

Distance learning methods and its suitability for teaching applied arts courses

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Research Introduction:

The role of distance learning is growing day by day due to its many advantages, especially in situations of urgent need such as the days that accompany the writing of this research and in which humanity faces a danger represented by the spread of the covid 19 virus, which requires the student and the teacher to be present in their homes, and when the educational process is necessary to continue Distance learning is a magical solution to this ordeal, and distance learning means that the teacher performs his job with his students and students by using the Internet. Therefore, it is called distance learning, and it means that there is a distant distance that may separate the teacher from the students. However, they communicate in order to carry out the teaching and learning process. It is no secret to anyone that distance learning and e-learning are still not widely spread in the Arab Republic of Egypt, although there are some successful cases in it, but the sudden transition from the state of typical teaching and learning to distance learning, which was imposed by the crisis, has caused confusion among most of those who teach and also Students are not accustomed to fully communicating remotely and its premium on regardless of the technological problems that teachers and students may face. A sector such as the applied arts sector is very diverse in its curricula taught to students between theoretical and technological decisions and design decisions and the different methods of their teaching and methods Its own assessment made the inevitable question facing any faculty member or teacher is any means of distance learning is best suited to the nature of the decision, which I teach? This research studies the available distance learning methods and their ability to teach in applied arts courses with their various classifications.

Research Problem:

The multiplicity of classifications of applied arts courses and methods of evaluation, which makes it difficult to determine which means of distance education is appropriate for them.

The important results of this research lied in:

Reaching the most successful distance learning methods suitable for application with the applied arts courses.

Research methodology:

The research depends on applying the descriptive analytical approach

Keywords:

Distance Learning, applied arts courses, e-learning

About the applied arts courses:

The College of Applied Arts is distinguished by the diversity of the programs it studies in addition to the diversity of courses within each program, some of which are theoretical courses such as historical courses and some are technological courses dealing with the stages of production and properties of raw materials ... etc. It is integrated with design-specific courses,

some of which depend entirely on computer programs and some depend on Artistic directing carried out by hand as well as courses that depend on mastering manual skills such as sculpting or like living nature and silent nature and decisions that depend on the art of photography ... etc. This enormous diversity certainly imposes a diversity in what the student should be Possess him of skills after studying the course and consequently what he is required of from various assignments such as:

- Tasks assigned to the student according to the Course (information gathering - brief research paper - presentation ... etc)
- Technical applications in laboratories or workshops
- An exam containing a set of questions to measure different skills
- Initial sketches
- Design with digital design programs
- Prototypes for products
- Take photos and videos

About the work of teaching staff:

The teaching staff and the assisting staff perform many tasks, according to the results of the questionnaire attached to the study, such as explaining the scientific content of the course and training students on practical aspects in the case of their existence, whether alongside preparing and doing tests for students, evaluating them and following up students 'performance throughout the semester ... etc

The lecturer also sometimes depends on guiding students, following up on assignments and delivering them through social media sites such as WhatsApp, Facebook ... etc.

The Institution of the Lecturer shall provide all that is required to perform these tasks to the fullest extent.

In the case of distance education, especially the sudden transition to it, the educational institution, if it does not have a system of e-learning for the management of distance education, should actually decide quickly which system may achieve the best gains for it? At the same time, it is in line with the educational institution's goals and the goals of the programs it provides for its use. With consideration to the diversity of those programs and the diversity of their requirements, as we explained before - the following is an explanation of the concept of distance education and an explanation of its various systems to find an answer to this question.

Distance Learning:

Distance education is defined as a system implemented by an educational institution that delivers educational or training material to the learner anywhere via multiple communication media¹

It depends on the separation between the teacher and the learner and the book in the education environment, and the transfer of the traditional environment for education from a university or school ... etc to a geographically separate virtual environment, and it is one of the modern phenomena of education that have evolved with the accelerating technical development in the world, and whose goals are to give the opportunity of education and provide it For students who cannot get it in traditional conditions¹³ And one of the most prominent of those cases is what we are going through in times of invasion of epidemics that require isolation and staying inside

homes as we are going through at the time of preparing this study due to the spread of the covid 19 virus. The idea of distance education creates an educational environment similar to that in the real world but using technology through applications Dedicated to do so⁷

We will review the following the most important of those applications and services that can be relied upon by educational institutions to manage the educational process and implement the idea of distance education professionally with the best achievement for students, and then focus will be on the most appropriate applications that suit colleges and institutes of applied arts and the reasons for that.

Using social media for distance education:



Figure (1) Social Media

Social media such as Twitter and Facebook can play a major role in communication between faculty and assistants, teachers and trainers on the one hand, and their students on the other hand outside the classroom, where they can provide them with the following educational services⁹:

1- Posting ads: The teacher can use Twitter or Facebook to post ads for students who follow his account, such as putting news about postponing the test date, changing the exam venue, changing the date of a lecture, sending final advice before the exam, or publishing the content of the same course to other.

2- Review and home work: where the teacher creates a "hash tag" in the name of the subject or unit (for example: # unit_ review_ first), then publishes it among students to be a reference for discussion or review the content of this unit.

3- Achieving better communication: students can send special messages to the teacher instead of waiting until the next lecture or class, and the teacher can use it to discuss or follow the students' work and receive inquiries. And follow up on assignments, designs and projects.

4- Create a questionnaire or vote: whether by using the relevant sites like twtpoll.com and then share it on Twitter to find out what the students think. Or use voting through groups on Facebook .

5- Discussion tool: Twitter can be used as a tool for discussion among teachers and sharing useful and varied resources.

6- Brain Storming tool: by sharing and presenting ideas and information with students at any time.

7- An evaluation tool: By evaluating students 'information about the last lesson, this could be by allocating an hour a day, with the necessity of interacting with them with direct feedback because it is one of the basics of the evaluation process.

8- A tool for gathering and sharing resources: students can be asked to share additional resources or information about a previous lesson topic, and summaries or questions can be used or a topic can be discussed.

9- Direct communication: Through Live broadcasts and student participation through comments on Facebook and twitter, which can also be done using YouTube.

In many cases, a page is created on the Facebook of the entire group. The teaching staff and assistants follow up with the students through the courses through it or by allocating a page for each course or follow-up through the group. It provides greater options such as placing multiple choice questions in the form of a publication with a percentage given for each answer .

Use of text and voice messaging applications in distance education:

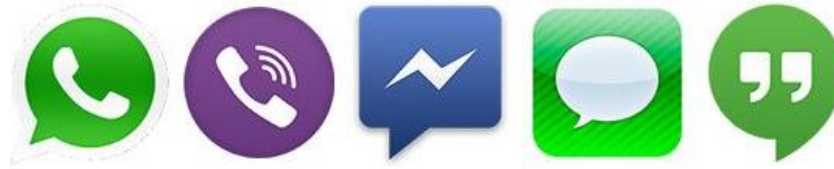


Figure (2) Social Media

These are applications such as WhatsApp and messenger where Groups are created to communicate with students and provide educational services as follows:

1- Post announcements: Inform students of any information related to the course, whether in the form of text messages or voice note files

2- Communication: The teacher discusses or tracks student work and receives inquiries. And follow up on various assignments, designs and projects. Students also send their own messages to the teacher, whether they are inquiries or designs in the form of pictures, which the teacher can amend them through the feature to amend the images

3- Sharing educational content: files can be uploaded, whether they are video or pdf files related to the course.

cloud-based video conferencing service:

It is applications used to organize meetings and meetings where it helps the user, whether he is a teacher, lecturer, businessman ... etc. to organize meetings in high quality with the ability to share files with those present at the meeting, whether through the teacher, or the learner provided that each individual has his own account¹⁰.

The meeting owner sends the meeting link to those who should attend the meeting. It is mostly applications that can be accessed and used directly from the site without downloading it, even if it is better to download it.

Some of the most popular examples of these applications are Zoom, Meet Google, Gotomeeting, Skype, webex, Teams.microsoft and Teamviewer, and they offer the following educational services:

- Voice and video communication over the Internet.
- Distance education by displaying the educational material to be taught via any program, whether it is an educational presentation via ppt, word, video, or other training programs, or a screen such as a blackboard that is explained and written on, or a printed book in pdf, with the ability to specify any sentence or text.
- The ability to enter the session via an Internet link, with the ability to mute the participants during the speech, or allow some of them to speak.
- The ability to record a video of what is being circulated through the session, and then display it via any social media platform later ⁹.

- Sharing the phone or computer screen: It is possible through these applications through that interface, also, to share the computer or phone screen and what is happening with it with those who attend the session through a button in it called “Share Screen”, which also allows the ability to explain design and drawing programs of all kinds through ⁸.

How to use the Zoom app for distance education¹⁴?

Preparing the lecture:

After registering the lecturer or teacher and creating a personal account for him on the application, he opens the program to show the following interface, which contains the following keys:

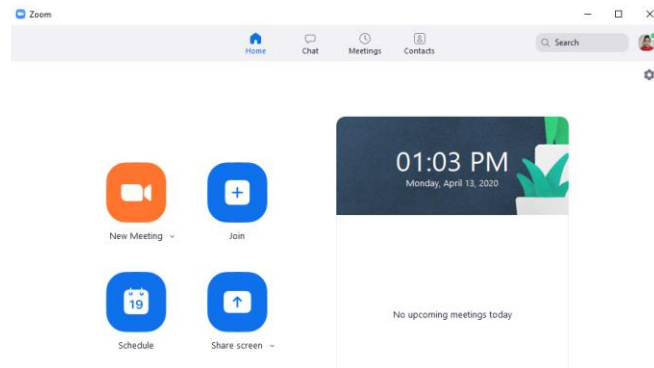


Figure (3) Zoom main window

The lecturer can arrange all his lectures and put them on fixed dates during the semester by clicking on the Schedule key and entering the data for each of the lectures he intends to deliver and determines whether they will be repeated weekly or not in addition to setting their date and duration and when arranging the lectures appear when the program is run in preparation for pressing it to start the lecture This is after informing students, as will be evident in the next steps. Lectures can also be linked to any electronic calendar such as Google calendar.

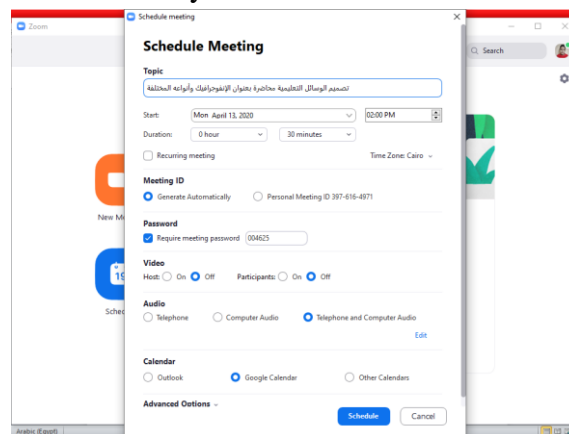


Figure (4) Schedule window for scheduling lectures

By clicking on the New meeting key, the lecture starts immediately and the following window appears

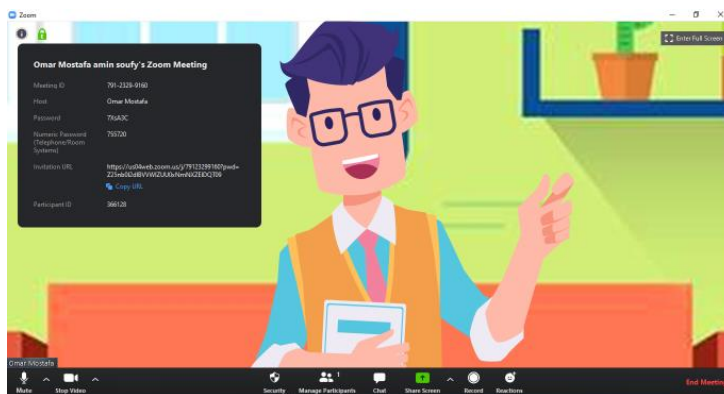


Figure (5) An illustration of the lecturer during the start of the video broadcast of the lecture

When you press the key for the session information, you can copy the code in the lecture and send it in any possible way to students such as WhatsApp, so that students can enter the lecture. Here is an explanation of the tools in the bottom toolbar:

The lecturer camera can be closed or opened during explanation, as well as closing or opening the sound using the stop video and Mute keys

By clicking on Manage Participation, all students appear on the left. You can control the shutting down or opening of the camera or their sound, and selecting one of them to open the voice for his question, for example, then closing the voice on it and opening it to another student, and so on to organize the discussion.

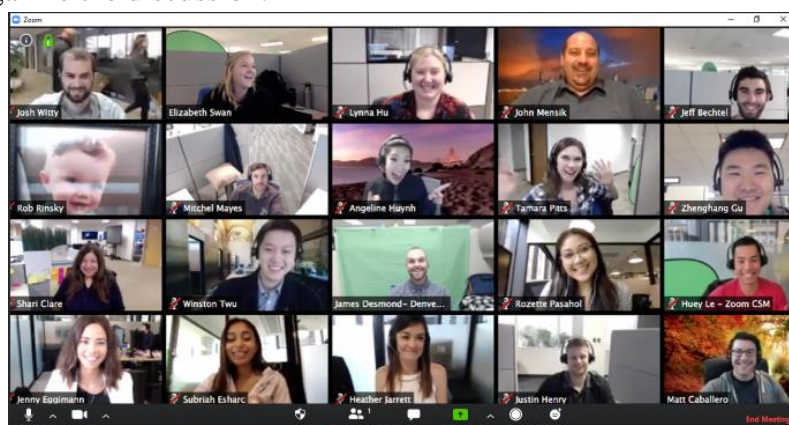


Figure (6) The ability to follow all the followers of the lecture at the same time

Written messages can also be sent to students by using the chat tool along with one of the most important functions in the program, which is the ability to share the teacher's screen with students by clicking on Share Screen and providing many tools through the following window:

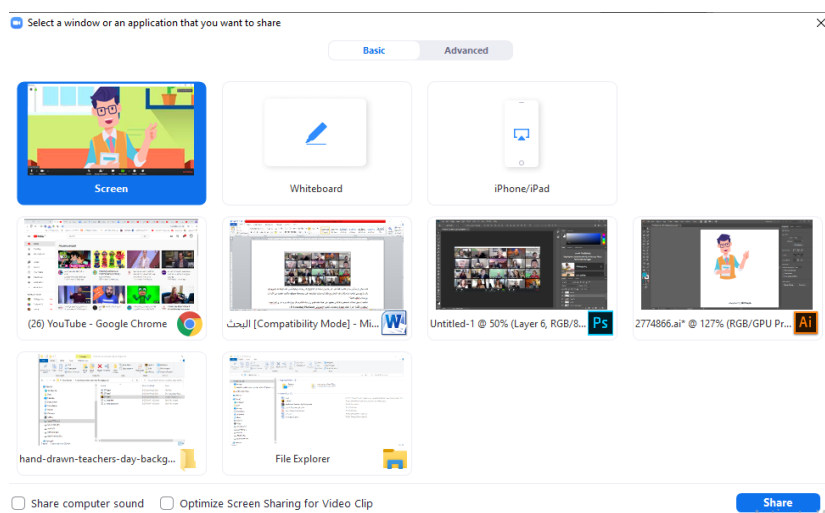


Figure (7) Options for sharing with students during the lecture

Which allows sharing any open window on the computer in addition to the ability to explain it by using other tools for drawing, highlighting, scanning and writing, with the ability to choose a whiteboard to share a white space for explanation, using the same drawing tools referred to in Figure (8) to explain what the lecturer wants as if it is a blackboard like the one in the real School.

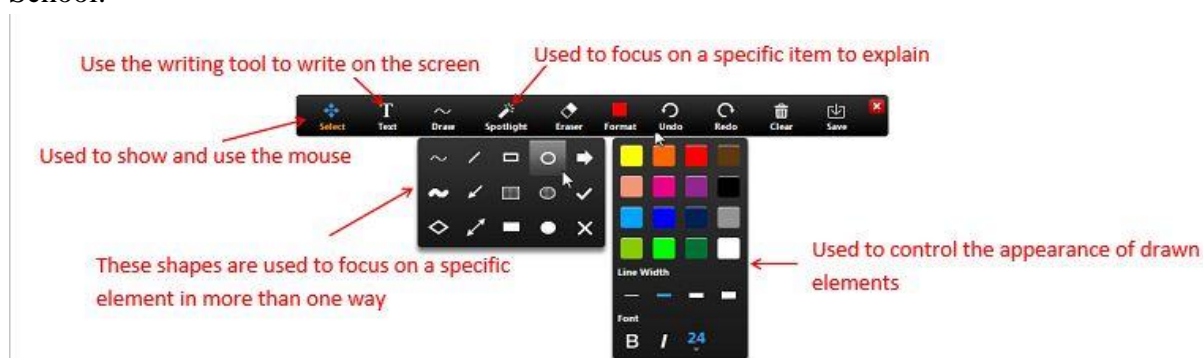


Figure (8) Tools available to explain what is being shared with students during the lecture

The application also allows the ability to record the entire lecture and save it as a video file and send it to students for reference again for review by pressing the record key.

Using LMS and E-Learning Platform:



Figure (9) LMS and E-Learning Platform

LMS means learning management system which is a system, whether it is a website or an application or both together designed for the purpose of monitoring, management and evaluation within the education system and it is a strategic solution for planning, training and management of all aspects of learning in the educational facility¹¹. While e-learning platforms are platforms that provide the same services provided by learning management systems, even if they differ from them in some few characteristics such as the inability to fully cover the

educational institution's identity in terms of its full affiliation with the website of the facility or its visual identity or the ability to control the lack of availability of the lecture For the student only after passing the previous lecture presentation or submitting her assignment⁴ and whether we are talking about learning management systems or e-learning platforms they collect them to provide the following services:

- Registration: means the inclusion and management of student data.
- Scheduling: It means scheduling a course and developing a teaching plan.
- Delivery: means making the content available to the student.
- Tracking: It means following up student performance and issuing reports accordingly.
- Communication: It means communication between students through simultaneous chatting via online chat programs or asynchronous such as discussion forums and mail.
- Tests: It means taking tests for students and dealing with their assessment.

Examples of these programs include:

Blackboard – Moodle – Edmodo – Schoology – aTutor – Canvas – Desire2Learn - Google Classroom – Microsoft classroom – SuccessFactors –SkillSoft -WizIQ Inc – Cornerstone – Instructure – TOPYX – Brightspace – Cypher Learning - Latitude Learning – Edsby – Litmos – Collaborize Classroom – DigitalChalk - Docebo – eFront – Educadium

How to use Google classroom for distance education?

Google classroom aims to help teachers and students communicate better by providing a set of tools that we will cover in detail ⁶

Create virtual classes and communicate with students through them:

When entering on classroom.google.com or entering the application with the teacher's personal account, press the + key to create a new class to show two options Create class and join class for anyone who knows the class code through it to show the next window for the details of the class to be created (class name, section ... etc) then click Create

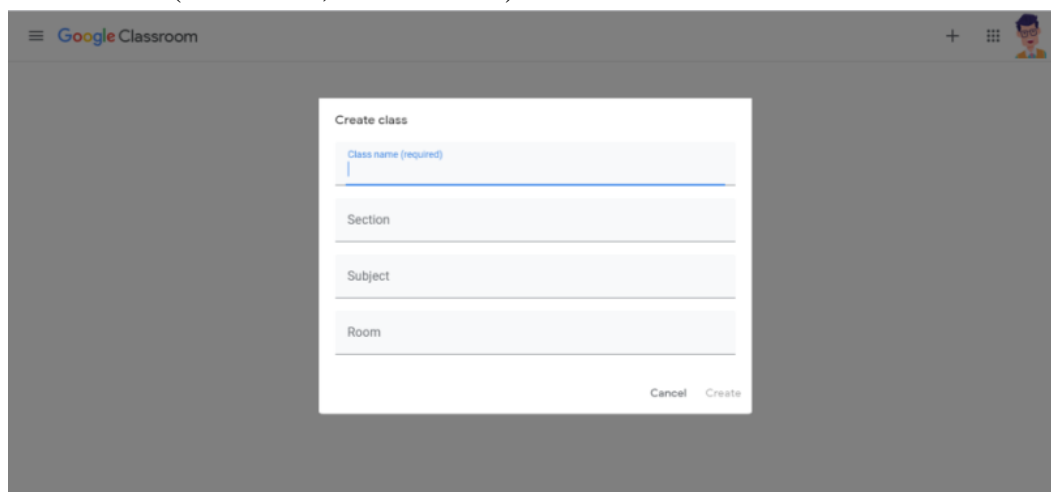


Figure (10) Create a new class on Google Classroom

To create a free class page, through which the course's educational process can be managed, communicate with students, raise educational content, perform tests and correct them, as will be seen below.

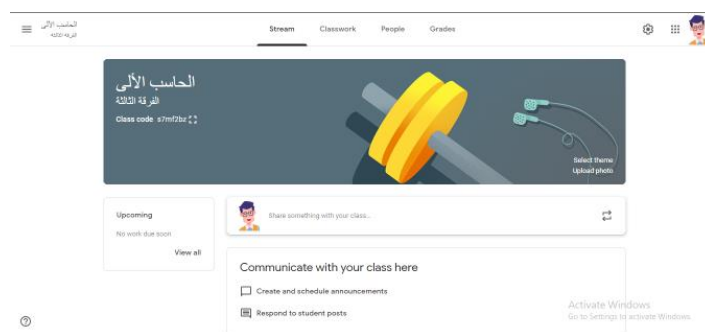


Figure (11) Stream interface

Four main sections appear below and below the main banner for the class that contains the class details in addition to the class code, which can be sent to students to enter it even if it is better to invite them through the people function at the top, and below comes an explanation of the four main sections of the class:

1- Stream This section is similar to social media pages, where a text can be posted for students, as well as files for the course content can be attached to students in the form of video files, YouTube links, word or pdf files, images ... etc. and they are saved within a separate folder on an account The teacher's Google drive also works within the same classroom environment, using different Google applications that support different files such as word, pdf, excel, PowerPoint, and different video files. Anything that a teacher puts in him sends an email to the teacher himself and to all students, in addition to The ability to use Google Classroom mobile application, which sends notifications or Automatic, anything new. It is also possible in the case of wanting to make a live broadcast, using the Google Hangout application, which is an application for video communication remotely, and pasted the link of the conversation as a student post to reach them with a notification.

2- Classwork: It allows teachers to better organize tasks and questions by grouping them into separate units, which helps separate class content from conversations within Stream² Through create, assignments or quizzes can be created, linked to delivery dates, and corrected electronically. It is clear from the figure how four assignments were added, and by clicking on one of them it is clear who made the delivery. At the same time.

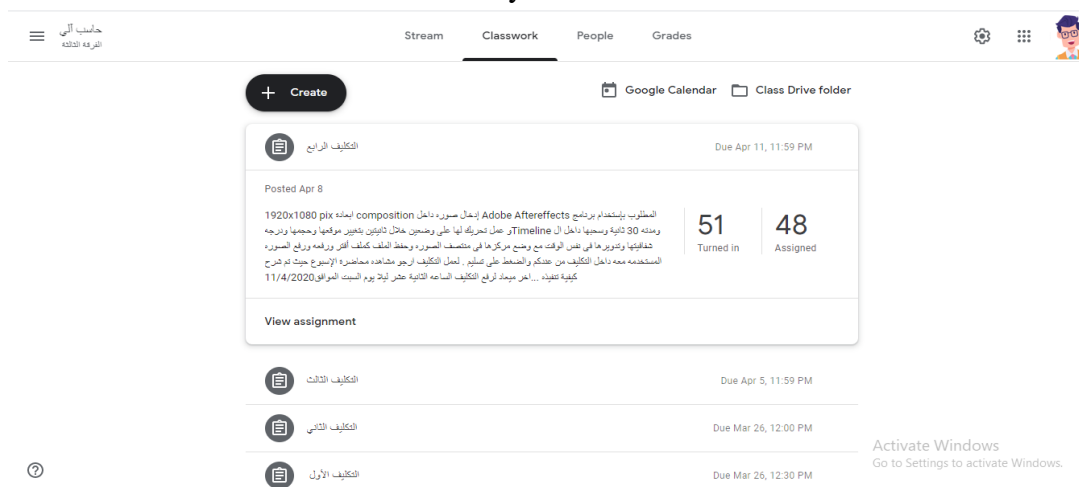


Figure (12) Classwork interface

3-People: Through this section, it is possible to invite more than one teacher or invite a faculty member and an associate staff to be identified in the class as teachers by pasting the email so that the class can send an invitation to them, and also in the part of students can send cases to all students who are in the class to arrive at their email to be in the class This can be done in one step, such as this chapter, which 112 students were invited to in one step, in addition to three teachers.

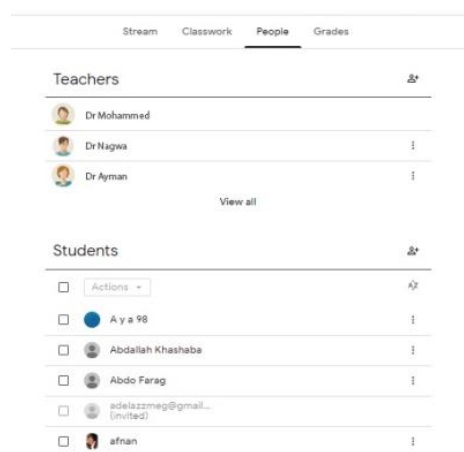


Figure (13) People interface

3- Grades It provides an assessment of the assignments and quizzes assigned to students

	Stream	Classwork	People	Grades
Sort by last name	Apr 11 التقييم الرابع out of 100	Apr 11 التقييم الثالث out of 10	Mar 26 التقييم الثاني out of 10	Mar 26 التقييم الأول out of 10
Class average				
Aya 98	100	10	10	10
Abdallah Khashaba	Missing	Missing	Missing	Missing
Abdo Farag	100	10	10	10
afnan	100	10	10	10
Ahmed Abdelfadel	Missing	Missing	10	10
Ahmed Badr	100	10 Done late	10 Done late	10 Done late

Figure (14) Grades interface

Which is better for distance teaching zoom or Google classroom:

It is difficult to compare two applications that differ in their classification even if the use is in the same field as the services provided by Google classroom such as the ability to impose duties on students and give them degrees and communicate with them and archive lessons ... etc.¹² They are services related to the process of learning management and providing e-learning within a virtual classroom linked to all the Google services, while Zoom is an application that provides visual audio communication via the Internet supported by additional services such as sharing screens and drawing on them to focus on specific points to explain and deal with each student separately or together .. Etc. So it makes sense that Google classroom services are not present with the zoom application, but there is an application for video and audio communication and also shares files within the Google system, which is Google hangout, does that mean that Google classroom is more appropriate to use because it combines its services and zoom services? To answer this question, Google Hangout offers should be compared to what Zoom offers, and the following table shows this comparison⁵:

Table (1) Comparison of Zoom Meeting with Google Meet

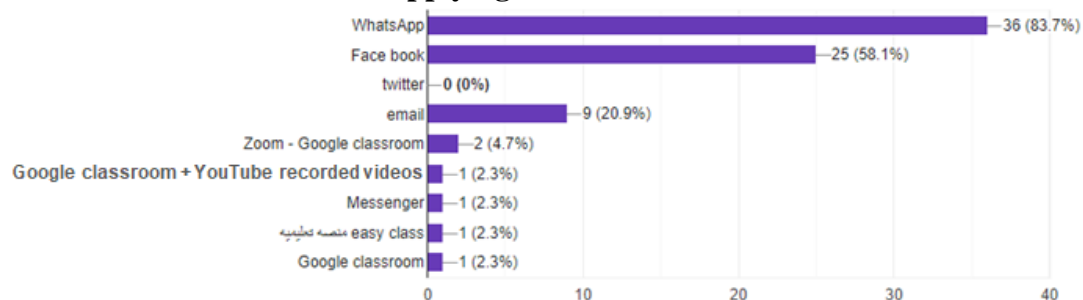
Feature	Google Meet	Zoom Meetings
Preferred for...	Online work meetings	Online teaching and learning sessions
Number of Participants	250*	300
Screen Sharing	Yes	Yes
Google Calendar Integration	Yes	Yes, with Chrome Browser Extension
Mobile App	Yes	Yes
ChromeBox Conference Room Enabled	Yes	No†
In-Conference Text Chat	Yes	Yes
In-Conference Private Chat	No	Yes
Polling	No	Yes
Recordings	No	Yes
Event Hosting with Participant Roles	No	Yes
File Transfer	No	Yes
Breakout Rooms	No	Yes
Whiteboard	No	Yes
Availability	All current students, faculty, staff	All current students, faculty, staff

As it is clear from the comparison, Zoom excels in a number of points, making it more suitable for teaching purposes, such as its possession of the Whiteboard feature, which can be explained through it, besides having the ability to add more students up to 300, and having the registration feature, along with many other characteristics that make it more suitable for talks. Visual audio in the field of education. From the above we conclude that each application has strengths in which it outperforms the other. The decisive choice is the course requirements to be taught remotely.

Which is better for teaching applied arts courses remotely zoom or Google classroom:

In order to obtain more accurate results on the appropriateness of any of the two applications for teaching applied arts courses with their different requirements, a questionnaire was prepared for 40 of the teaching staff and the assisting in colleges and institutes of applied arts. Theoretical decisions, technological decisions, design decisions, and engineering decisions such as engineering and mechanical drawing ... etc. In addition to courses such as still life ... etc. The questionnaire included the electronic means that they were using to communicate with students before the complete transformation of distance education due to the decision to disrupt the study to prevent the spread of the covid 19 virus. It also included their perception of the nature of the tasks assigned to them during their teaching of their courses in general and any of these tasks were not affected by the negative after applying it from During distance teaching and clarification of any means of distance education that was used after disrupting the study, how to prepare electronic files that represent the scientific content and lectures taught to students and what are the negatives that they encountered during distance teaching and the results were as follows:

The way of communication that the lecturer used to follow up with students and communicate with them before applying full distance education

**Figure (15) The electronic means of communication that the lecturer used to follow students**

The tasks performed by the lecturer during the educational process in its modular form before applying distance education

Explaining scientific content through discussion with students

Make a presentation to students and explain it

Explanation by writing and drawing on the board

Assign students to research and follow up with them

Assign the student to design projects and follow up with them

Explain programs for design and drawing

Teaching student's technical skills in courses such as still life

Explanation through laboratories, workshops, studios, etc.

Test setting and correction

Follow up students' performance

Visits to the workshops

All of the above is used in follow-up with students because they have theoretical and practical materials

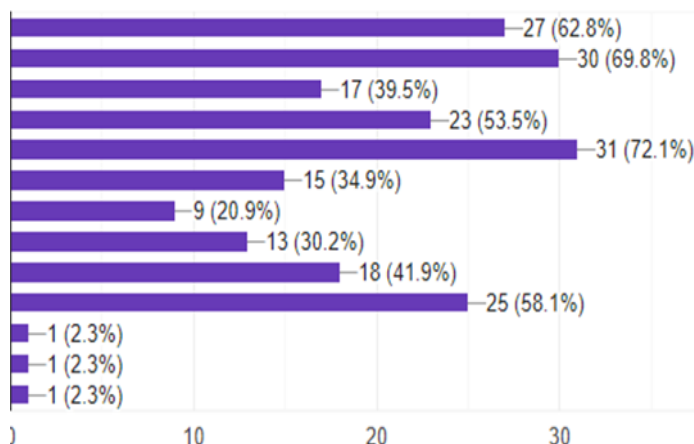


Figure (16) The tasks of the lecturer during the educational process

Tasks that were not affected negatively by applying them remotely

Explaining scientific content through discussion with students

Make a presentation to students and explain it

Explanation by writing and drawing on the board

Assign students to research and follow up with them

Assign the student to design projects and follow up with them

Explain programs for design and drawing

Teaching students technical skills in courses such as still life

Explanation through laboratories, workshops, studios, etc.

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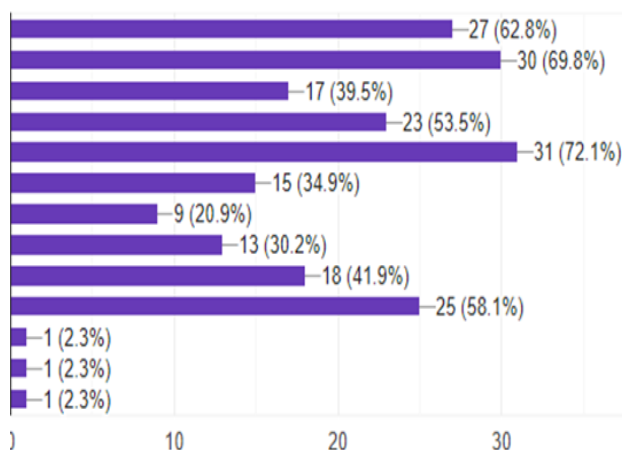


Figure (17) Tasks that were not affected negatively by applying them remotely

The means used by the lecturer to communicate with students and complete the lectures with them remotely

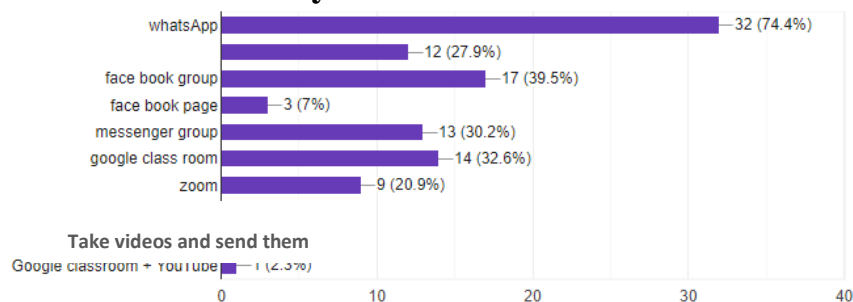


Figure (18) Reliable means

The form in which the Lecturer prepares electronic files that represent the alternative to lectures

Power point files

Recording video for power point

Take video and send them

Tutorial with record screen

Live video

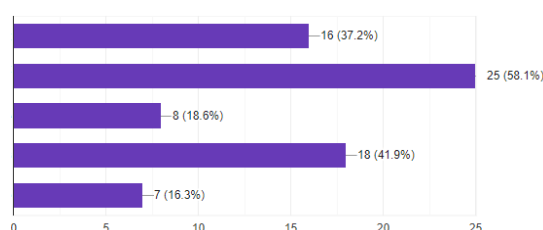


Figure (19) Electronic files format for lectures

Programs and tools used in preparing electronic files

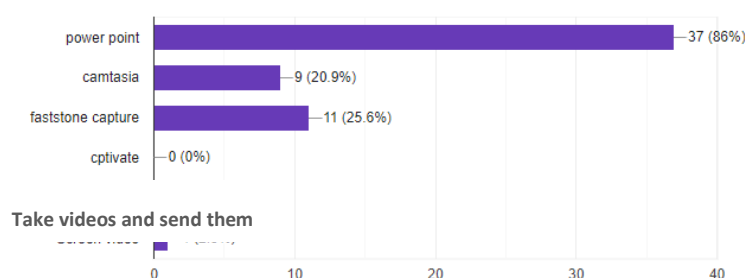


Figure (20) Programs used in preparing electronic files for lectures

Difficulties encountered by the lecturer while teaching to students remotely

The following is a table of the difficulties that the lecturers faced while they were teaching applied arts courses through the means that were clarified through the previous questions and methods proposed by the study to overcome them:

Table (2) Difficulties in using distance education and its proposed solutions

the problem	The solution
Difficulty communicating and not seeing reactions to students' faces	Use instant communication lectures using the zoom Application to address communication problems and see student reactions
Difficulty clarifying students' mistakes on the sheets directly and determining the location of the mistake.	Using annotation tools inside the Zoom program, through which errors can be corrected directly on the sheet
Large numbers of students and difficulty in communicating with them to follow up	Through the Google classroom, it is possible to divide the class into more than one sub-class containing groups of students and invite more than one member of the .associate to divide the work among them
Internet is slow and students don't know how to work with applications.	Increase internet speed as it should be before using the application. Send Tutorial videos explaining how to work with the applications.
Some students do not understand unless they try to draw with their hands	Through the Zoom application, they can be seen while drawing by hand and adjusting .their mistakes

Inability to discuss with students and follow them while explaining the lecture	Zoom allows the discussion to be organized by muting the voice and opening it when needed by a specific student, which helps to organize the discussion.
Technical issues related to Facebook	Facebook is not suitable for educational communication
There is no direct interaction with students	Zoom provides direct interaction
Lack of time to prepare for the transition to distance education	Because of the sudden transition of distance education
The difficulty of correcting and evaluating student sheets and determining whether or not the student actually performed the work	The student can draw a small part of the board in front of the lecturer on the zoom program, or take a simple exam
Difficulty explaining some mathematical conclusions	The whiteboard feature can be used to explain these conclusions
Difficulty in knowing who is following or not following students	Through the Zoom lectures, we can know the number and names of followers
The unlimited time for assignments does not pass practical and design materials	Delivery time can be set on the Google classroom, and the application will automatically send e-mail to students, inform them of the delivery date, and put the delivery deadline
Students do not choose the ideal time to ask questions	Zoom provides the ability to mute and unmute the sound as desired by the instructor
Access for all students	An email can be sent to all students by inviting them from within the Google classroom
Inability to teach students after manual skills, such as the use of different color techniques	Zoom lectures can be partially handled
Not knowing the students' understanding or not	Periodic tests can be done and electronically corrected to measure their understanding of the lecture through the Google classroom

From the above, an important conclusion can be reached that the integration between teaching through audiovisual broadcasting using the Zoom application and teaching through a virtual class on the Google classroom e-learning platform to place assignments and quizzes and correct them ... etc. It is the closest to the appropriate with the requirements of the applied arts courses where the teacher can To fully rely on the Google classroom to manage the educational process and complete communication with students and to use the application of zoom when the need for direct video and audio communication with students by putting the special link of the lecture as a post on the stream for the classroom in order to create the live lecture broadcast with them and participate in Students enrolled in the class have, in addition to the possibility of recording as a video file to be uploaded after the completion of the lecture on Google classroom according to what was presented of the different requirements of the academic decisions and the different tasks performed by lecturers and the assisting according to the courses and according to the departments they belong to.

according to The results of the questionnaire and according to what was offered from the services provided by each program. The tasks required by the applied arts courses can be distributed on the two applications according to the following table:

Table (3) Distribute assignments to Zoom Meeting and Google Meet apps

التطبيق المستخدم	المهمة
Google classroom	Assigning the student to collect information - a brief research paper - a presentation
Zoom	Technical applications inside laboratories or workshops
Google classroom	Initial sketches
Zoom	Design applications with digital design programs
Google classroom	Explain the academic content of the course, using the available educational methods, which he prepared in advance, such as presentations, using programs such as power point and videos that explain parts of the curriculum
Zoom	Mastering skills related to learning a specific program for drawing and designing using computer.
Zoom	Master manual skills in the field of drawing and design
Zoom	Master the skills of using specific equipment or machines, such as photocopiers, printing machines, and textile machines
Google classroom	Preparing and making tests for students (mid-term and final test) and evaluating them
Google classroom	Follow-up of students 'performance throughout the semester in terms of their performance, their commitment and their presence, or not
Google classroom	Prepare assignments, assign students to them, and evaluate them to know the level of students, through attendance and absence lists
Zoom	Extra hours for the lecturer to communicate with students and support those who need additional explanation
Zoom	Displaying assignments, drawings, sketches or designs to the minutes during these hours
Google classroom	Library and data bank
Zoom	Explaining content through discussion with students
Zoom	Explanation by writing and drawing on the board
Google classroom	Assigning the student to design projects and following them up
Zoom	Teaching students art skills related to the courses such as still life
Google classroom	Create and correct tests
Google classroom	Follow up students' performance
Google classroom	Field visits (via VR visits)

Previous studies:**First study:**

Mostafa Amin Soufy (2019) - Using Augmented Reality Techniques to Create an Interactive Educational Aid - Ph.D - Department of Printing, Publishing and Packaging - Faculty of Applied Arts

The second study:

Ahmed bin Abdul Aziz Al Mubarak (2004) - The effect of teaching using virtual classes via the Internet on the achievement of students of the College of Education in educational and communication techniques at King Saud University - Master Thesis, King Saud University, College of Education, Saudi Arabia.

Results:

- 1- Some requirements of the applied arts courses require teaching through visual communication applications such as zoom and some require virtual classroom platforms such as Google classroom
- 2- Zoom application is better than Google meet, which is within the Google system because it includes the Whiteboard function with its various functions, the ability to invite more students and the possibility of recording lectures and re-broadcasting whenever required.
- 3- Google classroom can with the ability to create virtual classes through which any number of students can be added and communicated with it, either by writing or downloading files for the course content in different formats due to its support with multiple Google applications with the ability to request assignments and students to submit their assignments on them and electronically validate them and inform students of that automatically and make tests and correct them With the availability of storage space on Google drive, whether for the teacher or students.
- 4- Social media is not suitable for teaching remotely as they do not serve all the requirements of the educational process remotely, such as doing tests, correcting them, and inspecting different types of electronic files with their different extensions ... etc. Therefore, they are not suitable for educational communication.
- 5- Accurately determining the tasks of the Lecturer and the requirements of the course, which helps to determine the most successful method of distance education.
- 6- Most of the Lecturers and the Lecturer assistants of the study sample were using on whatsapp and Facebook to communicate with students before applying the full distance education decision.
- 7- Most of the Lecturers use PowerPoint to prepare the electronic content for the lecture

Recommendations:

- 1- It is recommended to integrate the Zoom and Google Classroom applications to take advantage of the advantages of each and simulate most of the tasks assigned to the Lecturers and what is required of the student at the same time by creating virtual classes on Google classroom to manage everything related to organizing assignments and quizzes and correcting them And put instructions for students and raise the content of the course to them ... etc. as well as broadcast video lectures with students on the zoom program and put its link on the Google

classroom to take advantage of the capabilities of zoom in direct audio-visual communication with students and the possibility to share the screen with them and create a white electronic whiteboard and explain it.

2- It is recommended to use Google Classroom to overcome the problem of communicating with large numbers of students by dividing them within one class into a number of sub-classes.

3- It is recommended to use Google Classroom to track Assignments with students and to make them punctual with delivery dates, to receive and correct assignments, to put Quizzes and correct them electronically, to monitor student performance throughout the Class, to establish an information bank and digital library

4- It is recommended to use the zoom Application to increase communication with students and see their reactions during the explanation, as well as teaching manual skills by broadcasting them visually and following up on inquiries and performance from students.

5- It is recommended to use the screen sharing tool and to use annotation tools within the Zoom Application to correct errors on Sheets and design sketches, whether manual or digital.

6- It is recommended to use the zoom Application to explain the design and digital drawing programs through the feature of sharing the program screen, explaining it, broadcasting it visually and audio, then recording it and uploading it again.

7- It is recommended that students be trained in the method of distance education that will be applied with them by sending an Tutorial video of how to use the method before applying it.

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