

An Interactive E-Learning Design for the grade 12 Tvl-Ict Programming Using Kotobee of Lagro Senior High School

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Abstract

The research used an open-educational resource using Kotobee software to design interactive e-learning for the Grade 12 TVL-ICT programming students of the Lagro Senior High School. The researchers wanted to assess the learners' interest by using an interactive e-learning design made by the teachers. We used stratified and simple random sampling techniques to get the samples. The method and procedure of the research used are quantitative, descriptive, and developmental. The respondents of the study are selected Grade 12 TVL-ICT programming students. We used the Google form survey questionnaire to gather and collect the respondents' data because of the online distance learning implemented amidst a pandemic situation for this Academic Year 2020-2021. The statistical treatment used in the study is mean, frequency, percentage, and Likert scale. As the results, 41 out of 50 respondents were answered and retrieved the survey data. There were 33 male and 8 female participants who answered the survey through Google form. The learner's characteristics among the respondents were 76% are visual, 10% were auditory, and 7% were kinesthetic and pragmatist. Most of the learners have used gadgets for their online distance learning. 33 out of 41 respondents have used the mobile phone, and 26 responses used the tablets. When the teachers utilized e-learning through virtual online classes, the students' challenges were the image blurred and very small to view, which had 26 responses out of 41 participants. Next, the text is too much, and the content is too hard to understand, which had 22 answers and agreed. Followed-by the text used is small, and the video presentation is pixelated. When the student's losing interest talked about, the teacher has always presented a YouTube video clip related to the topic, which had the highest mean of 3.10 or agreed and placed in the rank 1. Second, using a simple PowerPoint presentation to discuss the lesson with no proper explanation had a mean of 3.05 o agree. Three (3) losing the interest of the student had the same mean of 2.80 or agreed. These are 1) hard to read the text from the teacher's PowerPoint presentation, 2)the graphics are pixelated and inappropriate to the lesson, and 3) there is no interconnection of the image, colors, text, and shape used in the presentation. Meanwhile, the level of satisfaction to utilize the teacher's interactive e-learning in terms of effectiveness shows that it is minimally satisfied or with an average mean of 2.31. The efficiency had an average of 2.46 or minimally satisfied.

Keywords: *E-learning, Online Distance Learning, Kotobee*

1. Introduction

In the new normal educational system experienced worldwide, the Department of Education in the Philippines, together with its Regions and Division Offices, worked out a hand to hand on how to survive the academic year on this pandemic situation. With the help and support of the local government unit, stakeholders, and private companies, they just looked at integrating technology in online distance learning. [2] Goned et al (2019) argued that incorporating technology into education as a pedagogical strategy of teachers has helped them achieve their goal of complementing their teaching strategies amidst a pandemic situation. It is an effective way, especially for the senior high school teachers, that no learners will be left behind or disengaged in online distance learning [2].

[3] Venkataraman (2012) discussed that e-learning uses technology to access and learn anytime and anywhere by the learners. [1] Faletic, Planisic, and Horvat (2015) developed e-learning materials using open-source available on the internet. Faletic et al. cited using the portal www.nauk.si is open and accessible to the public that the teachers can use to develop interactive e-learning.

[4] Many open-educational resources we can use to develop an interactive e-learning design. Microsoft introduced Kotobee software. It is a comprehensive ebook creator and EPUB editor, suitable for education, training, and publishing. The teacher can create interactive ebooks rich with video, audio, 3D, book widgets, questions, and more.

1.1 Statement of the Problem

This study assesses the students' interest in utilizing an interactive e-learning design for the Grade 12 TVL-ICT Programming students of Lagro Senior High School.

Specifically, it sought to answer the following;

- 1.1.1. What are the challenges encountered by the respondents utilizing e-learning through virtual online classes?
- 1.1.2. Why does the student lose interest in attending the virtual online classes that utilize the teachers' e-learning style?
- 1.1.3. Does the students' interest depend on their personality and environment issues in taking the virtual online classes using the teachers' e-learning style?
- 1.1.4. What is the respondents' level of satisfaction to utilize the interactive e-learning designed by the teachers in virtual online classes in terms of
 - 1.1.4.1. Efficiency
 - 1.1.4.2. Effectiveness

1.2 Scope and Delimitation of the Study

The study focuses on the developing an interactive e-learning designed using Kotobee software for the Grade 12 TVL-ICT programming students of the Lagro Senior High School and evaluating their interest while using e-learning strategy made by the teacher. There are 50 respondents who will participate in the study with the use of stratified and simple random sampling techniques.

2. Methods

2.1 Research Methodology

The research used a quantitative method and descriptive design where data collection was done through survey questionnaire using Google form. The respondents answered the question diligently

2.2 Research Instruments

The following instrument were used by the researchers:

2.2.1 Google Form Survey Questionnaire

Below is the Likert scale that the researchers used in the questionnaire of this study “An Interactive E-Learning Designed for the ICT Programming Students of Lagro Senior High School.”

Table 1. Losing interest of the student in attending the virtual online classes that utilize the teachers' e-learning style.

Likert Scale	Range	Verbal Interpretation
5	4.51 – 5.00	Strongly agree
4	3.51 – 4.50	Moderately agree
3	2.51 – 3.50	Agree
2	1.51 – 2.50	Minimally agree
1	1.00 – 1.50	Not agree

Table 2. Respondents' level of satisfaction to utilize the interactive e-learning designed by the teacher in virtual online classes in terms of effectiveness and efficiency.

Likert Scale	Range	Verbal Interpretation
5	4.51 – 5.00	Highly satisfied
4	3.51 – 4.50	Moderately satisfied
3	2.51 – 3.50	Satisfied
2	1.51 – 2.50	Minimally satisfied
1	1.00 – 1.50	Not satisfied

2.2.2 Statistical Treatment of Data

The researchers used a measure of central tendency to obtain shorthand of the entire data and indirectly described the population where the responses were gathered. Specifically, the weighted mean was employed to determine the average value of response the respondents. The statistical formula for the weighted mean is denoted by:

$$Wm = \frac{TWF}{N}$$

Where:

Wm = Weighted mean

TWF = Total of the products of the weight multiplied by their corresponding frequencies

N = Number of rater or total frequency

2.2.3 Kotobee Software

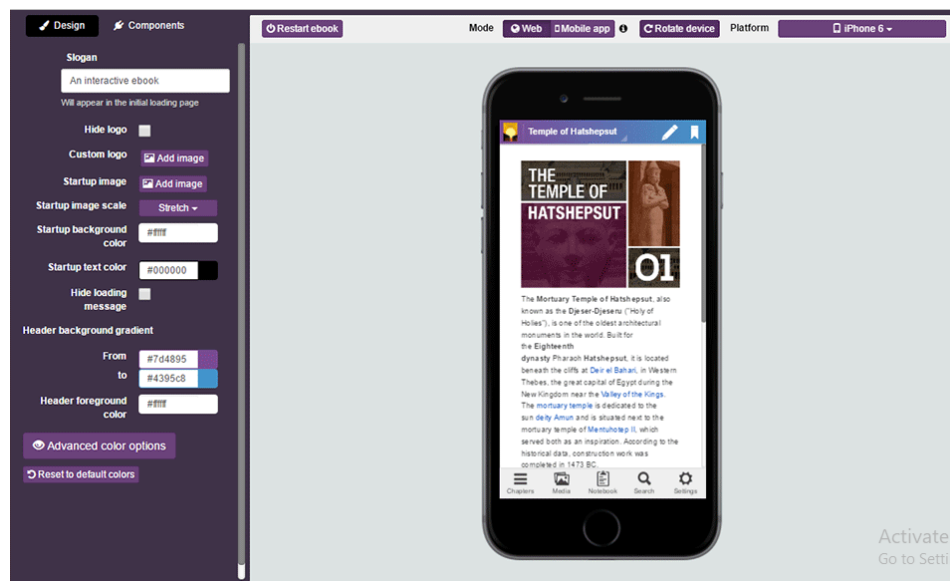


Figure 1. *Kotobee software (<https://www.kotobee.com>)*

3. Results

There were fifty (50) respondents selected to answer the survey questionnaire using the Google form. But only forty-one (41) respondents answered and retrieved the survey data. The selected participants were the GRADE 12 Senior High School TVL-ICT Programming students. We used the stratified random sampling to get the 50 participants from 91 total students enrolled under the TVL ICT track. There were five (5) sections of Grade 12 TVL-ICT programming. We also used simple random sampling techniques to determine who the participants per section will be in the survey. The researcher provided the number of samples per section and used the fishbowl techniques to get the proper respondents.

As the results, thirty-three (33) were male, and eight (8) were female. The learners' characteristics among the respondents were 31 or 76% are visual and placed in the rank 1, 4 or 10% were the respondents are auditory and placed in the rank 2, and 3 or 7% were the respondents are kinaesthetic and pragmatist.

Most of the respondents used gadgets such as desktop computers, laptops, mobile phones, and tablets. From the results, the majority of the participants have used two or more devices for their study. There were 33 out of 41 respondents who have used the mobile phone for online distance learning. 26 out of 41 respondents were used tablets because some of the students received the tablet from the City Government of Quezon through mayor Joy Belmonte's effort. She has turned over 176,000 tablets to the local school board, which will be used by public high school students in the blended learning amid the coronavirus disease 2019 (Covid-19) pandemic.

One of the challenges of the Grade 12 TVL-ICT programming students when the teacher's utilized e-learning through virtual online classes was the image blurred and very small to view and had 26 responses out of 41 respondents agreed. It placed on the rank 1. The text is too much and the content is taught to understand which had 22 responses out of 41 respondents agreed and it is

placed on the rank 2. Third in rank was the text used is minimal and small and the video presentation is pixelated. When it comes to the image is pixelated, there is no responses agreed on. Losing interest of the students when they are attending the virtual online classes, the teacher is always presented a YouTube video clip related to the topic which had a mean of 3.10 or agreed and placed in the rank 1. Using a simple PowerPoint presentation to discuss the lesson and no proper explanation had a mean of 3.05 or agreed and placed in the second rank. The teacher's e-learning style always had 2.90 mean or agreed and placed in the third rank. The fourth and fifth rank was difficult to understand. The images and video presentation had a mean of 2.80 or agreed, and contrast and combination colors used in the presentation are not matched or jived each other which had a mean of 2.71 or agreed. The three descriptions of losing the interest of the student had the same mean of 2.61 or agreed. These are hard to read the text from the teacher's PowerPoint presentation, the graphics are pixelated and inappropriate to the lesson, and there is no interconnection of the images' colors, text, and shapes used in the presentation. Lastly, no proper arrangement of the text and color combination used in the presentation which had a mean of 2.61 or agreed.

Meanwhile, the level of satisfaction to utilize the teacher's interactive e-learning in terms of effectiveness with the average mean of 2.31 or minimally satisfied. The efficiency had an average mean of 2.46 or minimally satisfied.

Discussion/Conclusion

In summary, integrating technology such as an interactive e-learning design in education could increase the learners' interest in this online distance learning. The integration of different technologies in the teaching and learning process could catch the learners' attention and have enjoyment while studying through virtual online classes. Based on the results and findings, creating an interactive e-learning design in the learners' lesson was minimally satisfied in the students' level of satisfaction. In developing the interactive e-learning designed using the Kotobee Author software, always remember that the text is essential to make your presentation good and more attractive. The result found out that the learner's characteristics were visual; therefore, the presentation should be more on the graphics, images, and less text. The learners are more on the graphical representation or pictures that appeared on the e-learning designed. Considering having an interactive e-learning design using the Kotobee Author software, you should first know the learners' characteristics before starting your instructional materials

4. Recommendation

The following are the recommendations to be considered:

- Used minimal text and more on picture to display and appear on the presentation since majority of the learners are visual.
- The teacher-made interactive e-learning designed is useful and beneficial to the learners especially for those who didn't attend the virtual online class, they will be able to access anytime.
- It serves as the SLM or student's learning materials as the asynchronous learning modality of the learners.
- For future researchers, this study can be used as the basis for the further studies related to this topic.

Acknowledgment

The research was supported by the subject teacher and adviser, Mr. Mamerto T. Gonedad of the Lagro Senior High School. He gave guidance, moral supports, and shared insights and brilliant ideas in completing this study. The researchers also thanked the participants for making this study successful. Lastly, to Mrs. Ailene L. Omadto, a language teacher who supports correcting unnecessary paragraphs, grammar, and spelling of the word.

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Online

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