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A Program Based on Cloud Computing Platform for Developing the Assessment Strategies for EFL for The Primary Stage Teachers
A dissertation
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(TEFL)

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ABSTRACT

The study aim was examining the effect of a program based on Cloud-computing platform on developing assessment strategies for EFL primary school teachers. The study reviewed the literature and previous studies dealing with assessment strategies (self-assessment, peer-assessment, strategic use of Questioning and reflection), professional learning communities, cloud computing and finally some platforms for assessment (Google Classroom, Kahoot, Quizizz, Quizlet, Wordwall, Padlet). The researcher prepared a list of assessment strategies and cloud-computing platforms as guides for the design of the instruments. The researcher also designed a pre/post assessment strategies test, a questionnaire, and a rubric, to obtain data for developing the trainees' performance, the researcher designed the proposed program. Then, after a Facebook announcement, the researcher nominated the Egyptian primary teachers (n=25) who intended to study the online assessment course for developing their assessment strategies. These participants were submitted to a pre- and post-test. The scores were analyzed both quantitatively and qualitatively. Results showed that the cloud-computing platform was highly effective in developing assessment strategies for EFL primary school teachers.

Keywords: *assessment strategies, cloud-computing, professional development*

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Chapter 1

The Problem and its background

Introduction

Because of Covid-19 and the lockdown in 2019 and 2020, the entire world was suffering from the pandemic, especially in the education field. Hence, the necessity of using technology became apparent to everyone including parents, students, teachers, stakeholders, institutions. Even with Covid-19 and the lockdown, teachers who were not ready to use technological tools such as Zoom, Google meet, Google Classroom, Skype and Messenger, suffered a lot in that crucial time and they badly needed teachers' professional development programs, webinars, online workshops, and virtual conferences.

Nacheva-Skopalik, & Green (2020) emphasized the importance of providing successful teacher preparation programs. Moreover, Özsoy (2017) indicated that professional development is one of the widely discussed topics in teaching, and it is commonly accepted as an indispensable element in raising the quality of education for both teachers and students as he explored the experiences of five teachers who volunteered in a course of four months at their educational institutions.

Exploring the elements of effective professional development and leadership is critical for growing and supporting great teachers. Teacher-preparation programs provide them with the tools, mentors, and hands-on experience they will need once they

begin their career. Ongoing professional development keeps teachers up to date with new research on methodologies, and with emerging technology tools for the classroom and new curriculum resources. As professional development is ongoing, experiential, and collaborative (Lucas,2016 & Williams,2008), to understand the learning community well, the systems of education should support using technology and games effectively as this is the way the students enjoy learning.

Assessment labeled as the outcome of the 20th century, has been defined variously in the literature. Assessment has both formal and informal formats including formative quizzes, oral questioning, self-reflection, peer feedback, think-aloud. A distinction is made between assessments for learning which describe the process, as a support for learning, compared to assessment of learning that describes the nature of the product. However, the new paradigm of assessment offers an alternative for testing culture which is "characterized by so called objective tests, such as standardized tests that is focused on atomized bits of knowledge at the expense of more complex, higher-order knowledge and skills". Assessment is an integrated part of instruction for Van, & Kester (2014). Similarly, other researchers agree that the core features that characterize formative assessment are that it impacts the quality of teaching and learning, and it engages learners in a self-directed learning environment (Chappuis & Stiggins, 2002).

Online assessment should be viewed as a system for evaluating student academic achievement. The assessment process should be viewed as a system because there are many components to measure. Just because it may be difficult to measure the amount of learning does not mean that learning has not taken place. The idea is that if online instructors keep improving their teaching strategies, the students will learn more.

Moreover, Kapple (2005) stated that teaching can excel if proper teacher training exists and if students are actively engaged, motivated, and provided with appropriate technology. Technology, for Recesso and Orrill (2008), can improve learning and support the development of a rich environment. Teachers can incorporate technology into their classes to engage learners, give instructions, introduce and present the content, enhance teaching strategies, and even improve their weaknesses and qualifications.

Constructivism is an educational philosophy which states that learning takes place through an interaction between the ideas and the experiences of the individual which implies the role of the teacher trainer to facilitate meaningful social interaction and the success of learning can be determined by the interaction between the three main elements: task, learner, and instructor. This philosophy was hugely influential in many aspects of education – in assessment and in the digital language-learning classroom.

According to Michael & Libarkin (2016), using backward design as a backdrop to discuss the stated goals of education and contrasts these goals with the type of preparation that is traditionally offered to teachers process of implementing a student-centered course based on a backward design model (I Do, We Do, You Do). This is seen through activities such as webquests, class blogs and cloud computing. Recently it has been stated by many educators and experts that technology has been updated which should be embedded and integrated within the teaching and learning process. Some old-fashioned, anti-technology people adopt the idea of this integration as they indicated the importance of the humans' capabilities and skills to handle and do the job of teaching and learning without technology aids.

Technology and its products have recently had an impact on education around the world. Technology devices have accompanied the growth of teaching English, and have also changed the way people communicate, do their job and learn (Hussien,2016). Online education is quickly becoming a major phenomenon around the world due to the ease and convenience it offers students and educators. As class interaction and authenticity are the core of success in foreign language learning, some institutions make their students and teachers use video chat to speak to their instructors one- on-one for 20 to 30 minutes each week. This is claimed that it is more face-to-face time than most students and teachers receive in campus-based degree programs (Elliot, 2013).

Furthermore, new technology devices and communication tools can improve the quality of teaching and learning worldwide. Accordingly, implementing technology in classroom teaching has been given a lot of attention in order to support learning, because it improves flexible access to different educational resources. Sviridon (2008) asserted that in the age of technology, there is a growing need for teachers, students,

and trainers to be technologically literate, as technology became a practical application of knowledge that uses new machines, equipment, and ways of doing things that are based on modern knowledge. According to Blake & the Broadband Commission (2013), technology plays a useful role in making education systems more efficient by helping teachers and administrators streamline routine tasks and improve assessment and data collection. Students use it to actively participate and personalize their own learning, and teachers use it to adapt new roles in teaching as facilitators of knowledge rather than knowledge providers.

Integrating technology into teaching has become necessary these days. Wolf, Schmidt & Klein (2010) pointed out that the internet is a truly open technology. There are many important advantages of the internet in searching and surfing for information. According to UNESCO (2003), the internet increases the accessibility of reference materials and data and offers a possibility to develop experiences by comparing similar and relevant information with other educators. It also helps in the quickness of information retrieval, including online access mode from different devices. Moreover, it decreases the cost of information delivery to users and leads to quantitative growth and qualitative diversity of the delivered information. It is reasonable to assert that the internet has facilitated profound changes in the sphere of English language pedagogy and the professional development of endless opportunities.

According to Attiya & Xiong (2020) cloud computing technology has attracted extensive attention from both academia and industry. The popularity of cloud computing originated from its ability to deliver global IT services such as core infrastructure, platforms, and applications to cloud customers over the web.

Sharma & Acharya, (2020), Barron, Orwig, Ivers and Lilavios (2002) stated that, in the field of education, the internet provides countless sources that are required in learning, in management of educational systems and in scientific and methodological research. Additionally, Cloud computing (CC) helps in lightening the burden of massive technology investments required for improving performance. Tam (2000) similarly pointed out that the internet offers unique opportunities in education. For example, it allows greater flexibility in teaching and learning, and it allows teachers

and students to have unlimited access to data which is related to their needs and interests. Accordingly, there are countless and useful resources on the internet for teachers and students to explore and use every day twenty-four seven.

In the same context, using the internet in teaching helps to increase students' enjoyment and knowledge of computing and the internet (Schofield & Davidson, 2002). Further, Tweed (2013) reported that incorporating the internet into classrooms is useful for types of lessons, such as: comparing and clarifying, inducing, and deducing, analyzing errors, analyzing perspectives, abstraction, information gathering, and team building. Hussein (2016) added that the internet creates new ways to develop students' creative, critical thinking and problem-solving skills. Furthermore, it prepares students to make decisions, create opportunities, evaluate available resources, and work out multiple solutions for effective problem solving.

According to Adnan & Hammod (2015), the success of every tertiary institution in the 21st century will to a significant extent rely on effective utilization of various forms of information and communications technology resources, understanding of Information Communication Technology (ICT) is therefore essential for meeting up with the updating world. In recent years, Cloud computing has appeared as a new type of advanced technology. Cloud computing is an extension of the concept of distributed computing – which is the process of running a program or application over many computers connected by a network. The term "cloud" is analogical to "Internet". The term "cloud computing" is used for the computation over the Internet. It is considered the future of the Internet. The potential and efficiency of using Cloud computing in education has been recognized in the developed countries. Cloud computing in education will be useful not only from an academic point of view, but it will also provide effective communication, security, privacy, flexibility and accessibility.

Furthermore, Goyal & Jain (2012) defined cloud computing, as a general term that describes the shift from conventional desktop-based computing and storage systems to services and data accessed through the internet. The cloud is the network where applications, data and services are accessed online. Cloud computing services are essentially any service that can be "delivered and consumed over the internet in

real-time." Cloud computing is the entire framework that enables these services to exist and be consumed. Cloud computing services are offered at three levels:

● Infrastructure as a service (IAAS)- A service that includes storage, servers and networks for IT use, with capacity that can be scaled up and down when required.

● Platform as a service (PAAS) – Services that include the usual hardware and infrastructure.

● Software as a service (SAAS)- An application that exists within a web-based interface, with storage and interaction occurring entirely within the cloud.

Almaiah & Al-Khasawneh, (2020) provided in their research valuable guidelines to universities, mobile cloud providers and decision makers to ensure a successful implementation of mobile cloud computing technology. Cruz (2015) defined cloud computing in a less technical manner that cloud computing is a collection of applications and technologies which can be accessed and manipulated by many users in real time. Cloud computing will support a certain educational institution to make use of the global internet resources for data analysis and data storage. Elhadi, (2019) indicated that cloud computing applications helped participants improve their EFL critical reading skills and enhance their attitude towards critical reading.

Context of the problem

The manifestations of Cloud-Computing are web-based education, e-government, and social networking. In the area of web-based education, a survey study has been conducted in the British University in Egypt (BUE) to assess the effectiveness of using open-source Moodle e-learning platform (El-Gazzar, 2015). Mertler (2009) indicates that many teachers do not feel professionally prepared to teach students and specifically to assess their students' performance. These notions of inadequacy are exemplified when placed especially with its increased focus on accountability and assessment. Williams & Wilson (2000) examined English teachers' opinions to better understand how they perceived themselves as successful teachers. Results of his study suggested that there is an urgent need for more training and planning in teacher education programs for effective teaching skills including assessment strategies.

Gohar & Kessel (2016) stated that the effective balance of English language teaching involves five components, English language content knowledge, instruction,

assessment, excellent classroom management and strong motivation and scaffolding of learning. Moreover, TESOL (teaching of English to speakers of other languages) clustered English teaching skills in three basic standards for EFL/ESL teachers; planning, instruction and assessing, which lead to some basic standards that focus on the instructor and the instruction: identity and context, language proficiency, learning, content, commitment and professionalism.

There is a debate about the effectiveness of traditional preparation programs and the quality of the teachers they produce. Different researchers illustrated that pre-service teachers and in-service teachers still receive and adopt traditional methods and strategies which are inappropriate to qualify them and do not meet the current challenges to prepare them for their future teaching profession.

The English teachers badly need professional development program to help them follow the massive changes in the assessment field and fill the gap between their generation and their students, English language teachers need to have a wide range of knowledge and awareness of the areas of their domain and should be aware of the updates and modifications related to technology and methodologies they can use inside and outside their classrooms to teach effectively.

Statement of the problem

Assessment is a demand in the 21st century. It was applied tentatively in Egypt, however there are some weaknesses, especially in English language e-assessment. This may be due to teachers' awareness and experience. Thus, this study is an attempt to support EFL teachers using cloud computing. This study attempts to investigate the impact of using cloud computing platforms for developing the English teachers' assessment strategies.

Study Questions

The problem of this study is represented in one main question as follows

What is the effect of using Cloud Computing on EFL teachers' assessment strategies?

Accordingly, the following sub-questions should be answered:

1-   What are the EFL teachers' needs for e-assessment strategies?

2-   What are the components of a program based on cloud computing that can develop EFL teachers' assessment performance?

3-   To what extent will cloud computing platform teaching develop the assessment strategies of   EFL teachers?

4-   To what extent will teachers express their satisfaction and interests by using cloud-computing platforms?

Hypotheses of the study:

The hypotheses of the present study are as follows:

1-   There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy 'self –assessment' in favor of the post test scores.

2-There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy 'peer-assessment' in favor of the post test scores.

3-There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy 'feedback' in favor of the post test scores.

4-There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy 'Strategic use of questioning' in favor of the post test scores.

5-There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy ' reflection' in favor of the post test scores.

6-There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the total assessment strategies in favor of the post test scores.

Aims of the study

The present study aims at achieving the following objectives:

● Designing and building a cloud computing platform based on a diversity of applications such as Google Classroom, Zoom, Quizlet, Quizizz, Kahoot, MOOCs, E-books, videos, presentations.

● Identifying the impact of using the cloud computing platform on developing the English teachers' assessment strategies.

Significance of the study

The significance of this study can be stated in the following points:

1. The study may be significant to the English teachers because they may develop their assessment strategies.

2. This study may be important to the EFL teachers and instructors who were provided with a reliable resource for most of the area of their professional development in general and their assessment strategies in specific.

3. This study may be important to other teachers and instructors who were provided with a reliable resource for most of the area of their professional development and assessment strategies although they were not English teachers.

Participants

The subjects of this study are about 25 English teachers in public primary schools from Gharbia governorate.

Instruments

The instrument in this study was pre/post-test which covers most of the areas concerned the English teachers' e-assessment strategies. A questionnaire and a rubric were designed by the researcher for needs analysis and to conduct and correct the pre-posttest.

Delimitations of the study

The study is delimited to the following:

-18-

1-   A group of primary EFL teachers in public schools.

2-   EFL primary teachers'e-assessment

3-   The 2018 summer holiday as the teachers was free to follow the course 36 hours in twelve online sessions 3 hours each synchronously and 30 hours asynchronously.

4-   Teaching the designed cloud computing platform.

5-   Using cloud computing diversity components with the assessment strategies.

Definition of Terms

Cloud computing

Asadi, Abdekhoda & Nadrian, (2020) defined Cloud computing as a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources including networks, servers, applications, and services (p.5).

NIST (2015) definition of cloud computing states that Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction (p. 39).

Operationally, cloud-computing is in the current study as a network virtualization of a set of files, videos, audios, and quizzes where EFL teachers can read, write and discuss with their colleagues and mentor everything related to what they are about to acquire. The cloud-computing platforms were the LMS (learning management system) like zoom for synchronous sessions and WhatsApp, Google Classroom, Google Drive as a LMS for the asynchronous sessions to contact each other and to access the program materials.

Electronic assessment (e-assessment) definition

Jordan (2013) defined it as computer-adaptive tests that use a student's response to previous questions to alter the subsequent form of the test. More generally, e-

assessment includes the use of peer-assessment and assessed e-portfolios, blogs, wikis and forums.

Chapter two
Review of literature and related studies

In this chapter, the researcher presents a review of literature and studies related to assessment strategies and cloud computing platforms. Moreover, this chapter sheds light on pedagogy of online learning and professional development. This chapter consists of two sections; the first section is assessment strategies. The second one is concerned with cloud computing illustrated into interactive Learning System, EFL e-assessment, cloud computing and EFL and cloud computing as an assessment context of platforms and some online assessment tools.

Part one: Assessment strategies

Assessment in EFL classes has recently proved to be an essential component of the learning and teaching process. There is a dire need for EFL teachers and educators to update their performance according to the new trends in assessment. Teaching should be viewed as love and passion for learning about professional development of teachers. This passion would push teachers to accomplish their tasks and enjoy teaching as this would be highly effective on their' needs, abilities, and interests. This helps using appropriate pedagogical techniques and modifying these techniques according to changing philosophies, situations and activities, and applying appropriate assessment. This highlights engagement and collaboration with others; and life-long learners. Therefore, teaching should be an active ongoing process which is characterized by being interactive, spontaneous, innovative, creative, and expressive. Besides, EFL

teaching skills, acts and practices which are necessary for EFL teachers to affect and enhance their teaching performance quality, as well as their students' English language learning.

Testing is whether learners have learned and ultimately progressed regarding the learning objectives which are defined by teachers within the context of instruction, rather than an isolated step or instrument. To get the best assessment, teachers need to know how to select the appropriate assessment for each situation and how to make assessment effective to provide useful evidence about the students' learning. Hence, the good properly chosen assessment could provide definite information and avoid misleading information.

Nacheva-Skopalik, & Green (2020), emphasized that assessment is an integral part of an e-learning environment and therefore it provided not only unique e-learning content but also unique e-assessment. Assessment in the context of education is used primarily in deciding, collecting, and making judgments about evidence relating to the goals of the learning being assessed. This makes no reference to how the information being collected and could be used. Assessment of learning, identified as summative assessment in the current literature, is deeply rooted in education and what has emerged along with it is the new paradigm for example, assessment for learning. Gardner, Harlen, Hayward & Stobart (2008), stated some essential changes in assessment practices and applications, to be used in situations as: diagnostic, formative, summative, and evaluative. Meanwhile, Herrera et al. (2007), indicated that assessment of achievement has become increasingly standardized, norm referenced and institutionalized.

Ebner, Schön, Braun, Ebner, Grigoriadis, Haas & Taraghi (2020), discussed the covid-19 crisis which influenced worldwide education institutes in early 2020. William and Thompson (2008) indicate that formative assessment has facilitated a change in the practices of some instructors who are encouraged to develop their own assessment formats or to adapt the forms of assessment that help them gather helpful information about their students' progress. The reason that alternative assessments are considered more authentic, compared to the traditional forms, is that they hold approaches to measure students' learning that embeds both quantitative and qualitative features

(Herrera et al. 2011). The term "assessment for learning" is used interchangeably with "formative assessment".

Nacheva-Skopalik, & Green, (2020), emphasized that the importance should be given to successful teacher preparation programs. Moreover, Özsoy (2017) indicated that professional development is one of the widely discussed topics in teaching, and it is commonly accepted as an indispensable element in raising the quality of education for both teachers and students as he explored the experiences of five teachers who volunteered in four months course at their educational institutions. The data were gathered by two different tools: reflective journals and interviews. The findings of the study revealed that participants engaged in reflection-on-action by investigating their teacher identities and the dynamics of their teaching, reflection-in-action by exploring teaching practices, beliefs, and self; and reflection-for-action by discovering ways to move towards professional growth.

Mertler (2009) indicated that some teachers do not feel that they are professionally prepared and qualified to teach students and to assess their students' performance. These notions of inadequacy are exemplified when placed, especially with its increased focus on accountability and assessment. William &Wilson (2000) examined English teachers' opinions in order to better understand how they perceived themselves as successful teachers. Results of the study suggested that there is an urgent need for more training and planning in teacher education programs for the attainment of effective teaching skills including assessment strategies.

Özüorçun (2017) examined the current status of TEFL courses regarding the national educational policy from the perspective of Japanese EFL teachers. Quantitative data from teacher survey (N=89) and qualitative data from classroom observation revealed that weakness was more evident in the assessment practices of the courses than in teaching, suggesting that classroom teaching and assessment were not congruent with each other or with the course objectives. The study focused on the urgent necessity of teacher training on assessment specifically designed for non-native language teachers, which would contribute to the progress of EFL pedagogy.

William (2008) introduced a shift from traditional assessment forms to a newer paradigm, alternative assessment. Particularly, the emergence of formative and summative assessment as two different formats has attracted educators' attention in the current literature. They argue that the use of assessment for student learning is the main feature of formative assessment. Hence, formative assessment is introduced as an ongoing process of evaluating students' learning, providing feedback to adjust instruction and learning, and improving the curriculum. However, summative assessment is more related to administrative decisions and assigning grades.

Linn and Miller (2005) defined assessment of learning as a systematic process of collecting information about progress towards the learning goals. Formative assessment, according to Bekoe, Eshun & Bordoh (2013), occurs during instruction, as part of instruction rather than a separate activity. It has both formal and informal formats including formative quizzes, oral questioning, self-reflection, peer feedback, think-aloud, etc. A distinction made between assessments for learning which describes the process, assessment as a support for learning, compared to assessment of learning that describes the nature of assessment or the product. However, the new paradigm of assessment offers an alternative for testing culture which is characterized by so called objective, such as standardized tests that are focused on atomized bits of knowledge at the expense of more complex, high-order knowledge and skills, assessment as an integrated part of instruction for Van, & Kester (2014). Similarly, other researchers agree that the core features that characterize formative assessment are that it impacts the quality of teaching and learning, and it engages students in a self-directed learning environment (Chappuis & Stiggins, 2002).

Uotinen, Ladonlahti, & Laamanen, (2021), suggested that teachers should have options for what kind of e-authentication they use. Chappuis & Stiggins (2004) indicate that assessment as part of classroom activities is a fundamental process which is required to promote learning and ultimately achievement. Learners need to know and understand the aim of the learning, the reason they need to learn, how they can achieve this aim or objective and where they can achieve it and that is why teachers always share objectives with students.

Al-Shehri (2008) assumed that both formative assessment and formative feedback have a huge influence on what learners learn and how teachers teach. The study investigated this through collecting 49 questionnaires--38 for the students and 11 for the teachers, at the College of Telecom and Information (CTI) in Riyadh, Saudi Arabia, where English is primarily taught for specific purposes (ESP). Formative assessment becomes more influential and purposeful when the information drawn from it is utilized to adjust learning and teaching in order to meet student needs (Irons, 2008).

1.1 Importance of Assessment for learning

Correia (2016) adopted a holistic approach to assessment. He believes that teachers should move from testing to learning and use different types of assessment to assess the learners' oral fluency. One assessment technique that teachers can use is observation which requires record keeping. Teachers need to take notes of each learner's performance. They also need to score their progress against rubrics. Furthermore, teachers should follow a learning-oriented assessment approach. They should monitor learners' progress, have evidence of it, and provide timely meaningful feedback that can be useful for both learners and teachers. Using learning-oriented assessment to assess oral fluency should not only concentrate on the learners' ability to speak, but also on pronunciation, accuracy, and vocabulary. Learning-oriented assessment tasks that help learners interact spontaneously through different real-life activities such as dialogues, interviews, role plays, descriptions of photographs or images, giving instructions, storytelling, opinion-expressing and discussions.

Agasoster (2015) indicated how important it is for using formative and summative assessment to assess learners. Formative assessment is an ongoing process that aims at developing the learners' performance throughout the course based on the constant feedback that the teacher gives to his/her learners. It targets the learners' learning development and that is why it is called assessment for learning as its main aim is to help learners learn. Another type of assessment for learning is self-assessment that enables learners to stand on their own learning progress. Moreover, peer evaluation makes sure learners are involved in the learning and assessment process. They learn from each other. On the other hand, summative assessment takes place at the end of the

course to assess the learners' achievement, that is why it is called assessment of learning.

Thielsch, & Hirschfeld, (2021) stated that in digital media and on the World Wide Web, the content is what can influence a variety of the evaluations, attitudes and behavioral outcomes. According to Yan & Brown (2021), Gardner (2006), and the Assessment Reform Group (2002); assessment for learning is the process of seeking and interpreting evidence to use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there. Assessment for learning has been used for several years and has given teachers ways in which they can use assessment activities to gain a clearer understanding of the learning that has taken place and how they can progress in the future. Out of the constant need to assess the learners' oral fluency, performance, and progress, Luoma (2004) introduced the speaking assessment cycle through which the assessment process goes through five different stages. First, the teacher needs to determine the main objective of the assessment. Second, planning and selecting suitable assessment tasks and criteria that help to achieve the learning outcomes. Third, the learners do the assessment tasks assigned to them. Fourth, the teacher assesses the learner's performance. Finally, the teacher should use the assessment results to figure out whether the learning objectives have been achieved or not and to give timely feedback to the learners.

Cheng, & Ding, (2021) found that the online review exercises as formative assessment tools increase student engagement. Whereas assessment is extremely important as it shows how students are progressing and carried out with the procedures can be of significant value to teachers and the students they teach. It checks that learning has taken place. There are many different methods of assessment which include discussions, questionnaires, exams, presentations, role play, observations, written work, practical work and questioning. Using assessment can help teachers and learners reflect on their practice and how their learners are learning. Assessment helps teachers decide how they teach, using different teaching methods to ensure that all learners are active. Cowley (2006) stated that good assessment would help the teacher monitor the learners' progress and plan for future teaching and learning. Assessment encourages learners' motivation, and they can receive feedback (both teacher and peer) on their progress. Teachers can use a range of assessment methods to check pupils' progress.

1.2. Assessment strategies needed for teachers' professional development

There is not only one best assessment method; each one can be used well or poorly. The method used depends on the kind of learning target to be assessed. Also, the purpose of education is not to master content and data purely for the sake of knowing it. The children need to be able to apply that knowledge to contexts and situations they encounter in life beyond school and teachers who want to assess students' achievement on these learning targets will have to use more than one assessment method. The current study aims to deal with five assessment strategies that can realize this purpose as follows:

1.2.1 Reflection

Özsoy (2017) indicated that all the participants in his study evidenced that they benefited from participating in the study in the sense that they developed a critical reflective practice through their shared teaching experiences. Thus, a similar professional development structure that encourages collaborative endeavor among teachers in their own context could serve as a meaningful and continuous tool to inquire the needs and challenges of teachers as well as more generalizable issues regarding teaching and learning. One of the most distinct findings of the present study is how the participants engaged in reflective practice through team teaching by examining their identities as teachers and the dynamics of teaching environment including learner identity, nature of teaching, and own context. In the study, personal characteristics discussed by the teachers emerged as one of the fundamental factors.

According to Kolb's experiential learning theory (2017), learners can form new concepts through new experiences. The theory consists of four learning stages. First, a learner goes through a new experience or situation. Then, s/he reflects on it. After that, learners form new ideas and concepts. Finally, they apply what they have learned to other situations.

Renner, Prilla, Cress, and Kimmerle (2016) conducted a study on 39 participants from two organizations to investigate the effect of using reflective learning on fostering the participants' ability to share experiences and problems and to deliver solutions to these problems. The study revealed that reflective learning and reflective responses helped participants construct meaning and provide comprehensive comments on other's experiences. Strickland, Keat, Wilburne, and Adera (2009) and Abd Al Galil (2019) stated that reflection enhances interaction, participation, and communication among learners through responding to each other's' reflections which leads to meaning construction as they argued that meaning construction happens when the learner gets involved in dialogues with other learners or with him/herself.

Ely and Scott (2007) stated that reflection includes considering and sharing personal experiences whether by speaking or by writing. They added, using a reflective framework can be helpful in going beyond discussing experiences towards analyzing and interpreting them. Steiner (2004) stated that the overall purpose in both coaching and mentoring is to create opportunities for both teachers to reflect on and improve their practice.

1.2.2 Peer-assessment

Stoynoff (2012) called attention to how the separation of teaching, learning, and assessment has largely ended and even been replaced by integration. He also points out that teachers recognize the positive effects of assessment in the pre-, during and post-teaching and learning stages. Furthermore, he highlights the growing role of learners in assessment and complementing teacher-based assessment through students' self- and peer-assessment. Thus, peer assessment highlights the features of formative assessment and provides feedback from both teachers and students. Peer assessment has also found its way into online assessment. Another point supporting peer-assessment is made by Mok (2011), who claims that the thoughtful implementation of peer-assessment can positively affect developing learner responsibility, metacognitive strategies, evaluation skills, and a deeper approach to learning.

However, Mok (2014) also found in her project conducted with junior high schoolers in Hong Kong that psychological preparation can be necessary and supports

her findings. Structurally, as Hansen and Liu (2005) explain, peer assessment follows a pre, during and post phase. In the first phase assessment criteria need to be explained, negotiated and illustrated through a sample while also considering the students' previous experience and creating an environment for peer trust. The study concluded that peer assessment is a highly effective tool that has the potential to influence language development positively in several ways. However, adapting it to the level, interests and needs of the students is crucial. If they are new to computer-based assessment, it might be overwhelming at first.

Liang (2010) argues that online peer response is used as an alternative to face-to-face communication. Chen, Wei, Wu, & Uden, (2009) claimed that collaborative learning projects can reduce language anxiety as students work as a team. Thus, taking on the role of instructors through peer responses contributes to their critical thinking skills. In online delivery, such initiatives also secondarily contribute to the enhancement of learners' IT skills and their willingness to use technology. Elliot (2008) assured that peer assessment has been used in language education and continues to be important as it includes authenticity, personalized feedback and the assessment criteria are usually negotiated. Kavakli, & Mirici, (2019) assured in their study that there is a need for a more practical curriculum molded with a new system for the enhancement of the current language testing and assessment practices.

Like self-assessment, educators consider peer-assessment advantageous, as it furthers opportunities for students to identify targeted learning goals (Herrera et al., 2007; & Chappuis & Stiggins, 2004). In peer-assessment, students often assess other students' work compared to the criteria developed by the instructor, or both students and the class instructor. An important aspect of peer assessment is that it engages students in dialogue with their classmates, commenting on each other's work rather than a one-way feedback system from instructor to student. To enrich peer-assessment and use it productively, students are trained to assess their peers purposefully, with the goal of improving learning. As students commented on their peers' work, they used informal language which is understandable to them. In addition, given the concept of peer-assessment, students compare other students' work to the accepted criteria, which helps them to discern outstanding elements of both their own and their classmate's performances and products.

A professional development model that may embody both collaboration and reflection is co-teaching. In literature, many definitions of collaborative teaching can be found. Some studies (Friends and Cook,2010; Wassel & Lavan, 2009) defined co-teaching as two teachers sharing not only the physical space but also the planning, conducting and assessment stages of instruction to teach a group of students. The core idea of co-teaching is sharing field experience through social interaction so as to look at one's own practices critically. There is also a growing tendency to use team teaching to refer to any form of collaborative teaching. Coaching/Mentoring: Two or more educators form a relationship to improve their teaching practice. Even according to traditional coaching or mentoring relationships, a more experienced and knowledgeable teacher takes on a supervisory role to provide guidance and offer support to a less experienced colleague.

1.2.3 Self-assessment

Alena & Lukáčová & Noga (2019) stated in their study entitled teacher's self-assessment as a part of quality management Introduction: Self-reflection is an essential precondition to improve and enhance teacher's performance which have been implemented at the Faculty of Education at Nitra Constantine the Philosopher University within the framework of its internal quality assurance system. Both quantitative and qualitative research methods were used to reveal the results of the evaluation process from the assessee's perspective, as well as from the evaluator's point of view. The results of the presented case study show that introduction of teachers' self-assessment into the internal mechanism of the quality management has had a positive influence on teachers' professional performance, which has been reflected in assessments conducted by students. The study also concluded that the efforts of Constantine the Philosopher University aimed at quality assurance of all areas of its activities to ensure conditions for its long-term prosperity and competitiveness have also acquired a national recognition.

Papanthymou & Darra (2019) studied the Contribution of Learner Self-Assessment for Improvement of Learning and Teaching Process, their study was a literature review of 37 empirical studies from Greece and internationally of the last

decade and aims at investigating the contribution of learner self-assessment to: a. enhancement of learning motivation, improvement of academic performance/learning, development of self-regulating learning and raise of self-esteem. According to the findings, a raise of student's self-esteem as an outcome of self-assessment has been found internationally, in Secondary education in religious education and in Greek Primary education in English language learning. Moreover, self-assessment process has also been examined internationally in non-formal education where English is taught as a second language with positive outcomes in performance/learning. Finally, self-assessment is implemented through various practices and tools such as rubrics, checklists, scripts, think boards, reflective journals, and mind maps and in combination with learning or teaching models.

Fraser, & Wotring, (2020) indicated that the process of self-assessment and reflection on teaching can transform and regenerate these experienced English language teachers and their teaching practices. Once learners can use the assessment criteria appropriately and can actively contribute to peer-assessment activities, the next step is to engage them in self-assessment tasks. Self-assessment is a very powerful teaching tool and crucial to the Assessment for Learning process. Once learners can engage in peer-assessment activities, they will be more able to apply these new skills to undertaking 'objective' assessment of their own work. We all know it is easy to find fault in other people's work, but it is a far more challenging process to judge one's own work. Once learners can assess their own work and their current knowledge base, they will be able to identify the gap in their own learning; this will support learning and promote progress and contribute to the self-management of learning. Teachers may wish to present a series of anonymous learners' work, possibly from a previous cohort, so that they can review and evaluate work that does and does not meet the assessment criteria. This will clarify what has been required in a task/activity/assignment and lessons learnt can be applied to their own work.

1.2.4 Questioning

The study of Altun (2010) explored the difference between novice and experienced university teachers' questioning techniques in terms of the number and types of questions they ask, the amount of waiting time they give, and feedback they

provide to students. As he conducted the study with five novice and five experienced English teachers at Bilkent University School of English Language (BUSEL) and Middle East Technical University (METU) Department of Basic English. The findings revealed that novice and experienced teachers differed in their questioning techniques in some aspects quantitatively, in some aspects qualitatively. The results also showed the distinction between training and experience since they were both found to be influential in teachers 'questioning behaviors. It was discovered that while some questioning habits could be developed via experience, some of them were learned via training. The results draw teachers' and teacher trainers' attention to the effect of experience on teachers' questioning techniques.

While these studies focused on the types of teacher questions, in a more recent study, Bolen (2009) dealt with the relationship between teacher training and actual questioning preferences, measuring the effect of professional development sessions for teachers on the types of questions they suggest. She found that such sessions promoted higher-level teacher questions and learner responses. Teachers' questions are vital for creating a communicative environment in language classrooms because they necessitate student responses, and thus lead to a dialogue between the teacher and the student. In order to achieve this desired interaction with and among students, each teacher employs different techniques. For example, while some teachers mostly ask display questions to elicit students 'knowledge about a topic, others ask referential questions to learn what students think about the topic. The diversity in teachers 'questioning behaviors may stem from different factors, one of which may be their level of experience in teaching.

Bylieva, Lobatyuk, Tolpygin, & Rubtsova, (2020) revealed that incorrect results of anti-cheat programs can largely affect the trust between learners and teachers. The ideal way to prevent academic dishonesty is to perform tasks based on the concept of creative academic elements. Language teachers 'teaching experience may also be influential on the questions they ask. Mackey, Polio, & McDonough (2004) suggest in their research that while less experienced teachers may not be likely to deviate from their planned lessons to employ spontaneous learning activities, more experienced teachers may be more skillful at implementing instructional routines and may be more willing to deviate from planned activities. Mackey et al. did not however observe the

questioning patterns of the teachers. Despite the common belief that the more experienced the teacher is, the more effective his/her questions in the classroom are, to my knowledge, there is no research directly aiming at exploring the relationship between them. Statement of Myhill (2002) suggests four categories into which, she claims, any question can be classified: factual, speculative, procedural, or process questions.

Khdour, (2020) proposed a semantic-based framework that automates the process of electronically assessing the answers to questions on e-learning systems based on their semantic descriptions. Ho (2005) stated that it is problematic to categorize the questions since classroom interaction is dynamic and it changes according to the varied intention of the teachers and students. A researcher who has started his/her observations to examine some particular question types determined according to the objectives of the study may discover some questions that do not fit in any of these categories. Thus, we cannot claim that there is only one way to classify questions.

Dronia (2013) & Altun (2010) suggested that finding the right balance between pushing students to respond quickly and creating long silences lets students provide fuller answers, expand their ideas, and process the material to be learned more successfully. If the wait time is very short, students are inclined to give short answers or to say ―I donot know. On the other hand when teachers increased wait time to five seconds, students have been observed to give longer responses. These findings show how two or three seconds can change the learning behavior of students and lead them to participate in lessons more. Moreover, it should be taken into consideration that different types of questions may require different amounts of wait time.

1.2.5 Feedback as an assessment strategy

After giving an appropriate amount of wait time and getting the desired answer from students, the teacher should provide them with feedback. Madsen and Cassidy (2005) examined preservice and experienced teachers' evaluations and thoughts about teacher effectiveness and students learning. After observing videotaped music classes, the 52 participants were asked to rate the effectiveness of teaching and student learning in those recordings. Results showed that experienced teachers rated teachers and

students lower than novice participants. Qualitative analysis revealed that both groups made comments about the teacher, and experienced teachers were more critical.

Randall and Zundel (2012) agreed that feedback improves learning because it gives students the opportunity to learn from their mistakes. Once a student answers a question, the application tells them right away if they are correct, incorrect, or took too long to respond. It is essential for teachers to provide their students with feedback on their performance. However, when the teacher tends to correct each mistake made by the learner without paying attention to the kind of mistake, the level of the students or the activities they do, the purpose of the speaking activity will be lost. (Baker & Westrup, 2003) believe that the teachers should encourage and motivate their students to have feedback on their speaking activities and to achieve that, they must be careful of not giving continuous correction on each mistake so as not to lose the students` enthusiasm and willingness to participate in speaking the language.

Ana, Minghat, Purnawarman, Saripudin, Muktiarni, Dwiyanti, & Mustakim, (2020) featured e-learning systems starting from student knowledge about e- learning, planning e-learning, implementing e-learning until evaluating e-learning activities. The Assessment for Learning is only as good as the quality of feedback provided to learners. Successful Assessment for Learning strategies hinge on the nature of feedback, its content and the way it is received and used by learners. Many adults can still remember feedback they received from teachers numerous years later and not always for the best reasons, when feedback provides correction or improvement in a piece of work, it is valued by learners and acts as an incredible motivator. The feedback may be affirmation feedback that is provided as soon as possible after a performance has been observed. The feedback may be a developmental feedback that type of feedback is an important component of professional and personal development. It can reveal individual areas of strength to build upon and weakness in need of improvement. The feedback may be an effective feedback which is tailored to meet the needs of the individual and is directly linked to observable evidence – either a learner's written or practical work or a performance of a given task. It focuses on individual action points. Effective feedback deals with one point at a time.

Boussakuk, Bouchboua, El Ghazi, El Bekkali & Fattah, (2021) used technology to create online examinations and explore the assessment content. When learners complete a piece of work and hand it in to the teacher, they expect two responses: the assessment decision (grade or mark), but more importantly, feedback on their performance. Sometimes learners focus too much on the grade or mark out of 10 that they have been awarded for a particular piece of work without taking the necessary notice of the information contained within the written feedback which could help them improve the work or affect the way they approach the next task or assignment. The feedback may be oral feedback when learners receive oral feedback every time they are in contact with their teacher. Written feedback is a type of feedback where the teachers should focus on feeding back on the quality of work and not on the person to minimize the possibility of personality issues coming into play.

1.2.6 Observation

According to Murray, (2010) peer mentoring usually involves pairing a novice teacher with a more experienced teacher to provide support and guidance. The more experienced teacher is called the mentor and the novice teacher is called the mentee. The novice teacher could be a teacher who is simply new to a school or organization but not new to teaching. For example, John is an experienced teacher but conducting teacher training is new for him, so Emilia is mentoring him.

Peer coaching is another form of peer mentoring, but it is slightly different because the two teachers who are paired together see themselves as equals. With peer coaching, the two teachers can work together to choose a topic from the teaching field or a classroom-related issue to focus on.

Techniques for teachers' peer mentoring

According to American E-Teacher professional development program (2018) and Lopukhova & Makeeva (2018);
Peer mentoring can happen in many ways. Sometimes peer mentoring can be arranged through schools or departments. Also, the program stated the best observation tips and best Practices

- sit at the back of the room or to the side; avoid sitting where students can see you
- arrive early, or at least on time
- do not participate in the lesson, unless asked by the teacher
- take detailed notes

Here are five ways teachers can participate in peer mentoring:

Mentors can invite mentees to observe them. Then they can discuss the mentees' impressions and opinions about the lesson. Mentors can also observe mentees' classes. You will learn more about peer observations later in this module.

Collaborative Journals

Collaborative journals are a type of reflective journal in which teachers reflect on their lessons: what went well and any issues or challenges. Then teachers share these journals with their colleagues to compare their experiences, offer solutions, ask questions, and get ideas for their own classes.

Teacher Support Group or Study Circle

Teachers can form a small group for different reasons. This group can be a teacher support group in which teachers get together to discuss classroom-related issues and provide advice to each other. This group could be a study circle in which teachers gather to discuss a teaching-related topic or a book. With these small groups, teachers mentor or coach each other informally in a comfortable environment.

These meetings are usually structured with an agenda and a group leader or facilitator, but no one is the expert in the group. The overall goal of these meetings is for the teachers to learn and share experiences about a topic together.

Teacher Support Network

A teacher support network is like a teacher support group or study circle, but it is a much larger network. It includes teachers from other schools in the community or region. Teachers can form these networks to connect with other teachers in the field. They can serve as mentors or coaches to each other by meeting regularly to discuss teaching-related topics and issues.

1.5.1.4 Teachers' Associations

Teachers' associations provide opportunities for teachers to meet and participate in activities with other teachers on a local, national, or international level. By participating in conferences and workshops, teachers can develop professional contacts in the field to serve as mentors. In addition, teachers can collaborate with each other to present or share ideas after conferences. This also provides mentoring or coaching opportunities for teachers.

1.6 Professional development for EFL teachers

Sai & Siraj (2015) indicated that traditionally teachers used to work in isolation much like independent contractors within a school. According to (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006), there is a correlation between student achievement and success from one side and the teachers' sharing ideas and improving institutional practices. In this situation, the PLCs become an important tool to meet teachers' new knowledge and other requirements continually to help teachers adapt and improve their visual field which is helpful for both the teachers and the whole organization.

Grant, (2021), asserted that the pandemic has promoted good use of educational technology, many companies (like Zoom, for example) have allowed free access to their services for educational purposes. There is also a lot of research and work done to empower both teachers and learners. Facebook Live broadcasts have supported remote teaching and learning. Many researchers such as Marzano, (2011); described the PLC (professional learning community) as a positive environment where teachers work and interact with others to achieve the common goal under the powerful system led by an effective school leader. He concluded that changes in senior leadership of schools appear to be a factor, so increasing attention is being paid to the potential of leadership succession planning to help promote PLC sustainability.

Following the development of professional learning communities, many researchers and scholars give their definitions on the topic of professional learning communities in different periods. In 2007, Stoll and Seashore Louis published their conception of the Professional Learning Community of schools which had four key points: professional learning; the paradigmatic group or team; collective knowledge; creating the atmosphere with moral caring on leaders, teachers, and students. In the opinion of Speck, the school learning community needs leaders, teachers, students,

parents and other community members together to establish and develop. They should apply appropriate dialogues and conversations on topics related to school community improvement (Roberts & Pruitt, 2008).

Moreover (Caldwell, 2012; Wells & Feun, 2007) stated personal mastery is the process of spiritual growth. The discipline of personal mastery builds the forms of self-development and individual learning. It is the theory on individual development which helps distinguish the significant things for individuals and focus on the interrelation and mutual responsibilities of individuals and their organizations. When workers consider that their organization has a positive influence on their individual development, they will try their best to make a contribution to the organization by working hard.

Duli, (2019) believed that employees are the most important element in an organization. Moreover, Sai, & Siraj (2015) assured that professional learning communities must have the important and necessary factors including authority, power, and decision making to be shared and inspired. In the PLC, applying a systemic model which guides the ongoing and cyclic process to form the abilities to explore new knowledge and get the professional reflection for schools. Six elements are: study, select, plan, implement, analyze and adjust. The collective learning process can help teachers develop their subject matter knowledge and teaching skills and practice these in the classroom in order to improve students' learning results and the professional qualities of schools as the regular activities and interactions. The human capacities include the contents of collective learning, shared leadership, and shared professional practices. These tools are helpful for effective schools. Usually, Email is very important for teachers and leaders to share available resources, inquiring questions, and shared practices.

The researcher elaborated the review of literature and the related studied of assessment strategies, e-assessment, u-learning, e-learning and m-learning, the EFL assessment and the e-government in Egypt. The LMS the researcher used to enhance the assessment strategies of EFL primary school teachers was by conducting and applying an online assessment program using cloud-computing platforms.

PART2 Cloud computing

2.1 Interactive learning system

Prendes-Espinosa, Gutiérrez-Porlán, & García-Tudela, (2021) shed the light on the evolution of digital learning: from electronic-learning (e-learning) to mobile-learning (m-learning) and Ubiquitous-learning (u-learning), through blended-learning and new other models like adaptive learning. In every model, teachers can try to promote collaborative work and they need to assess these group strategies. According to Khan, Swar, & Lee 2014; Shyamlee, 2012; Zhaoming & Wei, 2010) the new era of information and technology assigns new challenges and duties on the modern teacher. Technology, including the Internet, provides so many options to make teaching and learning processes interesting and more productive. Electronic/online learning can provide an electronic assessment-driven instruction program or environment for developing EFL pre-service teachers' teaching skills. Technology has had its manifestations in education through on-learning, flipped learning, blended learning and e-learning. E-learning has been noted to be effective. One of its manifestations or tools is the webquest which is based on the theory of constructivism.

The rapid development of information and communication technologies (ICT) internet technologies and web-based applications have initiated a transformation in all educational institutions all over the world. Online education has grown rapidly over the past few decades, and online enrollments for courses have been growing faster than higher education enrollments. Shedding the light on the concept of e-learning reflects that it is a broad term accepting various meanings. Arkorful & Abaidoo (2015) considered e-learning as a type of learning supported by information and communication technology (ICT) via the internet, intranets, extranets, or many others to improve the quality of teaching and learning.

Abou Shaaban, (2020) stated that EFL professors need training to develop their teaching skills in designing, developing and creating action plans for teaching English as a foreign language e-courses that meet the objectives of foreign language teaching\ learning. In addition, the Joint Information Systems Committee (JISC, 2012) and Appiah & Van Tonde (2018) stated that e-learning as learning is facilitated and supported using information and communications technology. It can cover a wide range

of activities from the use of technology to support learning as part of a 'blended' approach, a combination of traditional and e-learning approaches to learning which is delivered completely online.

Bashshar (2017) explored how the design features of a virtual learning environment impacted adult learners' motivation in the workplace. Constructivist and self-determination theories were used as theoretical frameworks. The research question in this study explored how social and external contextual factors influence an adult learner's motivation to learn in a virtual learning environment. A qualitative case study was used to explore the data collected from 8 federal employees who used a virtual learning environment for professional development. Data were collected from interviews, surveys, and direct observations and analyzed using inductive coding to determined patterns and themes for study. The results from the study indicated the participants viewed visual learning, learner control, ease of use, technical competence, instructor support, and technical support as critical factors that must be addressed when using a virtual learning environment to improve talent development. Limniou & Smith (2010) illustrated that 'e' in e-learning stress the following points:

Engagement of learner

Enhancement of learning

Experience of exploration

Ease of use

Empowerment of the learner to control the learning schedule

Execution of the learning program (p.23)

Machado, Bonan, Perez, & Martelli (2020), pointed to new perspectives regarding a change in face-to-face activities, social isolation and the reformulation of activities resulting in a transition toward e-learning and e-teaching processes. Furthermore, Wang, Huang, Jiang, Zou, & Yang, (2020) indicated that traditional language teaching methods cannot cope with the new technology, and they must be reviewed to meet the changing needs of teachers and learners. Related to what has been mentioned above, it is revealed that traditional methods or approaches of teaching pre-service teachers are not effective in developing the required teaching knowledge and skills. In addition, those traditional methods do not meet pre-service teachers' needs.

There are many good reasons for both lower and higher education sectors to adopt cloud computing and embed such into their systems. Chiu (2014) emphasizes two major characteristics of cloud computing: 'resource sharing" and" ubiquitous". Cloud computing is one of the new and promising computing resources in the 21st century. As the educational institutions as provided by Khayer, Talukder, Bao & Hossain (2020) about the benefits of cloud computing as follows:

Cloud computing allows institutions to access real time information from anywhere in the world in seconds. In the field of education, this is quite important as it helps teachers and learners constantly update their information.

Cloud computing allows teachers and learners to access applications and other useful tools for free.

Basically, cloud computing enables learners to formally undergo education even without going to the four-walled classrooms. For families who travel a lot, cloud computing allows their children to travel while continually learning lessons, submitting assignments and getting grades. Because cloud computing allows for inter connectivity, students are exposed to openness. In other words, they can experience and feel what it is like in the real world. Thus, students can learn things more decently and more effectively because the entire learning process is facilitated by a teacher or a mentor. No boundaries to students' learning environment.

Irgashevich (2020) stated that CCT opens a world of new options for students, especially those who are not assisted well by traditional education systems. Cloud computing services offer higher education and research institutions the power to choose, the opportunity to rethink which services are needed to support their education system, and research the best way to deliver those services.

According to Chiu (2014), the promising field of cloud computing gives a more open and diverse learning environment. There are three main advantages of cloud computing. Firstly, because the users do not store their files on their own computer, the computer's memory is not filled up so quickly. Secondly, the users can access the files from a range of devices (e.g. home computer and school's computers). And thirdly, they can give other people access to some of their files. This makes it much easier to

collaborate with other people on documents. So teachers can access and use all the materials.

If a team of writers or managers are creating a new course or a school policy, they should all work on the same documents together. They can also use cloud computing to encourage live collaboration between learners, e.g. they can create a piece of writing together. If teachers are teaching at a distance (e.g. using Zoom or Skype), they might use a Google Doc as their whiteboard to store new vocabulary and other notes.

Torto (2019) discussed whether Web 2.0 and the social networking media promise to transform educational practice or not. With more emphasis on collaboration and sharing, Web 2.0 provides a platform for more meaningful engagement among educators and students. Web 2.0 tools such as YouTube, Twitter, Social Networking sites and Blogs are popular among students for everyday social and emotional engagements. As Forbush & Foucault-Welles (2016) discussed how English language learners from beginner to intermediate levels can succeed when learning is based on social media.

Miao, Ghoneim, A., Al-Rakhami & Hossain, (2020) indicated that most institutions are currently moving towards cloud computing technology to reduce operational costs. Active language learning attitudes stimulate students to show positive attitudes toward learning English (Karahan, 2007). The emergence of cloud computing has made a tremendous impact on the information technology (IT) industry over the past few years, where large companies such as Google, Amazon and Microsoft strive to provide more powerful, reliable and cost-efficient cloud platforms, and business enterprises ask to reshape their business models to gain benefits from this new paradigm.

Khampusaen (2014) states that Information and Communication Technology (ICT) has proved its advantages in giving more options for education systems. Cloud computing classroom refers to use of ICT in systematic teaching and learning environments. In English as a Second Language (ESL) and English as a Foreign Language (EFL) classroom, Cloud computing is employed to achieve the goals of

language teaching and learning. In terms of language education, Imura (2003) expresses a similar view, saying that foreign language education and social events in the world are closely related to each other. The concept of global competence articulates the knowledge and skills students need in the 21st century.

2.2 Cloud-computing and EFL

There are many different e-learning/online techniques that can be used. According to many researchers e-learning can occur through synchronous or asynchronous communication tools (Latremouille &Al-Jabri, 2018). Synchronous means at the same time. Internet chat, instant messaging, and short message text (SMS) available on laptops or mobile phones are examples of synchronous communication tools. On the other hand, asynchronous means anytime and anywhere in their own pace.

Hiltz, Turoff & Harasim (2007) state that the major characteristic of asynchronous communication is that each person can work at his/her own pace, time and space. Asynchronous communication has both advantages and disadvantages. Advantages include that each person can think about, compose and revise contributions at his/her optimal speed; such discussions are found to be deeper and more considered than synchronous classroom communication. Another advantage is that the time and place of participation can accommodate the schedules of busy people who have other responsibilities in addition to coursework.

Among the disadvantages of asynchronous communication is the decreased immediacy of response as it may be hours or even more which may be frustrating. Moreover, the delayed response contributes to communication anxiety, in which the sender may have concerns regarding whether the message was sent to the correct person, or whether it was received but unworthy of reply. E-mails are the most useful electronic asynchronous tool. It allows learners to socialize in the online classroom environment during the first week of the class.

2.3 EFL e-assessment

E-learning has been handled by theoreticians and researchers. Jethro, (2012) stated that E - learning is learning technologically using computers whether from

a distance or in a face-to-face classroom setting. It is also the use of Internet technologies to promote knowledge and performance. Naidu (2003) points out that e-learning refers to the intentional use of networked information and communications technology in teaching and learning. E-learning includes all educational activities done by individuals or groups, working online or offline, and synchronously or asynchronously via networked computers or other electronic devices. It can be noticed that e-learning has four modalities: individual online, individual offline, group asynchronous and group synchronous. Individualized e-learning online refers to situations when individual learners access resources online. Individualized e-learning offline refers to situations when individual learners access content offline.

Elzainy & Abdulmonem, (2020) explored the impact of e-learning and assessment on the performance of students and faculty, and the challenges to their sustainability. However, Nichols (2003) presents ten hypotheses of e-learning. One of them is that e-learning can be applied in varying educational models and educational philosophies such as constructivism. WebQuest is one of the techniques or tools that represent e-learning and is based on constructivism. WebQuest has some attributes that cannot be found in other tools. For example, WebQuests can be used individually and in groups. It can also be used online and offline.

Bach, Haynes & Smith (2006) state that important e-learning techniques for a good instructional website include: Individualized student and staff entry portal: a person's home page is displayed after logging on that gives a welcome message to the user and lists online courses or modules upon which the student is enrolled. Message board for announcements and notifications. Opportunities for automatic, immediate assessment and summative assessment. This may be through quizzes and tests. Links to other websites: this may include links to learning and teaching websites such as YouTube or facebook or blogs pages. The websites are used for directing students to other online resources and can encourage students to use wide and varied resources on the internet. Tacking and managing learning techniques as statistics may be used to monitor students' online attendance, registration, contribution to discussions and conferences, and assessment of performance in online quizzes and tests.

The study by Brunzel &Giacomo (2010), had explored two important topics within information technology and business management that are IT outsourcing and cloud computing. IT outsourcing has been playing a relevant role in the current competitive environment, enabling several kinds of IT resources arrangements, and aiming to improve business efficiency. The recent business model provided by a combination of cost-efficient technologies is called cloud computing and appears as a new option of IT outsourcing.

Cloud computing, a service to dynamically rent computing resources on demand, establishes the common standard for computing being a utility. Due to high demands for such a service, several providers created and offered their own cloud infrastructure (Erbel, 2017). Cloud computing is a service which dynamically rents computing resources on demand, establishing a way for computing to be a utility (Armbrust & Fox,2009).

Romero, North, Gutiérrez, & Caliusco, (2015) presented the progress in the development of an ontology network, called AONet, that conceptualizes the e-assessment domain with the aim of supporting the semi-automatic generation of assessment, considering not only technical aspects but also pedagogical ones. Also, Armburst (2009), introduced the mobile service provisioning mechanism and the associated challenges. First, it discusses the mobile service provisioning concept. Later it addresses the service provisioning from resource constrained devices such as smartphones.

2.4 Cloud-Computing as an assessment platform

The use of the Internet and new technologies nowadays, for business and for current users, is already part of everyday life. Any information is available anywhere in the world at any time. That was not possible a few years ago as Folch, (2011) stated today a lot of people are consulting their mail online through webmail clients, writing collaborative documents using web browsers, creating virtual albums to upload their photos of the holidays. They are running applications and storing data in servers located on the Internet and not in their own computers.

According to Simon, (2016)   looks at the implementation of the first blended learning courses at the Institute of English Studies at the University of Pécs in the fall semester of the 2013/2014 academic year. It analyzed and discussed five tutors' experiences with their first blended courses. Central focus was given to participants' e-learning understanding, the phases of course implementation, challenges and student feedback. Based on the results, blending had been shown to offer relevant solutions in both programs as the combination of on-site and online elements allows for flexible teaching approaches concerning in- and out-of class settings.

As Adnan & Hammod, (2015) indicated the success of every tertiary institution in the 21st century will to a large extent rely on effective utilization of various forms of information and communications technology resources, understanding of Information Communication Technology (ICT) is therefore essential for meeting up the changing world. In recent years, Cloud computing as a new type of advanced technology accelerates the innovation for education learning. Cloud computing is an extension of the concept of distributed computing – which is the process of running a program or application over many computers connected by a network. The term "cloud" is analogical to "Internet". The term "cloud computing" is used for the computation over the Internet. It is the future of the Internet, the potential and efficiency of using Cloud computing in higher education has been recognized by many universities in the developed countries. Cloud computing in education will resolve not only from an academic point of view, but also particularly a reduction of cost, effective communication, security, privacy, providing, flexibility and accessibility.

Jain & Paul (2013) defined cloud computing as a broad term that describes the shift from conventional desktop-based computing and storage systems to services and data accessed through the internet. The cloud is the network where applications, data and services are accessed online. Cloud computing services are essentially any service that can be delivered and consumed over the internet in real-time. Cruz (2011) defined cloud computing in a less technical manner that cloud computing is a collection of applications and technologies which can be accessed and manipulated by many users in real time. Cloud computing will enable a certain educational institution to make use of the global internet resources for data analysis and data storage.

2.5 Types of cloud computing

E-Learning is usually understood as instruction delivered through educational technology in teaching and learning. A wide range of terms are interchangeable with e-learning, including online learning, computer-based learning, web-based learning, virtual learning, digital learning, and so on. In recent years, e-learning appears to be brought about by advances in information technology. Ward's (2015) study addressed the implementation of the most commonly used cloud applications, Google Docs, in a higher education course. The learning environment integrated Google Docs those students are using to develop writing assignments in between classes has been subjected to learning experience assessment. Factors influencing students' learning experience based on cloud applications include frequency of interaction online and students' technology experience. Suggestions to cope with challenges regarding the use of them in higher education including the technical issues are also presented. Educators are therefore encouraged to embrace cloud computing technologies as they design the course curriculum in hoping to effectively enrich students' learning.

According to Bakla (2019), to collect data, 97 EFL learners and 30 ESL learners were given a survey developed by the researcher. The survey was validated using verbal probing as a cognitive validation strategy. The results revealed that access to technology is not a significant issue in both contexts.

Klein (2016) explains the need to give the world a face through education that focuses on humanizing global education. According to Klein, the world is in dire need of young leaders who understand the interconnectedness of global problems, have the capacity to collaborate across cultural, political and socio- economic lines, and are empowered to develop new solutions to the world's most serious challenges. Sviridon (2008) asserted that in the age of technology, there is a growing demand for teachers, students and trainers to be technologically literate.

As Wost (2016) discussed how English language learners from beginner to intermediate levels can succeed if learning is based on social media. Singh& Gaffar (2016) discuss whether Web 2.0 and the social networking media promise to transform educational practice or not. With more emphasis on collaboration and sharing, Web 2.0

provides a platform for more meaningful engagement among educators and students. Web 2.0 tools such as YouTube, Twitter, Social Networking sites and Blogs are popular among students for everyday social engagements. Khampusaen (2016) states that Information and Communication Technology (ICT) has proved its advantages in offering more options for education management. Cloud computing classroom refers to use of ICT in systematic teaching and learning. In English as a Second Language (ESL) and English as a Foreign Language (EFL) classroom, Cloud computing is employed to reach the goals of language teaching and learning.

According to some studies (Ward, 2015; Armbrust et al., 2009) Cloud computing has had a transformative effect upon distributed systems research. It has been one of the precursors of the supposed big data revolution and has amplified the scale of software, networks, data and deployments.

According to The Broadband Commission (2013), technology plays a useful role in making education systems more efficient by helping teachers and administrators streamline routine tasks and improve assessment and data collection. Students use it to actively participate and personalize their own education, and teachers use it to adapt new roles in teaching as facilitators of knowledge rather than knowledge providers. As class interaction and authenticity are the core of success in a foreign language learning, some institutions make their students use video chat to speak to their instructors one-on-one for 20 to 30 minutes each week. This is claimed that it is more face-to-face time than most students receive in campus-based degree programs Elliot (2013). The integration of cloud computing has made a huge impact on the Information Technology (IT) industry over the past few years, where large companies such as Google, Amazon and Microsoft strive to provide more powerful, reliable and cost-efficient cloud platforms, and business enterprises seek to reshape their business models to gain benefit from this new paradigm.

Karo, & Petsangsri, (2020) illustrated that online mentoring through professional learning was effective at the highest level. Moreover, Kapple (2005) pointed out that teaching can surpass regular instruction if proper teacher training exists and if students are actively engaged, motivated and provided with appropriate technology. Technology, for Recesso and Orrill (2008), can improve learning and

support the development of a rich environment. Teachers can integrate technology into their classes in order to engage learners, deliver instructions, enhance teaching strategies, and even improve on their weaknesses.

According to UNESCO (2003), the internet increases accessibility of reference materials and data, and offers a possibility to develop experiences by comparing similar and relevant information with others. It also helps in the quickness of information retrieval, including online access mode. Moreover, it decreases the cost of information delivery to users and leads to quantitative growth and qualitative diversity of the delivered information. It is reasonable, here, to assert that using the internet has impacted the sphere of English language pedagogy greatly. McNeil (2002) considered technology a practical application of knowledge using new machines, equipment and ways of doing things that are based on modern knowledge.

2.6 Cloud computing in the Egyptian Educational system

Grant, (2021) indicated in his podcasts for the British Council that around the time of the first lockdowns, the United Nations released some astonishing figures: i.e. in March 2020, 89% of the world's student population was out of school due to Covid-19 closures. On the other hand, there is a limited body of literature found exploring opportunities for adopting cloud computing (CC) in Egypt. The manifestations of CC in Egypt appeared in the literature are web-based education, e-government, and social networking. In the area of web-based education, a survey study has been conducted in the British University in Egypt (BUE) to assess the effectiveness of using open-source Moodle e-learning platform on improving the quality of students' comprehension, which is positively proved (El-Gazzar, 2015). For cloud e-government in Egypt, a study argued that the transition of e-government to CC is not easy and has to be thoughtful; thus, the study proposed a "Before Cloud e-government" model or BCE-government model; this model consists of five stages for the Egyptian e-government to CC: assessment, architecture reconstruction, classification of services, aggregation, and legal contract.

A study suggested a hybrid model for adapting e-government to CC in Egypt to minimize security, privacy, reliability, performance, and legal concerns (Hana, 2013). This model contains three clouds: (1) Intra-cloud that is a private cloud, (2) Extra-cloud that is a community cloud that enables entities from different servers to integrate and their work, and (3) Inter-cloud that is a public cloud that enables users like citizens, guests, or organizations to communicate with the government servers.

El-Gazzar, Hustad, & Olsen, (2016) predicted that with 16 million Facebook users, Egypt constitutes about %25 of total Facebook users in the Arabic countries and 1.4% of global Facebook users; this ranks Egypt as first among the Arabic and gulf region and 17th worldwide (Salem & Mourtada,2012). Twitter users in Egypt are limited, approximately 519,000 users, compared to their Facebook equivalents. Egyptian young people created accounts on Facebook and Twitter to drive the first cyber revolution on January 25th, 2011, to take down President Mubarak and change his regime. The use of social media for such political change had an impact on political, social, and business areas in Egypt. Further, Mubarak's government reactions to the revolution had a negative impact on the ICT industry in Egypt in general, and CC in specific [39]. However, the new government is dedicating efforts to turn this negative impact into a positive one and leverage Egypt's image worldwide.

Saleem (2011) ensured that innovations are vital to drive the necessary tide of change. This demand of reducing the computing cost has led to the innovation of Cloud Computing. Cloud Computing provides better computing services through the best utilization and decreases administration and infrastructure costs. Cloud Computing is the sum of Software as a Service (SaaS) and Utility Computing.

As it is referred to by Cheng &Wang (2015), exploring what social and educational infrastructure is needed to support classroom use of student response systems or as they call it the networked classroom. Results revealed the importance of the social and communication elements of the class when applying student response technology.

Sprague (2016) illustrated that although the results of his study show how SRS can aid students in ESL courses, additional research is needed to determine how

valuable Socrative is for ESL graduate students, given that this study was fueled by a small sample size at a single university and was primarily focused on students' perceptions (rather than measurable changes in academic performance or language skill). ESL educators should be encouraged to continue exploring the use of SRS and share their findings.

In fact, even though numerous researchers have provided wide overviews of a large number of apps and software, little research provides the smaller, more specific details of using such technology that could be beneficial to students and instructors. For example, in a recently published article in TESOL Journal, Ahmed and Nasser (2015) state many benefits to using iPads in the classroom and mentioned apps that could be used for polling but do not discuss the specific details of the software related to creating or using exit tickets. They also mentioned polling is not surprising given the fact that an important practice of ESL instructors is regularly checking and assessing student comprehension.

2.7 Some online assessment platforms: (Kahoot, Quizlet, Quizizz, Wordwall, Padlet, Socrative)

In this part, the researcher illustrates the review of literature and related studies dealt with some online assessment tools as cloud computing platforms. It is important to consider that new trends like Gamification and Game Based Learning are getting stronger and more convenient for the ESL learner. Thus, the main objectives are answering what type of digital tools we can use to promote virtual engagement, motivation, and collaboration, which are considered as different models of e-assessment.

2.7.1 Zoom

Due to the COVID-19 pandemic in the March 2020 semester, many universities were forced to move from face-to-face to online. Many institutions used Zoom as their delivery platform. Cheung, (2021) reported a case study of an English as a Second Language (ESL) teacher in Hong Kong who conducted lessons via Zoom during the COVID-19 pandemic. The study focused on the factors influencing her technology integration in synchronous online teaching mode.

Ramadani, & Xhaferi, (2020). suggested using online programs such as Google Classroom, Google Meet, Skype, Zoom and many other technological tools in order to help learners to continue with their studies. Although many teachers from different schools used many devices during the pandemic, ZOOM was the main one.

Serhan (2020), investigated students' attitudes towards the use of Zoom in remote learning, and their perceptions of its effects on their learning and engagement in comparison to onsite learning. Thirty-one university students participated in this study. The results indicated that students had a negative attitude toward the use of Zoom and perceived it as having a negative effect on their learning experience and their motivation to learn. Students listed flexibility as a main advantage to using Zoom for learning.

Charbonneau-Gowdy & Cechova (2020) aimed in their study at providing preservice EFL teachers in Chile with a practical hands-on opportunity to teach in distance learning scenarios with small groups of higher education military students in the Czech Republic. The focus was on the influence of this unique experiential e-learning initiative on the identities and capabilities of a group of thirteen, 3rd year pre-service teachers. The online sessions were aligned with 21st century and sociocultural learning theories and conducted with Zoom video conferencing using an interactive discussion-based and learner-centered pedagogy.

Ayoub, (2019) investigated the effect of using zoom as a synchronous learning strategy on enhancing the engagement, success, and motivation of Lebanese University students in Bekaa. The researcher chose an experimental design with a mixed approach to conduct this study using a pretest, and a posttest to measure the change in the levels of EFL students, and a student questionnaire to examine the attitude of the students towards the zoom sessions. The findings indicate that zoom sessions enhanced EFL students' English language level and motivation towards the learning process.

Dvir, & Schatz-Oppenheimer, (2020). During the global crisis, novice teachers had to deal with unexpected challenges and take advantage of new opportunities. This study was based on 32 narratives of novice teachers in Israel who took part in a one

semester online Zoom induction in two workshops. The open conversations narratives in the meetings were recorded and transcribed, and then subjected to categorical content analysis. The findings show the challenges and opportunities related to three central categories: technological, pedagogical, and educational system in the novice teachers' experiences.

Ng, (2020) dealt with the challenges in training English language preservice teachers in the Communicative Language Teaching (CLT) approach through adopting synchronous online teaching using Zoom and the development of CLT tasks in the time of COVID-19. This study examined the challenges of using synchronous online learning before explaining the rationale for adopting Zoom to train preservice teachers. It then described how training was carried out, discussed the outcomes of the training, and reflected on the practice of using synchronous online activities for training preservice teachers in the CLT Approach.

2.7.2 Kahoot

Kahoot! is a famous eLearning platform that can be used to add motivation, learner engagement, and meta-cognitive support to higher education classes with limited teacher or learner training required. Plump & LaRosa (2017) indicated that student responses using Kahoot in graduate and undergraduate classrooms indicated that students enjoyed the use of kahoot so much. The immediate feedback increases opportunities for educators in various educational systems to tailor the instruction based on learners' understanding while the surveys allow for anonymous class participation, which engages all students. They also used Kahoot! as an additional teaching tool in classes with 30 students, about once a week, and for about 15 minutes. Kahoot! can be played by over 4,000 players at a time. However, Plump & LaRosa (2017) stated that Kahoot! features as a classroom phenomenon with about 20 million users during May 2016. However, it is user-friendly, it can work with different types of devices like laptops, tablets, mobiles, and PCs. Also, it is a totally free platform that enables teachers and students to interact synchronously and asynchronously.

Kahoot gives educators quick data collection to plan for data- driven and differentiated instruction. Cumming (2014) argued that differentiated instruction is a challenge for most educators and suggested that one of the means to overcome this issue

is through the use of technology in the delivery of instruction. Kahoot is one of the means that could be used in the classroom, at different levels, to overcome this challenge. Creating interactive engaging lessons is every educator's goal when planning instruction. Once students are motivated, they become engaged; for this reason, their attention increases (Glover & Brown ,2006).

2.7.3 Socrative

Socrative is an online assessment tool that provides opportunities to enhance students' engagement in the synchronous and asynchronous classes. The use of Socrative can be for engaging and motivating learners and as an online assignment completing tool that can be developed as an easy-to-use tool for building assessments and seeing results in real-time. It is everything you need to improve instruction and help student learning (Balta & Perera-Rodríguez (2018). Socrative is a shareware online assessment tool that empowers instructors to engage and assess their students as learning takes place. Through Socrative, instructors can design assessments online and the students can access these using any device (laptops, smartphones or tablets) or browser. Moreover, Socrative allows students to design exams, surveys and competence tests with multiple-choice, true/false and/or short-answer questions (Wash, 2014). The teacher can use Socrative as a warm-up, exit ticket, or discussion starter, and use the data to create flexible work or homework groups. However, the students can generate the questions for a test or quiz review. The teacher should leave the questions as they are without corrections to lead the student to a discussion.

The results of Sprague's (2016) study showed that Socrative allows teachers to easily increase the students' learning experience. One way faculty can make sure everyone in class is understanding and keeping up with the material is using Socrative exit tickets. It may be useful for faculty to review exit tickets to see what issues may have come up in each course they teach and tailor their future class sessions accordingly. The results of this study also show that Socrative may be a particularly strong platform for some ESL students who may be too shy to raise their hand or speak up during class about potential problems or areas of confusion, given that 75% of the participants in this study reported that Socrative led them to communicate with their instructor in ways they otherwise would not have done, and 100% stated that Socrative increased their comfort level in the classroom.

2.7.4Quizlet

Setiawan, Muhammad & Wiedarti, Pangesti (2020) indicated the effectiveness of Quizlet application towards students' motivation in learning vocabulary as they stated that the higher motivation the students gain, the bigger success they achieve in mastering vocabulary. The purpose of this study is to investigate the effectiveness of using Quizlet Application as the media for increasing the students' motivation in learning vocabulary. Nonequivalent control group design was used in that research. The participants were 65 students who were divided into the experimental and the control groups. The students' motivation was observed during the process of vocabulary learning by using the observation checklist. The results show the use of Quizlet Application is effective in increasing the students' motivation in learning vocabulary. Students felt more enthusiastic, did not get bored easily, and thus showed high interest when learning vocabulary via the app. They also did the tasks provided in that application independently.

According to Wright (2016) Quizlet Application is known as the digital flashcard which can be used through both computers and smartphones. Quizlet Application is considered as the digital flashcard that provides picture cards used through electronic devices such as smartphones, online or offline, to help learners memorize the form and meaning of the words together. The recent study by Christanti (2018) has shown that the Quizlet is effective in increasing the students' motivation in learning vocabulary. Besides, another study found that the Quizlet Application could increase the students' positive attitude toward the English course (Cinar & Ari, 2019). On the other hand, according to the study conducted by Hikmah (2019), most students give positive responses to the Quizlet Application and regard it as an interesting media. Accordingly, these successful findings prove that the Quizlet Application is appropriate to be used to increase students' motivation in learning vocabulary.

2.7.5 Wordwall

Wordwall (https://wordwall.net/), takes gamification to the next level by offering a variety of mini games. It can be used to create both interactive and printable activities. Interactive games can be played on any web-enabled device, such as a

computer, tablet, phone, or interactive whiteboard. They are designed to be played individually by students, although they can also be teacher-led, by projecting the game and having students call out answers. Most of the games offered on Wordwall can also be printed, either as a companion document to the online game, or as a stand-alone activity. At the time of writing, the free version offers 18 interactive game templates for example, random cards, hangman, show Quiz, True or False, Sort and the Wheel (Dunkerley, 2021).

2.7.6 Flipgrid

Flipgrid (www.flipgrid.com), an online video discussion platform, is designed to empower learners and facilitate collaboration and social learning between students. Microsoft acquired the platform in June 2018, making it freely available to educators worldwide as part of Office 365 for Education. The tutor creates a 'grid' and then invites students to upload short video responses to 'topics' (i.e. questions and prompts) via a custom link. To upload responses to a topic, as well as replies to each other's responses, students use a simple video recorder in the Flipgrid app (Android and iOS) or do so via any web browser. Students can pause while recording, with unlimited retakes possible until they are ready to upload their video. 'Grids', which essentially become collections of topics, are managed through an easy-to-navigate 'teacher dashboard'. When students 'follow' their grid, they receive an email notification whenever new content is uploaded. Video length can be limited from thirty seconds to five minutes, which encourages students to sensitively consider how to communicate their thoughts and ideas. The capability to pause and re-record videos also can help students to practice communication before posting.

Stoszkowski (2018) investigated Flipgrid as an online video discussion platform created to improve, support, and facilitate social communication and interaction between students. His research reviewed the usage of Flipgrid to enhance social distance learning with a cohort of undergraduate students in the University of Central Lancashire. Strong and weak points of the Flipgrid platform are outlined, also the potential barriers and obstacles to its usage, and promising future plans for integrating it in teaching and learning processes. Flipgrid can be applied with a wide range of

students on a year-long Level 6 module that uses them to collect evidence of continuous self-reflection and they can develop their mentoring practice. Flipgrid will be able to appreciate the individual blogs the students currently maintain on the module by encouraging peer communication, interaction, and collaborative discussion on the common issues they are struggling.

2.7.7 Quizizz

Zhao (2019) examined the effects of Quizizz on improving students' learning experiences in their accounting class. Quizizz is a learning interactive app that helps students to be engaged in fun multiplayer class activities. After some class exercises using Quizizz, students reported that this app can bring positive influence on their learning experiences. Melo (2019) conducted research addressing the usage of Kahoot and Quizizz in research methodology disciplines with a group of students from four different technological computing courses. According to the author, both tools were valid strategies that recurs to scoring techniques, awards and other mechanics to involve students in learning, increasing their motivation. González (2019) in his master's dissertation, conducted a study using the apps Kahoot!,Plickers and Quizizz for learning assessment. The results evidenced how promising those tools are to increasing students' grades and their satisfaction with learning the content studied.

In addition to the aforementioned studies, the works of Silva (2019), Rodríguez and Quispe (2019) were also verified for using Quizizz in an educational context. The studies led to a similar conclusion that the gaming dynamics in teaching is facilitated by ICTs, which makes Quizizz a very useful methodology in the higher education environment. Martínez et al. (2018) used Quizizz as a gamified tool capable of improving the learning process and motivating students. The experiment was carried out with a group of undergraduate students in Tourism. According to the authors, 84% of the students showed to believe they improved their learning process with the use of the Quizizz tool, while 78% felt motivated to study the subject.

2.7.8 Padlet

Haris & Yunus & Badusah (2017) investigated the effectiveness of using Padlet in improving students learning in English grammar. The data was collected by means

of pre-post tests and questionnaire survey. 30 students at University Sains Islam Malaysia participated in this study. The data was analyzed using both descriptive and inferential analysis. The result from pre-post tests indicated a significant improvement in students" performance. The result from the survey also showed high preference and participants" positive attitude towards using Padlet as a means for learning grammar. The findings indicated that the use of Padlet is effective in enhancing students" performance in language learning.

Related to some studies ((Fiester& Green, 2016; Miller, 2016; Wood, 2016; Shield, 2014) Padlet features an online wall web-based where ideas are collated via virtual post from the users. This tool offers enormous benefits to its users without the need to have an account. Users can create unlimited walls, invite others to collaborate on their walls, customize and set privacy on their Padlets merely by using a free account Users can also add links, images, text, documents, and video files in their wall and move them round freely like sticky notes on the wall. Sign in up for an account will be beneficial for teachers as they can manage their classroom interaction and performance. An email was sent to notify the teacher each time a student responded to the teachers' wall.

2.7.9 Google Classroom

Bondarenko, Mantulenko & Pikilnyak (2019) experimented with Google classroom as a supportive tool of blended learning for geography learners. The study indicated that the experience of organizing blended learning for geography learners using Google Classroom and discloses its potential uses in the study of geography. Google Classroom appears to be the unity of in-class and out-of-class learning; it is established to realize the effect of interaction of the subjects learning in real time; to assess the quality of training and control the students' learning achievements inside the class as well as outside.

Basher (2017) examined the effect of Google classroom application on the teaching efficiency of pre-teachers, the sample of his research contained (60) educational college students those who are at the average level of academic achievement and the average level of socioeconomic of students who live in the western region of Saudi Arabia, free of physical disability and between the ages of 20-25 years.

The researcher divided the sample into two groups of which (30) students as a control group and the other (30) students as an experimental group. The researcher followed the experimental approach in implementing the Google classroom on the research sample, that's the controlled group taught by the traditional way while the experimental group studied using Google classroom, throughout the first semester of the academic year 2016-2017 (October-December 2016) to share course materials. Then the researcher applied an observation card to test development on teaching efficiency and an achievement test in the computer to test the research hypotheses. The results after testing the hypotheses were: There are significant statistical differences in the results between the experimental and controlled group when the Google classroom application applied, on teaching efficiency of educational college students in each of its levels (planning and evaluation) and in academic achievement in computers.

Commentary

In this chapter, the researcher shed light on the transition from learning, assessment, and training face to face forms towards e-learning, e-assessment, and virtual training. Furthermore, the evolution of the use of apps, platforms, webinars, and free websites to support teachers, parents, and students after the pandemic of COVID-19. The researcher also reviewed the previous studies related to this new paradigm as post-Covid has changed education forever and digital education has become the norm and should make access to the things that support online education more available to everybody. Moreover, the researcher gave some examples for websites she has used in the application of the current study. She also shared some online assessment tools that are available and effectively used worldwide

.

The benefits from the review of literature and the illustrations above were to have solid ground as a researcher before designing the study tools and designing the study assessment strategies program based on some cloud-computing platforms. In addition, navigate into the previous studies to choose the effective platforms for teachers and assessment online tools that fit the study participants and variables.

CHAPTER III
Methodology

This chapter presents the methodology of the study. It comprises the procedures followed, study design, participants of the study, variables of the study, instrumentation, and a description of the study program.

3.1 Study Design

The current study adopted the one- group pre-posttest quasi-experimental design along with mixed research approaches integrating both quantitative and qualitative assessment.

3.2 Participants

Participants of the study were selected after posting an online announcement through social media about a free online training course about assessment strategies for EFL primary teachers. There were twenty-five volunteers who were between 35 to 45 years old, currently teaching English in the Ministry of Education at public governmental schools and who have the intrinsic motivation for online professional development opportunities).

3.3 Variables

The study included the following variables:

1. The independent variable in the present study was the cloud computing platform for developing assessment strategies. The clouds which the

researcher used are Zoom, Google Classroom, OneDrive, Quizlet, Kahoot, Quizizz, Wordwall, Padlet.

2. The dependent variable was developing EFL teachers' assessment strategies including Self- assessment, Peer-assessment, Feedback, Strategic use of Questioning and Reflection.

3.4 Instruments

The researcher designed the following instruments to collect the data required to achieve the aims of the study:

1- The pre/posttest of assessment strategies for EFL primary stage teachers

2- A questionnaire for participants to collect qualitative data about their prior knowledge of assessment strategies for needs analysis.

3- A rubric for scoring the participants 'responses of the pre/posttest in addition, participants could use it to conduct self-assessment and peer-assessment strategies

The researcher conducted the assessment questionnaire to make the study needs analysis of the participants based on the questionnaire results then she chose only five assessment strategies which were the most important strategies for developing the participants' assessment strategies. The participants were asked to read the items of the overview of the following components:

Figure 1

A list of the five chosen assessment strategies

Headings	Subheadings
Self-assessment	A. Designing objectives B. Detailing the steps of a lesson C. Analyzing the target language/texts

	D. Staging the lesson
Peer-assessment	A. Observing peers' objectives and how to meet them B. Assessing the steps of a lesson for their peers C. Filling an observation sheet perfectly
Feedback	A. Interacting with students B. Managing activities and materials C. Focusing on target language/texts
Strategic use of Questioning	A. Finding the right balance between pushing students to respond quickly and creating long silences B. Categorizing the questions dynamically to bounce on the answers C. Using the types of questions to assess the achievement of objectives
Reflection	A. Focusing reflection on specific points B. Learning through the reflective cycle C. Working in professional learning community (PLC).

For designing these instruments, there were some sort of preparations of some lists of components based on background knowledge. The five assessment strategies were Self-assessment, Peer-assessment, Feedback, Strategic use of Questioning and Reflection. Choice and sources of these lists will be discussed in the following points.

3.4.1. The pre/posttest (Appendix A)
Title: Pre/post-test for assessment strategies

3.4.1. Purpose of the test

This test is a tool to guide the participants in developing awareness of the process of learning assessment strategies and of many of the factors that contribute to effective teaching practices and assessment.

3.4.1.2 Pre/posttest Description

The pre/post-test consisted of five parts; each part represented one single assessment strategy. The researcher designed the questions to let the participants freely write down their thoughts, opinions and contributions about assessment and assessment strategies as they know and apply inside their classes. The questions of the test are open-ended questions and cover the main domains of assessments. The total score of the pre/posttest is 216 as shown in table 1 with the number of questions, the item numbers and the given score to each strategy.

Table 1:

Pre/posttest list number of questions

	Number of Questions	The assessment strategies	Score for each Question
	7	Self-assessment	42
	7	Peer-assessment	42
	7	Feedback	42
	7	Strategic use of questioning	42
	8	Reflection	48
Total	36	5	216

In table (1): Pre/post Test Specifications, the table above illustrates the number of questions which are 36 distributed between the five assessment strategies. It also indicates the scores for each strategy.

The pre/post-test started with a page to be kindly filled by participants about their names, contacts, and their expectations from the cloud computing platform training course about assessment strategies. Also, an informed consent (a permission from the participant side to allow the researcher to use their data, works and screenshots as exemplars of the program implementation) which is considered a research consent

which provides the participant with purpose of the current study, the study procedures, the study duration, risks, benefits, contact information, being a voluntary participation and the consent itself with the participant's signature and the researcher's signature as well. The application was about assessment strategies training program for EFL primary teachers. The synchronous training hours were: 36 hours/ 6 -hour per week / 6 weeks. However, the asynchronous sessions were 30 hours informally (orientation zoom LMS sessions, pre-posttest administration, platforms sessions and tutorials by the researcher).

Content

The test was designed and edited regarding the two following elements:

1- The final list of assessment strategies based on the needs analysis the researcher had deducted by analyzing the results of the pilot study and the questionnaire taken by participants.

2- Previous studies and literature reviews concerned assessment strategies and cloud computing.

3.4.1.3 Piloting the test

The test was piloted on a group of 15 EFL public primary school teachers. The test was piloted for the following reasons:

1- Determining the appropriate time needed to answer the test

The time of the test was calculated after piloting the test. This was done by calculating the time that each teacher took to answer the test, and then calculating the average time for the whole group. Thus, the average time of the test was found to be 1 hour. However, some teachers suggested giving the test no time limit to give them the chance to answer freely.

2-Calculation of Internal Consistency

To ensure the internal consistency of the pre/post-test, correlation coefficients were calculated between the score of each individual single question and the total score of

the test. Table2 shows the correlation values between the score of each single item and the total score where D at significance level of 0.01.

Table 2:

Pre/post-test Correlation coefficient between the score of each individual single question with the total degree of the test

Number of Questions	Coefficient of Correlation with the Total Degree
1	0.75
2	0.74
3	0.75
4	0.76
5	0.73
6	0.71
7	0.75
8	0.72
9	0.71
10	0.71
11	0.69
12	0.70
13	0.75
14	0.74
15	0.73
16	0.71
17	0.72
18	0.78

It is obvious from the above table (2) that all items are statistically related to the overall score, which indicates and proves the internal consistency of the test.

3- Reliability of the test

To make sure that the test was reliable, the split-half statistical method was used for the multiple-choice part of the test for the two groups on the pre-posttests. The split

half reliability was computed using the statistical package for Social Science (SPSS). Thus, the test was reliable.

Table 3 Reliability coefficients of the test

Number of Questions	Correlation Coefficient	The assessed component	Reliability Coefficient	Significance
1	0.75	19	0.69	0.01
2	0.74	20	0.71	0.01
3	0.75	21	0.75	0.01
4	0.76	22	0.73	0.01
5	0.73	23	0.73	0.01
6	0.71	24	0.69	0.01
7	0.75	25	0.72	0.01
8	0.72	26	0.74	0.01
9	0.71	27	0.71	0.01
10	0.71	28	0.72	0.01
11	0.69	29	0.71	0.01
12	70.0	30	0.74	0.01
13	75.0	31	0.74	0.01
14	74.0	32	0.73	0.01
15	73.0	33	0.71	0.01
16	71.0	34	0.75	0.01
17	72.0	35	0.74	0.01
18	78.0	36	0.73	0.01

The test reliability for part2 was calculated using inter-rater reliability. The inter-rater reliability was computed using the statistical package for Social Sciences (SPSS). Thus, the test was reliable. Results are shown in Table (4) below:

Table 4: The inter-rater reliability of the second part of the test on the pre/post administration. The inter-rater in this study was the researcher colleague at her school who was studying for an MA.

N	Assessment strategies	Reliability Coefficient	Significance

1	Self-assessment	0.76	0.01
2	Peer-assessment	0.73	0.01
3	Feedback	0.73	0.01
4	Strategic use of Questioning	0.74	0.01
5	Reflection	0.76	0.01

To ascertain the test reliability of the assessment strategies components which were measured the test by two main ways:

1- Cronbach's Alpha:

The researcher used the Formula of Cronbach's Alpha to calculate the reliability coefficient of the test. Cronbach's Alpha = 0.91. This indicated that the test was reliable.

2- Split half of the test:

The researcher used Spearman-Brown statistical formula to calculate the split half of the Assessment strategies test as follows: Using Spearman-Brown Formula and calculating the correlation coefficient of both the ranks of odd and even items, it was found that correlation coefficient value was (0.8), so the stability factor was (0.888). So, the test was found valid

.

3.4.3 Test validity

Test validity was verified through submitting the test in its initial form to a group of EFL senior teachers, supervisors in ElRafei language school in Tanta. They were requested to determine its appropriateness and suitability for EFL primary school teachers and the assessment strategies. The questions were all introduced to the EFL teachers to check their background knowledge of assessment and assessment strategies and how they understand them, as well as their familiarity with each strategy. The researcher wanted to make sure that each teacher would find similarities between these assessment strategies and what they already do during their teaching. Based on the previous results of validity and reliability, the pre /post-test of assessment strategies was found to be valid and reliable.

To assess the learners' progress, the researcher designed a pre/posttest. The test was administered on the participants on the first and last sessions. The researcher, then, compared the results of the pre and post assessment strategies test to measure the participants' progress throughout the program. Also, Participants were able to use a rubric for self-assessment and peer-assessment. During the course, Participants were able to complete a reflection sheet and an observation sheet.

3.4.2   Questionnaire (Appendix B)

Title: A Questionnaire for assessment strategies for EFL teachers

Purpose

To collect qualitative data about the participants' prior knowledge of assessment strategies and the participants needs analysis, the researcher designed this questionnaire.

Description:

 The current study questionnaire was designed considering the review of literature of assessment for learning, e-assessment and assessment strategies. The researcher analyzed the questionnaire items to cover the assessment fields to measure needs analysis and to what extent the participants were aware of assessment strategies before and after the implementation of the program. The questionnaire comprised twenty-one questions to be answered by only yes or no. Based on the participants' responses, the researcher chose to focus on five assessment strategies which are self-assessment, peer-assessment, feedback, strategic use of questioning and reflection.

The questionnaire consists of 21 items which need to be answered by the participants by choosing yes or no. The participants were encouraged to express themselves about assessment for Learning, its implementations and to what extent it helps teachers to achieve the desired benefits to learners. The participants needed little time to only check yes or no which do not show actual opinions but represented a reference of their areas of interest.

3.4.3 Rubric (Appendix C)

Title: The assessment strategies rubric

Purpose

The assessment strategies rubric was an analytical tool designed to assess participants' answers in the pre/post-test. It was also designed to help the participants to assess themselves as well as their peers. The purpose of the current rubric was to assess participants' progress before and after the implementation of the program.

Description

The rubric was designed regarding to the review of literature of assessment strategies (self-assessment, peer-assessment, feedback, strategic use of questioning and reflection). The researcher designed a five-component rubric to be used to grade the participants and the inter-rater. At the same time, the researcher encouraged the participants to use the rubric from now on as an important self-assessment tool to answer and grade themselves using the five-point scale; 5=very good/ 4 = good / 3 = satisfactory / 2 = poor / 1 = very poor. The rubric is in six columns; one for the components (strategies), five columns for the grades from 1to 5 degrees, as 1 is the lowest degree and 5 is the highest one.

The first component was Self-assessment

At level 1(the lowest level), participants were not sure what that was or what it involved. At level 2, participants could identify what that was and what it involved but they had not been able to deal with it in mind. At level 3, Participants could analyze their lesson plan and could talk with ease about what it was and what it involved. Participants could show evidence at least for one time. At level 4, Participants were able to assess themselves explicitly in mind and had shown evidence a few times. At level 5, which is the highest level, Participants could plan for this consistently and intentionally (they still had to think about it) for the rest of components see appendix (C).

3.4.4. The assessment strategies program (Appendix D)

Title: A Program Based on Cloud Computing Platforms for Developing the Assessment Strategies for EFL for The Primary Stage Teachers.

Overview

After the researcher reviewed the literature and related studies and the needs analysis of the participants; she designed the study program and determined its characteristics according to a special framework as a professional development program to EFL teachers to enhance their assessment strategies using a cloud-computing platform. The researcher used some asynchronous and synchronous platforms to implement the study program. The asynchronous platforms used in this study were WhatsApp, Google Classroom and Google Drive. On the other hand, the synchronous platforms were Zoom, Kahoot, Quizlet, Quizizz, Padlet, Flipgrid and Wordwall. The program intended to support EFL teachers to apply five assessment strategies (self-assessment, peer-assessment- feedback, strategic use of questioning and reflection) to improve their teaching and formative assessment skills before, during and post COVID-19. The program was like an authentic model to EFL teachers and experts about teaching practices and assessing their learners online.

Aim of the program

The current study aimed to investigate the effect of using a program based on a cloud-computing platform for developing assessment strategies for EFL teaching in the primary stage. Participants were able to learn about and use assessment strategies side by side with teaching by participating in the cloud-computing platform.

Performance objectives

The participants should have acquired the following performance objectives by the program:

- Define the assessment for learning and assessment of learning.

- Differentiate between assessment of learning and assessment for learning

- Identify appropriate learner assessment options for the communicative classroom, based on language learning objectives

- Learn about assessment strategies and how to use them and when to use them

- Identify self-assessment and self-observation

- Identify peer-assessment and peer-assessment

- Create rubrics and graphic organizers

- Reflect on planning and teaching decisions in terms of their effect on individual students' learning and on the learning of a group of students using Padlet and Flipgrid

- Use different online assessment tools asynchronously and synchronously

- Create online quizzes and share them with peers using Kahoot, Quizizz, Quizlet, Wordwall

- Give feedback using online tools like Padlet.

-

Content

The content of the program consists of one orientation session, one pre-test session, one post-test session and twelve sessions for the professional development program. The sessions intended to cover the following topics:

1. Introduction on assessment

2. Teaching young learners

3. How to write a S.M.A.R.T objectives

4. How to collect information in the classroom and how to use and create rubrics

5. Exit tickets, graphic organizers and using Padlet as a formative assessment tool.

6. Quizizz platform and how to use it as an online assessment tool.

7. Self-assessment and self-observation

8. Peer-assessment and peer-observation

9. Reflection in action and reflection on action

10. Quizlet as an online assessment tool and learn how to create Quizlets.

11. Kahoot as an online assessment tool and learn how to create Kahoots

12. Wordwall and Flipgrid as assessment online tools and how to create them.

Description

This course is designed to prepare EFL teachers who are currently working in the primary stage to use and develop the assessment strategies using online platforms while teaching and assessing. The program aims at developing the teachers assessment strategies for their professional development to be better teachers which will definitely reflect on their classroom practices while teaching and assessing their own students.

Duration

The duration of the program (training hours and schedule) was 36 hours/ 6 hours per week / 6 weeks using synchronously and 30 hours informally (Zoom LMS orientation, pre-posttest administration, platforms orientation and tutorials).

Learning and Teaching strategies

The researcher followed two basic parts for effective online training sessions:

1- Asynchronous sessions

The researcher designed this part of the session to share materials with the participants before the online session as pre-session activities. During the asynchronous session, the researcher shared the objectives with the participants. Also, the participants were asked to accomplish some obligatory tasks. The obligatory tasks were in three fundamental steps as follows:

- Reading an educational quote and reflecting on it and how participants apply it in their class with their students

- Reading an article about the topic of the online session

- Watch a video about the session topic; most of the videos are for experts and real teaching practices by other teachers.

The materials of each session (quotes, articles, and videos) are collected by the researcher from MOCCs, American English website and shaping the way we teach YouTube channel. The researcher used Google Classroom, WhatsApp and Google Drive to share the materials with the participants two days before the session as the participants could have time to study at their pace. The researcher encouraged the participants to discuss and reflect on the materials by chatting to share ideas and experiences on WhatsApp.

2- Synchronous sessions

The researcher designed an online lesson scenario for each session as follows:

- Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.

- Begin the lesson with a short warm-up activity.

- Draw participants' attention to the photo of a quote and ask questions (What do you like the most in this quote? What does the quote have in common with modern technology and teaching? etc.).

- Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)

- Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.

- Before the lesson, prepare a few online games connected with the session's topic; the subject of the lesson. Show them to participants and ask them to play these games individually and in teams to check their understanding.

- Remind participants about the self-study and the next session topic.

- Finish the lesson with an exit-ticket for the participants to write down what they have learned in a Padlet link.

The researcher used the tools of Zoom to engage the participants such as the breakout room, the whiteboard, the chat box, share screen. She also used some other online platforms like; Kahoot, Quizlet, Quizizz, Wordwall, Padlet, Flipgrid. The researcher modeled how to teach online to support the participants who were fully engaged and motivated to express their opinions and share their teaching experiences in a supportive learning community online.

Technological aids

The program of the current study was administered completely online. The researcher used Google Classroom, Google Drive and WhatsApp for the asynchronous sessions and Zoom, Kahoot, Quizlet, Quizizz, Wordwall, Flipgrid and Padlet for the synchronous sessions. The researcher was offering help when needed to support the participants by creating tutorial videos about these websites and she shared some videos from YouTube as well.

Assessment

Participants were assessed twice at the beginning and at the end of the program by administering the post-test. Participants were able to use a rubric for self-assessment and peer-assessment. Participants were able to complete a reflection sheet and an observation sheet. Moreover, participants were asked to submit some of their lesson plans, the self-observation, reflection and peer-observation sheets for their responses and for their peers' during the implementation of the program.

Observation

In the beginning of the program, participants could not differentiate between the positive and negative feedback; they could not determine the right way to give feedback in the suitable time nor to give feedback to their peers and their students. Before the experiment, the participants had not ever heard of the online assessment platforms (Kahoot, Quizizz, Wordwall, Quizlet), nor how to create their own quizzes and games as teachers. However, after attending some sessions they could recognize immediate feedback, feedback sandwich, and create their games and quizzes online. During the administration of the study program, the researcher encouraged the participants to feel

free to reflect and use the reflection sheet and how to focus on their teaching to know what went well and what needed improvements. In the post-test, the participants clearly expressed the importance of reflection and how to conduct it. Teachers reflected and thought about their experiences, analyzed their beliefs, values or knowledge in relation to those experiences and considered options or alternatives for future action plans.

Conclusion

This chapter dealt with the methods and procedures of the current study. The design, sample, and settings of the study were described. In addition, the instruments of the study and its instructional program were described and explained.

Chapter Four
Results and Discussion

This chapter tackled the results of the study. It examined the results of the study, and its interpretation and discussion. It started with the statistical treatments conducted on the pre/posttest results to find out the significant difference between the pre/posttest scores. This depicted the quantitative analysis of the pre/posttest results. This was followed by a discussion of the results. Then, the researcher conducted a qualitative analysis of the results.

Results of the Study

Verification of the validity of the zero hypotheses

Testing the validity of H01

The H01 states that there is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy 'self – assessment' in favor of the post test scores To verify this hypothesis, the paired-samples t-test was used to detect the significance of differences between the pre- and post-application.

Table 5: T-test Results for the significance of difference between the pre-test and post-test mean scores of the experimental group on the assessment strategy 'self –assessment'

Self-assessment	Mean		Std. Deviation		t-value	sig	Effect size (η^2)
	Pre-application	Post-application	Pre-application	Post-application			

	Mean		Std. Deviation		t-value	sig	Effect size
	8.04	31.64	6.03	1.02	21.726	0.000	0.952

Table 5 shows that the significance level (sig) is less than (0.01). This indicates that there is a statistically significant difference at the 0.01 level between the mean scores of the study participants on the pre and post formative assessment strategies test in terms of the 'self-assessment strategy' in favor of the posttest scores. This means that H01 should be rejected. Consequently, the alternative hypothesis is to be accepted. Therefore, it can be concluded that there is a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'self-assessment strategy' in favor of the posttest scores. From table 5, it is clear that the calculated effect size, expressed by the ETA squared, equals 0.952 which is a very large effect size. This indicates that using cloud computing platform professional development program is highly effective in developing EFL primary teachers' 'self-assessment strategy'.

Testing the validity of H02

The H02 states that There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy **'peer – assessment'** in favor of the post test scores In order to verify this hypothesis, the paired-samples t-test was used to detect the significance of differences between the pre- and post-application. Table 6 illustrates this.

Table6 T-test Results for the significance of difference between the pre-test and posttest mean scores of the experimental group on the assessment strategy 'peer-assessment'.

Peer-assessment	Mean		Std. Deviation		t-value	sig	Effect size (η^2)
	Pre-application	Post-application	Pre-application	Post-application			
	8.84	32.80	5.29	1.79	22.295	**0.000**	0.954

Table 7 shows that the significance level (sig) is less than (0.01). This indicates that there is a statistically significant difference at the 0.01 level between the mean scores of the study participants on the pre and post formative assessment strategies test in terms of the 'peer-assessment strategy' in favor of the posttest scores. This means that the H02 should be rejected. Consequently, the alternative hypothesis is to be accepted. Therefore, it can be concluded that there is a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'peer-assessment strategy' in favor of the posttest scores.

From table6, it is clear that the calculated effect size, expressed by the ETA squared, equals 0.954 which is a very large effect size. This indicates that using cloud computing platform professional development program is highly effective in developing EFL primary teachers' 'peer-assessment strategy'.

Testing the validity of H03

The H03 states that There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy **'feedback'** in favor of the post test scores. In order to verify this hypothesis, the paired-samples t-test was used to detect the significance of differences between the pre- and post-application. Table 8illustrates this.

Table 7: T-test Results for the significance of difference between the pre-test and posttest mean scores of the experimental group on the assessment strategy 'feedback'.

	Mean		Std. Deviation		t-value	sig	Effect size (η^2)
Feedback	Pre-application	Post-application	Pre-application	Post-application			
	10.76	38.64	6.157	2.60	19.249	0.000	0.939

Table 7 shows that the significance level (sig) is less than (0.01). This indicates that there is a statistically significant difference at the 0.01 level between the mean scores of the study participants on the pre and post formative assessment strategies test

in terms of the 'feedback strategy' in favor of the posttest scores. This means that the H03 should be rejected. Consequently, the alternative hypothesis is to be accepted. Therefore, it can be concluded that there is a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'feedback strategy' in favor of the posttest scores.

From table 7, it is clear that the calculated effect size, expressed by the ETA squared, equals 0.939 which is a very large effect size. This indicates that using cloud computing platform professional development programs is highly effective in developing EFL primary teachers' 'feedback'.

Testing the validity of H04

The H04 states that There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy **'strategic use of questioning'** in favor of the post test scores. In order to verify this hypothesis, the paired-samples t-test was used to detect the significance of differences between the pre- and post-application. Table 9 illustrates this.

Table (8): T-test Results for the significance of difference between the pre-test and posttest mean scores of the experimental group on the assessment strategy 'strategic use of questioning'.

	Mean		Std. Deviation		t-value	sig	Effect size (η^2)
Strategic use of Questioning	Pre-application	Post-application	Pre-application	Post-application			
	9.72	26.96	3.14	1.86	24.198	0.000	0.961

Table (8) shows that the significance level (sig) is less than (0.01). This indicates that there is a statistically significant difference at the 0.01 level between the mean scores of the study participants on the pre and post formative assessment strategies test in terms of the 'Strategic use of Questioning strategy' in favor of the posttest scores.

This means that the H04 should be refused. Consequently, the alternative hypothesis is to be accepted. Therefore, it can be concluded that there is a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'Strategic use of Questioning strategy' in favor of the posttest scores.

From table (8), it is clear that the calculated effect size, expressed by the ETA squared, equals 0.961 which is a very large effect size. This indicates that using cloud computing platform professional development program is highly effective in developing EFL primary teachers' 'Strategic use of Questioning strategy'.

Testing the validity of H05

The H05 states that There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the assessment strategy **'reflection'** in favor of the post test scores. In order to verify this hypothesis, the paired-samples t-test was used to detect the significance of differences between the pre and post-application. Table 10 illustrates this.

Table 9: T-test Results for the significance of difference between the pre-test and posttest mean scores of the experimental group on the assessment strategy 'Reflection'.

	Mean		Std. Deviation		t-value	sig	Effect size (η^2)
Reflection	Pre-application	Post-application	Pre-application	Post-application			
	8.04	31.64	6.03	1.02	21.726	0.000	0.952

Table (9) shows that the significance level (sig) is less than (0.01). This indicates that there is a statistically significant difference at the 0.01 level between the mean scores of the study participants on the pre and post formative assessment strategies test in terms of the 'reflection strategy' in favor of the posttest scores. This means that the H05 should be refused. Consequently, the alternative hypothesis is to be accepted. Therefore, it can be concluded that there is a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'reflection strategy' in favor of the posttest scores.

From table (9), it is clear that the calculated effect size, expressed by the ETA squared, equals 0.970 which is a very large effect size. This indicates that using cloud computing platform professional development program is highly effective in developing EFL primary teachers' 'reflection strategy'.

Testing the validity of H06

The H06 states that There is a statistically significant mean difference between the pre-test and posttest mean scores of the study group on the total assessment strategies in favor of the post test scores. In order to verify this hypothesis, the paired-samples t-test was used to detect the significance of differences between the pre and post-application. Table (10) illustrates this.

Table (10): T-test Results for the significance of difference between the pre-test and posttest mean scores of the experimental group on Formative assessment strategies all in all.

	Mean		Std. Deviation		t-value	sig	Effect size (η^2)
The total assessment strategies	Pre-application	Post-application	Pre-application	Post-application			
	46.32	168.04	17.99	5.43	32.379	0.000	0.977

Table (10) shows that the significance level (sig) is less than (0.01). This indicates that there is a statistically significant difference at the 0.01 level between the mean scores of the study participants on the pre and post formative assessment strategies test in terms of the 'self-assessment strategy' in favor of the posttest scores. This means that H06 should be refused. Consequently, the alternative hypothesis is to be accepted. Therefore, it can be concluded that there is a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'formative assessment strategies' in favor of the posttest scores.

From table (10) it is clear that the calculated effect size, expressed by the ETA squared, equals 0.977 which is a very large effect size. This indicates that using cloud computing platform professional development program is highly effective in developing EFL primary teachers' 'The total assessment strategies.

Discussion of the Results

The results are discussed and interpreted here in terms of variables of the study (the five assessment strategies: self-assessment, peer-assessment, feedback, strategic use of questioning and reflection).

Self-assessment

The results of the t-test showed that there was a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'self-assessment strategy' in favor of the posttest scores.

Figure 2: Self-assessment t-test for the experimental group
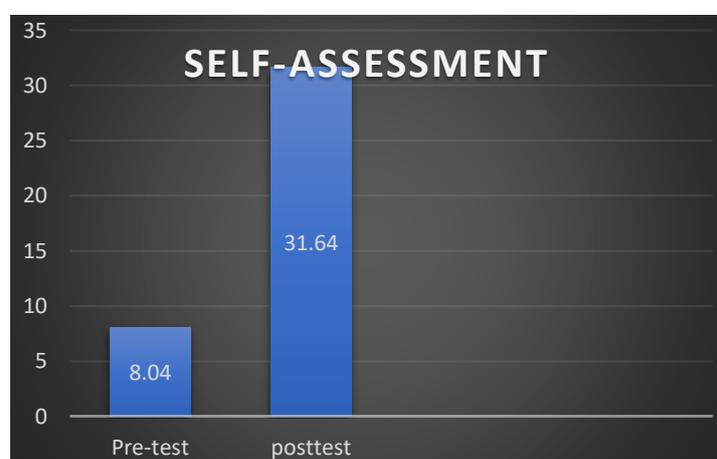
Those findings were consistent with the findings of: Alena & Lukáčová & Noga (2019), Papanthymou & Darra (2019).
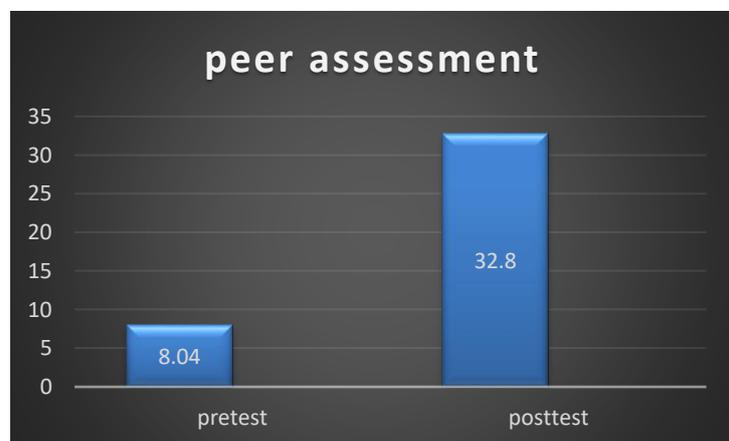
Thus, using a cloud-computing platform proved to be effective in enhancing the formative assessment strategy self-assessment. The results of the statistical analysis showed that there was a statistically significant difference between the mean scores of the study participants on the pre and posttest in terms of the development of the

participants' "self-assessment strategy" in favor of the scores of the posttest. It was presented through the first hypothesis and table 6. This depicted the effectiveness of using cloud-computing platform on developing professional development for EFL teachers.

Peer-assessment

The results of the t-test showed that there was a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'peer-assessment strategy' in favor of the posttest scores.

Figure (3). Peer-assessment t-test for the experimental group

Those findings were consistent with the findings of: Kavakli, & Mirici, (2019), Stoynoff (2012), Mok (2011), Liang (2010), Chen, Wei, Wu, & Uden, (2009), (Cook and Friend,2010; Wassel & Lavan, 2009).

Thus, using a cloud-computing platform proved to be effective in enhancing the peer-assessment strategy peer-assessment. The results of the statistical analysis showed that there was a statistically significant difference between the mean scores of the study participants on the pre and posttest in terms of the development of the participants' "peer-assessment strategy" in favor of the scores of the posttest. It was presented through the second hypothesis and table 7. This depicted the effectiveness of using cloud-computing platform on developing professional development for EFL teachers.

Feedback

The results of the t-test showed that there was a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'Feedback assessment strategy' in favor of the posttest scores.

Figure 4 Feedback t-test for the experiment group

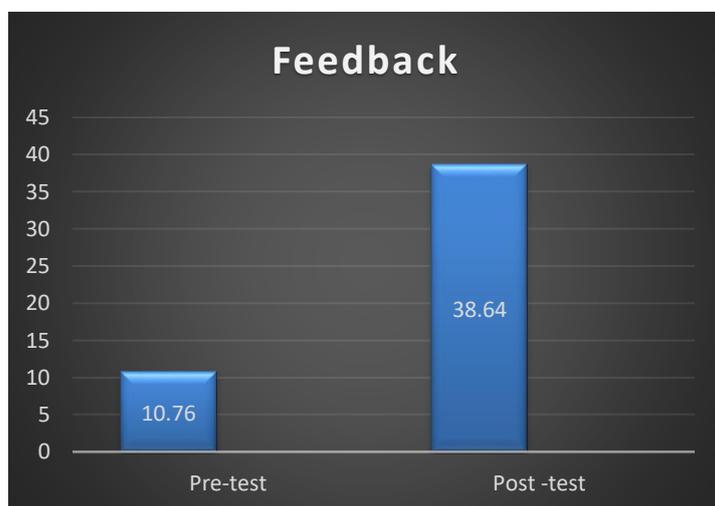Those findings were consistent with the findings of: Boussakuk, Bouchboua, El Ghazi, El Bekkali & Fattah, (2021), Ana, Minghat, Purnawarman, Saripudin, Muktiarni, Dwiyanti, & Mustakim, (2020), Madsen and Cassidy (2005).

Thus, using a cloud-computing platform proved to be effective in enhancing the formative assessment strategy feedback. The results of the statistical analysis showed that there was a statistically significant difference between the mean scores of the study participants on the pre and posttest in terms of the development of the participants' "Feedback assessment strategy" in favor of the scores of the posttest. It was presented through the third hypothesis and table8. This depicted the effectiveness of using cloud-computing platforms on developing professional development for EFL teachers.

Strategic use of Questioning

The results of the t-test showed that there was a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'Strategic use of questioning assessment strategy' in favor of the posttest scores.

Figure 5. Strategic use of Questioning t-test for the experiment group
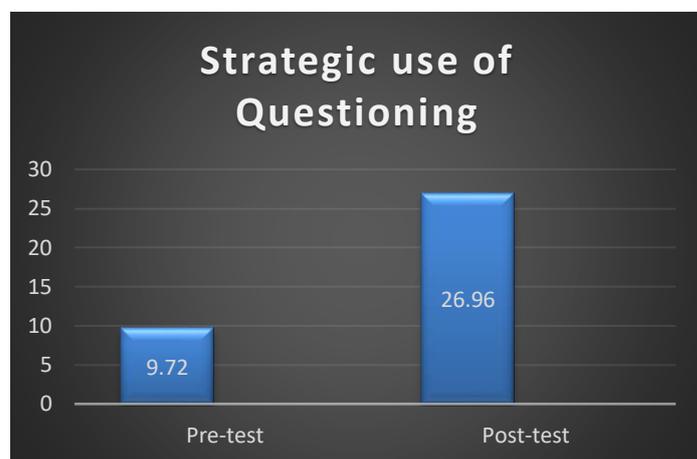
Those findings were consistent with the findings of: Ylieva, Lobatyuk, Tolpygin, & Rubtsova, (2020), Khdour, (2020), Altun (2010), Bolen (2009).

Thus, using a cloud-computing platform proved to be effective in enhancing the formative assessment strategy strategic use of questioning. The results of the statistical analysis showed that there was a statistically significant difference between the mean scores of the study participants on the pre and posttest in terms of the development of the participants' "Strategic use of Questioning assessment strategy" in favor of the scores of the posttest. It was presented through the fourth hypothesis and table 9. This depicted the effectiveness of using cloud-computing platforms on developing professional development for EFL teachers.

Reflection

The results of the t-test showed that there was a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test regarding the development of the 'Reflection assessment strategy' in favor of the posttest scores.

Figure (6) Reflection t-test for the experiment group
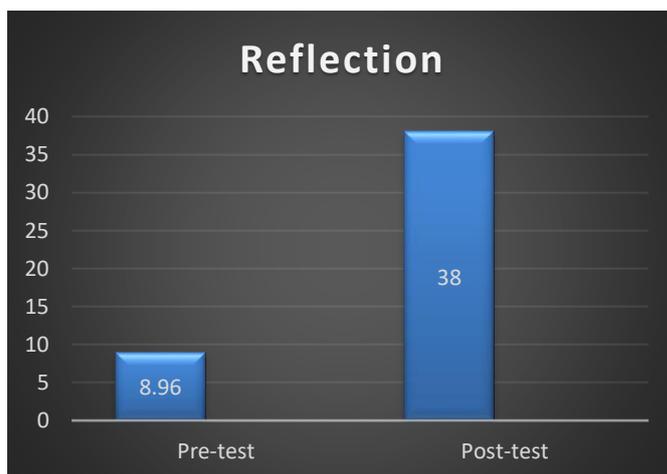
Those findings were consistent with the findings of: Özsoy (2017), Kolb (2015), Renner, Prilla, Cress, and Kimmerle (2016) and Ely and Scott (2007).

Thus, using a cloud-computing platform proved to be effective in enhancing the formative assessment strategy reflection. The results of the statistical analysis showed that there was a statistically significant difference between the mean scores of the study participants on the pre and posttest in terms of the development of the participants' " Reflection assessment strategy" in favor of the scores of the posttest. It was presented through the fifth hypothesis and table10. This depicted the effectiveness of using cloud-computing platforms on developing professional development for EFL teachers.

The total assessment strategies

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The results of the t-test showed that there was a statistically significant difference between the mean scores of the study participants on the pre and post formative assessment strategies test in favor of the posttest scores.

Figure 7. The total assessment strategies as a whole t-test for the experiment group
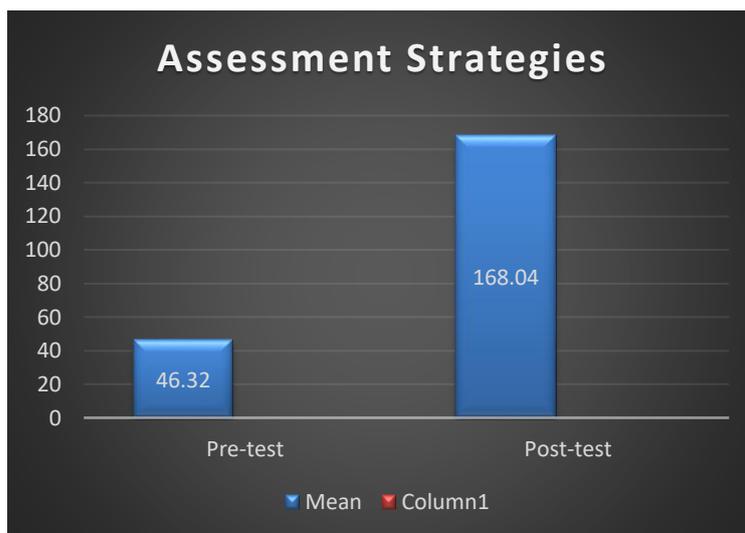

Those findings were consistent with the findings of Özsoy (2017) , Renner, Prilla, Cress, and Kimmerle (2016), Ely and Scott (2007), Boussakuk, Bouchboua, El Ghazi, El Bekkali & Fattah, (2021), Ana, Minghat, Purnawarman, Saripudin, Muktiarni, Dwiyanti, & Mustakim, (2020), Madsen and Cassidy (2005), Alena & Lukáčová & Noga (2019), Papanthymou & Darra (2019), Kavakli, & Mirici, (2019), Stoynoff (2012), Mok (2011), Liang (2010), Chen, Wei, Wu, & Uden, (2009), (Cook and Friend,2010; Wassel & Lavan, 2009).

Thus, using a cloud-computing platform proved to be effective in enhancing the total assessment strategies. The results of the statistical analysis showed that there was a

statistically significant difference between the mean scores of the study participants on the pre and posttest in terms of the development of the participants' general " the totalassessment strategies" in favor of the scores of the posttest. It was presented through the sixth hypothesis and table 11. This depicted the effectiveness of using cloud-computing platform on developing professional development for EFL teachers.

Having a close look at each assessment strategy, the statistical analysis results for the five components measured throughout this study indicated that there was a statistically significant difference in each assessment strategy between the participants' mean scores on the pre and posttest in favor of the scores of the posttest. Therefore, it can be inferred that cloud-computing platforms for developing professional development can be used effectively to develop EFL teachers' different assessment strategies.

Qualitative Analysis of the participants' Production

The researcher analyzed the teachers' open-ended responses, reflections, discussion, as well as her own observation throughout the program. Generally, modeling was the researcher's main technique as the main aim of the program was to use a cloud-computing platform for developing assessment strategies for EFL primary stage teachers. Modeling how to start the session on Zoom, how to use the link, how to use the chat box, how to use the whiteboard to write and share ideas. Moreover, the participants were able to use microphones (mics) and cameras as well as the zoom reactions like raising hands, smiling faces, thumbs up and sending a heart to give immediate feedback.

Participants had the opportunities to handle the situation well because they experienced online teaching and learning during the program implementation in 2018. The participants used to have asynchronous sessions using Google Classroom and Google Drive to do the obligatory tasks before and after the online synchronous sessions. On the other hand, the participants used Zoom, Kahoot, Quizlet, Quizziz, Wordwall, Padlet and Flipgrid as online clouds for the synchronous sessions. The participants went through online discussions, and they shared ideas related to their online teaching experiences. The participants used to give feedback, assess themselves and observe their peers. They could reflect on the quotes and the reading articles; they could do their assignments online.

When the researcher worked on her research in 2017, she wanted to help teachers who cannot commit and dedicate themselves to follow their professional development paths. Nevertheless, the researcher encouraged them to apply everything they have taken from their experiment online. The participants could go back to the quizzes they had created in 2018, they went online with a clear vision about how to deal with different clouds asynchronously and synchronously.

The cloud-computing sessions affected the EFL teachers' formative assessment strategies positively. Throughout the program, they practiced the five formative assessment strategies (self-assessment, peer-assessment, feedback, strategic use of questioning and reflection), which were listed and determined beforehand. Following are the formative assessment strategies and how they were developed throughout the training:

Self-assessment

Throughout the activities, the teachers' ability to assess themselves freely and openly was developed. They started to feel no shame or fear. The examples below compare the teachers' responses in the pre- and post-self-assessment test. They showed progress throughout the program.

During the pretest, the teachers used to be hesitant and had a lack of confidence to assess themselves. Before the beginning of the course, the teachers suffered from self-realization of what they were doing during teaching and that was apparently clear in their responses to the pre-course questionnaire. Some participants could not even write about the challenges they face during teaching as they mentioned only the numbers of the students in their classes to be their major challenge. It was obvious from the very beginning that they did not have many professional development opportunities. When they were asked about their professional development topics that aroused their interest, they wrote about how to teach generally. The participants could not write smart objectives, they could not even write a good lesson plan created based on "I do, we do, and you do".

After this training course, the participants could express themselves freely and they could talk about different strategies they used. Even their students could progress well with the suggested strategies. They knew what their objectives were and how to fill the gap between their current status and their future objectives to be achieved. The participants could create good lesson plans based on the objectives and the assessment

results. Furthermore, they could assess their own objectives and plans using the self-assessment rubric they trained to use during the implementation of the program.

Here are some samples of the participants' work in the pretest versus the post-test to show the effectiveness of the program to develop self-assessment

What is a smart objective?

It is a good objective for the lesson

What is a smart objective?

A smart objective is S specific, M measurable, A achievable, R related and T time bounded. The objective should be specific not general. It should be measured by students performance. It should be easy to achieve and related to the topic also it should have specific time to be done in like the time of the session or the week.

Peer-assessment

Throughout the experiment, the participants used to get support from the researcher firstly, and then they started to support each other as a one whole professional learning community. They were even eager to start the free discussion to share what they like and could be helpful and what needed improvements.

In the pre-test, it was observed that the participants' responses were poor and unclear. Some of those responses were left without answers. The participants were not even aware of the peer-assessment sheet, or they could not even use a peer-observation form.

During the administration of the training program, the researcher encouraged the participants to feel free to observe even if they can watch a YouTube video from "American English Channel" or "shaping the way we teach". The researcher trained the

participants how to focus on points of strength for what worked well first and how to be positive, peer-assessment is almost a win-win situation.

In the post-test, the participants clearly expressed the importance of peer-assessment and how to conduct it. They could use the peer-observation sheet and they could learn from their peers more than criticize their work. Here is some of the participants' responses to evident the effectiveness of using the cloud computing platform for developing peer-assessment:

Have you used peer-observation form before?

No, I haven't

Have you used peer-observation form before?

I started using peer-observation sheet when I joined the online course. It was my first time to observe a colleague. I was observed only by my supervisors. I liked the idea to observe to know what was good to imitate and what was bad to avoid in my teaching. I like to match the objective and the activities with the time of the session and the harmony of the steps. The idea of having peer-observation is only to help myself and my colleagues.

Feedback

During the experiment, the participants used to get feedback from the researcher, they were encouraged to respond positively using the feedback sandwich. The participants were using the zoom settings to give feedback like thumb up, raise hand and send hearts for positive feedback, they could also send a sad face to express their negative feedback and they could write in the chat box. Meanwhile, they could open the microphones and speak up. They could work in groups in the breakout rooms, and they could support their team and give positive feedback to other teams.

The participants were trained to create quizzes and games online using special clouds to get feedback from their students, give them immediate scores and analyze their results using Kahoot, Quizizz, Wordwall, Quizlet.

In the pre-test, the participants could not differentiate between the positive and negative feedback; they could not determine the right way to give feedback at the suitable time nor to give feedback to their peers and their students. Before the experiment, the participants had not ever heard of the online assessment platforms (Kahoot, Quizizz, Wordwall, Quizlet), nor how to create their own quizzes and games as teachers.

After the experiment, the participants could recognize immediate feedback, feedback sandwich, and create their games and quizzes online. Here is some of the participants' responses to prove the effectiveness of using the cloud computing platform for developing assessment strategy of feedback:

Questioning

Throughout the experiment, the participants used to create MCQs on their own. The participants have not heard about online assessment platforms nor how to create different types of quizzes containing open-ended questions, polls, complete and true or

false questions. The researcher explained how each platform is used, and showed the participants step by step how to use and create their own quizzes. The participants were encouraged to share and exchange their quizzes together to save time and effort. Furthermore, the participants were encouraged to revise their colleagues' quizzes for improvement.

In the pre-test, it was observed that the participants' responses were poor and unclear. Some of those responses were left without answers, especially the questions about online assessment platforms like Kahoot and Quizlet. The participants were not even aware of using questioning techniques online nor could they know the assessment platforms like Quizlet, Quizizz, Kahoot.

During the administration of the program, the researcher encouraged them to feel free to learn from each other and to be aware of the waiting time and its suitability with the different types of questions. Before the experiment participants preferred to make MCQs as they are easy for both teachers and students, they changed their minds and appreciated the different types of questions which support critical thinking and creativity, also they started to decide what type of question they should use regarding to the objective of the lesson or the unit or the content they should assess. One of the participants surprise me with the idea of having his students make kahoots and Quizizzes for their classmates as a type of competition between teams.

It was very creative to give each team a unit to study and then make online quizzes for other teams and the whole class in their teams could cover the curriculum, digest its parts and start forming different types of questions to help themselves and others. Another participant suggested having a questions bank to cover the basics of grammar and vocabulary for the primary stage. They cooperated to support themselves and their students to save time and efforts, they were proud to work together in a professional learning community.

In the post-test, the participants clearly expressed the importance of the questioning and how to conduct this while creating their online quizzes. They could use the Kahoot and Quizizz to create MCQs, open-ended questions, polls and true or false questions and, they could learn from their peers more by sharing their quizzes and

modify them. Here are some of the participants' responses to show the effect of using cloud computing platforms for developing questioning techniques:

> Do you use different questioning techniques to identify your students 'understanding?
>
> I use yes/no questions and choose.

> How well developed is your questioning technique?
>
> After this course I stated using polls, open-ended question in Kahoot and Quizizz. I use Google form and Quizlet and I also use padlet to collect information. MCQS are not enough to know your students levels of understanding

Reflection

Reflection, and reflective practice, plays a vital role in teacher learning and professional development because it gives teachers the opportunity to self-assess their teaching knowledge and practice, as well as sharing thinking and practices in informal groups or well-established communities of practice. Although teachers have always been in some way engaged in reflection, it is only during recent decades that the notion has become a significant concept in the field of TESOL. More recently, it has become the way for leading to a better understanding of reflective practice among English language teachers.

Throughout the experiment, the participants used to reflect on an article and a quote in the beginning of each session. Moreover, the researcher encouraged the participants to reflect on everything at the end of each session by using a Padlet link or

a Lino link. The reflection happened in a formal way firstly then the participants could do them freely and spontaneously. They even were eager to start the free discussion to share what they like and could be helpful and what needed improvements.

In the pre-test, it was observed that the participants' responses were poor and unclear and some of those responses were left without answers. The participants were not even aware of the reflection generally and the reflection sheet or even they could not use a reflection form.

During the administration of the study program, the researcher encouraged the participants to feel free to reflect and use the reflection sheet even if they can watch a YouTube video for a teacher from American English Channel or shaping the way we teach. The researcher trained the participants how to focus on their teaching to know what went well and what needed improvements.

In the post-test, the participants clearly expressed the importance of reflection and how to conduct it. Developing reflective thinking means helping teachers think about their experiences, analyze their beliefs, values or knowledge in relation to these experiences and consider options or alternatives for future action plans. They could use the reflection sheet and, they could learn from their peers when they reflect on it. Here are some of the participants' responses to evident the effectiveness of using the cloud computing platform for developing peer-assessment:
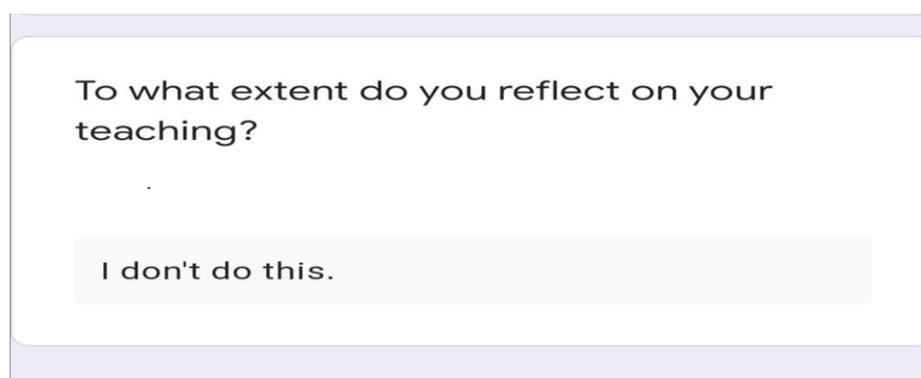
To what extent do you reflect on your teaching?

I don't do this.

> **To what extent do you reflect on your teaching?**
>
> I realized that reflection is very important and it 's paid back in my teaching. I reflect on my teaching after each session and I can reflect on my colleagues sessions as well. I use the reflection sheet to figure out what went well and what went bad to help myself improve my teaching practices.

Conclusions

The previously mentioned teachers' comments indicated their satisfaction from the program and its activities. They could feel and realize its effect on their usage of formative assessment strategies. Moreover, after conducting the quantitative and qualitative analyses of the pre/posttest results, the researcher concluded that the program was highly effective in developing EFL teachers' formative assessment strategies. The teachers' ability to self-assess and peer-assess.

At the beginning of the program, the EFL teachers faced a lot of difficulties. They were shy to share their teaching videos in front of their colleagues and were postponing it till I shared my own videos or videos of teachers from YouTube. They were afraid to be criticized. They were really embarrassed to express their teaching ideas. However, the researcher encouraged them to share what they do to help our learning community to be better. The researcher also made sure to give them constant feedback on their practices which helped in enhancing their teaching as well as their assessment strategies.

Although the teachers did not become perfect in teaching and assessing, they were highly developed. This was obvious through the learners' reflective responses throughout the program. Moreover, comparing the results of the pre and post formative assessment strategies test showed that the EFL teachers had greatly developed.

Chapter Five

Summary, Conclusions, and Recommendations

This chapter gives a summary of the current study. It provides a brief description of the study problem, aim, research questions, instruments, and participants. It also discusses the possible pedagogical implications of the study and the difficulties encountered by the researcher. The chapter also includes general conclusions, recommendations, and suggestions for further research.

Summary

The problem of this study was that the English teachers are in a dire need for professional development programs to help them to follow the massive changes and updates in the assessment field and fill the gap between their generation and their students'. The English language teachers need to have knowledge and awareness of the areas of their domain. They should be aware of the updates and modifications related to technology and methodologies which they can use in face to face and online classrooms to teach effectively and professionally.

The researcher shed light on the transition from learning, assessment and training face to face form towards e-learning, e-assessment and virtual training, and the evolution uses of apps, platforms, webinars, and free websites to support teachers, parents, and students after the pandemic of COVID-19.

The researcher also reviewed the previous studies related to this new paradigm as the use of the internet and new technologies. For business and for the current users, it is already part of everyday life. Any information is available anywhere in the world

at any time. Basically, cloud computing enables learners to formally undergo education even without going to the four-walled classrooms. Cloud computing allows for inter connectivity. So, teachers are exposed to openness. Thus, educators can learn things more decently and more effectively because the entire learning process is facilitated by a teacher or a mentor. No boundaries to teachers or students' learning environment. Moreover, the researcher gave some examples for websites she used in the application of the current study. She also shared some online assessment tools that are available and effectively used worldwide.

Assessment in EFL classes has recently proved to be an essential component of the learning and teaching process. There is a need for EFL teachers to update themselves according to the new trends in assessment. Teaching should be viewed as love and passion for learning, for students, and teachers as well. This passion would push teachers to accomplish their tasks and enjoy teaching, as this would be highly effective for learners' performance. Teachers can also modify these techniques according to changing philosophies, situations and activities, apply appropriate assessment and give constructive feedback. This highlights engagement and collaboration with others; and life-long learners. Therefore, teaching should be an active ongoing process which is characterized by being interactive, spontaneous, innovative, creative and expressive. Besides, EFL teaching skills are the acts and practices necessary for EFL teachers to affect and enhance their teaching performance quality, as well as their students' English language learning.

The real challenge is whether learners have learned and ultimately progressed regarding the learning objectives which are defined by teachers within the context of instruction, rather than an isolated step or instrument. To get the best assessment, teachers need to know how to select the appropriate assessment for each situation and how to make assessment effective to provide useful evidence about the students' learning. Hence, the good properly chosen assessment could not provide misleading information.

During the application of the current study, there was not only one best assessment method; they could choose regarding the situation, students' levels, needs, objectives and personal preferences. The method used depends on the kind of learning

target to be assessed. Also, the purpose of education is not to master content and data purely for the sake of knowing it. The participants applied knowledge to contexts and situations and to assess students' achievement using different assessment methods. The current study aims to deal with five assessment strategies which are self-assessment, peer-assessment, feedback, the strategic use of questioning and reflection.

The main aim of this study was to investigate the impact of using cloud computing platforms for developing the English teachers' assessment strategies. The problem of this study was represented in one main question as follows:

What is the effect of using a program based on Cloud Computing on EFL teachers' assessment strategies?

This question was answered through the literature review, the pilot study results and the pre/test results, the researcher designed many activities and collected many articles to cover the five assessment strategies (self-assessment, peer-assessment, feedback, strategic use of questioning and reflection). The researcher introduced the assessment through using online assessment tools such as Kahoot, Quizizz, Quizlet, Zoom, Google classroom. Modeling, discussing, reflecting, sharing ideas, and giving feedback were the basic techniques the researcher used during the online sessions with the participants. The cloud-computing platforms which the researcher used during the application of the study were easy, accessible, familiar free websites for both asynchronous and synchronous sessions. On one hand, the researcher used Whatsapp group, Google Drive links and Google Classroom for the asynchronous. On the other hand, the researcher used Zoom, Quizlet, Kahoot, Quizizz, Padlet, Wordwall and Flipgrid in the synchronous sessions.

Accordingly, the following sub-questions should be answered:

1- What are the EFL teachers' needs for e-assessment strategies?

This question was answered through the pilot study results and the questionnaire as instruments for needs analysis of teachers. The e-assessment strategies were determined by the researcher as follows:

Self-assessment, Peer-assessment, Feedback, Strategic use of questioning and Reflection.

2- What are the components of a program based on cloud computing that can develop EFL teachers' assessment performance?

Based on the determined assessment strategies; self-assessment, peer-assessment, feedback, strategic use of questioning and reflection, the research designed the performance objectives, and the program outlines as well as the assessment tool for each single strategy.

3- To what extent will a program based on cloud-computing platforms teaching develop the assessment strategies of EFL teachers?

By the end of the application of the program, the researcher conducted the posttest to measure the impact of the cloud-computing platform on developing assessment strategies of EFL primary teachers. The researcher analyzed the data statistically through using the study rubric then the results of the pre/posttests were compared to figure out to what extent the program is effective. Moreover, the researcher elicited qualitative data of partcipants'performance. Both quantitative and qualitative results are presented in Chapter4.

To tackle the study problem and achieve the aim of the study, the following instruments were designed by the researcher and used through the study:

1- The instrument of this study was pre/post-test which covers most of the areas that concerned the English teachers' assessment strategies.

2- A rubric for self-assessment

3- A questionnaire

A group of 25 EFL teachers who work in public schools and teach young learners participated in the study. The study was limited to the following:

- The primary EFL teacher in public schools.
- The 2018 summer holiday as the teachers were available and free to follow the course.
- Teaching the designed cloud computing platform.
- The program of the study was applied completely online synchronously and

asynchronously.

Using cloud computing diversity components with the assessment strategies. The pre/test was applied and then the proposed professional development training was then administered to the teachers. Finally, the same assessment strategies test was reapplied to the same group as a posttest.

Pedagogical Implications

The awareness of e-professional development opportunities and e-assessment

The huge gap between the educational system in Egypt and the types of assessment has widened recently especially after the launch of web2.0 in the Ministry of education. The teachers started to be motivated intrinsically to develop themselves professionally to cope with the updates in the applied education system and the online assessment. They were active and punctual to define the assessment for learning and assessment of learning, to differentiate between assessment for learning and assessment of learning, to identify self-assessment and self-observation, to identify peer-assessment and to create rubrics and graphic organizers. Meanwhile, the teachers praised and appreciated the professional development program as they benefited a lot specifically as they could reflect on planning and teaching decisions in terms of their effect on individual students' learning and on the learning of a group of students. In addition to learning and using different clouds and platforms like Zoom, Google Classroom, Kahoot, Quizlet, Quizizz.

The current study has adapted the urgent emergency case to go online for teaching and training; the participants have received the training online in 2018, one year before the pandemic and lockdown of COVID-19. The participants have used the online assessment platforms, they have experienced being online to attend, observe, engage, and collaborate.

The researcher has modeled the experience of teaching online, planning, creating activities, creating tasks and assignments as assessment online tools. The participants could cope with the online teaching during the pandemic easily and

confidently as they have prior knowledge and experiences with the online teaching. Moreover, it has promoted good use of educational technology, or EdTech, and many companies (like Zoom, for example) have allowed free access to their services for educational purposes. There has also been a lot of research and work done to empower both teachers and learners. Facebook Live broadcasts have been another way educational organizations have supported remote teaching and learning.

The participants realized the gap between the online assessments based on surface direct questions like MCQs (multiple choice questions) and how to create more authentic online assessments based on the strategic use of questioning like open-ended questions, discussions, and surveys. The program's main topics are deprived from reality based on teachers' needs analysis for instance; introduction for assessment, teaching young learners, how to write S.M.A.R.T objectives, how to collect information in the classroom, learn about rubrics and create theirs', how to use graphic organizers, self-assessment (self-observation), peer-assessment (peer-observation), Reflection in action and reflection on action, how to use and create Kahoot, Quizlet, Wordwall, Padlet and Quizizz.

Limitations

The researcher faced some difficulties through the experimentation. She tried to solve them.

- At the beginning of the program, the teachers were silent and shy to participate, and the researcher succeeded in creating a safe, relaxing, and delightful learning virtual environment. Moreover, the teachers got engaged in several activities that required them to talk and interact with each other in Zoom breakout rooms.

- Some teachers could not follow the course well because they could not work on Zoom and Google Classroom. The researcher introduced two extra sessions to train them how to deal with these clouds in amazing interactive sessions called Zoom tips and tricks & Google Classroom go virtual easily.

- Some teachers complained about the speed and the quality of the internet and even the researcher sometimes faced the same problem. The researcher put all the materials, slides, files and the Zoom recordings on Google Classroom so the teachers could surf at their pace when they have good internet access.

- During the experimentation, the participants could not go to their classes to do peer-assessment or self-assessment not because of the pandemic and the COVID-19 lockdown as the application was in 2018, The researcher shared with them the American English Channel which has hundreds of videos for English teachers in their classes teaching young learners. The teachers could complete their work easily by observing some of these teachers in the videos.

- The participants were not familiar with the assessment online platforms; how to access, use and create their own quizzes. The researcher insisted on offering them authentic training by modeling with her as students and then she used to show them step by step how to do so and eventually participants could adapt.

- The different types of questions the teachers tried to create were totally different from the paper-based assessment MCQs; the participants created open-ended questions, surveys, polls, discussions. To encourage the participants to do so, the researcher asked them to create short quizzes out of five questions maximum to make it easy for them.

The Challenges of the research (problems, difficulties and how they had been overcome)

The internet connection was the most prevalent challenge for participants and the trainer as well to some extent, especially when we used to open the cameras. The researcher overcame this problem by shortening the time of the synchronous session and increasing the time in the asynchronous session and, she used to record the sessions to let the absentees watch them later according to their pace and internet accessibility.

Another challenge was when we had peer-assessment and peer-observation sessions, the teachers could not go to their real face-to-face class to record their videos as the application was in the summer holiday and instead, we used some videos from YouTube for teachers to "Shaping the way we teach English" Youtube Channel.

The lack of facilities was a basic challenge for teachers, whereas they started to work on the assessment online platforms to create their own quizzes. The researcher overcame this difficulty by giving orientation sessions and how to use mobile phones and laptops and how to save data to use them offline.

Results of the Study

The study came to the following results:

1-There was a statistically significant mean difference at 0.01 between the pre-test and posttest mean scores of the experimental group on the assessment strategy **'self –assessment'** of English teachers in favor of the post test scores.

2-There was a statistically significant mean difference at 0.01 between the pre-test and posttest mean scores of the experimental group on the assessment strategy **'peer-assessment'** of English teachers in favor of the post test scores.

3-There was a statistically significant mean difference at 0.01 between the pre-test and posttest mean scores of the experimental group on the assessment strategy **'feedback'** of English teachers in favor of the post test scores.

4-There was a statistically significant mean difference at 0.01 between the pre-test and posttest mean scores of the experimental group on the assessment strategy **'Strategic use of questioning'** of English teachers in favor of the post test scores.

5-There was a statistically significant mean difference at 0.01 between the pre-test and posttest mean scores of the experimental group on the assessment strategy **' reflection'** of English teachers in favor of the post test scores.

6- There was a statistically significant mean difference at 0.01 between the pre-test and posttest mean scores of the experimental group on **'assessment strategies**' of English teachers in favor of the post test scores.

Conclusions

Based on the study results, it can be concluded that:

- Post-Covid has changed education forever and digital education has become the norm and should make access to the things that support online education more available to everybody.

- Using Cloud-computing Platforms was remarkably effective in developing EFL primary teachers' assessment strategies. This was clear after administering the

posttest. It was also obvious through the teachers' gradual development throughout the experimentation.

- The teachers' comments indicated their satisfaction of the program and its activities and platforms. They could feel and realize its effect on their usage of using formative assessment strategies. Moreover, after conducting the quantitative and qualitative analyses of the pre/posttest results, the researcher concluded that the program was highly effective in developing EFL teachers' formative assessment strategies. The teachers' ability to self-assess and peer-assess.

- They were shy to share their teaching videos in front of their colleagues and were postponing it till the researcher shared her own videos or videos of teachers from Youtube. They were afraid to be criticized. They were really embarrassed to express their teaching ideas. However, the researcher encouraged them to share what they do to help the learning community to be better. The researcher also made sure to give them constant feedback on their practices which helped in enhancing their teaching as well as their assessment strategies.

- Although the teachers did not become perfect in teaching and assessing, they were highly developed. This was obvious through the learners' reflective responses throughout the program. Moreover, comparing the results of the pre and post formative assessment strategies test showed that the EFL teachers had greatly developed.

Recommendations

Based on the results and conclusions, the study recommends the following:

- More opportunities to practice and use assessment strategies such as self-assessment and peer-assessment for EFL teachers on themselves and with their students.

- Teachers should pay much attention to the drastic change in technology and should always search for the recent updates to fill the gap between their generation and the students'.

- Teachers should be exposed to professional development opportunities and tend to make it an ongoing process. Teachers should be encouraged by the Ministry

of Education to attend and apply new trends in teaching, learning, and assessing.

- Supportive environment affects the teacher's learning positively. The EFL teachers in public schools need support and encouragement to follow the professional development path with enthusiasm.

- Governments and associations should exert more effort to support professional development communities and groups to share and exchange ideas and methods continuously.

Suggestions for Further Research

Researchers may consider the following suggestions to investigate the adequacy of utilizing assessment for further research:

- Exploring the effect of Quizlet as an online assessment tool on teaching and developing vocabulary acquisition and affects the learning outcomes as an assessment tool.

- Choosing different teachers from preparatory and secondary stages and applying the same current study on them.

- Increasing teachers' awareness concerning the importance of online assessment, especially after COVID-19.

- Exploring the effect of Quizizz as an online assessment tool on teaching and developing the strategic use of questioning and affects the learning outcomes as an assessment tool.

- Exploring the effect of Kahoot, Padlet and Word Wall as online assessment tools for their immediate feedback that enhances learning by doing and by committing mistakes.

- Investigating the effect of Microsoft MineCraft, Sway and Wakelet as presentation and assessment tools for teachers and students.

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The pre/posttest (Appendix A)
Title: Pre/post-test for assessment strategies

N	Question	Answers
Self-assessment	
1	**What are the main advantages of self-assessment?**	
2	**How do you apply self-assessment?**	
3	**What are the main advantages of using rubric?**	
4	**Do you use a self-assessment sheet?**	
5	**Do you assess students at the beginning of the class? Do you indicate their needs?**	
6	**What is a smart objective?**	
7	**How do you create a lesson plan with objectives and suitable assessment?**	
Peer-assessment	
8	**What are the main advantages of peer-observation?**	

9	What do you think about alternative assessment forms, such as peer-assessment, self-assessment, Portfolio, and presentations?	
10	Do you feel comfortable if teachers assess other teachers' work?	
11	What assessment forms do you use to assess your class?	
12	Have you used peer-observation form before?	
13	How can you create lesson plans using I do, we do, and you do design?	
14	How do you define assessment?	

Feedback

15	What are the main advantages of feedback?	
16	How do you assess your students?	
17	Do you know how to give and receive feedback online? Please give me details.	
18	Do you make use of feedback?	
19	Can you explain how you normally give your students feedback?	

20	**What is the quality of feedback you provide your learners with?**	
21	**What is a feedback sandwich?**	

Questioning

22	**What are the main advantages of strategic use of questioning?**	
23	**What strategies do you use to promote effective question distribution?**	
24	**Do you use different questioning techniques to identify your students 'understanding?**	
25	**How well developed is your questioning technique?**	
26	**Do you think that students' scores represent what they learned?**	
27	**Have you used online assessment platforms before? If yes, name them?**	
28	**What are the techniques you use in collecting information from your students?**	

Reflection

29		

	What are the main advantages of reflection?	
30	To what extent do you reflect on your teaching?	
31	How effectively do you promote self-assessment and peer assessment?	
32	When are you happy with assessment results?	
33	What is reflection?	
34	Do you have any recommendations for other instructors to assess their classes?	
35	Have you ever used a reflection sheet before?	
36	What are the websites for creating online assessment?	

Appendix B
A Program Based on Cloud Computing Platforms for Developing the EFL Assessment Strategies for Primary Stage Teachers

A Questionnaire for assessment strategies for EFL teachers

N.	Questions	Yes	No
1	Learners are beginning to ask the teacher what the learning objectives and assessment criteria are at the start of a teaching and learning session.		
2	Formative assessment, either formal or informal, is superior to summative assessment in terms of enhancing students" mastery in language proficiency		
3	The most useful technique of assessing students' progress is formative assessment.		
4	Students are provided with feedback in applying any form of assessments		
5	Feedback is always given orally		
6	Feedback is always given written		
7	Students get their feedback individually		
8	Students get their feedback publicly		
9	The most useful technique of assessing students 'progress is by summative assessment		
10	There is an improvement in learners' willingness to contribute to teaching and learning sessions.		
11	Learners' thinking time can affect their answers.		
12	Learners are more inclined to ask relevant questions		

13	Learners ask for help when needed		
14	Learners effectively undertake target-setting activities		
15	Learners can recognize progress in their own work in terms of skills, written work, knowledge and understanding		
16	Learners are actively involved in the formative assessment process		
17	Learners actively participate in peer assessment		
18	Learners knowledgeably apply the assessment criteria to their own work and effectively undertake self-assessment		
19	Feedback mainly focuses on students' weaknesses		
20	Feedback mainly focuses on students' strengths		
21	Feedback mainly focuses on a combination of both students 'weaknesses and students 'strengths		

APPENDIX C

Assessment strategies rubric

N	Key issue/ grade	1	2	3	4	5
1	Self-assessment	Participant is not sure what this is or what it involves	participant can identify what this is and what it involves but have not been able to deal with it in mind	Participant can analyze his/her lesson plan and can talk with ease about what it is and what it involves. Participant can show evidence *at least once*.	Participant is able to assess himself/herself with this explicitly in mind and has shown evidence of this *a few times*.	Participant can plan for this consistently and intentionally.
2	Peer-assessment	Participant is not sure what this is or what it involves	participant can identify what this is and what it involves but have not been able to deal with it.	Participant can analyze a peer's lesson plan and can talk with ease about what it is and what it involves.	Participant is able to assess his/her peers with this explicitly in mind and has shown evidence of this *a few times*.	Participant can plan for this consistently and intentionally.
3	feedback	It may have happened; participant is not aware of.	Participant has not implemented this yet.	Participant has implemented this in class at least once.	Participant has implemented this in class effectively at least once.	Participant has used this in his/her teaching *more than a few times* to improve teaching and assessment skills.
4	Strategic use of questioning	It may have happened; participant is not aware of.	Participant has not implemented this yet.	Participant has implemented this in class at least once.	Participant has implemented this in class effectively at least once	Participant can plan for this consistently and intentionally.

5	reflecti on	Participant does not know how to reflect on this.	Sometimes participant can recognize it or identify it in his/her peers' or trainers' teaching.	Participant has been able to identify it in his/her own or in others' teaching and student learning at least a few times.	Participant can usually identify reflection in his/her own and others' lessons. With some trainer's help, he/she can plan to improve this area.	It is easy for participant to identify reflection in him/her and in peers' or in trainers' teaching. Participant can make action plans to improve his/her understanding and effectiveness.

The Assessment Strategies Program

Title: A Program Based on Cloud Computing Platforms for EFL Developing the Assessment Strategies for The Primary Stage Teachers

Overview:

After the researcher reviewed the literature and related studies and the needs analysis of the participants; she designed the study tools (a questionnaire, a rubric and a pre/post-test). The researcher built the study program and determined its characteristics in a special framework as a professional development program to EFL teachers about assessment strategies using a cloud-computing platform. The current study investigated the effect of a cloud-computing platform for developing the assessment strategies for EFL teachers for the primary stage. The researcher applied the quasi-experimental design to prove the correlation between the study variables. The researcher used some asynchronous and synchronous platforms to apply the study program. The asynchronous platforms used in this study were WhatsApp, Google Classroom and Google Drive. However, the synchronous platforms were Zoom, Kahoot, Quizlet, Quizizz, Padlet, Flipgrid and Wordwall. The program intended to support EFL teachers to apply five assessment strategies (self-assessment, peer-assessment- feedback, strategic use of questioning and reflection) to improve their teaching and assessment skills before, during

and post COVID-19. The program was like an authentic model to EFL teachers and experts about teaching and assessing their learners online.

Aims of the program:

The current study aimed to investigate the effect of using a program based on a cloud-computing platform for developing assessment strategies for EFL teaching for the primary stage. Participants will be able to learn about and use assessment strategies side by side with teaching by joining the cloud-computing platform

Performance objectives

- Define the assessment for learning and assessment of learning.

- Differentiate between assessment of learning and assessment for learning

- Identify appropriate learner assessment options for the communicative classroom, based on language learning objectives

- Learn about assessment strategies and how to use them and when to use them

- Identify self-assessment and self-observation

- Identify peer-assessment and peer-assessment

- Create rubrics and graphic organizers

- Reflect on planning and teaching decisions in terms of their effect on individual students' learning and on the learning of a group of students using Padlet and Flipgrid

- Use different online assessment tools asynchronously and synchronously

- Create online quizzes and share them with peers using Kahoot, Quizizz, Quizlet, Wordwall

- Give feedback using online tools like Padlet.

Content

The content of the program consists of one orientation session, one pre-test session, one post-test session and twelve sessions for the professional development program for developing assessment strategies for EFL teachers using a cloud-computing platform. The sessions intended to cover the following topics:

1. Introduction on assessment

2. Teaching young learners

3. How to write a S.M.A.R.T objectives

4. How to collect information in the classroom and how to use and create rubrics

5. Exit tickets, graphic organizers and using Padlet as a formative assessment tool.

6. Quizizz platform and how to use it as an online assessment tool.

7. Self-assessment and self-observation

8. Peer-assessment and peer-observation

9. Reflection in action and reflection on action

10. -Quizlet as an online assessment tool and learn how to create Quizlets.

11. Kahoot as an online assessment tool and learn how to create kahoots

12. Wordwall and Flipgrid as assessment online tools and how to create them.

Description

This course is designed to prepare EFLteachers working in the primary stage to use and develop the assessment strategies using online platforms while teaching and assessing their students.

Duration

The current study program is about assessment strategies training course for EFL primary teachers using a cloud-computing platform. The duration of the program (training hours and schedule) was 36 hours/ 6hour per week / 6 weeks synchronously and 30 hours asynchronously (Zoom LMS orientation, test administration, platforms orientation and tutorials.

Learning and Teaching strategies

The research followed two basic parts for effective online training sessions:

1- Asynchronous sessions

The researcher designed this part of the session to share materials with the participants before the online session as pre-session activities. During the

asynchronous session, the researcher shared the objectives with the participants. Also, the participants were asked to accomplish some obligatory tasks. The obligatory tasks were in three fundamental steps as follows:

- Reading an educational quote and reflecting on it and how participants apply it in their class with their students

- Reading an article about the topic of the online session

- Watch a video about the session topic; most of the videos are for experts and real teaching practices by other teachers.

The materials of each session (quotes, articles, and videos) are collected by the researcher from MOCCs, American English website, shaping the way we teach YouTube channels. The researcher used Google Classroom, WhatsApp and Google Drive to share the materials with the participants two days before the session as the participants could have time to study at their pace. The researcher encouraged the participants to discuss and reflect on the materials by chatting to share ideas and experiences on WhatsApp.

2- Synchronous sessions

The researcher designed an online lesson scenario for each session as follows:

- Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.

- Begin the lesson with a short warm-up activity.

- Draw participants' attention to the photo of a quote and ask questions (What do you like the most in this quote? What does the quote have in common modern technology and teaching? etc.).

- Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)

- Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.

- Before the lesson prepare a few online games connected with the session's topic; the subject of the lesson. Show them to participants and ask them to play these games individually and in teams to check their understanding.

- Remind participants about self-study and the next session topic.

- Finish the lesson with an exit-ticket for the participants to write down what they have learned in a padlet link.

The researcher used the tools of Zoom to engage the participants such as the breakout room, the whiteboard, the chat box, share screen…etc. She also used some other online platforms like; Kahoot, Quizlet, Quizizz, Wordwall, Padlet, Flipgrid…etc. The researcher modeled how to teach online to support the participants who were fully engaged and motivated to express their opinions and share their teaching experiences in a supportive learning community online.

Technological aids

The program of the current study was administered completely online. The researcher used Google Classroom, Google Drive and WhatsApp for the asynchronous sessions and Zoom, Kahoot, Quizlet, Quizizz, Wordwall, Flipgrid and Padlet for the synchronous sessions. The researcher was offering help when needed to support the participants by creating tutorial videos about these websites and she shared some videos from YouTube as well.

Assessment

Participants assessed twice at the beginning and at the end of the program by administering the post-test. Participants were able to use a rubric for self-assessment and peer-assessment. Participants were able to complete a reflection sheet and an observation sheet. Moreover, participants were asked to submit some of their lesson plans, the self-observation, reflection and peer-observation sheets for their responses and for their peers' during the implementation of the program.

Appendix (E)

The lesson plans of the program

Session 1

Asynchronous section

Lesson aims:
 By the end of this session, participants will be able to:
Introduce and discuss assessment for learning and show examples.

Obligatory task: read some articles about assessment for learning and watch some videos

https://drive.google.com/drive/folders/1NXxT6bYIMyiGung0ru9JJz87AGvsA5YU?usp=sharing

Send the following instructions to the participants. REMEMBER to read the quote, complete the articles and watch the videos of the tasks.
What to prepare before the lesson:
- Quote

- Articles

- Videos

- PowerPoint presentation

What do you do	Where to find it

A quote to be read then relate it to teaching	Quotes folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
Articles about the session aims	PDF folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1NXxT6bYIMyiGung0ru9JJz87AGvsA5YU?usp=sharing
Watch the videos	Videos folder on Google Drive **and Google Classroom** **https://youtu.be/OXPo9AK3pf0** **https://youtu.be/mgnp9y54MMc** https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing
Reflect on the quote, articles and videos	

SYNCHONOUS SECTION

ONLINE LESSON SCENARIO

1. Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.
2. Begin the lesson with a short warm-up activity. Ask participants to finish the sentences: Assessment is...…... Assessment should be...…I use assessment at the end of …. … etc.
3. Draw participants' attention to the photo of a quote and ask questions (What do you like the most in this quote? What does the have related to teaching in the classroom? etc.).
4. Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)
5. Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.
6. Before the lesson prepare a few online games connected with assessment for learning. Show them to participants and ask them to play these games individually and in teams to check their understanding.
7. Remind participants about self-study and the next session topic.
8- Finish the lesson with an exit-ticket for the participants to write down what they have learned in a padlet link.

Instructions for self-study
Send the following instructions to the participants. REMEMBER to read and complete the tasks. What to prepare before the next online session:

What to do	Where to find it
The Quote	The quote folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
The articles	The article pdf folder on Google Drive and Google Classroom
The videos	The videos folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing

Session 2

Asynchronous section

Lesson aims:
 By the end of this session, participants will be able to:
Learn about teaching young learners, share and exchange experiences from their prior knowledge.
Obligatory task: read some articles about how to teach English to young learners and watch some videos about young learners.

https://drive.google.com/drive/folders/1LKeQuJxojFKCO96Gd-SeqBGMcTBj7K_V?usp=sharing

Send the following instructions to the participants. REMEMBER to read the quote, complete the articles and watch the videos of the tasks.
What to prepare before the lesson:
- Quote

- Articles

- Videos

- PowerPoint presentation

What do you do	Where to find it
A quote to be read then relate it to teaching	Quotes folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing

Articles about the session aims	PDF folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1LKeQuJxojFKCO9 6Gd-SeqBGMcTBj7K_V?usp=sharing
Watch the videos	Videos folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/10uC9HicIxyaN1Un EiltHFFoH47zKrWq9?usp=sharing
Reflect on the quote, articles and videos	

SYNCHONOUS SECTION

ONLINE LESSON SCENARIO

1. Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.

2. Begin the lesson with a short warm-up activity. Ask participants to finish the sentences: young learners are ….. Young learners want to ……Young learners are … years old … etc.

3. Draw participants' attention to the photo of a quote and ask questions (What do you like the most in this quote? What does the quote have in common with teaching young learners? etc.).

4. Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)

5. Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.

6. Before the lesson prepare a few online games connected with teaching young learners. Show them to participants and ask them to play these games individually and in teams to check their understanding.

7. Finish the lesson. Remind participants about self-study and the next session topic.

8- An exit-ticket for the participants to write down what they have learned in a padlet link.

Instructions for self-study
Send the following instructions to your students. REMEMBER to read and complete the tasks. What to prepare before the next online session:

What to do	Where to find it
The Quote	The quote folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
The articles	The article pdf folder on Google Drive and Google Classroom
The videos	The videos folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing

Session3

Asynchronous section

Lesson aims:
 By the end of this session, participants will be able to:
Learn about how to write and S.M.A.R.T objectives, write an objective and then check if it is specific, measurable, achievable, related and time-bound or not.

Obligatory task: read some smart objective then write one smart objective and analyze to what extent it is smart.

https://drive.google.com/drive/folders/1J8I5cjc7RZkuHYGBOGMvXC7L1Sage6aA?usp=sharing

Send the following instructions to the participants. REMEMBER to read the quote, complete the articles and watch the videos of the tasks.What to prepare before the lesson:

- Quote

- Articles

- Videos

- PowerPoint presentation

What do you do	Where to find it

A quote to be read then relate it to teaching	Quotes folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
Articles about the session aims	PDF folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1J8I5cjc7RZkuHYGBOGMvXC7L1Sage6aA?usp=sharing
Watch the videos	Videos folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing
Reflect on the quote, articles and videos	

SYNCHONOUS SECTION

ONLINE LESSON SCENARIO

1. Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.
2. Begin the lesson with a short warm-up activity. Ask participants to finish the sentences: Teacher should be ….. Teacher wants to ……Teacher is … etc.
3. Draw participants' attention to the photo of a quote and ask questions (What do you like the most in the photo of a quote? What does the photo have in common? etc.).
4. Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)
5. Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.
6. Before the lesson prepare a few online games connected with the subject of the lesson. Show them to participants and ask them to play these games individually and in teams to check their understanding.
7. Finish the lesson. Remind participants about self-study and the next session topic.
8- An exit-ticket for the participants to write down what they have learned in a padlet link.

Instructions for self-study
Send the following instructions to your students. REMEMBER to read and complete the tasks. What to prepare before the next online session:

What to do	Where to find it
The Quote	The quote folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
The articles	The article pdf folder on Google Drive and Google Classroom
The videos	The videos folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing

Session 4

Asynchronous section

Lesson aims:
 By the end of this session, participants will be able to:
Learn about how to collect information from students in their classrooms by the strategic use of questioning and how to give enough waiting time to students.

Obligatory task: read some articles about how to collect information and w to use the strategic use of questioning then watch the videos about waiting time and different methods for collecting information.

https://drive.google.com/drive/folders/1IgJUinD3-8I3XTQgARx2mQA3AZbk4DQI?usp=sharing

Send the following instructions to the participants. REMEMBER to read the quote, complete the articles and watch the videos of the tasks.
What to prepare before the lesson:
- Quote

- Articles

- Videos

- PowerPoint presentation

What do you do	Where to find it
A quote to be read then relate it to teaching	Quotes folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
Articles about the session aims	PDF folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1IgJUinD3-8I3XTQgARx2mQA3AZbk4DQI?usp=sharing
Watch the videos	Videos folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing
Reflect on the quote, articles and videos	

SYNCHONOUS SECTION

ONLINE LESSON SCENARIO

1. Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.
2. Begin the lesson with a short warm-up activity. Ask participants to finish the sentences: The best question should be …... Teachers ask students to ……The appropriate waiting time is … etc.
3. Draw participants' attention to the photo of a quote and ask questions (What do you like the most in this quote? What does the quote have in common with collecting information/ questioning /waiting time? etc.).
4. Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)
5. Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.
6. Before the lesson prepare a few online games connected with collecting information, questioning and waiting time which are the subject of the lesson. Show them to participants and ask them to play these games individually and in teams to check their understanding.
7. Remind participants about self-study and the next session topic.
8- Finish the lesson with an exit-ticket for the participants to write down what they have learned in a padlet link.

Instructions for self-study
Send the following instructions to your students. REMEMBER to read and complete the tasks. What to prepare before the next online session:

What to do	Where to find it
The Quote	The quote folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
The articles	The article pdf folder on Google Drive and Google Classroom
The videos	The videos folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing

Session 5

Asynchronous section

Lesson aims:
 By the end of this session, participants will be able to:
Learn about exit-ticket as a formative assessment tool and use padlet as an online platform to be a virtual exit-ticket.

Obligatory task: read some articles about exit-tickets and padlet as a formative assessment tool and watch a video about using padlet as an exit-ticket.

https://drive.google.com/drive/folders/1hylCtMJUPRcsap0fSD2mwNiPnIsZGuy-?usp=sharing

Send the following instructions to the participants. REMEMBER to read the quote, complete the articles and watch the videos of the tasks.
What to prepare before the lesson:
- Quote

- Articles

- Videos

- PowerPoint presentation

-145-

What do you do	Where to find it
A quote to be read then relate it to teaching	Quotes folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
Articles about the session aims	PDF folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/1hylCtMJUPRcsap0fSD2mwNiPnIsZGuy-?usp=sharing
Watch the videos	Videos folder on Google Drive **and Google Classroom** https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing
Reflect on the quote, articles and videos	

SYNCHONOUS SECTION

ONLINE LESSON SCENARIO

1. Greet the participants. Ask them to show if they can hear / see the trainer well (by putting thumbs up, nodding their heads, standing up, etc). Give the instructions in English, for example: If you hear me, put your thumbs up / nod your head / put your arms in the air / point to your left ear, etc.
2. Begin the lesson with a short warm-up activity. Ask participants to finish the sentences: An exit-ticket is ……… Teachers use exit tickets at the …. …... Padlet is … etc.
3. Draw participants' attention to the photo of a quote and ask questions (What do you like the most in this quote? What does the quote have in common with formative assessment? etc.).
4. Ask participants if they have completed the activity assigned for self-study. Ask 1-2 simple questions about it (e.g., Give three things that you remember. Tell me two things you didn't know before etc.)
5. Choose 2-3 tasks from the asynchronous articles and videos to discuss and complete together during the online session via breakout rooms to focus on activities which require interaction, collaboration and communication.
6. Before the lesson prepare a few online games connected with exit tickets. Show them to participants and ask them to play these games individually and in teams to check their understanding.
7. Remind participants about self-study and the next session topic.
8- Finish the lesson with an exit-ticket for the participants to write down what they have learned in a padlet link.

Instructions for self-study
Send the following instructions to your students. REMEMBER to read and complete the tasks. What to prepare before the next online session:

What to do	Where to find it
The Quote	The quote folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/1UkmvgmO747qAN90E_AfikFsu_eWJbx3n?usp=sharing
The articles	The article pdf folder on Google Drive and Google Classroom
The videos	The videos folder on Google Drive and Google Classroom https://drive.google.com/drive/folders/10uC9HicIxyaN1UnEiltHFFoH47zKrWq9?usp=sharing

Appendix (F) The participants' study consent

Informed Consent
A Program Based on Cloud-Computing Platforms for Developing EFL Assessment Strategies for Primary Stage Teachers.

Researcher's contact information

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Purpose of study

This study is an attempt to support EFL teachers using cloud computing. This study

attempts to investigate the impact of using cloud computing platforms for developing

the English teachers' assessment strategies. Also, the present study aims at achieving the following objectives: designing and building a cloud computing platform based on diversity of GoogleClassroom, Zoom, Quizlet, Quizizz, Kahoot, MOOCs, E-books, videos, presentations,.etc and identifying the impact of using the cloud computing platform for developing the English teachers' assessment strategies.

Study procedures and duration

The study is targeting the following:

1- The primary EFL teacher in public schools.

2- The 2018 summer holiday as the teachers will be free to follow the course 36 hours in twelve online sessions 3 hours each.

3- Teaching the designed cloud computing platform (hybrid cloud).

Training hours and schedule will be totally online: 36 hours/ 6 -hour per week / 6 weeks

RISKS

There is no risk at all for your kind participation but if you face any, you may decline to answer any questions and you may terminate your involvement at any time if you choose.

BENEFITS
The participants will gain some benefits such as.

- *getting an online training course for free about assessment strategies*
- *practicing some online assessment tools and platforms like Kahoot, Quizizz, Padlet, Zoom, Google Classroom...etc*
- *Engaging with other teachers, sharing and exchanging experiences*

Confidentiality

Participant data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include sharing screenshots of the participants' works and involvements, but may not be limited to incidents of abuse and suicide risk.

Contact information
If you have questions at any time about this study, you may contact the researcher whose contact information is provided.

Voluntary participation
Your participation in this study is voluntary. It is up to you to decide whether to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I have read, and I understand the information provided and have had the opportunity to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study with my works and screenshots of my participation.

Participant's signature _____ Date _____

Researcher's signature _____ Date _____