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The Effect Of Using Google Classroom Application On Tenth-Grade Students' Motivation Towards Learning The Subject Of Computer In Jordan

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Abstract

This study[1] aimed to identify the effect of using Google Classroom application on the tenth-grade students' motivation towards learning the subject of Computer in Jordan. In order to achieve this goal, the quasi-experimental method was used. The study members consisted of (52) male and female students of the tenth grade who were intentionally selected from the University of Jordan School; they were distributed randomly, so that one section of the tenth-grade students was selected to be a control group, which consisted of (25) male and female students, and another section of the same school was selected to be an experimental group, which consisted of (27) male and female students. To achieve the objectives of the study, a motivation scale towards learning the subject of Computer, consisting of (35) items, was developed. The results of the study showed that there is a statistically significant difference between the means of the degrees of motivation scale due to the variable of the method of teaching in favor of the experimental group who were taught using Google Classroom application. Based on the results of the study, the researchers recommend to generalize the experience of teaching using Google Classroom application to benefit the rest of the other educational materials and all courses, and preparing the study materials to suit the use of Google Classroom application, in addition to developing and providing the necessary requirements to teach via Google Classroom applications in schools and universities, as well as conducting training courses to train teachers on how to use the application.

***Keywords**: Google Classroom application; Motivation; Computer Subject, Tenth-Grade Students; Jordan.*

1. Introduction

The world is witnessing challenges, a scientific revolution, and a huge knowledge and technological expansion, as discoveries and theories continue to accumulate in an unprecedented way, as well as their cognitive and technological applications. Many countries seek to employ technology in education in their schools and universities because of its impact on life, regardless of the pros and cons which it contains.

Education in any era has benefited from the development of knowledge and communication tools. It is concerned with making amazing changes in methods and techniques in an attempt to keep pace and confront the rapid and escalating changes. The emergence of modern

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technologies had a great impact on the development of new methods and techniques of education that contributed to solving the many problems facing educational systems; also, they presented the need to reform the educational system with all its inputs, processes, and outputs. The goal of education in this era is not only to provide the student with knowledge and facts, but also to give him skills, capabilities, and self-reliance to be able to interact with the changes of the times and to create a better life (Schorm, 2019).

One of the systems produced by modern educational technology trends is what is called e-Learning, which depends on employing computers, the Internet, and various types of interactive media in the teaching process (Al-Khalifa, 2010). E-Learning has been adopted in particular by educational institutions all over the world, and it has been used as part of integrated learning, as it is integrated into systems in conjunction with traditional learning in regular classrooms. Nowadays, it has become more important than ever due to the COVID-19 pandemic that faced the world during the last period (Vasanth & Sumathi, 2020).

Google technology is among the interactive educational applications that serve the teacher and the student to provide many educational tools, whether technical or administrative; it is well known that Google has spread widely with its products suitable for the needs of the world. Google's attempts to enter the world of education were not surprising, and it has increased its share in educational fields at the present time in an amazing way (Kakeh, 2018).

Google is a group of productivity applications provided by Google for free to schools and educational institutions. These applications include: Google Email (G-mail), Google Calendar, Google Drive, Google Docs, Google Sites, Google Classroom, and other services (Al-Amour & Al-Alimat, 2016).

Google Classroom applications have several characteristics that are rarely found in the collaborative solutions of other companies, which has made many educational institutions choose the collaborative solutions of Google Classroom applications on their way into the world of technology. One of the most important benefits of Google Classroom application in educational institutions is that it enables the user to access his files and applications through the cloud without the need to install the application on the user's device, thus reducing security risks and the required hardware resources (Sukmawati & Nensia, 2019).

Al-Dulaan (2018) confirmed that educational institutions can benefit from the great services provided by Google, such as performing complex operations, providing applications that the learner and teacher need, sending exercises, assignments, and projects easily to students, helping to teach students in new ways, helping them to manage their projects and assignments, obtaining feedback among students and teachers, and facilitating communication among the students themselves.

The topic of motivation towards learning is one of the important topics that many educational psychologists have addressed; therefore, specialists in the field of education and psychology have paid attention to motivation because of its great importance in the student's academic life. According to Google technologies, learning is directly linked to motivation towards learning, since it helps to motivate the learner and encourages him to continue his learning independently (Al-Khafaji, 2011).

It has become recognized in the midst of those interested in educational issues that motivation plays a major role in improving the educational product. It was confirmed by Qatami and Al-Youssef (2010) that if the motivation occurs with students, teachers will provide a lot of efforts, improve the desire to learn, strengthen and develop the positivity and activity of students, as well as the level of motivation towards their achievement. The modifications and additions that are created to the content of the curricula or teaching methods provide an integration to the subjects, which increases the students' motivation towards them with more natural desire and tendency.

The Ministry of Education in the Hashemite Kingdom of Jordan was up-to-date with modern computerized technologies by continuing to use some applications such as Google Classroom in the learning process and to spread the culture of e-Learning between teachers and students, as Google Classroom applications are a great leap towards the development of educational processes. Google Classroom is an effective tool for using technology to provide scientific content to students in an enjoyable, interesting, and effective way.

Given the importance of using distant learning applications in the educational learning process, especially during the Corona pandemic, this study was conducted to determine the effect of using Google Classroom application on tenth-grade students' motivation towards learning the subject of Computer in Jordan.

1.1. Study Problem and Questions

The tremendous scientific and technological progress at the beginning of the twenty-first century had a significant impact on the progress and development of human life in all fields, the most important of which is the field of public education, which led to a change in its goals, means, teaching methods, and curricula. Learning Management Systems (LMS) became more widely used in the fields of education, and countries and nations began competing with each other in introducing these systems into their various educational institutions in schools, institutes, and universities, which led to a significant shift in the teaching and learning process. Since one of the most important foundations of the general objectives of the public education policy in the Hashemite Kingdom of Jordan is the adoption of the latest technological findings in the world, educators have paid attention to LMSs and their various forms, including Google Classroom applications, as a challenge to educational institutions. It is noted that the quantitative progress in the field of technology has not been accompanied by qualitative progress in the capabilities of teachers and students to use modern technology, as LMSs are still in their early beginnings. Anyone who contemplates the reality of educational technology in educational institutions realizes that this field is in dire need of development efforts, given that the experiences of using Google Classroom applications are recent, especially during the Corona pandemic (Vasanth & Sumathi, 2020).

Hence, interest in Google Classroom and multimedia applications has increased locally and globally to contribute to the development of the educational process and to continue the educational process during the Corona pandemic. This has affected the entire world and after the pandemic, since Google Classroom applications are characterized by flexibility and interactivity. It is noted from the results of educational studies, such as that of Muslimi (2014), that there are obstacles facing e-Learning, including creating a document in which two or more individuals cooperate. Students face a problem in that a lot of time and effort are spent on solving matters related to applications.

Through the researchers' experience and direct observation of the reality of using Google Classroom applications in public education, and based on the above and the lack of topics related to Google Classroom applications and their use in the local educational field - according to the researchers' knowledge - and the inability of students to join their classes inside schools during the Corona pandemic, in addition to the lack of Arabic studies in this field, this study was an attempt to reveal the effect of using Google Classroom application on tenth-grade students' motivation towards learning the subject of Computer in Jordan.

The study attempted to answer the following main question: What is the effect of using Google Classroom application on developing the tenth-grade students' motivation towards learning the subject of Computer?

1.2. Study Importance

The importance of the current study highlights the necessity of knowing the effect of using Google Classroom application on motivation and interest in developing methods of teaching and integrating modern technology in the educational process and its impact on achieving

effective teaching in the educational field. Accordingly, the importance of the current study appears in the following aspects:

1.2.1. The Theoretical Aspect

The results of the study contributed to the following:

(1) Shedding light on the effect of using Google Classroom application on the tenth-grade students' motivation towards learning the subject of Computer in Jordan. In light of the results of this study, the Ministry of Education can take steps and recommendations to achieve the positive effects and reduce the negative effects of using Google Classroom applications.
(2) It may help in supporting and developing the educational process using advanced and modern technological means associated with the use of e-Learning platforms and implementing them in education completely or as a complementary tool to traditional .education
(3) It may pave the way for many researchers to conduct future studies on the use of Google Classroom application.

1.2.2. The Practical Aspect:

The results of the study contributed to the following:

(1) Identifying the effect of using Google Classroom application on developing students' motivation toward learning.
(2) It helped to provide and develop an e-Learning environment in which learners are interactive and active. as well as being compatible with their needs and individual differences when implementing modern technology.
(3) This study had important and fundamental effects that contribute to developing the teaching-learning process, preparing academic courses, and developing the capabilities of teachers and learners in schools using modern teaching methods.

1.3. Study Terminology and Procedural Definitions

The study includes a set of terms that have been defined as the following:

- Google Classroom application: Hussein (2014) defined it as a group of programs and online cloud storage media that can be run and viewed via a web browser without the need for users to purchase or install programs. Rather, they can directly enter the service and access their files and processing tools. The researchers define it procedurally as one of Google's educational applications programs, through which the teacher can be allowed to build an electronic classroom that complements traditional education, and through which all educational materials, homework, and projects are published.

- Motivation: the student's inclination and interest towards educational situations, integration into these situations, and continuity in learning until goals are achieved (Qatami & Al-Yousef, 2010). The researchers define it procedurally as the score obtained by the student in the subject of Computer in the first semester of the academic year (2021/2022) on the motivation scale that was prepared for the purposes of this study.

1.4. Study Delimitations and Parameters

The current study was limited to the following delimitations and parameters:

(1) Human and spatial delimitations: The study was limited to tenth-grade students at the University of Jordan School in the capital Amman Governorate in Jordan.

(2) Time delimitations: The study was implemented in the first semester of the academic year (2021/2022).

(3) Objective delimitations: This study was limited to dealing with the subject of the effect of using Google Classroom application in the development of motivation towards learning among tenth-grade students in the subject of Computer in Jordan. In addition, the study was applied on the second study unit (Small Basic Programming) in the subject of Computer for the tenth grade.

(4) Objective parameters: The objective parameters are determined by the nature of the procedures in terms of the way to prepare study tools and their psychometric features; moreover, the possibility of generalizing the results of the study is determined by the society from which the sample was taken.

2. Theoretical Framework and Previous Studies

This chapter deals with the theoretical framework for the subjects of the study and reviews previous relevant studies, as this part of the study comes as a review of the previous educational literature. It consists of a theoretical framework that includes a summary of Google Classroom applications and motivation towards learning. This part also includes a review of a number of previous studies related to Arab and foreign studies.

2.1. The Theoretical Framework

This part of the study deals with two major aspects as follows:

2.1.1. Google Classroom Application

In May 2014, Google created “Google Suite” for education, which is a platform for institutions and individuals that brings together a group of applications in one interface. It is an application that can be called an educational platform that allows educational institutions of various types the ability to manage the educational process in their institutions so that classes are recorded, educational materials are downloaded, and all operations related to following up on classes and learners are performed. It enables the teacher to use the system independently, develop scientific material, conduct short exams, communicate with students directly. It allows learners to enter their classrooms independently, take their exams, and communicate with their teachers or colleagues collectively or individually via the Internet. The company required the person who wanted to use it to have an account and subscription to (Google Suite). Due to the high demand for the application and to achieve the company’s goals, in March 2017, it offered this application to anyone who has an email account on the Google website (Google, 2017).

Google has provided a set of free applications that help interaction between students, their teachers, and the students themselves, including the “Google Chrome” browser to search for knowledge easily and at high speed, and the “Google Docs” editor to create texts, format them, and convert Word files into documents that can be formatted, edited, exchanged, and accessed regardless of time and place. Also, there are applications like group video chat for video conferences and holding meetings virtually, “YouTube” to download and upload video clips, “G-mail” which allows the exchange of electronic messages between students and teachers and storing them to share information. Furthermore, we have “Google Translate” to translates words, sentences, and texts, “Google Scholar” for published scientific research by researchers and academics, “Google Drive” for storing and sharing individual files, and Google Classroom

as the best application of these applications according to the features in terms of learning management (Al-Najjar, 2019).

These applications are characterized by being free and easy to access by registering with a Google account and using them via computers and smartphones. They save time and effort by sharing educational files, and they have a high storage capacity and a high level of protection. They provide synchronous and asynchronous communication that suits all of their users, as these applications use cloud computing (Shaheen, 2020).

Bogdan, Andreea, and Camelia (2015) defined Google Classroom as a Learning Management System that aims to simplify the creation and classification of classrooms and provide content to learners electronically through the Internet, which is one of the educational applications. Teodora and Ioana (2017) defined it as an Internet-based computerized system that integrates educational applications (Google Suite) with all other services and applications of (Google Suite) and all Google applications, and allows its users to provide e-Learning and manage its operations. As for Al-Bawi (2019), he defined Google Classroom as an application that represents an interactive educational environment that employ web technology, in which teachers set goals, educational activities, and computerized lessons through multiple technologies, and it allows the exchange of ideas between the teacher and his students to achieve high-quality educational outcomes.

Google educational applications have features that bring great benefit to the educational process, as exciting methods are provided for learners to increase their motivation and enthusiasm within a flexible learning environment by relying on cloud computing technology, which develops the students' self-learning, personal, and social skills, and prepares them to compete in the global economy. These applications are characterized by providing collaborative and participatory learning collectively through peers to acquire skills for self-evaluation and for peers as well, and to acquire research skills and facilitate the use of publishing tools of information and media on the web and sharing them when needed. The teacher follows up on the students' progress and development because Google applications automatically record students' work on them, so he can correct them; feedback is also provided by teachers (Al-Dulaan, 2018).

Google is distinguished by providing a collaborative, interesting, and exciting learning environment characterized by activity and vitality, excellence and effectiveness in teaching strategies, and diversity in teaching and learning methods to develop higher thinking skills. The computer organizes the learning process and enables teachers to teach and prepare tests in an enjoyable manner that makes students continue their learning. It stores information in different ways and retrieves it easily. It presents educational content in a sequential and precise manner. It helps students learn different topics and assists them in the process of teaching and learning, which maintains a better positive impact in multiple educational situations (Abu Sarah, 2020). Also, Google Classroom application is free, enabling its beneficiaries to access it directly from the Internet, and is based on cloud computing to access files from anywhere and without special equipment or financial cost; with its support for all languages in the world, it can be accessed from any browser and from any computer or smart phone. There is an easy-to-use control panel for the teacher and his students. It is a high-quality application within the levels of authority that are available to users, and it can be linked with other devices in the educational institution. Educational content can be produced in more than one format, for example, outputting material in an Excel or PDF file, and producing reports for quick decision-making. This application allows each student to access it individually and with the creation of their own page in more than one style so that their semester assignments can be viewed by their teacher. Moreover, the teacher arranges the classes according to priorities and study loads, and uploads the study material in multiple ways, such as printed and Word files, presentations, and video films. He

can link directly to (YouTube), make advertisements, upload homework assignments, and conduct the necessary evaluation (Al-Samkari & Al-Jarrah, 2018).
Technical and technological development has become a feature of the twentieth century in line with global trends towards educational quality standards in the use of modern technological technologies in the educational sector. Due to the shift towards distant learning due to the outbreak of the Corona virus, multiple Google applications were relied upon to deliver educational content electronically and increase interaction between teachers and learners in a positive and easy manner while saving time, effort, and flexibility in the teaching process (Al-Khazaleh, 2020).
Google educational applications are among the applications that are used in the educational sector to achieve effective communication between employees in educational institutions, and they serve as an electronic mediator within an integrated educational environment. The teacher is able to present the learning process to the student in an interesting and attractive way to achieve positive results for the educational process.

2.1.2. Motivation Towards Learning the subject of Computer
The topic of motivation is considered one of the most important things that concern educators, psychologists, and those in charge of the learning and education process; they also pay attention to the large number of students who fail academically every year. The question that arises in this context is why students fail their academic learning and why their failure is repeated; this question focuses on motivation as a condition of learning (Deci, 2005).
Motivation towards learning is one of the important psychological factors in learning and classroom teaching, and it is a basic and important condition for the learning process to occur. Knowing it and understanding its impact helps to reduce student distraction and increase their engagement in educational activities. The teacher must be more effective by preparing exciting activities for students which increases their interaction in educational situations. With the beginning of the second half of the twentieth century, challenges to this model appeared, as the concept of internal motivation appeared. Humans are attracted to performing certain activities regardless of external factors (reward and punishment). Children, for example, play many games without any external reinforcement for this activity (Zimmerman, 2012).
Different names for motivation were known in the 1950s such as: Challenge, Curiosity, Control, and finally Context. Early analyses of this concept have emerged by many researchers such as White (1959), as he pointed to the motivation of mastery and suggested that individuals are intended to search for challenges to gain and master new skills in order to experience the pleasure of achievement itself. He gives an example of this: the activity of children as they make an effort to learn to walk and talk so that they can interact with others without external reinforcement forces.
Motivation is defined as the internal energy in a person that sets his goals and drives him to adopt a certain behavior in the external environment to achieve adaptation in it (Al-Dahri, 2017). Motivation is also defined as the method that works to move individuals' behavior and speed up their achievement to achieve their goals and satisfy their needs (Shraim, 2019). Motivation is the path that connects the stimulus and the response to a specific learning (Al-Hawwari, 2021).
Motivation towards learning has received the attention of researchers in psychology because it is one of the necessary educational goals that any educational system seeks, as it represents a permanent readiness in the personality regarding work and a great desire that drives it to seek success and good performance, since motivation activates and directs behavior. The teacher seeks to create an active and interactive environment that achieves the learning goal by stimulating the motivation for achievement among his students, evoking their interest to practice cognitive, motor, and emotional activities, and increasing their effort, energy,

perseverance, and processing of information, and then improving performance. This is done by knowing the classroom rules to achieve the desired goals, obtaining feedback on what students do well, and knowing the importance of activities for their future lives and long-term goals (Al-Dahri, 2017).

Motivation is one of the conditions for successful learning, one of the motivators for online e-Learning, and one of the basic factors for increasing information, which leads to learning for students. E-Learning motivates learners individually and effectively to learn; teachers motivate students by conducting group participation in the discussion and submitting the proposal via the Internet by creating an educational environment that employs computer applications to increase students' motivation for effective learning (Al-Mutairi, 2015).

The motivation towards learning represents an internal feeling of learners that lead them to pay attention to educational situations and approach them with directed activities, and the activities are continued until learning occurs. Motivation towards learning changes according to the situations that learners face and according to the duties they are assigned. Motivation towards learning is better for learners when they have a choice about what to learn and there is a challenge with assignments because it creates a feeling in them of accomplishing difficult tasks; also, when the learners have control over reaching their set goals, their motivation to learn is greater to facilitate their learning process. Moreover, cooperation and participation are necessary for the learning motivation of the learners to reinforce ideas and inclinations and to know the correct relationships between things to progress towards success (Al-Zuhair, 2017).

Modern technologies have been used in education in recent years, including the computer, and its use began through the design of an educational programmer on the computer in various fields of education. Where the Internet was introduced into education and teachers dealt with the computer and its technologies to provide them with educational feedback, increase the 'speed in completing diagnostic and therapeutic procedures, take into account students individual differences, develop the teaching and learning process, and increase interaction and communication between learners and their academic subjects to increase their motivation towards learning them and retaining their concepts for a longer period to better achieve ,educational goals (Obaidat, Al-Attiyat, & Juifel, 2010). The computer provides movement sound, images, and drawing, as well as interaction between the teacher and the learner through an educational computer program. The computer considers the learner to be the focus of the educational process and saves time and effort in educational work. It prepares programs that ,are compatible with the necessary needs of the students, the educational material is presented ,and it facilitates scientific concepts for the learners, which improves their motivation excitement, and attracts their attention (Al-Awamleh, 2012). It is expected that the use of Google Classroom application will play an active role in developing students' motivation .towards computer learning, and this is revealed by the results of this study

2.2. Previous Studies

The researchers reviewed many studies related to the topic of the current study, and the following is a presentation of those studies in chronological order from the most recent to the oldest, as follows:

Al-Khazaleh (2020) conducted a study that aimed to identify the effect of using Google Classroom applications and multimedia to teach the course "Using Computers in Education" on the achievement of students at Aal al-Bayt University, their acquisition of classroom interaction skills, and their motivation towards learning. In order to achieve this, a one-group quasi-experimental approach was used with pre- and post-measurement, where the researcher selected a sample of (69) male and female students from the course "Using Computers in Education" at Aal al-Bayt University during the first semester of the 2020/2021 academic year. To achieve the objectives of the study, an achievement test was constructed consisting of (30)

questions, a measure of classroom interaction consisting of (25) items, and a measure of motivation toward learning consisting of (35) items. The results showed: the presence of a statistically significant effect in the post-measurement of using Google Classroom applications and multimedia for teaching the course "Using Computers in Education" in the achievement of Aal al-Bayt University students, their acquisition of classroom interaction skills, and their motivation towards learning.

Ahmed and Osman (2020) conducted a study aimed at assessing the impact of virtual classrooms on the achievement of students and their motivation among students of the Faculty of Educational Sciences at Sultan Qaboos University in Oman. The study population consisted of all students of the Faculty of Educational Sciences at Sultan Qaboos University who were registered in the subject of Information Technology, and a random sample of (42) students was chosen. The quasi-experimental approach was used, as the study members were divided into two groups, the experimental group consisting of (25) students who were taught using virtual classrooms. The control group was 17 students who were taught in the traditional way. An achievement test and a measure of motivation were conducted as a study tool, and the results of the study showed that there were statistically significant differences between the average scores of the post-achievement test between the experimental and control groups and in favor of the experimental group. The results of the study showed that the experimental group had positive attitudes towards virtual classrooms and were more motivated to learn compared to the control group.

Al-Khurisat (2018) conducted a study that aimed to identify the effect of using the developed e-Learning management system (Moodle) on the achievement and motivation to learn among ninth-grade students in the subject of Computer in Jordan. The quasi-experimental approach was used by applying it to a sample of (44) male and female students distributed into two groups, a control group and an experimental group. An achievement test and a measure of motivation towards learning were used. The results of the study showed the presence of statistically significant differences between the average scores of the experimental group that were taught using the developed Learning Management System (Moodle) and the scores of the control group that were taught in the traditional way regarding the achievement and motivation test and for the benefit of the experimental group.

Al-Samkari and Al-Jarrah (2018) conducted a study that aimed to find out the impact of using Google Classroom application as an e-Learning management system by applying it in the subject of Introduction to Curricula, and to find out the impact of this on developing scientific thinking skills and motivation among students of the Faculty of Educational Sciences at the University of Jordan. The study followed the quasi-experimental approach, and the study sample consisted of (37) male and female students who registered in the subject of (Introduction to Curricula); this sample was considered as the experimental group, while the number of members of the control group reached (40) male and female students. A scale of scientific thinking and a motivation scale was used. The results showed that Google Classroom application had a statistically significant impact on developing scientific thinking skills and motivation in favor of the experimental group that studied the course using Google Classroom. The study recommended the necessity of using Google Classroom application in Jordanian universities.

Hajebi (2017) conducted a study aimed at measuring the impact of teaching a mathematical unit using a tablet in the collection of tenth-grader students in Mathematics and improving their motivation towards learning it in Jordan. He used the quasi-experimental curriculum. The results of the study showed that there is a positive effect of the use of tablets in the achievement of tenth-grader students and improving their motivation towards learning.

Al-Mutairi and Al-Obaikan (2016) conducted a study aimed at revealing the impact of teaching using the cloud computing environment in the development of motivation towards learning and

developing thinking skills among students of the Faculty of Education at King Saud University in Saudi Arabia in the subject of (Information Technology Applications and Communication in Learning and Education). The quasi-experimental approach was used. The study sample consisted of (32) female students. They were divided into an experimental group of (17) female students who were taught using the cloud computing environment, and a control group of (15) female students who were taught in the traditional way. A motivation scale toward learning and another for thinking were used as a study tool. The results of the study reached the presence of statistically significant differences at the level ($\alpha = 0.05$) between the averages of the experimental group scores and the control group in the motivation scale towards learning and the scale of post-thinking in favor of the experimental group.

2.3. Commentary on Previous Studies

It was found to researchers through the review of previous studies, and by extracting some of the approaches used in these studies and some of their goals and results the following:

1. Regarding the approach used, this study agrees with most previous studies in using the quasi-experimental approach, as in the study by Al-Khazaleh (2020), the study by Ahmed and Osman (2020), the study by Al-Kharaisat (2018), the study by Al-Samkari and Al-Jarrah (2018), the study by Hajebi (2017), and the study by Al-Mutairi and Al-Obeikan (2016).
2. The theoretical literature and knowledge of the chronological development of the previous studies was beneficial for the subject of the current study. Most studies agreed on the impact of Google Classroom applications such as the study by Al-Khazaleh (2020), the study by Ahmed and Osman (2020), the study by Al-Kharaisat (2018), the study by Al-Samkari and Al-Jarrah (2018), the study by Hajebi (2017), and the study of Al-Mutairi and Al-Obeikan (2016).
3. The current study is similar to previous studies in several matters, including the fact that it dealt with the topic of Google Classroom applications, but it differs from it in the following matters: It dealt with the use of Google Classroom application in the motivation of tenth-grade students towards learning the subject of Computer in Jordan.
4. This study aims to confirm the findings of some previous studies and complement them in terms of rapid developments. On the other hand, the current study is distinguished from others in that it is one of the first studies in the Arabic language - according to the researchers' knowledge - and there is no study in Jordan that has dealt with this topic and which examines the effect of using Google Classroom application in developing the motivation of tenth-grade students towards learning the subject of Computer in Jordan, specifically during the Corona pandemic.

3. Methods and Procedures

This part of the plan deals with the study approach, study members, study tools, validity, reliability, study variables and procedures, and statistical processes that were used to answer the study questions.

3.1. Study Approach

The researchers used the quasi-experimental approach due to its suitability to the purposes of the current study, its nature, and achieving its objectives. The study members were intentionally selected and randomly distributed. The study follows the two-group design method, the experimental group to which the teaching method was applied using Google Classroom application, and the control group to which the traditional teaching method was applied. The

aim of this study was to determine the effect of using Google Classroom application on developing the tenth-grade students' motivation towards learning the subject of Computer in Jordan, and the reality of this experiment.

3.2. Study Members (Participants)

The study members consisted of (52) students from the tenth-grade students who were chosen intentionally from the University of Jordan School, which included more than one division for the tenth grade, and they were distributed in the random way. A division of the tenth-grade students was identified to be a control group, which consisted of (25) male and female student, and another division of the same school was chosen to be an experimental group, which consisted of (27) male and female students.

3.3. Teaching Method

Below is an explanation of the method of teaching the experimental group students and the method of teaching the control group:

Firstly: The control group was taught using the traditional method (followed at the University of Jordan School), where the second unit (Small Basic Programming) was taught to the students of the control group during the first semester of the academic year 2021/2022 over the course of an entire month, with (3) classes per week. The duration of each session was (40) minutes. The researchers first distributed the pre-test motivation scale on paper to the members of this group, and then began the process of teaching and providing information through the use of established teaching strategies such as lecturing, critical thinking, and working in the textbook. They also used the facilities available at the university school, such as the computer lab and the projector. The lesson objectives were determined in each session, by writing them on the blackboard, conducting the appropriate introduction and reviewing the previous information through the critical thinking strategy, where the problem is presented and then an attempt is made to find appropriate solutions for it; then the explanation began using the lecture strategy to present the ideas and experiences contained in the study material using the projector located in the computer laboratory by identifying the important points in the material, directing questions to the students and discussing with them. The role of the students was limited to receiving the information and limited participation in reading the book and answering the questions posed and discussing them, under the supervision of the subject teacher. Worksheets were also distributed on paper to the students at the end of each class. Each worksheet consisted of four questions that the students answered in the form of a homework assignment. The worksheet was then handed over at the beginning of the next class and after the completion of teaching the second unit. The motivation Post-test scale was applied on paper. The most important characteristic of this method used in teaching the control group students is that it did not use Google Classroom application in teaching the students.
Secondly: The experimental group was taught using Google Classroom application, where the second unit (Small Basic Programming) was taught to the experimental group students during the first semester of the academic year 2021/2022 over the course of a full month, on a schedule of (3) classes per week, and the duration of each class was (40) minutes. The researchers distributed the motivation pre-test scale on paper to the members of this group and then started holding the class meeting through the application using the direct video feature. The material previously studied in the last class meeting was reviewed, and then the new material was displayed, as well as an audio and an educational video regarding the lesson; in addition, information and important points in the article were addressed and identified, as well as asking questions and discussing them using Google Classroom application. Questions were sent in the

conversation for the collective discussion between students and they expressed their opinions regarding the subject of the lesson, which created an interaction environment based on respecting the views of others during the meeting in the form of homework. In addition to the above, handouts were created that included evaluation questions, and each handout included a number of questions, where students can answer the handout for the experimental group at the end of each class, and then the students' answers are checked on the handout with the correct answer form electronically in the form of a (Word) file, and students were asked to adhere to the delivery of the required handouts on time. After the completion of the second unit, the motivation post-test scale was applied, and then the researchers worked on the educational material and produced it in the manner required for the group under the supervision of the subject teacher.

3.4. Study Instrument

The researchers in this study designed and developed the following measurement tool to identify the effect of using Google Classroom application on developing the motivation of tenth-grade students towards learning the subject of Computer in Jordan.

3.4.1. Motivation Scale towards Learning the subject of Computer

To achieve the objectives of the study, a motivation scale was designed and developed, which consists of items to measure motivation toward learning among computer students at the University of Jordan School, who enrolled in the first semester of 2021/2022. The researchers prepared a motivation scale for the purposes of this study.

A tool to measure the tenth-grade students' motivation towards Computer Science was developed, and by checking the theoretical and educational literature related to the subject of the study, such as the study of Al-Alwan and Atiyat (2014), where the scale consisted of (35) items, and the answers were among a 5-degree scale. The student would estimate his level of motivation to learn for each item as follows: degree (5) means that the motivation for learning for the student is very high, degree (4) means that the motivation for learning with the student is high, degree (3) means that the motivation of the student learning is medium, degree (2) means that the motivation for learning for the student is low, and degree (1) means that the motivation for learning for the student is very low. The level of motivation for learning among tenth-grade students was divided into three levels: (high, medium, and low) by dividing the range of numbers from (5-1) into three categories to obtain the range for each level, i.e. (1.33). Accordingly, the levels are as follows: a low level of motivation to learn (1-2.33), a medium level of motivation to learn (2.34-3.67), and a high level of motivation to learn (3.68-5).

In formulating the scale's items, the researchers took into account clarity and simple language that is appropriate for the level of tenth-grade students. The researchers also took into account the clarity of the items and the absence of answers with the same meaning.

3.4.2. Validity and Reliability of Study Instrument

The following steps were taken to ensure validity and reliability of the study instrument.

3.4.2.1. Validity of Study Instrument (Motivation Scale)

To verify the apparent validity of the motivation scale items, the researchers presented the study tool in its initial form to a group of arbitrators with specialization in the field of educational technology, curricula, teaching, measurement and evaluation of faculty members at the Faculty of Educational Sciences at the University of Jordan. The arbitrators' opinion regarding the clarity of items, their scientific language and validity in terms of formulation and content, the extent of their suitability for the purposes of the study, and the degree of their inclusion of the skills required of them. Moreover, any proposed amendments or addition to any item they saw necessary and deleting the unnecessary ones was mentioned. Based on the opinions and suggestions of the arbitrators, the researchers took their observations and suggestions and the amendment was made based on them so that the tool would appear in its final form.

3.4.4.2. Construct Validity of the Motivation Scale

For the purpose of verifying the construct validity of the motivation scale, the Pearson correlation coefficient was used to show the degree of correlation of the mean of each item in the scale with the overall mean of the scale, and the following Table (1) shows these coefficients:

Table 1. The degree of correlation of the mean of each item in the scale with the overall mean of the scale

Item No.	Its Correlation Coefficient with the Total Score of the Scale	Item No.	Its Correlation Coefficient with the Total Score of the Scale
1	0.66**	18	0.83**
2	0.72**	19	0.78**
3	0.66**	20	0.71**
4	0.77**	21	0.72**
5	0.69**	22	0.69**
6	0.87**	23	0.78**
7	0.66	24	0.88**
8	0.70**	25	0.69**
9	0. 80**	26	0.77**
10	0.71**	27	0.71**
11	0.61**	28	0.70**
12	0.77**	29	0.82**
13	0.66**	30	0.87**
14	0.80 **	31	0.78**
15	0.70**	32	0.75**
16	0.73**	33	0.77**
17	0.77**	34	0.72**
		35	0.69**

** The correlation is statistically significant at the significance level (0.01).

The previous table indicates that the correlation of all the items of the motivation scale with the total degree of the scale was positive and statistically significant, as these coefficients reached (0.614-0.879), and these values indicate the existence of the construct validity of the scale (Odeh, 2010).

3.4.4.3. The Stability (Reliability) of the Motivation Scale

To verify the stability of the motivation scale, the internal consistency method was used on a survey sample of (20) students from the study community and outside the sample of the study member in order to identify the internal consistency between the items of the scale, as the stability coefficient (reliability) of the motivation scale was calculated using the Cronbach's

Alpha equation and the value of stability (0.86) was also used. Also, the method of testing and re-testing was used on a survey sample of (20) students from the study community and a sample outside the study member by applying the scale twice to the survey sample on a two-week basis. After calculating the Pearson's correlation coefficient between the two applications, it was found that the consistency factor reached (0.80), and these values are acceptable for the purposes of this study (Odeh, 2010).

3.5. Study Procedures

To achieve the objectives of the study, the researchers followed the following procedures:

1. Obtaining a letter from the University of Jordan addressing the relevant authorities to facilitate the researchers' task.
2. Determining the study population and sample, which were tenth-grade students.
3. Randomly distributing students into the experimental and control groups.
4. Applying the motivation pre-test scale on tenth-grade students in the control and experimental groups. Taking into account that the application took place during the period from 3/11/2021 - 24/11/2021, with a total of (12) sessions, each session lasting (40) minutes.
5. Applying Google Classroom to the tenth-grade students in the experimental group, and teaching the other group according to the traditional method, according to the teaching plans prepared by the researchers.
6. Applying the motivation post-test scale on tenth-grade students in the control and experimental groups.
7. Entering data on the computer and performing appropriate statistical processes.
8. Extracting results and coming up with recommendations.

3.6. The Equivalence of Both Groups on the Pre-Motivation Scale

To ensure that both groups are equal on the motivation pre-test scale, arithmetic means and standard deviations were extracted, and the (T-test) for independent samples on the application of the motivation pre-test scale was applied. The results appear in the following Table (2):

Table 2. Arithmetic means, standard deviations, and t-test for independent samples on the pre-application of the motivation scale

Group	Number	Arithmetic Mean	Standard Deviation	(T) Value Calculated	Significance Level
Experimental	27	99.00	22.756	1.377	0.175
Control	25	91.04	18.526		

The previous table indicates that the calculated (T) value for the total degree of the motivation pre-test scale was (1.377) with a significant level of (0.175), which means that there were no differences of statistical significance at the level of significance ($\alpha = 0.05$) between the

experimental and control groups regarding the total degree of the motivation pre-test scale, which means that both groups were equal before starting the experiment.

3.7. Study Variables
The study included the following variables:

3.7.1. The Independent Variable:

- The teaching method has two levels:
  - Teaching using Google Classroom application.
  - Teaching using the traditional method.

3.7.2. The Dependent Variable:

- Motivation towards learning among tenth-grade students for the subject of Computer.

3.8. Statistical Treatments
This study used descriptive and inferential statistics methods, including arithmetic mean and standard deviation. The Pearson correlation coefficient and the Cronbach's Alpha equation were used to verify the stability and validity of the study tool. The accompanying One-Way Analysis of Variance (One-Way ANCOVA) was used to answer the main study question in order to reveal the differences in significance in the arithmetic means of students' scores in the application of the motivation pre-test scale regarding learning Computer Science (total) depending on the teaching method variable. The researchers also used the Eta square to determine the effect size of the teaching method variable.

4. Study Results

In this part, the researchers review the results of the study, which attempted to reveal the effect of using Google Classroom application on developing the motivation of tenth-grade students towards learning the subject of Computer in Jordan.

The results of the main study question: What is the effect of the use of Google Classroom application in the development of tenth-grade students' motivation towards learning Computer Science?

In order to answer this question, the researchers extracted the arithmetic means and standard deviations for both the experimental and control groups on the post-test motivation scale and their pre-test scores. These arithmetic means and their standard deviations appear in the following Table (3):

Table 3. Arithmetic means and standard deviations for both experimental and control groups on the post-test motivation scale and their pre-test scores

Group	Number	Maximum End	Pre-test		Post-test	
			Arithmetic Mean	Standard Deviation	Arithmetic Mean	Standard Deviation
Experimental	27	175	99.00	22.756	149.56	8.432

Control	25		91.04	18.526	118.56	26.316
Total	52		95.17	21.015	134.65	24.631

The previous table shows that the arithmetic mean of the experimental group students on the post-test motivation scale was (149.56), which is higher than the arithmetic mean of the control group students of (118.56), and the difference between the two means was (31.00). In order to ensure that the difference between the two means is statistically significant at the significance level ($\alpha = 0.05$), a One-Way Analysis of Variance (ANCOVA) was conducted, and the results of this analysis appear in the following Table (4):

Table 4. Results of the One-Way Analysis of Variance (ANCOVA) to verify the difference between the means of the experimental and control groups on the post-test motivation scale

Source of Variance	Sum of Squares	Degrees of Freedom	Sum of Squares Means	(F) Value	Significance Level	Eta Squared Value
Pre-test of the Scale	7.389	1	7.389	0.020	0.889	
Group	11901.935	1	11901.935	31.590	0.000	0.392
Error	18461.437	49	376.764			
Adjusted Total	30939.769	51				

The previous table shows that the calculated (F) value for the difference between the means of the experimental and control groups on the post-test motivation scale reached (31.590), with a significance level of (0.000). This value means that there is a statistically significant difference at the significance level ($\alpha = 0.05$) between the mean of the experimental group that used Google Classroom application and the mean of the control group on the post-test motivation scale. With this result, the first null hypothesis is rejected, which states: "There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the means of the performance of the experimental and control groups on the motivation scale among tenth-grade students towards the subject of Computer due to the teaching method using Google Classroom application and the traditional method."

In order to know to which group the difference belongs, the adjusted arithmetic means and their standard errors were extracted for both groups, and the results appear in the following Table (5):

Table 5. Adjusted arithmetic means and standard errors for the performance of the experimental and control groups on the post-test motivation scale

Group	Number	Extreme End	Adjusted Arithmetic Mean	Standard Error
Experimental	27	175	149.49	3.77
Control	25		118.64	3.92

The previous schedule shows that the adjusted arithmetic mean for students of the experimental group on the motivation post-test scale reached (149.49), which is higher that the adjusted mean for the control group students, which was (118.64), and the difference between the means was (30.85). This means that the difference was in favor of the experimental group because its adjusted arithmetic mean is higher than the adjusted arithmetic mean of the control group, and this result shows an effect of the use of Google Classroom application in the development of tenth-grade students' motivation towards learning the subject of Computer. In addition, the value of the calculated Eta square that shows the size of the effect of Google Classroom application in the development of tenth-grade students' motivation towards learning the subject of Computer, which amounted to (0.392). This means that (39.2%) of the difference in the development of tenth-grade students' motivation towards learning the subject of Computer is due to the use of Google Classroom application, and the remaining percentage of (60.8 %) is due to variables which were not studied in the current study.

5. Discussion

This chapter deals with an explanation for the results of the study, supported by the results of previous studies, and the results of the main study question have been discussed; also, the chapter includes a presentation of the most prominent recommendations. Below is a presentation to discuss the results of the study.

The results related to the main study question, which states: “What is the effect of using Google Classroom application on developing the tenth-grade students' motivation towards learning the subject of Computer?”, showed that there are statistically significant differences in the level of motivation attributed to the teaching method that was used. The results showed that these differences were in favor of the experimental group that was taught using Google Classroom application. This indicates that using Google Classroom application is very effective in increasing the level of motivation towards learning the subject of Computer among tenth-grade students at the University of Jordan school.

This result can be attributed to the fact that learning using Google Classroom application is a new method for the students of the experimental group, which has sparked their interest and increased their motivation and participation during the educational process. Using the Google Classroom application also provides flexibility in choosing what suits the learner’s needs and inclinations in a way that suits his skills, and all of this may have positive effects in increasing the learner’s motivation. Since using Google Classroom application includes diversity in methods of presenting the academic material between regular academic meetings and virtual communication through technological technologies, we find that using the Google Classroom application helped break the monotony in delivering and presenting the study material to students, which was done by following the traditional method.

This result may be attributed to the method of providing the educational material using Google Classroom application, where the content of the educational material has been displayed through various forms of means such as texts, images, and interactive activities. Moreover, the design of the educational material that relied on the principles of multimedia design in relation to the principles of multimedia in regards to the pictures which were linked to the educational subject, the use of colors appropriately, the integration of texts and images, and their association with the educational subject, had a role in the superiority of the performance of the experimental group students at the motivation level towards learning Computer Science.

The results of the study can also be attributed to the ability of Google Classroom application to employ more than one sense during the learning process, which makes the student interact and participate positively during the educational situation with the rest of the colleagues. Also, using Google Classroom application directs students to collect information from a variety of different sources and then share them with the rest of their colleagues, comment on them, express their opinions and express their points of view. All of this had a clear role in improving and developing their motivation towards learning Computer Science.

It is also possible to attribute the results of the study that the use of Google Classroom application helped to provide immediate and continuous feedback during the educational situation, as students had the opportunity to participate in answering the questions that are asked after each educational subject as well as asking inquiries and questions directly between students and the teacher of the subject, and receiving immediate comments from the teacher and colleagues. All of this helped students to evaluate their performance and direct them in a correct way. Therefore, the student avoids mistakes and avoids making them in the coming times, as immediate feedback is enhanced to learn students, which helps them to master their learning and thus increase their mastery and understanding of the subject, which is reflected positively on their motivation towards learning. This method may also have a role in motivating students to participate and engage in learning the educational material.

Using Google Classroom application, with the privacy and space it provides to express opinions and comment without restrictions, may have given students a sense of comfort and security, which helped the students of the experimental group to advance in their learning without embarrassment, because they do not receive comments and observations from the teacher directly, face to face, in front of their colleagues. This created a difference between the performance of students in the experimental group compared to the performance of students in the control group, which learned through the traditional method, and through which this may not be available.

The researchers also attribute that teaching the subject of Computer through Google Classroom application enabled the students in the experimental group to work individually or collectively within the classes. This helped to create opportunities to exchange experiences among the students and also enabled them to use it at home, which gave them more time for practice in the way they see fit and convenient for them. The researchers also attribute that using Google Classroom application to teach the subject of Computer provided educational means and various sources of knowledge that make the learner master the educational subject at all levels of knowledge. In addition, this provides a variety of activities that make the learner apply what he learns; Which helps him to master what he learns. It allows the learner to learn through activity, work, participation, instructions, and guidance, which helps to achieve a higher level of motivation towards learning.

This result can be attributed to the benefits of Google Classroom application in the process of students' learning acquisition and enhancing motivation towards learning. It enhances their independence by providing them with the skills of researching and investigating the educational material and processing it according to the students' preferred learning style, as written, audio, and visual material can be found on the Internet that adds a new dimension to teaching computer concepts compared to other teaching methods. Also, Google Classroom application provides many digital resources that enable students to obtain modern and diverse scientific materials, thus improving their level of motivation towards learning the academic subject.

Furthermore, the researchers attribute this result to the following reasons: the ability to divide the scientific material that has been provided on Google Classroom applications to its individual parts, including the relationship between the parts, comparing other alternatives with colleagues using G-mail, chats, documents, or social media, in addition to sharing the parts of the scientific material that are compatible with the interactive participatory task by offering ideas, information, and brainstorming through this application. The combination of participatory interactive tasks between students through the use of Google Classroom applications contributed to the development of the motivation level towards learning Computer Science among students.

The researchers may attribute the increase in the level of motivation towards the subject of Computer among students who learned according to Google Classroom applications to the fact that the students in the post-test may not have previously learned in this way, which sparked their desire and eagerness towards this method that was not familiar to them. This matter was touched upon by the researchers who found that the students enjoyed this method, and this could have contributed to the development of their motivation.

The researchers attribute the superiority of the experimental group students in the post-test and the increase in their level of motivation to the emergence of the students' active role through their ability to link the information and procedures that have been built to the life situations included in the lessons and activities that were implemented in Google Classroom application, thus increasing the students' self-confidence. In turn, this led to the development of levels of motivation to learn the subject of Computer, and the students expressed their desire and interest in learning such situations that require linking with learning processes because of their effective impact on their daily lives.

It is possible that this result can be attributed to the fact that Google Classroom application provides the students of the experimental group with the ability to review the educational material more than once without feeling bored, at the time they want and in the place they want. This in general has helped in increasing the motivation of the students of the experimental group compared to the motivation of the control group. The researchers also conclude from this result that the use of Google Classroom application contributed significantly to increasing the level of motivation towards learning Computer Science among tenth-grade students at the University of Jordan school.

Accordingly, the results of the current study are consistent with the results of a number of different studies, which proved that Google Classroom application had a positive impact on improving and developing the level of motivation towards learning when compared to the traditional method of learning.

The results of this study agreed with the results of the Al-Khazaleh's study (2020), which dealt with the use of Google Classroom applications and the multiple media to teach the course of "Using Computer in Education" in the achievement of students of Aal al-Bayt University and their acquisition of the skills of the classroom interaction and their motivation towards learning, which showed the existence of a statistically significant effect in the post-test of the use of Google Classroom and the multimedia to teach the subject of "Using Computer in Education" to improve the level of students' motivation towards learning.

It also agreed with the results of Ahmed and Osman's study (2020), which addressed the impact of virtual classrooms on student achievement and motivation among students of the Faculty of Educational Sciences at Sultan Qaboos University in Oman. It showed that the experimental group has positive attitudes towards virtual classrooms and is more motivated to learn compared to the control group.

It also agreed with the results of Al-Kharaisat's study (2018), which addressed the use of the developed e-Learning management system (Moodle) in the achievement and motivation to learn among ninth-grade students in the subject of Computer in Jordan. It showed that there were statistically significant differences between the average scores of the experimental groups that studied using the developed e-Learning management system (Moodle) and the scores of the control group that studied in the traditional way on the motivation scale and in favor of the experimental group.

The results of this study also agreed with the results of the study by Hajebi (2017), which dealt with the impact of teaching a mathematically computerized unit using the tablet in the collection of tenth-grade students in Mathematics and improving their motivation towards their learning in Jordan, which showed that there are statistically significant differences between the average grades of tenth-grade students regarding motivation towards learning the mathematics topic between the control group and the experimental group in favor of the experimental group that studied a computerized unit using computers in mathematics. This showed that the use of tablet computer increases the interaction of female students and teachers and their communication inside and outside the classroom, which led to an increase in the motivation of female students towards learning.

6. Recommendations and Suggestions

In light of the results of the current study, which found the positive impact of using Google Classroom application on developing the tenth-grade students' motivation towards learning the subject of Computer in Jordan, the researchers recommend the following:

1. Using Google Classroom application in teaching tenth-grade students in light of the positive learning outcomes related to motivation towards learning the subject of Computer.
2. Encouraging the Department of Curricula and Textbooks at the Ministry of Education in Jordan to benefit from the results of this study when developing computer curricula by curriculum developers.
3. Including teaching strategies for Google Classroom application within teacher guides.
4. Conducting training courses for teachers and students on using Google Classroom application in line with the development of e-Learning applications.
5. Conducting more studies that address the impact of Google Classroom application on other educational stages and new variables.
6. Developing and preparing study materials to be compatible with the use of Google Classroom application by enriching them with various electronic learning resources and multimedia such as images, video clips, etc.

References

Abu Sarah, S. (2020). Educational software design and production course. Amman: Dar Al-Manara for Publishing.

Ahmed, S., & Osman, F. (2020). Assessing the Impact of Virtual Classrooms on Student Achievement and Motivation among Students of the College of Educational Sciences at Sultan Qaboos University in Oman. Journal of Applied Psychology, 87, (5), 724-728.

Al-Alwan, A.; & Atiyat, K. (2014). The relationship between academic internal motivation and academic achievement among a sample of basic stage students in Jordan. Islamic University Journal, 2(8), 638-717.

Al-Amour, Y.; & Al-Alimat, M. (2016). The effectiveness of Google Classroom application on acquisition of biological scientific concepts in the blood unit among tenth grade students in the Naqib District in Palestine. Journal of the Islamic University of Gaza, 24(4), 144-169.

Al-Bawi, M.; & Ghazi, A. (2019). The effect of using the educational platform Google Classroom on the Computer Department students' achievement of Image Processing and their attitudes toward e-Learning. International Journal of Research in Educational Sciences, 2(2), 123-170.

Al-Dahri, S. (2010). the basics of educational psychology and learning theories. 1st edition, Amman: Dar Al-Hamid.

Al-Dulaan, I. (2018). The effect of using Google educational applications in developing the skills of designing electronic tests among female students of the educational diploma in the subject of Computer in Education. International Specialized Educational Journal, 6(3), 47-77.

Al-Hawwari, S. (2021). Modern teaching trends. Amman: Dar Al-Thaqafa for Publishing and Distribution.

Al-Khafaji, H. (2011). The effectiveness of using two meta cognitive strategies (modeling and reciprocal teaching) in the achievement and practical performance of the practical engineering optics subject and motivation to learn the subject. Unpublished doctoral dissertation, University of Baghdad, Baghdad, Iraq.

Al-Khalifa, H. (2010). From e-Learning management systems to personal learning environments. Arab Gulf Message Magazine, 3(2), 15-29.

Al-Kharaisat, A. (2018). The effect of using the developed e-Learning management system (Moodle) on the achievement and motivation to learn among ninth-grade students in the subject of Computer in Jordan. Unpublished master's thesis, The University of Jordan, Amman, Jordan.

Al-Khazaleh, F. (2020). The impact of using Google Classroom applications and multimedia to teach the course "Using Computers in Education" on Al al-Bayt University students' achievement and their acquisition of classroom interaction skills and their motivation towards learning. Unpublished doctoral dissertation, The University of Jordan, Amman, Jordan.

Al-Mutairi, A. (2015). The reality of using technology in teaching mathematics for the primary stage in schools in the city of Arar from the point of view of male and female teachers. Journal of Educational and Psychological Sciences, 23(2), 33-58.

Al-Mutairi, M.; Al-Obaikan, F. (2016). The effect of teaching using the cloud computing environment on developing motivation towards learning and developing thinking skills among female students of the Faculty of Education at King Saud University in Saudi Arabia in the subject of information and Communication Technology Applications. International Specialized Educational Journal, 4(9), 155-173.

Al-Najjar, H. (2019). The reality of using some interactive Google applications in developing some digital skills among graduate students in Jordanian universities. Unpublished master's thesis, Middle East University, Amman, Jordan.

Al-Samkari, M.; & Al-Jarrah, A. (2018). The effect of using Google Classroom application in teaching an introduction to curriculum course on developing scientific thinking skills. Dirasat/Educational Sciences, 45(3), 313-330.

Al-Zuhair, N. (2017). Designing an electronic application based on the gamification strategy and its effectiveness in developing the English language reading comprehension skills of female first-year intermediate students in the city of Riyadh. Unpublished doctoral dissertation, Imam Muhammad bin Saud Islamic University, Riyadh, Saudi Arabia.

Bogdan, L, Andreea, V, & Camelia, U, (2015). Google Classroom - The New Educational Challenge, Pilot Test Within the Department for Distance Learning. The 11th International Scientific Conference eLearning and Software for Education, Bucharest, April 23-24.

Deci, E. (2005). Intrinsic Motivation. New York: Plenum Press.

Google (2017). About Google Classroom. Retrieved on 19/11/2022 from: https://support.google .com/ edu/ classroom/answer/6020279?hl=en

Hajebi, E. (2017). The effect of teaching a computerized mathematics unit using a tablet computer on the achievement of tenth grade female students in mathematics and improving their motivation towards learning it in Jordan. Unpublished doctoral dissertation, International Islamic Sciences University, Amman, Jordan.

Hussein, N. (2014). The outcome of utilizing participatory learning based on Google educational applications in developing the skills of designing electronic subjects and the attitude towards it among faculty members at Umm Al-Qura University. Benha University Journal 5(3), 13- 46.

Kakeh, M. (2018). The level of the employment of Google Suite for Education in the educational process at Kermian University. Karmian University Magazine, 5(3), 588-610.

Muslimi, A. (2014). The effect of teaching via cloud computing (Google Drive) on academic achievement in the computer course among second year secondary school students. Unpublished Master Thesis, King Saud University, Riyadh, Saudi Arabia.

Obaidat, H.; Al-Attiyat, K.; & Juifel, M. (2010). The effect of using an educational computer program on students' achievement in social and national education for the third grade in the Ma'an Education Directorate. An-Najah University Research Journal, 24(2), 203-231.

Odeh, A. (2010). Measurement and evaluation in the teaching process. Irbid: Dar Al Amal for printing, publishing and distribution.

Qatami, Y.; & Al-Youssef, R. (2010). Social Intelligence for Children, (1st ed.). Amman: Dar Al Masirah for Publishing and Distribution.

Schorm, S. (2019). Announcing Drive for Education the 21th Century Backpack for Student. International Journal of Advanced Research in Computer and Communication Engineering, 1(3), 210-241.

Shaheen, N. (2020). The effectiveness of a program based on some mental visualization strategies in increasing the efficiency of semantic memory performance in the principles of the English language for kindergarten children. Unpublished Master Thesis, Matrouh University, Morsi Matrouh, Egypt.

Shreim, A. (2019). Imagining a proposal based on the use of cloud computing services as an electronic learning management system in the educational process. Journal of Arab Studies in Education and Psychology. 4(1)، 150-149.

Sukmawati, C. & Nensia, D. (2019). The Role of Google Classroom in English Language Teaching. International Journal for Education and Vocational Studies. 1(2), 142-149.

Teodora, D, & Ioana, C, (2017). I am a Teacher in the Digital Era, What To Choose: Google. The 13th International Scientific Conference eLearning and Software for Education, Bucharest April 27-28. Retrieved on 18/3/2021 from http://proceedings. elseconference.eu/ index.php?r=site/index&year=2017

Vasanth, S & Sumathi, C. (2020). Learning Management Systems through Moodle and Google Classroom for Education. Advances in Research, 21(10), 2348-2394.

White, R. (1959). Motivation Reconsidered: The Concept of Competence. Journal of Psychological, 4(1), 36-49.

Zimmerman, B. (2012). Becoming Self-Regulated Learner: An Overview. Theory into Practice, 14(2), 65-70.