The Impact of Digital formative Assessment on Improving Primary-Stage Pupils’ Oral Skills

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Abstract:

The current study aims at investigating the impact of digital formative assessment on improving primary-stage pupils' oral skills. Quasi-experimental research design with two groups; experimental and control, has been exploited in this study. The total sample of the study consists of 50 primary school pupils from five national departments at Smart City Language School in Hurghada City, Red Sea governorate: 25 pupils in the experimental and 25 pupils in the control group. The study used digital formative assessment tools; Animoto, Socrative Teacher, and quizzes. The findings of the study revealed the effectiveness of using digital formative assessment tools in improving primary-stage pupils' oral skills. There are statistically significant differences between the mean scores of the experimental and control groups in the posttesting of oral skills in favor of the experimental group. Therefore, it is recommended – based on the study results – that digital formative assessment tools and applications should be used to assess the four language skills.

Keywords: digital formative assessment – oral skills – primary stage pupils
Introduction:

English is a common language utilized across all fields of knowledge and is one of the world languages used for communication. In addition, English is not frequently taught as a means of comprehending and imparting English cultural norms (Brown (2001, p.118). But in areas like travel, business, banking, tourism, technology, and scientific research, English has emerged as a tool for cross-border communication. The inclusion of English in the local content of the elementary school-based curriculum is suitable considering this fact. To achieve the best results, it is crucial to consider the English language teaching and learning process for young pupils (elementary school kids) (Sukarno, 2008).

English instruction for young learners differs from that for adults. A teacher needs to be aware that the students are young people who differ from grownups. When teaching English to young students, it's important to take their emotional, cognitive, and physical development into account (Linse, 2005, p.3). Improvement in linguistic competence can be assessed through different approaches and strategies. Assessment is the process of gathering evidence of student learning in terms of knowledge, skills, values, and attitudes using a variety of ways, such as learning tasks, assessment tasks, tests, and examinations. The purpose of assessment ranges from assessing achievement to guiding learning and teaching by providing quality feedback.

Assessment is a method for examining the efficacy of a curriculum and implementing change at all levels. Focusing solely on student
achievement does not tell us why a teaching method is or is not effective. To improve the processes such as the types of materials, the teaching methods, the involvement of the individual learner, the interaction between children, and the interaction between the class and the teacher, that lead to successful teaching and learning, the entire teaching-learning context in all its aspects should be assessed (Bazo & Penate, 2007). Assessment must be incorporated into the curriculum at the elementary level. It must also adhere to the formative assessment paradigm.

Formative assessment, as is well known, places equal emphasis on the learner's performance as well as the learning process. One of the primary concerns of academics in the 20th century is evaluating the oral production of language learners (Celce-Murcia, 2013). Language skills assessment is extremely important in the learning process, yet modifying or reforming assessment is quite challenging. However, in our changing and evolving world, cultural, theoretical, and technical development and changes necessitate reform in evaluation. As a result, these modifications have an impact on both teaching and learning (Köroğlu, 2021).

Occasionally, the teaching process must be modified based on the needs of the students, or the students must modify their learning based on the evidence of their progress. Formative assessment provides an excellent opportunity for both teachers and students to modify their teaching and learning processes. Teachers can monitor the progress of their students, identify learning requirements and difficulties, plan the next steps, and adapt their teaching tactics to meet the needs of their students through formative assessment. Formative assessment is vital for
students as well, as it enhances student learning in three ways: study motivation, self-awareness of learning, and learning outcomes. Formative assessments encourage students to regularly reflect on their learning; when they are aware of what they are doing well and where they need to improve, they are better able to control their education and progress toward the desired outcome (Tsulaia & Adamia, 2020).

According to Halliday (2004), language has evolved "to talk about what is happening, what will happen, and what has happened (the ideational meta-function); to interact and/or express a point of view (the interpersonal meta-function); and to transform the output of (these) into a coherent whole (the textual meta-function);" (p.30). Oral skills are concerned with the creation of meaning through listening and speaking. This entails mastering a variety of language and communicative activities, as well as coordinating verbal and other partial skills. It includes the ability to listen to others, respond to others, and be aware of the interlocutor while speaking (Framework for Basic Skills, 2012, p.6). Oral communication, therefore, necessitates the ability to listen and speak, as well as the capacity to interpret and respond to what has been heard. Mastering oral abilities require the ability to take turns, ask questions, and follow up on input (Agasøster, 2015).

Formative assessment improves learning, and the gains in achievement appear to be among the biggest ever reported for educational interventions. Teachers in the schools employed formative assessment to determine the variables underlying the diversity in students' achievement in specific areas and to tailor instruction to meet
recognized needs. With the emergence of digital tools and applications, digital formative assessments can be used to assess the oral skills of language learners.

1.1 Significance of the Study:
Educational assessment can help to improve learners' achievement in foreign language acquisition and teaching practice. Changes in the skills and knowledge required for success, as well as the interaction between assessment and instruction, demanded a shift in assessment methodologies. Educators, students, parents, and administrators all have varied perspectives on how to execute assessment strategies. Traditional evaluation methods, according to some, are more effective than alternative types of assessment. Others, however, believe that alternate assessment tools are superior.

Assessment must also have elements that can inspire pupils to learn to be used most effectively. Assessment tools should be utilized to improve the caliber of language learning and instruction as well as to measure or evaluate students' academic progress. Assessment tools are anticipated to motivate learners to learn actively and critically, rather than just memorizing information for an exam, to improve learning and teaching quality. Considering these challenges, conventional methods of evaluation, such as pencil-and-paper assessments alone, may not be able to motivate students to learn or accurately gauge their language proficiency as they are learning. (Phongsirikul, 2018).

The survey the researcher designed and distributed to primary stage schools’ teachers revealed that the majority of the pilot study is not
satisfied with the traditional assessment methods used in their schools. This coincides with the literature reviewed (i.e., Quansah, 2018; Miller, Linn & Gronlund, 2009; Irawan, 2017, Irawan, 2017). Therefore, one of the most appropriate assessment tools is the digital formative assessment which is proven to increase overall student accomplishment levels. It represents one of the most significant strategies for fostering high performance ever researched (i.e., Köroğlu, 2021; Mahapatra, 2021; Vásquez, et al., 2017; Dong, 2021).

1.2 Aims of the Study:
The current study aims to investigate the effectiveness of Digital formative Assessment in Improving primary stage pupils' oral skills

1.3 Hypotheses of the study:
The current study tries to validate the following hypotheses:

1. There are statistical differences in the mean between the mean scores of the experimental group in the pre-testing and post-testing of the oral skills of primary school pupils.

2. There are no statistical differences in the mean between the mean scores of the control group in the pre-testing and post-testing of the oral skills of primary school pupils.

Theoretical Background & Literature Review:
1. Assessment and Evaluation
Brown (1990) argues that assessment is a collection of interrelated measurements used to determine a complicated attribute of an individual or group of individuals. This entails acquiring and analyzing data regarding student achievement of
learning objectives. Assessments are also used to pinpoint a student's specific areas of need for academic support, educational programming, or social services by revealing their deficiencies and areas of strength. Additionally, a diverse range of organizations and people—including teachers, district administrators, universities, for-profit businesses, state departments of education, and groups made up of a combination of these people and institutions—develop assessments.

Since instructors create, administer, and analyze the questions in classroom assessments, they are more likely to incorporate the findings into their instruction. As a result, it gives pupils a way to gauge their development and provides feedback on the effectiveness of the training. According to Brown (1990), there are two primary purposes for classroom assessment: one is to demonstrate whether learning has been successful, and the other is to make clear what the teachers anticipate of the students (Brown, 1990).

Evaluation is the determination of something's worth. Evaluation in the subject of education is measuring or watching a process to judge it or determine its worth by comparing it to others or some form of the benchmark (Weir & Roberts, 1994). The grades are the focal point of the evaluation. Rather, the quality of the process is determined after the process. The majority of the process's quality is defined by its grades. This type of evaluation can take the form of a graded paper. This type of paper will assess each student's knowledge.

Therefore, the officials arrive at the grades to evaluate the quality of the program. In addition, evaluation compares a student's performance
against that of other students or to a set of standards (Howard & Donaghue, 2015). It refers to the evaluation of evidence in light of value standards and concerning the specific circumstances and objectives that the group or individuals are attempting to achieve. Evaluation refers to a broader notion of measuring than is represented by conventional tests and examinations. The emphasis of evaluation is on broad personality change and the educational program's primary goals (Howard & Donaghue, 2015).

2. Key Differences Between Assessment and Evaluation
Assessment is different from evaluation in the following aspects: (Weir & Roberts, 1994; Howard & Donaghue, 2015; Kellaghan & Stufflebean, 2003)

1. Assessment is the process of collecting, analyzing, and utilizing data for the objective of enhancing present performance. Evaluation is the process of making a judgment based on predetermined criteria and facts.

2. Evaluation is diagnostic because it identifies areas for improvement. Evaluation, on the other hand, is subjective because it seeks to assign an overall grade.

3. Evaluation provides feedback on performance and suggestions for future performance enhancement. In contrast, evaluation determines whether the standards are reached.

4. The objective of the assessment is formative, i.e., to improve quality, whereas the purpose of the evaluation is summative, as it is all about rating quality.
5. The assessment focuses on the process, whereas the evaluation focuses on the product.

6. The feedback in an evaluation is based on observation and positive and negative points. In contrast to evaluation, in which feedback is based on the level of quality following a predetermined norm.

7. In an assessment, the relationship between the assessor and assessee is reflective, meaning that the criteria are internally determined. In contrast, the connection between the evaluator and the evaluated is one in which the standards are externally imposed.

8. The criteria for evaluation are established collaboratively by both parties. In contrast to evaluation, in which the criteria are established by the assessor.

3. The Emergence of Formative Assessment

The nature of learners, learning, or what happens in the classroom concerning effective teaching and assessment procedures had not received much consideration before the mid-1960s. Aside from outputs like grades and GPAs, graduation rates, SAT and ACT scores, and college or job readiness, the focus had been on inputs like policies, teachers, teacher training, standards, and educational systems. However, Michael Scriven proposed the idea that classroom evaluations or assessments may be used to enhance curriculum as well as programs in 1967 (Scriven, 1967, p. 41).

Bloom, Hastings, and Madaus (1971) broadened the use of the terms formative and summative evaluation to their currently recognized definitions. Summative assessments are typically administered after a
unit, semester, or course to identify what students have learned for grading, certification, assessing progress, or researching the efficacy of a program or curriculum. *Formative evaluations*, on the other hand, are those assessments that provide feedback that could lead to corrective behavior throughout the process of learning (Box, 2008, p. 15) and are frequently welcomed by students and teachers since they help facilitate mastery of the subject matter.

Bransford, Brown, and Cocking (2000) advocated formative assessment as a crucial characteristic of a learner-centered environment and supported its usage to facilitate learning. Similarly, numerous notable educational institutions have undertaken reform initiatives that encourage the deployment of formative assessment methodologies. Formative assessment has become a part of the educational landscape of any educational system, and it is encouraged and supported by many prominent educators and educational bodies. However, it arose in a political and sociocultural climate that has shown to be inflexible and resistant to change (Box, 2019).

4. **Formative assessment/ Assessment for Learning (AfL):** Although formative assessment or Assessment for Learning (AfL) has been a part of the educational terrain for many years, there is no clear definition for the activity. Activities conducted by teachers and students in self-evaluation provide information to be utilized as feedback to modify the teaching and learning activities in which they are involved. When the evidence is used to alter the instructional work to fit the needs, such assessment becomes 'formative assessment”. (Black and Wiliam, 1998b, p.2).
The purpose of formative assessment is to give teachers and students the knowledge they need to make decisions that will lead to further learning along the way, during the learning process (Stiggins & Chappuis, 2005, p. 17). Formative assessment is a structured process in which teachers and students both use assessment-elicited evidence of students' status to modify ongoing instructional procedures and learning strategies. (Popham, 2008)

Formative assessment refers to a wide range of approaches used by teachers to assess student comprehension, learning needs, and academic achievements in real-time. It can also be used by students to track their development. Formative assessment is "all those activities conducted by teachers and/or their students that produce information to be utilized as feedback to modify the teaching and learning activities in which they are involved" (Black & Wiliam 1998a, p. 7).

5. The merits of formative Assessment

It is crucial to implement formative assessment in the education system, especially in the elementary stage. Students in the primary stage must be more independent and self-directed learners. They must create learning objectives, participate actively in their education, and assess their progress. Learning goals are met with the aid of formative assessment, which also has a favorable impact on the outcomes of summative evaluation.

This precise information assists teachers in improving both their instruction and student development. Teachers identify learning requirements and issues, and students learn about their strengths and
weaker. Formative assessment represents evidence-based instructional decision-making. If you want to improve your teaching effectiveness and help your students achieve more, formative assessment is for you" (Popham 2008, p. 15).

Students, instructors, and peers who participate in assessment for learning look for consider, and act on information learned through dialogue, demonstration, and observation in ways that advance continuing learning (Klenowski, 2009, p. 264). procedures, both official and informal, that educators and students employ to collect data to enhance learning. (Chappuis, 2015)

6. Digital Formative Assessment

In addition to its well-known role in providing students with educational resources, technology can also be utilized to facilitate formative evaluation (Robertson, Humphrey, and Steele, 2019). Digital tools for digital formative assessment (DFA) have proliferated tremendously over the past 10 years. The Internet and mobile software shops offer a vast array of digital tools for any work. The functionality, educational quality, cost, operating systems, and so forth of these instruments differ.

Teachers and students need direction on how to select the most effective digital formative software to maximize its use. Digital formative assessment (DFA), often known as 'online formative assessment' or 'web-based formative assessment,' is the result of formative assessment and computer-assisted assessment research conducted over the past three decades (McLaughlin & Yan, 2017). Elmahdi, Al-Hattami, and Fawzi (2018) assert that utilizing DFA
techniques to analyze knowledge and skill gaps is a fascinating and practical method (Çekiç & Bakla, 2021).

Despite empirical evidence that formative assessment has a favorable impact on instructional processes, research in this potential field has gotten far less attention than it deserves in education and language instruction (Abedi, 2010; Bailey, 2017). In a recent formative assessment study (Tsulaia & Adamia, 2020), for example, the majority of participating lecturers claimed that they did not employ formative assessment tools in their lectures.

There are two major reasons for this: more time is required for formative assessment, and crowded classes make it difficult for teachers to provide personalized feedback to each student (Buchanan, 2000; Hatziapostolou & Paraskakis, 2010), especially in e-learning contexts with large numbers of students (Hsu, Chou, & Chang, 2011). Even less common is the use of digital technologies for formative assessment. Using DFA tools could aid in the resolution of such challenges (Beatty & Gerace, 2009).

7. The Importance of Digital Formative Assessment

Online learning environments are ideal for dynamic formative assessment. To begin, student interactions with online learning assignments and activities can be recorded, saved, and analyzed to identify patterns of learning behavior and learning needs. In addition to proficiency, a variety of measures such as time on task and level of engagement with a task can be studied to gain a better idea of how a
student is performing. Students can also be kept up to date on their performance by using badges and prizes, as well as any metrics that are available to them. These can also aid to urge pupils to keep going forward in a program as they accumulate "points." (Bullmaster-Day, 2020).

According to Newhouse (2011), online assessments typically provide learners with the opportunity to exhibit their learning, aid in the tracking of learners' competency growth, and contain a plan for analyzing learners' performance. Formative assessments must be learner and learning-centric. As a result, teachers may need to consider learners' satisfaction with the online/digital formative assessment tools that determine learning quality (Agustina & Purnawarman, 2020). The usefulness and value of online/digital formative assessment tools might also be critical (Chiu et al., 2005). Digital formative assessment supports student learning. Gikandi et al. (2011) identified factors that contribute to the validity and reliability of formative assessments such as authenticity, feedback, the multifaceted nature of perspectives, learner scaffolding, proper evidence utilization, a multi-method arrangement for evidence collection, and a clear understanding of learning objectives.

However, the lack of guidance regarding the selection of appropriate instruments is a significant issue. Today, the majority of educators have access to an abundance of digital resources for formative assessment (McLaughlin & Yan, 2017), however, a decade ago, Hsu et al. (2011) lamented the lack of viable e-learning options for conducting the formative assessment. However, despite the current abundance of
software products labeled as "educational," there is no validated set of
criteria or empirical data indicating the effectiveness of these tools.
Therefore, teachers attempt to evaluate the software using trial and error,
software reviews, and personal evaluation techniques (Robertson et al.,
2019).

According to Mahapatra (2021), there have been studies on common
methods of online formative assessment such as learning management
system (Bogdanovic’ et al., 2014), student response system (Pe´rez-
Segura et al., 2020), e-portfolio (Namaziandost et al., 2020), social
media (Allagui, 2014), web 2.0 tools like blogs (Mohamed, 2016), wikis
(Wang, 2014), Google Forms (Haddad & Youakim, 2014), self-
assessment (Ishikawa et al., 2014), and peer-assessment (Chien et al.,
2020).

8. Pupils’ oral skills
Individuals must communicate effectively, explain their thoughts, and
articulate their emotions. Indeed, successful communication affords us
the chance to improve the world. Unfortunately, humans do not always
utilize this special capacity in their daily lives. Part of this deficiency is
noticed in language courses due to a variety of factors, such as method
selection, resource availability, and instructor profile. Due to the strategy
employed in our institution as part of the curriculum, a greater focus ha
been placed on literacy in English class in our case. Oral talent is
frequently neglected, and regular programs tend to emphasize the
development of cognitive processes through reading and writing. Most
of the time, we lack sufficient contemplation on how to develop the
communicative competence potential of learners. This problem worsens when the institution's priority is to give students the resources necessary to perform well on future standardized tests (Peña & Onatra, 2009).

Humans are social creatures who interact and communicate with one another constantly. It is crucial to encourage scenarios where language learners can experience actual communication in a foreign language because of this. Bygate (1987, p.1) makes the following claim to support this point of view: "Our learners frequently need to be able to talk with confidence to carry out many of their most fundamental transactions. It is their most common area of evaluation, and it is also how they gain or lose friends.

Oral communication serves a variety of general and subject-specific teaching purposes. Learning to speak is a vital objective in and of itself, as it equips kids with a set of lifelong abilities. The most common means of communication for expressing thoughts, making arguments, providing explanations, transmitting information, and making impressions on others are speaking. In their personal lives, students must talk effectively. Later in the future, there will be meetings to attend, presentations to make, conversations and debates to engage in, and groups with whom to collaborate (Rahman, 2010).

Oral language is the system by which learners express their knowledge, ideas, and emotions through spoken words. Developing EFL oral language entails developing the abilities and information that contribute to listening and speaking, which have a significant correlation with reading comprehension and writing. Oral language consists of at
least five fundamental elements: phonological skills, pragmatics, syntax, morphological abilities, and vocabulary (also referred to as semantics). All of these components of oral language are required for communicating and learning through conversation and speaking engagement, but there are significant differences between them that have significance for literacy education (Moats, 2010, p.21).

Oral language as a frequent component of most courses plays a vital role in cognitively and internationally engaging young learners in the process of foreign language acquisition. However, it has been noticed that young EFL learners in the primary stage do poorly when it comes to using and controlling accurate oral language in the classroom. This may be due to a lack of accurate pronunciation and coherence in their classroom performance (Zwiers, 2014).

9. Assessing Oral Skills
Despite the significance of oral communication, few tools have been created to evaluate students' perceptions of their communicative competence. Among the few tools developed is Demir's proposed Speaking Skills Self-Efficacy Scale (SSS) (Demir, 2017), which is meant to measure students' oral expression self-efficacy. The Cronbach's alpha reliability of the SSS is 0.90, and it has 25 Likert-scaled items. The items assess many effective communication tactics, including I start my speech appropriately; I change my speech according to the environment; I pay attention to protocols in my speech; I end my speech with appropriate expressions; I try to make my speech understandable; I give
accurate answers to the questions addressed to me, and I try to use the new words I have learned in my speech.

Besides, Campos et al. (2021) conducted a questionnaire to examine trainee teachers' self-assessment of their oral communication competence (25 items) and the associated education obtained during their degree course (9 items). Except for one topic, all items were rated using a 5-point Likert scale. The authors based their scale on a Gallego and Rodriguez (2014) measure but added items to evaluate students' self-perceptions of their competencies as trainee teachers. Their results suggest that sender competence was ranked lower than receiver competence, and formal communication conditions reduced speech expression. Men, older adults, students in a higher year, those with a university degree, and those with a public-facing job made the highest self-assessments.

Even though these scales showed to be effective in assessing the speaking skills of learners at various academic levels, it is summative. Summative assessments are periodically given, according to Black, Harrison, Lee, Marshall, and Wiliam (2003), to determine what pupils know and do not know at a specific time. After learning has been finished, a summative assessment gives data and feedback that summarizes the teaching and learning process. At this point, only accidental learning that might occur because of completing tasks and assignments constitutes formal education. Summative assessment is an evaluation given at the end of a learning period to determine whether learning occurred and frequently to assign a value (score) to how much
learning had taken place or to quantify how much a learner knows about the subject matter (Atkin, Black, and Coffey, 2005).

Despite being one of the most effective assessment techniques - summative assessment - for a long time, the emergence of the formative assessment helped to better improve assessment practices. In contexts where summative assessments are very visible, teachers frequently feel forced to "teach to the test," and students are motivated to satisfy performance goals (to score well on tests) rather than learning goals (that is, to understand and master new knowledge). Many, if not most, teachers view these external exams as incompatible with, or even antagonistic to, the practice of formative assessment. Inadequately constructed external examinations, media league tables that assess school performance using a limited amount of data, and a lack of connectivity between tests and curriculum can further restrict innovation (Organization for Economic Cooperation and Development (OECD), 2020).

Formative assessment is cyclical and continuous because it encourages active participation in the learning process. Formative assessment consists of an evaluation of a student's behavior and learning process, as well as feedback that is highly successful in addressing learning inadequacies. According to Wood (2010), students are engaged in the learning process and the learning environment is difficult for both students and teachers. Nonetheless, formative evaluation promotes permanent learning and contributes to learners' future learning.
However, the emergence of new technologies and the rising aspirations and openness of students to change in educational and evaluation methods necessitate the development of new assessments kinds such as digital formative assessment. Foreign language speaking skills evaluation encompasses several activities and tasks (Luoma, 2004), and speaking skills assessment should measure language competence or the use of language rather than topic knowledge if the language test has no special objective (Huang, Hung & Plakans, 2018). As part of pragmatic knowledge, speaking skills represent communicative capacity, knowledge connected to language usage in practice, and the appropriate use of target language in a suitable context, such as functional and sociolinguistic knowledge (Luoma, 2004).

Consequently, foreign language learners consider speaking assessments and tests as unpleasant and anxiety-inducing (Çetin Köroğlu, 2019). However, if the formative assessment is used to test foreign language learners, both their speaking skills and their ability to improve their foreign language speaking skills are evaluated. Digital formative assessment is a relatively new word for speech assessment, and very little research has been conducted on this concept (Faber, Luyten & Visscher, 2017). The findings of their study indicate that the digital formative assessment tool improves student achievement and motivation. In addition, the utilization of measurements by students supports student achievement and motivation. An additional key conclusion of the study was that achievement impacts were greater for students with superior academic performance.
2. Methods:
2.1 Participants:
The study participants comprised 50 primary school fifth-grade pupils, in the National department at Smart City Language School in Hurghada city, Red Sea governorate. Participants were divided into two main groups; the experimental group (N= 25 fifth-year primary school pupils) used digital formative assessment software including Animoto, Socrative teacher, and quizzes. The school uses Learning Management System (LMS) in e-learning practices, which supports communication between the school and pupils' parents. LMS facilitates pupils' learning as it overcomes time and place barriers. The other is the control group (N= 25) which used the traditional offline assessment tools through summative traditional tests and exams.

2.1 Research Methods:
The quasi-experimental research design has been adopted in this study. The researcher used the digital formative assessment as a means to improve the oral skills of the experimental group as appeared in the comparison of their pretesting and posttesting scores. Whereas the control group used the traditional oral skills assessment tools which are recurrently used in our educational institutions.

2.3 Study Instruments:
The current study used the following tools to achieve its main goals:

1. Speaking Test: It was designed mainly to assess the oral production skills of the study participants of primary school 5th graders. The speaking test comprises 10 questions which vary from essay or open-ended questions, describing tasks to multiple-choice questions.
Examples of open-ended essay questions which ask pupils to express their opinions and experiences are: "Talk in detail about how you celebrate spring in Egypt?", and "Give a recommending place to your friend to visit by describing the place to visit and activities to do". The test includes multiple choice questions such as "A machine for cutting grass in a garden or park is …..a) vacuum cleaner, b) lawn mower, c) sweeper". The top mark of the test is 50 marks divided according to the significant weight of each question. For instance, The first and the second question: “Talk in details about how do you celebrate spring in Egypt”, “Give recommending place to your friend to visit by describing the pace and activities to practice” were scored successively out of 10 marks. Whereas the multiple-choice questions were scored out of 2 marks.

2. The listening skills Test: LST was designed mainly to assess another aspect of oral production skills which is listening skills. The listening skills test comprises 7 varied questions. Six questions are multiple choice questions based on the listening task asking pupils specific information. Whereas the first question is an essay question: “summarize the main points included in the conversation in your own words.” Pupils in these questions are supposed to retell the main points mentioned in the recording but in brief. It focuses mainly on the pupils’ ability to rephrase what they understood from the recording. The top mark on the test is 20 marks.

2.4 Procedures:
Participants in both the experimental and the control group were pretested using both speaking and
listening skills to ensure they are standing on common ground in terms of their oral competencies. One of the schoolteachers helped to teach the experimental group using traditional assessment tools. On the other hand, the researcher implemented the target strategy – digital formative assessment – on the experimental group. The experimental group used various digital formative assessment applications including Animito and Socrative teachers.

Smart City Language school uses a Learning Management System (LMS) which supports collaboration among the main pillars of the educational process; teachers, parents, and pupils to achieve the main goals of E-learning. LMS was used to help learners access online oral activities at school, home, or elsewhere. In-class assessment activities were done using Socrative teacher online platform. The researcher used to write a certain question or ask pupils to do certain tasks, listening or speaking, pupils answer the question or do the task inline through Socrative online platform. The researcher can therefore access the pupils' responses on time. Pupils’ responsiveness increased to a large extent due to using Socrative for the assessment of their oral skills.

In a related context, pupils shared the video clips they recorded as a response to the speaking tasks through Animoto. Animoto is one of the most interesting online formative assessment platforms. Using Animoto, pupils can design and record their video clips to respond to the speaking task. Readymade videos are not always suitable for all pupils to accelerate their learning. In addition, the researcher used Edupuzzle online formative assessment platform which enables pupils to design
their video clips hand in hand with readymade *YouTube* educational videos.

Immediately after implementing the proposed strategy – digital formative assessment – for the experimental group and the traditional assessment tools on the control group in an endeavor to assess its impact on improving the oral skills of study participants, primary-stage pupils were post-tested using both speaking and listening posttests. Data obtained from the pre-testing and post-testing sessions have been tabulated and analyzed using Statistical Package for Social Sciences (SPSS 25.0). It was clear that pupils in the experimental group benefited from using digital formative assessment.

3. Results:
To answer the first research question, the t-test scores were calculated, and it showed that the two groups were homogeneous. According to the data in table 1 in the posttest, for the control group, the mean and the standard deviation of pupils’ speaking skills were respectively 29.53 and 2.18, and they were respectively 30.00 and 1.98 for the experimental group. With regards to the listening skills, for the control group, the mean and the standard deviation of pupils' speaking skills were respectively 12.81 and 1.58, and they were respectively 12.28 and 1.66 for the experimental group.

**Table 1. Descriptive Statistics of Post-test Scores**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>N.</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
<td>25</td>
<td>30.00</td>
<td>1.98</td>
<td>.36</td>
</tr>
</tbody>
</table>
Table 1 shows the results of the independent sample t-test to compare the pre-test scores between the experimental and control groups. It is clear that the difference between the groups is not significant at p= .428, .873 > 0.05. Therefore, both groups are homogeneous before intervention.

### Table 2. Independent Samples t-Test pf Pre-test Scores

<table>
<thead>
<tr>
<th>Variables</th>
<th>group</th>
<th>N.</th>
<th>Std. Error</th>
<th>Mean</th>
<th>t-Test</th>
<th>df</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>Speaking skills</td>
<td>Experimental</td>
<td>25</td>
<td>.59</td>
<td>29.53</td>
<td>.798</td>
<td>24</td>
<td>.428</td>
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<td></td>
<td>Control</td>
<td>25</td>
<td>.45</td>
<td></td>
<td></td>
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<td>Experimental</td>
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<td>12.28</td>
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<td></td>
<td>.873</td>
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<tr>
<td></td>
<td>Control</td>
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<td>.53</td>
<td>12.81</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regarding the post-test result, according to the data in table 3, for the control group, the mean and the standard deviation were respectively 35.18 and 1.13, and they were respectively 42.11 and 2.08 for the experimental group.

Table 3. presents that there was a greater increase in the test scores of the experimental group than the control group. The mean score of the experimental group rose from 29.53 to 42.11 while that of the control group only increased from 30.00 to 35.18.
Table 3. Descriptive Statistics of test scores of speaking skills

<table>
<thead>
<tr>
<th>Group</th>
<th>N.</th>
<th>Pre-test</th>
<th></th>
<th>Post-test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>29.53</td>
<td>2.18</td>
<td>42.11</td>
<td>2.08</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>30.00</td>
<td>1.98</td>
<td>35.18</td>
<td>1.13</td>
</tr>
</tbody>
</table>

The total score = 50

To further investigate the impact of online formative assessment on the speaking skills of both the experimental group and control groups, an independent sample t-test was also conducted. Table 4 shows that there was a statistically significant increase in the experimental group students' scores compared to the control group, at $t = 14.64$, $p < .01$ (two-tailed).

Table 4. Independent Samples T-test for both experimental and control group

<table>
<thead>
<tr>
<th>Group</th>
<th>N.</th>
<th>Std. Error Mean</th>
<th>t-Test</th>
<th>Df</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>25</td>
<td>.473</td>
<td>14.64</td>
<td>24</td>
<td>0.001</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>.512</td>
<td></td>
<td>24</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Tables 3 and 4 indicate that the differences between the experimental group and the control group are significant at the level ($p < 0.05$). In other words, online or digital formative assessment platforms have positive impacts on improving experimental group participants’ speaking skills. Thus, it indicates that the primary school pupils’ speaking skills improved significantly.
Table 5. presents that there was a greater increase in the test scores of the experimental group than the control group. The mean score of the experimental group rose from 12.28 to 18.07 while that of the control group only increased from 12.81 to 13.32.

**Table 5. Descriptive Statistics of test scores of listening skills**

<table>
<thead>
<tr>
<th>Group</th>
<th>N.</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>25</td>
<td>12.28</td>
<td>1.66</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>12.81</td>
<td>1.58</td>
</tr>
</tbody>
</table>

The total score = 20

To further investigate the impact of online formative assessment on the listening skills of both the experimental group and control groups, an independent sample t-test was also conducted. Table 6 shows that there was a statistically significant increase in the experimental group students’ scores compared to the control group, at \( t = 7.45, p < .01 \) (two-tailed).

**Table 6. Independent Samples T-test for experimental and control groups**

<table>
<thead>
<tr>
<th>group</th>
<th>N.</th>
<th>Std. Error Mean</th>
<th>t-Test</th>
<th>df</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>25</td>
<td>0.64</td>
<td>7.45</td>
<td>24</td>
<td>0.01</td>
</tr>
<tr>
<td>Control</td>
<td>25</td>
<td>0.57</td>
<td></td>
<td>24</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Tables 5 and 6 indicate that the differences between the experimental group and the control group are significant at the level \( p < 0.05 \). In other words, online formative assessment platforms have positive impacts on
improving experimental group participants’ listening skills. Thus, it indicates that the primary school pupils’ listening skills improved significantly.

4. Discussions:
The main objective of the current study is to assess the impact of digital formative assessment on improving primary-stage pupils' oral skills. Results of the current study show that using digital formative assessments helps students improve their speaking abilities. With the use of these test formats, pupils' fluency and accuracy skills have particularly improved. Another significant finding of the research is that pupils succeeded to improve their listening skills due to the use of digital formative assessments.

The major distinction between formative and summative assessment is that the former promotes instruction while testing and is utilized for both learning and assessment. The findings of the present study corroborate the hypothesis; there are statistically significant differences between the mean scores of the experimental group and the control groups in the posttesting of oral skills in favor of the experimental group due to the use of digital formative assessment. Another important finding of the current study is that almost all of the participants believed that digital formative assessment was a novel testing method and was very successful in evaluating as well as improving both foreign language speaking and listening abilities.

The current research study shows that digital formative assessment is useful for academic accomplishment and that creative and modern assessment types are needed for
foreign language oral skills, one of the most difficult skills for language learners. Additionally, learners are satisfied with the digital formative evaluation. During the digital formative assessment, pupils' speaking abilities, including pronunciation, accuracy, fluency, and vocabulary development, are improved via corrective feedback. Consequently, digital formative assessment is an ongoing process that seeks to identify learning gaps and foster learning processes while conducting assessments (Kincal & Ozan, 2018).

Formative assessment leads to significant learning gains for students, according to the conclusions of Black and William's (1998) research, which analyzed over 250 research articles on formative assessment. Furthermore, they discovered that by assessing students more frequently than traditional testing, the formative assessment allows them to focus on self-evaluation, corrective feedback, and learning goals rather than performance goals.

It was evident that learner evaluation in digital formative assessment platforms such as Socrative, Animoto, and Edupuzzle followed not only the traditional summative evaluation paradigm, which involves gathering, understanding, inferring, and using the material to evaluate and decide about the learning that typically occurs after educational processes. But it also helps in certifying and selecting and modifying learning materials to enhance students' learning not just evaluating their achievement (Balula, 2014).

The current research study shows that digital formative assessment is useful for improving both productive and receptive oral skills and that
creative and modern assessment types are needed for foreign language speaking and listening skills, one of the most difficult skills for language learners. Additionally, participants are satisfied with the digital formative evaluation. During the digital formative assessment, students' speaking abilities, including pronunciation, accuracy, fluency, and vocabulary development, are improved via corrective feedback. Consequently, formative assessment is an ongoing process that seeks to identify learning gaps and foster learning processes while conducting assessments (Kincal & Ozan, 2018, Köroğlu, 2021).

In a related context, findings also revealed that digital formative assessment helped in improving the listening skills of the target sample of learners, i.e., primary-stage pupils. Listening is seen as an important and challenging skill in foreign language learning because learners must store information in short-term memory at the same time as they are striving to interpret the information. Therefore, it is a complicated activity that places the highest processing demands on the brain (Rubbin, 1995, p. 8). Second, because hearing is an active and dynamic process of meaning negotiation in which the learner should be an active rather than a passive recipient of aural data, developing classroom listening exercises is a continuous problem for many language teachers (Rost, 1991).

Digital formative assessment is regarded as an important and fundamental aspect of the design of effective learning environments since it allows students to modify and improve their thinking and learning abilities (Bransford et al., 2000). Using Edupuzzle and Animoto
helps learners to support their listening skills by designing their video clips and sharing such videos on LMS to be seen and published online. Online formative assessment supports listening skills in several ways, including by giving continuous, instant feedback and by involving students in authentic learning tasks and critical thinking processes. According to Caruso et al., (2019), Ogange et al., (2018) timely feedback facilitates deep, self-regulated, transferrable learning by increasing learner motivation and engagement.

It also aids students in identifying their strengths and weaknesses and evaluating their performance continually (Wolsey, 2008). Second, high-quality peer/teacher feedback promotes collaborative online learning communities by providing students with different learning assignments involving interactions with peers and meaningful conversations between teachers and students (Baleni, 2015; Sorensen & Takle, 2005; Vonderwell et al., 2007). With self-test quizzes, the online formative assessment also enhances students' performance on summative assessments (Angus & Watson, 2009). Authentic, engaging learning challenges increase the responsibilities and autonomy of learners and enhance their ability to transfer information to real-world circumstances (Crisp & Ward, 2008).

5. Conclusions:
The study explored the effectiveness of implementing digital formative assessment in improving primary-stage pupils' oral skills. Findings demonstrate that online formative
assessment platforms provide learners with a flexible, active learning environment that facilitated self-regulated learning and continual information consolidation. Additionally, it contributed to the development of autonomy in language acquisition. However, the data also highlight three major obstacles for students: a lack of technical abilities, a lack of conversational methods, and social anxiety. Consequently, several pedagogical implications can be derived to empower online formative assessment platforms, including learner training, instructor assistance, and institution-level support.

According to the study's findings, digital formative assessment improves participants' fluency and accuracy. Furthermore, participants' language knowledge was expanded through digital formative assessment. Furthermore, the current study finds that virtually all the participants had a favorable attitude toward this kind of assessment and would want to see it used in the future evaluation process with minor modifications. Participants advocate for additional time spent on test preparation for students. They express dissatisfaction with the data size of the videos in which they recorded their speaking performance, it causes uploading issues.

The digital formative assessment is done regularly and provides feedback. When classroom activities are used to assess language learners' oral performance, they engage participants' attention, enhance their motivation, and support their metacognitive and critical thinking skills (Facione, 2011; Stiggins, 2002). For assessment purposes, digital formative assessment employs classroom-like activities on a digital
Language learners persist with the learning process because it is continual. The essence of assessment is an ongoing process in which the teacher, in conjunction with the student, uses the knowledge to direct the next steps in learning (Jandris, 2001). The digital formative assessment engaged language teachers and participants in the current study's assessment phase. The findings indicate that developing foreign language learners' speaking and listening skills are extremely helpful in many ways.
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