Instructional Design Document (IDD)

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Draft 2_ Teachers of out of School Children

1- **The learning problem that requires development of instruction:**

The teachers of out of school children are not familiar with creating interactive activities using e-learning tools. They are in need of an online training program that would help them transform their classes into engaging, interactive classes through using the most applicable technological tools and methods.

2- **The target audience:**

The target audience is the facilitators; teachers who work for (Ana Aqra Association).

- The facilitators help the out of school children whose ages range between 10 to 14 to develop their basic literacy and numeracy skills in an interactive way.

3- **Data Analysis:**

A survey will be carried out to pinpoint the characteristics of teachers and their abilities in incorporating technology into the teaching-learning process.

4- **A: Contextual Analysis:**

According to the survey conducted**,** the following data was collected:

Gender: Females

Number of Teachers: 7

Age: The ages range between 25-45

Major:

- Basic Literacy and Numeracy Teachers and Assistant Teachers
- Early Childhood Education Teachers and Assistant Teachers

Entry Characteristics: Learners should be able to create interactive numeracy and literacy activities and integrate them in the learning process.

Prior Experience: Teachers are familiar with technological tools, such as Microsoft Office, Google, and YouTube.

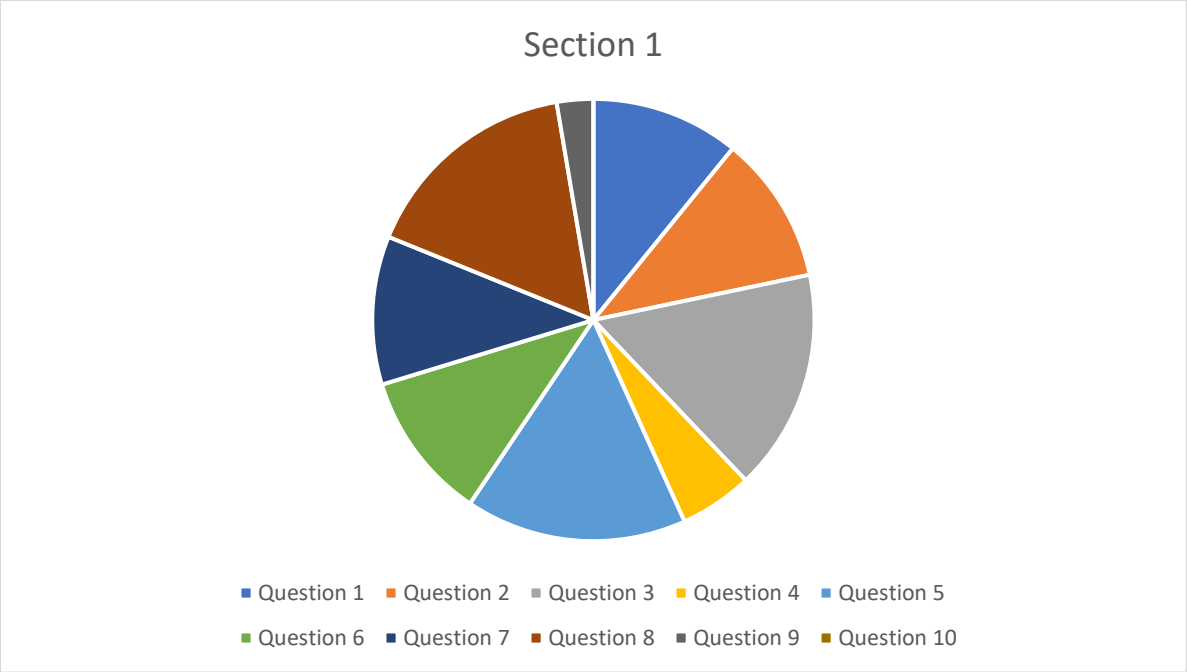
The survey included the following:

The results of the survey can be seen in the pie charts below.

Pie Chart 1 represents the results of the first section of the survey questions.

Pie Chart 2 represents the results of the second section of the survey statements.

Appendix A contains all elements of the survey.


Section 1
Question 1
Question 2
Question 3
Question 4
Question 5
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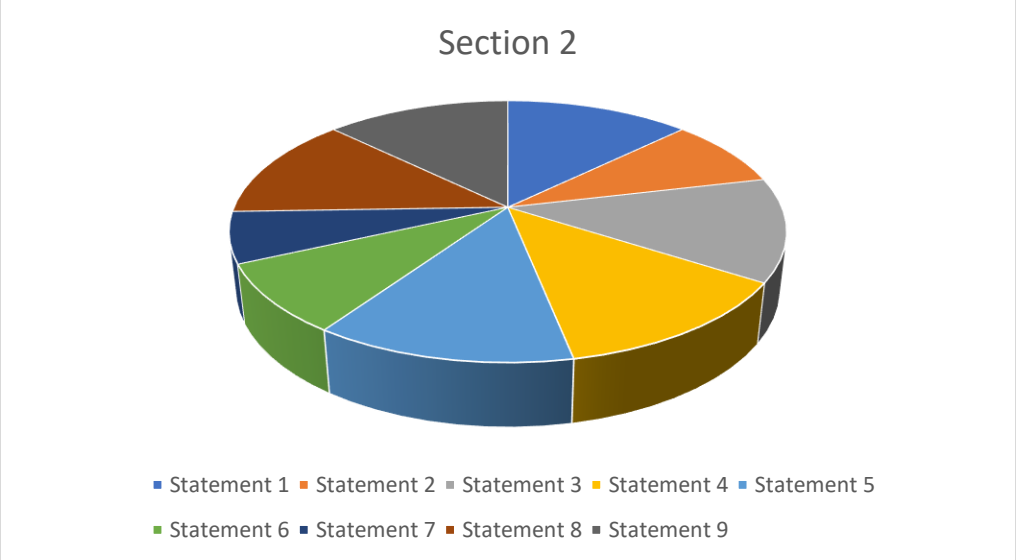
Question 7
Question 8
Question 9
Question 10


Section 2
Statement 1
Statement 2
Statement 3
Statement 4
Statement 5
Statement 6
Statement 7
Statement 8
Statement 9

The analytical data will be compared before and after the training to track the teachers and assistants' skills development in creating and applying interactive activities in their classes. Therefore, a Transfer Context Analysis will be conducted to ensure that the training is beneficial, it serves the needs, and leads to a significant change in the learning environment.

5. Task Analysis:

Since the process of achieving the required tasks involves following several steps in sequence, a Procedural Analysis is adopted to structure the content. Therefore, a detailed flowchart that outlines each step of the task will be provided and observed thoroughly throughout the process.

6. Instructional Objectives:

- Teachers will be able to create interactive activities using EdTech- tools, such as Toonly and Liveworksheets.
- Teachers will be able to track the students' progress and commitment through interactive tools that would provide them with instant feedback.
- Teachers will be able to choose the appropriate tool that best fits their learning activities and targets the learning objectives.

7. Teacher's Personas:

Persona A		A Basic Literacy and Numeracy Teacher who has sufficient technology proficiency; Microsoft Office, Google, and YouTube, but she has never created nor used interactive worksheets in her classes.
Persona B		A Basic Literacy and Numeracy Assistant Teacher who has basic technology skills; Microsoft Office, Google, and YouTube, but she has never created nor used interactive worksheets in her classes.
Persona C		An Early Childhood Education Teacher who has sufficient technology proficiency; Microsoft Office, Google, and YouTube, but she has never created nor used interactive worksheets in her classes.
Persona D		An Early Childhood Education Assistant Teacher who has basic technology skills; Microsoft Office, Google, and YouTube, but she has never created nor used interactive worksheets in her classes.

Learning Objectives	Assessment	Instructional Strategies	Learning Activities	Technologies
- Teachers will be able to create interactive activities using Liveworksheets tools; - Create an account. - Recognize the different options offered by the tool. - Develop activities that complement the desired objectives and cater for the students' needs.	- Create an account. - **Groupwork:** Devise a worksheet of 3 different exercises based on the subject you teach; a multiple-choice exercise, a fill in the blank exercise, and a matching exercise	- Dialogic - Exploratory	1- Warm-up activity: The teachers will be first asked first to solve the knowledge-based exercise using Liveworksheet to test their prior knowledge about the tool. 2- The teachers will be next asked to choose one of the options below to create an exercise using Liveworksheet: ▪ -Multiple choice exercise. ▪ -Fill in the blank exercise. ▪ - Matching exercise.	Liveworksheet

Instructional Approach

Batir and Sadi (2021) state, "the ASSURE model, developed by Heinich, Molenda, and Russel in 1993, is an instructional design guide that integrates technology and multimedia to enhance the learning environment from a constructivist perspective". Therefore, we have decided to utilize the Assure model when training teachers to use e-learning tools, such as Liveworksheets, Google Forms, and Toonly for creating interactive worksheets. Firstly, this model offers a comprehensive structure for designing and implementing effective lessons that involve technological tools. Additionally, the Assure model ensures that teachers comprehend the learning objectives and instructional goals of the session. Thirdly, the model provides a guided process for selecting appropriate media and technology tools. Lastly, the Assure model

highlights the importance of assessing the effectiveness of the lesson, which helps teachers meet the desired learning outcomes.

ASSURE Steps:

1. **Analyse learners:**

In this stage we started to analyse the students who will be learning how to use the Liveworksheets application. We considered their age, background, experience, and learning styles through a survey, which had helped us in designing and developing a course that would cater for our teachers' needs.

2. **State objectives:**

The objectives of the session were sated and devised in this stage in a way that helped teachers to use Liveworksheets and other applications and tools to create interactive worksheets and empowered them to experiment and create their own engaging learning tools.

3. **Select methods, media, and materials**:

In this stage, the teaching methods, media, and materials were identified. In this case, a combination of lecture, demonstration, and hands-on practice were implemented in the online course to give the teachers a wide perspective on the tools and applications that should be used.

Utilize technology and media:

Introduce the Liveworksheets application and provide a demonstration of its features and capabilities. Video tutorials, instructional slides, or other multimedia to support the presentation may be used.

4. **Require learner participation:**

In this step, the teachers were constantly encouraged to active learning by creating opportunities for them to use the interactive tools themselves effectively. They had the chance to collaborate and share their work with peers through setting peer review sessions.

5. **Evaluate and revise:**

To assess the students' progress towards the stated objectives, the course effectiveness was evaluated using both formative and summative evaluations. This process included a pre-instruction evaluation, instruction evaluation, and post-instruction evaluation. The feedback was used to revise the course for future iterations. According to Brown & Green (2016), the instructional design process employs formative evaluation to constantly test and modify the intervention to meet the client's (the trainees) needs. As the name suggests, formative evaluation is applied during the development phase of the intervention. On the other hand, summative evaluation is conducted towards the end of the instructional design process to assess the overall success of the process in achieving the major objectives.

Instructional Theories and Strategies

Theories

Several theories were used to teach teachers how to use interactive tools like Liveworksheets. These theories include Andragogy, Connectivism, and Constructivism. Andragogy was used to help teachers learn by designing sessions that allowed them to experiment with Liveworksheets. Malcolm Knowles developed Andragogy as a learning framework aimed at recognizing the distinct features of adult learners. According to this model, adult learners exhibit specific traits,

including a self-concept that is independent, an extensive background of experience, an inclination towards immediate application, internal motivation, and a quest for knowledge (Merriam & Bierema, 2013). As for connectivism, it was used to encourage teachers to connect with other educators and experts to learn more. They also had access to online resources such as videos and tutorials. Finally, teachers learned by creating interactive activities using Liveworksheets and other tools, using the theory of Constructivism. They were able to use what they already knew to learn more. In constructivism, learners are actively involved with the subject matter through hands-on experiences and social interaction. The trainees in this case should act as facilitators rather than dictators, providing the necessary resources and guidance to help learners construct their own knowledge (Schunk, 2012).

Strategies

Open- ended learning environment:

The open-ended learning environment provides chances to the learners to explore and control knowledge. It also stresses emphasizes the importance of grasping through experimenting and exploring (Brown & Green, 2016).

The open-ended learning environment should include 4 components:

1. Enabling contexts: articulated perspectives that influence how the approaches are planned and resources are interpreted.
2. Resources: a range of online sources that provide information about the problem.
3. Tools: the means for engaging and manipulating resources and ideas.
4. Scaffolding: scaffolding processes support individual learning efforts.

The indirect teaching is in approach that is commonly employed in open-ended learning environments. It places the instructor in a more peripherin position during learning activities in online and self-paced courses.

Knowledge-centered environment:

It focuses on the tools and activities that help students gain an understanding of a certain field. In this setting, students are exposed to systematic knowledge to enhance planning and decision-making (Brown, A., & Green, T. D., 2016). Knowledge-centered environments give significant focus to the application, analysis, and evaluation of content which is kind of cognitive scaffolding to assist learners' needs. This learning environment emphasises on the subject matter from academic discipline and organises scope and sequence as well. It includes facts and principles that are needed later on in the implementation and assessment part. In order to work with any technological tool appropriately, concepts must be presented in a way that link knowledge to current understanding to achieve the objectives. Learners explore important ideas in depth through reflection, discussion, and feedback. In addition, Knowledge-centred environments help students develop metacognitive skills by teaching them to anticipate on how new materials will improve their understanding in technology (Colomer et al., 2018).

Description of the Activities

1) Warm Up activity: The first activity will be a warm up activity that introduces the teachers to some basic knowledge about the tool they will be using at a later stage.

The teachers will first answer some Multiple-Choice Questions, fill in the blank and matching exercises that state some facts about Liveworksheet and how to use it.

2) Activity 2: The teachers will be next asked to use one of the options below to create an exercise similar to the ones they have seen in the warm up activity, using Liveworksheet. The options are listed as follows:
    a- Multiple Choice Questions exercise
    b- Matching exercise
    c- Fill in the blank exercise

The learning objectives, subject and grade level will be left optional for the teachers to choose according to their own preference. What matters in this activity is the creation and design by the teachers of the exercise using the newly introduced tool: Liveworksheet.

Limitations:

1) The absence of social interaction among the learners (that are the teachers in this case).
2) The lack of personalized feedback.
3) The absence of diversity in the exercises that this tool offers.

Formative and Summative Evaluation

Formative Assessment:

To conduct a formative assessment usability testing will be adopted as it helps the instructional designer determine how well the intended product (Liveworksheet) works with the end user (the facilitators). The instructional designer in this case can address the problem and fix it on spot before

Brown and Green (2016) state that “usability testing is a type of formative evaluation that consists of evaluating the product by observing it in action with potential end users. Typically, a usability test consists of evaluators observing a user or users interacting with the product under controlled conditions. The user(s) interact with the product for a specified amount of time, having been asked to complete a set of tasks determined in advance by the evaluation team. The tasks are based on the goals and objectives the product is designed to meet”.

When asking the facilitators to create three different types of exercises using Liveworksheet, the instructional designer can determine, by tracking the teachers work through their submissions using their credentials, whether the facilitators are finding it clear and easy to integrate this technology in their classrooms. At the end of this observation, the instructional designer can then decide whether the teachers are at ease using the new technology or not. Accordingly, the instructions can be modified, the steps broken down or made easier for the facilitators to submit a better performance.

Peer Review: Teachers will review and provide feedback on each other's interactive worksheets by setting peer-review sessions. This can help them develop a deeper understanding of the instructional strategies and e-learning tools used in the course.

Summative Evaluation

Summative evaluation is done at the end of the instructional design process to determine the effectiveness in achieving the main goals. The type of evaluation is influenced by the expected

outcome, whether it's a change in knowledge, skill, or attitude. Assessments are then used to determine if the expected outcome has been achieved. The post-instruction assessment, on the other hand, will enable us to identify whether we need to provide remediation for certain students or re-teach the entire class. (Brown & Green, 2016). We have chosen to conduct a valid and reliable summative evaluation through using various instruments in order to evaluate the effectiveness of the course.

The Summative Evaluation Tools that will be used are as follows:

Surveys: It is the same survey conducted at the beginning of the course. It will be administered after the course to assess the teachers' knowledge, skills, and confidence in creating interactive worksheets. Through the survey, the students will provide feedback on the course content, delivery, and relevance.

Online Observation: The teachers will be observed as they create their interactive worksheets to their students through tracking the teachers' submissions of work based on their credentials. This can help assess their ability to apply the concepts and skills learned in the course.

Summative Assessment

The instruments used for the summative assessment are developed after devising a test development plan. Obtaining answers to various questions is necessary before developing a test. These answers will be used by the instructional designer to create a test development plan. The plan will serve as a guide for the development and implementation of the test (Brown & Green, 2016). We will use different types of techniques for the summative assessment taking into consideration that they fit into the cognitive domain. A criterion-referenced evaluation will take place, which is measured against specific criteria such as the ability to answer a set number of questions or demonstrate certain skills within a given time frame (Brown & Green, 2016). The

summative assessment will be divided into two parts. A change in skill evaluation is conducted through an interactive liveworksheet encompassing multiple-choice questions, fill in the blank questions, and open-ended problems. This instrument will aid in determining whether the students can accurately identify the correct definitions and techniques needed to access the tools (Brown & Green, 2016). The change in skill evaluation also includes choosing one e-learning tool (Toonly or Liveworksheets) that the teachers learned about during the course and use it to create an interactive worksheet that aligns with their subject of teaching. The teacher should include a set of at least four different interactive activities in the worksheet.

Appendix B contains the summative assessment.

Appendix A

The survey included the following:

Section 1: Self Reflection on Technology in Instruction

Question # 1: I can easily access the available technology in the school when I need it

4 Teachers: Agree

3 Teachers: Disagree

Question # 2: I feel confident in my ability to integrate multiple technologies into my instruction

4 Teachers: Agree

3 Teachers: Disagree

Question # 3: I have a variety of ideas and lessons for integrating technology into my teaching.

6 Teachers: Agree

1 Teachers: Disagree

Question # 4: I have enough time to prepare technology-based lessons

2 Teachers: Agree

5 Teachers: Disagree

Question # 5: I believe that integrating technology into my curriculum is important for the students' success

6 Teachers: Agree

1 Teacher: Disagree

Question #6: I do not have the technology skills to support the students when they use technology for a project

4 Teachers: Agree

3 Teachers: Disagree

Question #7: I am familiar with what technology is available to my students and me in our building

4 Teachers: Agree

3 Teachers: Disagree

Question #8: I am familiar with the copyright laws that govern the acceptable use of technology (including using material from the Internet)

6 Teachers: Agree

1 Teachers: Disagree

Question #9: I am familiar with the tools that allow me to create interactive worksheets for my students.

1 Teacher: Agree

6 Teachers: Disagree

Question #10: I have created several interactive worksheets for my students and applied them in my class.

7 Teachers: Disagree

Section 2: Opinions and Attitudes on Technology Integration

-When using the Internet…

Statement #1: Students are more motivated

6 Teachers: Agree

1 Teacher: Strongly agree

Statement #2: Students go to inappropriate sites

4 Teachers: Agree

3 Teachers: Disagree

Statement #3: There is more student collaboration

6 Teachers: Agree

1 Teacher: Strongly Agree

-I think….

Statement #4: technology would improve my ability to teach.

6 Teachers: Agree

1 Teacher: Disagree

Statement #5: technology has changed the way I teach.

6 Teachers: Agree

1 Teacher: Disagree

Statement #6: School systems expect us to use new technologies without formal training

4 Teachers: Agree

3 Teachers: Disagree

Statement #7: There is a focus on technology at my grade level meetings

3 Teachers: Agree

4 Teachers: Disagree

Statement #8: There are various opportunities for technology training.

6 Teachers: Agree

1 Teacher: Disagree

Statement #9: Technology is a good tool for collaboration with other teachers when building unit plans.

6Teachers: Agree

1 Teacher: Disagree

Appendix B

Summative Assessment

Part I

Click on the link to do the first part of the Final test.

https://www.liveworksheets.com/lu3418510ee

Part II

Using one of the e-learning tools that you learned about in the course (Toonly or Liveworksheets), create an interactive worksheet or video for either a math or an English lesson. You should include at least four different interactive activities.

Rubric for Assessment Part II.

Criteria	Level 4 (Excellent)	Level 3 (Good)	Level 2 (Fair)	Level 1 (Poor)
1.Logging into the E-learning tool	Student logs into the tool with ease, using correct login credentials on the first attempt	Student logs into the tool with minor difficulties, using correct login credentials after several attempts	Student logs into the tool with significant difficulties, using incorrect login credentials	Student is unable to log into the tool
2. Creating the Worksheet	Student creates an interactive worksheet that includes multiple question types, multimedia elements, and interactive features, demonstrating a high level of creativity and originality	Student creates an interactive worksheet that includes various question types, multimedia elements, and interactive features, demonstrating some creativity and originality	Student creates an interactive worksheet that includes limited question types, multimedia elements, and interactive features, demonstrating minimal creativity and originality	Student creates an interactive worksheet with basic question types, limited multimedia elements, and no interactive features, demonstrating no creativity or originality
3. Design and Layout	Student creates a well-organized and visually appealing worksheet that is easy to navigate, and includes appropriate use of color, font, and graphics	Student creates a worksheet that is organized and visually appealing, but may be difficult to navigate in some areas, and includes some inappropriate use of color, font, and graphics	Student creates a worksheet that is somewhat disorganized and visually unappealing, making it difficult to navigate in some areas, and includes inappropriate use of color, font, and graphics	Student creates a worksheet that is disorganized and visually unappealing, making it difficult to navigate, and includes inappropriate use of color, font, and graphics
4. Functionality and Interactivity	Student creates a worksheet that includes interactive features and functions as intended, with no errors or technical issues	Student creates a worksheet that includes some interactive features, and functions mostly as intended, with minor errors or technical issues	Student creates a worksheet that includes limited interactive features, and functions with significant errors or technical issues	Student creates a worksheet with no interactive features and does not function as intended

Answer Key of Assessment Part 1

I. Select the correct answer.

1. Which of the following is not an e-learning tool used for creating interactive worksheets?

a) Google Forms

b) Adobe Photoshop

c) Microsoft PowerPoint

2. What is the purpose of using interactive worksheets in e-learning?

a) To make learning more fun and engaging

b) To reduce the workload of teachers

c) To eliminate the need for in-person teaching

3. What is the difference between a static worksheet and an interactive worksheet?

a) Static worksheets are printed on paper, while interactive worksheets are digital.

b) Static worksheets are passive, while interactive worksheets require learners to actively engage.

c) Static worksheets are designed for in-person teaching, while interactive worksheets are designed for e-learning.

4. Which of the following is an example of a multimedia element that can be used in interactive worksheets?

a) Graphs

b) Animations

c) All of the above

5. Which of the following e-learning tools allows learners to collaborate on the creation of interactive worksheets?

a) Microsoft Excel

b) Google Drive

c) Adobe Acrobat

I. Fill in the blanks with a word from the box.

Branching	**multimedia**	**action button tool**	**Google Forms**	**images**

1. **_Google Forms_____** is an e-learning tool that allows you to create interactive worksheets with questions, quizzes, and surveys.
2. An interactive worksheet can be made more engaging by using **_multimedia_____** elements such as images, audio, and video clips.
3. **__Branching_____** is a technique used in interactive worksheets to provide learners with choices and feedback based on their responses.
4. The __ **action button tool** _____ tool in Microsoft PowerPoint can be used to create interactive elements such as buttons and hyperlinks.

II. Answer the following questions in complete sentences. (Personal Answers)

1.Describe one e-learning tool that you can use to create interactive worksheets and explain why you would choose this tool.

_____
_____
_____
_____

2. How can you use multimedia elements such as images and videos to make an interactive worksheet more engaging for learners? Provide an example.

_____
_____
_____
_____

3. Provide an example of how you could use branching scenarios in an interactive worksheet to promote learner engagement and feedback.

_____
_____
_____

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