Design of interactive agricultural extension media for student in the material of family medicinal plant utilization

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Abstract. This program aims (1) to produce interactive extension media design in pandemic time, (2) to produce agricultural extension media in helping community service, particularly about the utilization of family medicinal plants to students. Data were analyzed using the triangulation technique. The result of the research video-based extension design about the introduction of the family medicinal plant using combined text (letter), image, sound, and color in the form of animation video supported with direct delivery using zoom and google meeting applications. The evaluation result show level of interest for text very interesting 16.67%, interesting 73.33%, quite interesting 6.67%, less interesting 3.33%; level of interest for image very interesting 23.33%, interesting 76.67%, level of interest for sound very interesting 10%, interesting 80%, quite interesting 10%; and level of interest for color very interesting 6.67%, interesting 63.33%, quite interesting 30%.

1. Introduction
The diversity of plants in Indonesia is very abundant, many different types of plants are found in various regions in Indonesia, one of which is the Family Medicinal Plant. Based on the research, of about 30,000 plant species in Indonesia, there are 6,000 types of medicinal properties, so that they are called the live laboratory. Family medicinal plant has been widely used by humans since ancient times. It is even believed to have properties that are more potent than chemical drugs. In line with the culture of returning to nature, back to nature has led to an increase in public awareness of the dangers of chemicals contained in chemical drugs. Currently, a healthy lifestyle that is familiar with the environment has become a new style leaving the old lifestyle using non-natural chemicals [1]. The socialization of medicinal plants must be done intensively, the presence of the internet has resulted in the formation of a new life order marked by the development of information technology that can facilitate human activities, including in terms of interaction, one of which is counselling. The elements of extension include extension, material, effective methods, tools (media) to facilitate the delivery of the material, and the target itself. Effective extension methods must be adapted to target backgrounds, namely the younger generation, including the millennial generation. Observing the massive use of the internet in the community and can be used by anyone, it is possible that outreach activities about family medicinal plant can also be carried out. A study confirmed that the involvement of student in social media has increased considerably since 2004 [2]. Internet users in Indonesia are 171.17 million people from 264.16 million people, Indonesian population, or as much as 64.8% [3]. The average person spends 6-8 hours per day checking social media [4]. Especially during the Covid-19 pandemic, it practically limited human interaction and switched to using the internet, because it was required to implement recommended health protocols. The definition of social media is the relationships that exist between networks of people [5]. Counselling about the importance of using family medicinal plant to the younger generation is very important to do. Especially during a pandemic like this, you are required to consume food or drinks that contain nutrients to strengthen immunity, one of which is the property produced by family medicinal plant. Counselling using video-based internet and using the zoom meeting or google meeting application is expected can provide new alternatives in the extension process, so that the interaction process can still be carried out by implementing two-way communication even though it is in a pandemic condition like today.

2. Material and Methods
2.1. Material
The materials used in the making of interactive extension media are the Adobe Premiere Pro CC 2018 application for video editing, Corel Draw X8 for animation visualization, and After Effects CC 2018 for moving animation editing.

2.2. Methods
The design of the extension media in this study used interactive video to prevent the occurrence of the method used in the preparation of the video, namely the triangulation method. The triangulation method used includes discussions, interviews, and literature studies. With triangulation, researchers bring different sources together then interpret them to provide evidence in support of the phenomenon [6]. Discussions were carried out on target samples to provide input on interactive extension media. Interviews were conducted with target samples to dig deeper into what is currently needed. A Literature study was conducted to deepen the video visualization of interactive extension media.

![Interactive Extension Video Concept](image)

**Figure 1. Video Making Method**

The step of making interactive animated videos is by carrying out the concept of elaboration, which combines the concepts of the resulting triangulation method in the form of target requirements for how to cultivate family medicinal plants and their processing for planting a healthy lifestyle from home. Scriptwriting, which is writing a narrative that will be conveyed in an interactive video. Storyboarding, which is arranging the storyline from the narrative into each part of the video. Editing and finishing videos, namely the process of editing and arranging a storyline into an interactive educational video. The publication of videos is carried out on youtube media for easy access from the public in viewing videos and researchers spread video access links to make it easier for the public to view videos.

Data collection method use census technique through collecting data from 30 respondent population. Design of interactive agricultural extension media take in text, image, sound, and color which determined by Likerts Summated Rating Scale (LSRS).

| Score | Level of Interest |
|-------|------------------|
| 9-10  | Very interesting  |
| 7-8   | Interesting       |
| 5-6   | Quite interesting |
| 3-4   | Less interesting  |
| 1-2   | Not interesting   |

Table 1. Likerts Summated Rating Scale (LSRS)

3. Results and Discussion
3.1. Analysis
The results of the identification of problem gaps show the output of interactive extension media to overcome obstacles to extension activities during the pandemic. From the results of the identification of the problem gaps, general instructional objectives, and specific instructional objectives were set. The general instructional objective in the implementation of this extension is to become a form of an adaptation strategy for agricultural extension workers in applying the media with various extension techniques that are suitable in the pandemic era, in helping community service regarding the use of family medicinal plants, especially among students. The specific instructional objective of counselling is so that students can give positive perceptions about the use of medicinal plants.

The type of media specified is interactive media based on creative video animation combined with various outreach techniques in the pandemic era such as socialization, workshops, Forum Group
Discussion, and intensive mentoring through student millenial platforms, namely Zoom meetings, Google Meet, Instagram, Youtube, and Whatsapp application. The reason for using this platform is because it has the advantage of being able to load multimedia content in a complex manner in one program as well as causing active interaction between the media and the beneficiaries, making it easier for the beneficiaries to remember the things that are explained. However, it requires special expertise for media makers to use these creative videos.

3.2. Planning
The initial design of the media is done by making a flowchart. A Flowchart is a chart with certain symbols that describe the sequence or relationship between a process and another process that will be implemented in making the final product to make it easier and more systematic [7]. The creative video animation is carried out in the pre-production, production, and post-production stages. Pre-production is done at the start of creating audio-visuals. The prefixes here can be in the form of planning, budgeting, scriptwriting, and storyboarding. The initial stage of pre-production, namely planning, at this stage carries out the planning process is determining the idea and concept of the story, namely the concept of an animated video tutorial on the introduction of family medicinal plants, the planting process, to processing with animated icon characters. The animation video was chosen because the concept of animation is quite attractive to the beneficiaries, especially junior high school students aged 12-14 years. The focus of the tutorial animation will show the many aspects of the planting and processing of family medicinal plants in detail. The concept of planning can provide added value to a communication journey. In-depth planning using evaluating the strategic role of various communication sciences [8]. The goal is the communication can later influence or have an effect on the target audience.

3.3. Implementation
The second process in making media is production. The production here is the process of making an animation for each scene. The final process in creating audio-visuals is editing and distribution. Finally, when the video is finished to be combined and all the added effects and audio, it is rendered so that it becomes a single video. The video is distributed via Youtube so that it can be seen by the specified target audience. Currently, Youtube is seen as a medium that exceeds television, many people use Youtube as a reference in finding information including tourist destinations. Audio-visual products can be a medium of documentation and can also be a medium of communication [9]. As a documentation medium, the more important goal is to get facts from an event. In addition to audio-visual media output in the form of creative video animations, extension agents also combine various extension techniques such as socialization, discussion, lectures, and assistance in campaigning for the use of family medicinal plants with various communication media, namely Zoom meetings, Google Meet, Instagram, and WhatsApp.

3.4. Evaluation
The evaluation carried out in this activity was to determine the effectiveness of interactive extension media to audiences using observation and interview techniques. Observations were made by looking at the audience's response to the interactive extension media. The interactive extension media received 49 comments and 838 views.

Table 2 show good response from student with agricultural extension media through scoring in text, image, sound, and colors. Agricultural extension mediain material of family medicinal plant utilizationgaveillustration of plant until process family medicinal plant utilization that easy to understand for student.

| Table 2. Level of Interest Student for Text, Image, Sound, Colors in Agricultural Extension Media |
|---------------------------------------------|
| **Element** | **Level of Interest Perception** | **Score** | **Number of Respondents** | **Percentage (%)** |
|---------------------------------------------|
| Text | Very interesting | 9-10 | 5 | 16,67 |
| | Interesting | 7-8 | 22 | 73,33 |
| | Quite interesting | 5-6 | 2 | 6,67 |
| | Less interesting | 3-4 | 1 | 3,33 |
| | Not interesting | 1-2 | 0 | 0,00 |
| Total | | | 30 | 100,00 |
4. Conclusion

The results showed that the video-based extension design for the introduction of family medicinal plants using a combination of text (letters), images, sounds, colors in the form of animated videos and supported by direct delivery using the zoom application and google meetings became an attractive medium, especially for students in getting to know medicinal plants family. The evaluation result shows level of interest for text very interesting 16.67%, interesting 73.33%, quite interesting 6.67%, less interesting 3.33%; level of interest for image very interesting 23.33%, interesting 76.67%; level of interest for sound very interesting 10%, interesting 80%, quite interesting 10%; and level of interest for color very interesting 6.67%, interesting 63.33%, quite interesting 30%.

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