provides the tools, and the skills to overcome a problem.

The amount of work the teacher is asked to do before even coming to a class is considerable, as the teacher is required not only to plan for the lesson but also to design the use of the equipment and align their use with the lesson's objectives. Therefore, taking the role of the teacher and the role of the instructional designer can be an issue.

Consequently, teachers can assume the role of instructional designers to be able to successfully apply their theories inside the classroom; the existence of specialists in the field is required whether at the level of the school or the district. Their role is vital in designing lesson plans and tools. They can be seen as engineers whose job is to provide blueprints for teachers who turn them into learning experiences. This idea could be criticized on the ground that it might devoid teaching job of creativity, or it might put constraints on teachers. Therefore, such an idea needs to be investigated further in future research.

5.6. Technology Integration

The use of technology inside classrooms has been always a point of interest in the. However, there are no attempts to translate

this into action. The same goes to teachers, despite their awareness of technology; there is a rejection of the use of technology. In the experimental group, the use of advanced tools transformed the classroom into a serious workplace but this cannot be achieved in everyday scenarios.

The technology inside the control group classroom is used merely to aid the teacher, and its use is limited, as after the video is played, there is literally no need for the video projector. On the contrary, equipment in the experimental group is a vital part of the classroom.

Technology inside the classroom can be a source of distraction if it is not properly installed, as in the experiment, one of the learners attempted to access games on the computers. Thus, if a computer or any device needs to be implemented inside the classroom, they need to be adapted and modified to serve only the purpose the teacher is intending to achieve.

The equipment also needs to be blended into the environment so as to be an integral part of the classroom. In fact, computers and tools have to be designed specifically to be used inside classrooms making them more user-friendly to learners and teachers.

5.7 Attainment of Objectives

Behind the experiment, there are objectives to be accomplished. The main lesson objective is to write an account of past events. Although both classrooms are taught with the same aim in mind, changing the teaching method has its effect. Statistically, the experimental group excelled. The reason behind this achievement is the fact that learners in the experimental group are focused on creating a police report which is a concrete object that they should deliver at the end of the sessions. Learners' failure to come to acceptable answers in the reading comprehension and mastery of language activities could have been amended if the experimental group were exposed to the experiment for a longer time.

In the control group, learners dealt with different skills although the final aim required only the writing skills. Thus, they faced difficulties with the tests, as their attention is not directed.

6. Limitations

There are many limitations in the study. The first issue is rendering the theory into practice, as it is only the endeavor of teachers who assisted in planning the lessons. The experiment could have yielded better results if there are institutions or personnel specialized in the field of instructional design. The second matter is

time that is devoted to the experiment, as three sessions could be insufficient to produce a solid conclusion.

Most of the limitations are the result of the resources available to the researcher. Such kind of experiments needs to be funded and executed on a national scale, making the time span a whole academic year and providing schools instead of just two classrooms.

7. *Recommendations for Future Research*

The field of instructional design is still in its infancy, and relating it with the subject of integrating technology in education will result in a new field that probably there is little or no literature about it. Thus, scholars must focus more on the growing use of technology and start re-considering the current approaches and methods used in teaching.

Moreover, the research has dealt with instructional design from the perspective of one theory, and despite the existence of many theories, there is still a need for ones that deal with language teaching.

8. *CONCLUSION*

Despite the limitations that the experiment has suffered from, it has produced tangible results in terms of quantitative data and qualitative ones. The use of technology inside the classroom with the adaptation of instructional design principles has transformed the classroom into a workshop. It kept the learners focused and motivated throughout the three sessions. Consequently, learners are able to progress at the same pace. Furthermore, technology is able to help eliminate many problems teachers have with group work, such as noise and learners' distraction.

As for the second research question, instructional design principles have facilitated the process of lesson design, as it provides a detailed strategy for making plans for instructions. In the classroom, the nine events of instruction offer the teacher clear guidelines to manage the classroom activities. Without a purpose, educational technology can be easily just added tools with no benefit; however, adopting Gagne's principles keeps the learning process-oriented around these tools. Furthermore, in a classroom where technology is adapted along with instructional design principles, the teacher has an important role of designing the lesson and aligning the objectives with delivery methods.

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