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EXPLORING RADYO DZLB's 'PAK!' AS AN EDUTAINMENT PROGRAM FOR AGRICULTURE AND THE ENVIRONMENT

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by Christopher N. Calamlam

The following AI tools were used:

- ChatGPT (OpenAI)
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Specifically, these tools were utilized for the following purposes:

1. For grammar enhancement and editorial suggestions to improve clarity, coherence, and academic tone,
2. For aiding in content analysis, particularly in organizing ideas, insights, and visualization, and
3. For transcribing PAK!’s audio files for analysis.

No AI system was used to generate original content, arguments, or the overall structure of this research. All conceptualization, analysis, interpretations, and conclusions reflect the independent scholarly work of the author. The AI tools were strictly confined to technical assistance and writing support.

The author assumes full responsibility and accountability for the originality, accuracy, and academic integrity of this research.

Christopher N. Calamlam
Author

Acceptance Page

This paper prepared by **CHRISTOPHER N. CALAMLAM** with the title: **"EXPLORING RADYO DZLB's 'PAK!' AS AN EDUTAINMENT PROGRAM FOR AGRICULTURE AND THE ENVIRONMENT,"** is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree, Master of Development Communication.

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Biographical Sketch

Christopher N. Calamlam is currently a University Research Associate at the University of the Philippines Los Baños. He started as a Media Production Assistant in the College of Development Communication's Department of Development Broadcasting and Telecommunication in 2019. Before being involved with the University, he worked at the International Rice Research Institute as a Human Resource staff. He is experienced in multimedia production and employee relations and engagement.

Mr. Calamlam is involved with Radyo DZLB under the Department of Development Broadcasting and Telecommunication where he handles the technical operation of Radyo DZLB's online programs. Recently, he also took on hosting duties in one of the station's programs. Aside from this, he is also involved in the department's research, extension, and public service activities and initiatives.

Mr. Calamlam is a graduate of the Bachelor of Science in Information Technology at the Laguna State Polytechnic University. He took the UP Open University's Master of Development Communication program in 2022

Outside of academics, Mr. Calamlam takes care of his two cats and involves himself in hobbies such as drawing and model building.

Acknowledgment

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Dedication

I dedicate this research to the people who are always there and have not given up on me, especially to my mother, Mila N. Calamlam, my brother, Henry N. Calamlam, and my late father, Valente N. Calamlam, who encouraged me to continue studying, and my cats Pixie and Pickle, who always give me joy and comfort during difficult days. Completing this study would not have been possible without them.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDIX

ABSTRACT

With Radyo DZLB's move to the online space, various information and knowledge products are now transformed to cater to audiences from the legacy format and digital media. The station's online equivalent, DZLB Online! continues its advocacy in providing participatory broadcasting through engaging communities and organizations as partners in producing various programs.

Adding to DZLB Online's roster of programs is PAK! Para sa Agrikultura at Kalikasan. Or PAK!. PAK!, is a program that uses the Teleradyonet format to popularize and deliver scientific concepts, research projects, and advocacies about agriculture and the environment to the common audience. The episodes tackled various topics such as sustainable agriculture, agricultural modernization, permaculture, environmental protection and conservation, ridge-to-reef ecological frameworks, One Health, sustainable freshwater ecosystems, agriecotourism/naturetainment, the role of individuals and groups as a driver of change for the environment, and community farming as a social enterprise.

Through the use of narrative structural analysis, the study looked at the presence of various storytelling elements within the program and how they fit with the program's learning/education process via broadcast. These processes include (1) looking at PAK!'s narrative structure, (2) analyzing how the program facilitates learning and engagement, (3) visiting the various technical elements present in the program when it comes to the production process, and (4) exploring how such technical elements aid in how educational content is delivered.

Chapter I

INTRODUCTION

Rationale and Background of the Study

Throughout the years, the media have evolved into different forms and avenues. To reach the largest number of people possible, the media has transformed the format and platforms that make it available. With these advancements, communicating the subject of agriculture and the environment has become available to the general audience. Today, communicating these topics varies. One of the approaches used by popular media is called “edutainment” as a way to communicate their advocacies. Edutainment (short for “entertainment-education”) uses entertainment media to bring education and development to its audience.

As defined by Buckingham and Scanlon (2000), Edutainment is a genre that uses visual material, narrative formats, and informal address styles to hold a learner's attention and help reinforce the idea that learning is entertaining/fun. Based on the concept of "education and entertainment” (Anikina & Yakimenko, 2015), the cognitive process is not required to take place in a formal environment. It can be turned into an enjoyable form of entertainment where one can also gain knowledge simultaneously.

Originally, the purpose of edutainment was to attract and hold the attention of learners by engaging them through a computer visual packed with vividly colored animations (Okan, 2003). It is said that edutainment programming can enable changes in behavior when those behaviors are connected to the audience’s goals, along with their

values and attitudes, and can also lead to behavior change by changing how society is viewed around those new behaviors (Grady et al., 2019).

Aksakal (2014) stated that edutainment is based on learning theories from the 1970s, which have been used as a part of the educational computer game production process back then. Its use in video games in the early 1980s stemmed from the introduction of personal computers to households. This gave rise to the consumer software industry, which allowed educators and technologists to use this boom to birth a new medium of educational software that can help children learn (Shuler, 2012).

Suggestions for the idea of edutainment came from Robert Heyman of the American National Geography Academic Union. Buckingham and Scanlon (2005) also said that edutainment is a concept of teaching that uses visual materials mixed with the game format. While the idea existed during the 1970s, it was not until the 1990s that the term was formally named.

American illustrator Peter Catalanotto coined the term “edutainment” during his time teaching writing and illustration. Formats for this learning medium include television programs, desktop computers, computer and video games, movies, music, websites, and multimedia software. This study attempted to look into the various uses of the edutainment format when it comes to topics about agriculture and the environment.

Edutainment can be movies, television shows, documentaries, social media campaigns, music, and games *(The World Bank, n.d.)*. The programs made using the edutainment format vary, as these can range from children’s shows *(Sesame Street, Mr. Roger’s Neighborhood)*, to animations *(Captain Planet, Handy Manny)*, and

documentaries *(History 101).* Giraldo et. al (n.d.) opined that edutainment is most effective when utilized with a combination of technologies such as radio, TV, social media, games, and videos. These formats can help support each other in creating collaborative and personalized environments that aid in supporting development in areas that have poor access to technology.

As a community radio station, Radyo DZLB has recently migrated its programming grid to an online-only format called Radyo DZLB Online to continuously serve the community while the terrestrial radio station is undergoing rehabilitation. With this move, the station adopted a "*TeleRadyoNet*" format, which combines the visual aspect of TV, an aural component of radio, and the Internet to broadcast programs that contain the best of both formats. With the move to the online space, the station's programs became available on demand and can be viewed online and offline, depending on the platform used. When it comes to providing information to the community, the station has also advocated for agriculture and the environment through its programs. Two programs have been made to showcase such topics; *PAK! Para sa Agrikultura at Kalikasan* and *TAALaman at Bayanihan*. *PAK! Para sa Agrikultura at Kalikasan* or *PAK!* for short, is a program that showcases places and studies about agriculture and the environment and is a seasonal program of the station. *TAALaman at Bayanihan* was a program made during the Taal Volcano eruption to provide information on what to do during such calamities.

PAK! Para sa Agrikultura at Kalikasan is an information program that started in 2021, at the height of the COVID-19 pandemic. A partnership between Radyo DZLB and the UP Professional School for Agriculture and the Environment (UP-PSAE), where it

talks about agriculture and the environment. Throughout its run, the elements of an edutainment program became present, such as speech and character representation *(Othman, et al, 2022)*, to name a few. The entertaining dynamic of both hosts, Dr. Ronilo “Onil” Flores and Dr. Maria Catalina “Rina” de Luna, has greatly helped the program in providing a more approachable environment within the program. The program currently runs for four seasons, and a fifth season is being planned. Suffice it to say that the viewer’s cognitive processes come into play.

Thus, this study aimed to investigate PAK! in its efforts as an edutainment program for agriculture and the environment.

Statement of the Problem

With Radyo DZLB’s move to the online space, the continuous pursuit of quality content is one that the station and the College value to elevate further its public service initiatives within the CALABARZON region. Adding to this are the needed avenues for communicating agriculture and the environment, especially with climate change. While the station has ongoing initiatives to communicate these topics to the community and the general public, there are challenges, and one of them is the edutainment format of programming.

Edutainment involves the viewer’s thinking process. This can be further explained by the Cognitive Theory of Multimedia Learning (CTML). CTML explains how an individual learns using multimedia materials, depending on factors such as visual and auditory, which can then help in retaining information in the brain. It can then be assumed that cognitive processes come into play in the production of edutainment programs like PAK!.

With this, the study aimed to find out what makes PAK! an edutainment program and how agriculture and environmental topics were communicated.

Thus, the general research question is “How does Radyo DZLB's 'PAK!' function as an edutainment program for agriculture and the environment?

Specifically, it sought to answer the following research questions:

1. What is the narrative structure of *PAK! Para sa Agrikultura at Kalikasan*?
2. How does PAK!’s structure facilitate learning and engagement as an edutainment program?
3. What technical elements and qualities are commonly present in PAK! when producing its episodes? and
4. How do technical elements aid in the delivery of educational content?

Objectives of the Study

The general objective of the study is to find out how Radyo DZLB's 'PAK!' functions as an edutainment program for agriculture and the environment.

Specifically, the study aimed to:

1. Describe the narrative structure of *PAK! Para sa Agrikultura at Kalikasan*;
2. Discuss how PAK!’s structure facilitates learning and engagement as an edutainment program.
3. Analyze the technical elements and qualities commonly present in PAK! when producing its episodes; and
4. Explain how the technical elements aid in the delivery of educational content.

Significance of the Study

Producing a program for development broadcasting should not only be educational but entertaining as well. It cannot be denied that development programs may not be as popular as entertainment ones. This is primarily the reason why development organizations such as Radyo DZLB should rethink their production process of educational programs. Hence, results could benefit the research teams of Radyo DZLB Online. Findings can also inform what approaches and trends should be considered when planning for programs that cover the topic of agriculture and the environment to address Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. As an online radio program, viewers can update themselves on the latest updates on agricultural practices that are not harmful to the environment, thereby protecting and conserving it.

Research results can also serve as resource data for Radyo DZLB Online to be used as a guide in the development of relevant community programs that cover environmental and agricultural topics, and for the future development of the program, *PAK! Para sa Agrikultura at Kalikasan.*

The study is also significant to the UPLB College of Development Communication as Radyo DZLB's host institution and to the continuous contribution to the studies of the community broadcasting field within the academe and the discipline of Development Communication. Conducting this study can aid in communicating development topics through the use of different, popular, and creative approaches, which in turn, can help in communicating development messages more entertainingly. While this approach is by

no means a new one, looking at and adapting some aspects of popular methods and techniques for producing materials can help explain how to better popularize development messages by studying how technical elements in production can affect cognitive processes.

Scope and Limitations of the Study

The study analyzed the four seasons of Radyo DZLB Online's *PAK! Para sa Agrikultura at Kalikasan* in terms of visuals, audio, topics, and other program elements to explore what makes it an edutainment program. There were 26 episodes analyzed. Only the format and structure were considered. The study also did not include a listenership survey to validate how these technical elements would have influenced their sensemaking or how the information was processed. As well, there was no investigation as to how the topics were decided on or arrived at.

The study also employed narrative inquiry in analyzing the data. While the standard of narrative inquiry is usually done with interviewees, the research relied on the storytelling aspect of the program PAK! as a whole. For this research, the paradigmatic approach was employed, which "…seeks to locate common themes or conceptual manifestations among the stories collected as data" (Polkinghorne, 1995). Through the use of this additional method, the research hopes to achieve a review of how education and entertainment are balanced within the program and produce a broader perspective for the research by viewing how the program uses its messaging, elements, and effects in the edutainment aspect of the program.

Chapter II

REVIEW OF RELATED LITERATURE

The review of related literature illustrates the various uses of the edutainment format in communicating agriculture and the environment through views of foreign and local contexts to understand how effective the medium is in providing knowledge to its viewers and to view the qualities of an edutainment production.

Other terms for Edutainment

Aside from the term edutainment, this approach is also known by other terms. One of them is “Enter-Educate,” which carries the same idea. Enter-educate, as defined by Piotrow (1994), is a technique that presents educational messages and packages them in the guise of entertainment. This technique spreads its messages through various media and channels. These can range from songs to variety shows and other popular entertainment media (Piotrow and Coleman, 1992).

A study by Rogers and Singhal (2000) provides an example from the Philippines. A project of Johns Hopkins University’s Population Communication Services, in cooperation with the Philippines’ Population Center Foundation (PCF), partnered in a musical campaign launch that aimed to promote sexual education among the youth in 1987. Two songs were released for this project, both topping in music charts on some radio stations within the country. The songs were aimed at establishing each song as a commercial hit that also contains an educational message. The songs were also linked to a telephone hotline which provided information, counseling, and referrals for

sexual/pregnancy problems. The project received support from various companies and was broadcast not just on the radio but also on television channels.

Another is “Entertainment-Education.” Entertainment-Education is defined by Rogers and Singhal (1999) as the purpose of designing and implementing media messages as a way to entertain and educate. This, in turn, aids in increasing the audience’s knowledge about an educational issue, creating favorable attitudes, and transforming overt behavior. One of the most common names in the study of entertainment-education is Miguel Sabido. Miguel Sabido is a Mexican television executive known for incorporating entertainment-education elements in his production work. He devised an approach/framework that says that a person’s tone (intellectual, emotional, reptilian) affects the energy in the body, which in turn affects the mood of the program. Combining this approach with theories such as the drama theory and the social learning theory, the use of the approach bore fruit with his telenovela titled, Ven Conmigo (Come with Me) which encouraged the idea that “it is good that adults go back to school” among its adult viewers (Frank and Falzone, 2021).

Edutainment Format in TV and Radio

Given the definitions and context in the earlier chapter, an edutainment program is classified, in simpler terms, based on how it ensures that learning is made entertaining. It is said that learning is achieved through enjoyment, which in turn boosts one’s capacity to learn and thus makes it permanent. (Yaylaci and Yaylaci, 2016).

Educational entertainment through television is not only limited to showing topics on a basic educational level, but also teaches the viewer through films and TV series. Moeller (1996) outlined four components that affect how an individual learns from educational programs on television. These are educational background, literacy level, preconceptions about the television medium, and motivation.

1. **Educational Background** - viewers' information recall is related to their educational level. This is not always the case, though, as Hobbs (1986) demonstrated that the combination of video and audio helps viewers with a low level of knowledge about the topic to understand as much as viewers with a high level of knowledge about the topic.
2. **Literacy Level** - Literates recall more information significantly than illiterates. The pace at which information is presented may also be a factor, as the presentation of information at a slower pace allows one to register information better.
3. **Preconceptions about the television medium** - Audiences who view television as a low-level medium tend to learn less from those who view television as an educational medium.
4. **Motivation** - Learning from the medium is proportional to how interested the viewer is when it comes to the subject matter being discussed.

Given how a person learns using the format, what makes educational TV successful? Anderson et al. (2012) believed that an educational TV program is successful when it can catch the viewer's attention when it comes to watching the program. While made for children, programs such as Sesame Street and Blue's Clues are great examples of this aspect. The use of colorful personalities and characters tends to be engaging to

children, and visual attention/attentional engagement is one of the staying factors when it comes to TV programs, with the program needing to be comprehensible, plus the content must be essential to understanding it (Anderson and Collins, 1988). Another aspect is that the production process involves formative research on the subject to ensure that the content is understandable to the audience.

A paper by Kiptot et al. (2016) illustrated that there are capacities required when it comes to creating a successful educational TV program. These capacities include production and broadcasting, partnership building, campaign and promotion, and fundraising/resource mobilization. Furthermore, an educational TV program benefits from a dynamic media team that can harness the required resources and capabilities.

Speaking of broadcasting, broadcasters can support educators in producing learner-ready content by developing TV programs that are flexible, curriculum-aligned, and complement existing learning materials, modules, and resources. Broadcasters can also think about giving access to higher-quality professional development/capacity building for teachers to achieve a great impact on learning (Education Development Center, Center for Children and Technology, 2004).

Aside from TV, radio has also been a primary source of educational programs. For low or middle-income countries (LMIC), common topics that such programs cover include agriculture (Sadishar, P. et al, 2011), health (Barnett, S. et al, 2018), women's issues (Cheung, 2012), and other school-related subjects.

UNESCO (2024) says that an effective educational radio program has the following qualities: It is interactive and follows the curriculum, it requires a combination of audio

recordings and printed materials, it allows the active participation of the audience, and it employs the use of a “teacher” figure to facilitate learning.

One of the earliest versions of interactive education in radio stems from Nicaragua in the 1970s (UNESCO, 2024). These types of broadcasts encouraged active responses from the listeners and had Mathematics as one of the subjects taught. Participating individuals managed to match and even exceed the achievements of formal school students from nearby areas.

An example of edutainment in radio is presented in a study conducted by Cheung (2012) wherein exposure to edutainment radio affects women’s status and primary school participation in Cambodia. The study examined Women’s Station FM 102, one of the leading radio stations in the country that focuses on gender issues. The study took transmitter placements, frequency of listening based on geography, and effects before and after exposure to the radio station and its programs. The results showed a positive increase that enables women to be decision-makers in a household and have a final say in their child’s schooling.

The use of radio for communicating agriculture is also something that is being studied, especially in developing countries. Integration with other communication tools allows radio to be a two-way platform for communicating and learning. What was previously considered a one-way communication tool now allows for interactivity, which enables more interesting programming. The Global Forum for Rural Advisory Services (n.d.) highlights three factors to consider when it comes to using radio as part of agricultural extension initiatives. These are:

- Radio broadcasters and their affiliated stations are partners in extension services: Considerations on what type of radio station to partner with, either national, private, or community radio stations.
- Design of radio programs: These programs are inclusive and should have multi-stakeholder engagement. Working together with experts should also be considered when producing to ensure proper development of the program.
- Broadcasting programs: Timing, duration, and schedules of the program should be carefully considered.

As for communicating topics about the environment, a study of Tchoko, et al (n.d.) shows that factors such as idea and target audience (level of education, area of activity, available hours, information channels and needs), editorial line (type and style of the program, objectives, format, presenter), and program structure.

Edutainment in the Philippines

Edutainment programs are also being used in the Philippines as a complementary form of learning material for students, with mainstream TV networks being the most prominent developers of the format. A study by Codilla (2012) used two edutainment programs, which are *Matanglawin (Environment and Wildlife program)* and *Aha! (General science program).* The study aimed to examine the credibility of the hosts in said programs. Such credibility, in turn, affects the viewer's perceptions of the program's effectiveness and attitude towards science. The study used a survey and an FGD format with senior high students from Ormoc City, Leyte.

The students became a part of a viewing party wherein they watched a recorded episode of both programs that aired on the same day. The results came out with both programs seen as credible; however, when compared to each other, *Matanglawin* is seen as more credible than *Aha!* and is shown to have a more significant impact on the respondents' attitude towards science. The study added that these types of programs indicate that educational TV programs can be used to complement classroom instruction.

Another popular avenue for edutainment programs in the last few years was Knowledge Channel. The channel caters to the general public and students by providing quality programs that entertain and educate the viewer on various topics and fields. Connected to this, a study by Lapinid et al. (2017) aimed to find out if the students' exposure to the television programs on the said channel made a visible difference in terms of their academic standings via interviews.

The population for this study is the recipient schools of the Knowledge Channel package grant in the years 2009, 2010, and 2011. The grade levels assessed are between grades three (3) to six (6) and first-year to second-year high school students and cover the subjects of Science, Mathematics, Filipino, English, and Araling Panlipunan (Social Studies). This is in comparison with students from comparison schools that did not receive a grant from the channel. The study results showed an overall agreement that the Knowledge Channel programs have helped the students from the recipient schools gain a better understanding and comprehension of different subjects. The students from recipient schools also performed better as opposed to the comparison schools during the

years 2009, 2010, and 2011. Overall, the study showed that edutainment programs produce a positive impact on learning.

Edutainment on Agriculture

When it comes to broadcasting agricultural programs in a community, there is a positive disposition towards their effectiveness on agricultural development but still had challenges in accessing these broadcasts regularly due to factors such as inadequate or irregular power supply, short airtime, and frequency of airing, language barrier, poor signal reception (Ogunsola et al., 2019). It is said that the news media provide an effective means for communicating about agriculture due to the public's reliance on mass media for agricultural information (Lundy et al., 2007). While this is true, the appearance of educational entertainment programs has expanded the avenues through which we can receive such information. More apparent now than ever, the agricultural sector is seen as information-dependent due to the new and complex problems encountered by farmers in various agricultural enterprises. A farmer's survival in this ever-changing world depends on how frequently and timely manner one receives information relating to new farm practices, efficient allocation of available resources, and market prices (Olajide and Oresanya, 2016). As one of the focuses of the study involves looking at the use of edutainment programs in agriculture, some studies will be reviewed based on their processes and findings on the effectiveness of these programs.

A study by Areal et al. (2020) used the *Shamba Shape-Up* program in Kenya to determine if edutainment TV programs influence farmers' practices and productivity. The study was carried out through surveys in Kenya to gauge the range of viewers and non-

viewers of the program. Once established, a survey (via an online application) and an interview were conducted with farmer families who are program viewers. The survey was conducted based on the following factors: socio-economic characteristics of the household; processes and influences of the program; farmer influencing sources; perceptions and views about the program; general perceptions and views about farming, and level of trust in their information sources. The interview with the farmers further narrowed down the target results, which include farmers' perceptions and views on farming; farmers' level of trust in sources of information, and farmers' reasons for watching the edutainment TV program. The survey produced results that reflected the reasons the farmers took up farming (results include seeing farming as a means to feed their families, doing farming as a form of enjoyment, doing farming as a business, etc.), why the farmers watched the program (results include responses such as the program is an avenue that gives new farming ideas to try, interest in the farmer families featured in the program, the program's entertainment value, etc.). Overall, the study found that the program showing simpler farming methods yielded more viewers who practice said method rather than those who lean more toward a complex farming process.

Another study about agricultural TV programs was done in Iran. Nazari and Hassan (2021) broadcast a program about combating agricultural pests and how to correctly use poisons against them for a week. After the broadcast period, a survey questionnaire was distributed to those who could view the program during its run. One of the results produced during the evaluation was that the farmers believed that appropriate programs about agriculture that follow the language and culture of the audience's region would be an effective way to learn agricultural processes and methods. So long as the

farmer's informational needs are met, these programs will remain effective. Another objective of the said study was to assess the level of knowledge improvement among farmers who watched the agricultural TV program. Results demonstrated a significant increase in the level of awareness among farmers, which in turn showed the effectiveness in increasing the farmers' knowledge level and the usefulness of television in transferring valuable information to farmers.

When it comes to watching activity, a study by Mtega (2018) looked into the agricultural knowledge sources of Tanzania farmers, with television as one of the results. Reviewing the data of farmers who use television as a source of agricultural knowledge revealed that nearly half of the 90 farmers surveyed preferred to watch television during the night, while the remaining respondents preferred to watch during the evening. With this data, it appears that TV agricultural programs that are broadcast in the morning or afternoon are less likely to be watched as opposed to programs aired nearing the night (Nazari et al., 2011).

Edutainment for the Environment

For the environment, media, which includes the field of broadcasting, works as either a communicator of risks or as an advocate of knowledge and good practices. They have the responsibility to smooth how people will become responsible for the environment and how they will cultivate awareness for it. Additionally, media could bridge a connection with people, which can help one understand what causes the problems present in the environment (Edubirdie, 2021).

Education about the environment increases one's knowledge and the needed skills that help preserve it. This can include public awareness, concern, and critical thinking on problems relating to the environment (Bal and Karakas, 2018). Studies about edutainment media relating to issues about the environment are not as common compared to their agricultural counterparts. The majority of the content, when it comes to environmental edutainment, covers the topic of climate change. A study by Zhao et al. (2013) assessed the climate change segment initiative, titled *Climate Matters* in Columbia, South Carolina. The effects were explored by analyzing the connection between exposure to the program and the general public's beliefs about climate change via surveys. The survey questions centered around the assessment of beliefs and attitudes, specifically about global warming. This topic was chosen instead of climate change because the concept is familiar to the general public and a central part of such a problem. The topic was also a part of the theme for most of the program's segments. From the surveyed population, the study proved that those who have seen the program segment have an idea or awareness about global warming. While the population surveyed has leaned in favor of the program, there was no doubt that the program was a successful effort to inform the public about climate change.

Another study about the environment relates to television as an avenue for teaching environmental health to the residents of Yasouj, Iran. Nazari et al. (2009) observed that after showing a TV film to the subjects, their level of awareness improved and became more visible regarding the topic of waste materials. Where 70 percent of their subject population correctly distinguished the association between garbage and diseases. Still, some subjects are not as effectively communicated as others. One of

those is air pollution, where only 27.5 percent of the subject population showed awareness of the topic. Overall, the research surfaced that learning about environmental health greatly increases its effectiveness when conveyed through television.

While not a traditional program, a study by Dudo et al. (2017) looked at three films that covered the topic of climate change, namely, *An Inconvenient Truth*, *The Day After Tomorrow*, and *The Age of Stupid*. Studies showed that individuals who have viewed these films often expressed heightened awareness, concern, and motivation related to climate change (Sakellari, 2015). However, behavior changes were observed to be short-lived.

Media, as a player in communicating information about the environment, indeed was responsible for shaping and educating the community when it comes to environmental issues, and television programs that can help bring this information and help in fortifying different knowledge areas (Castro, 2018). For instance, various countries are continuously re-evaluating and reconsidering the role of the youth in environmental management, their rights, and their responsibilities in creating a better society in the future. Such considerations see the youth playing a part in the environment's sustainable development (Hart, 2008). The Eco Ambassador Program, while not solely an edutainment media program, is a series of initiatives in India that uses a Community-based Learning (CBL) Framework. The framework has five unifying core characteristics, namely;

- Meaningful content (education is found in various areas and prioritizes problems that make sense to students),

- Voice and choice (students are given a primary role when it comes to decision-making; learning happens actively),
- Personal and public purpose (public purpose is connected to one's achievement, which in turn contributes to the learning goals),
- Assessment and feedback (conducting continuous evaluations and assessments allows students to better face challenges), and
- Resources and relationships (partnerships are key to increasing connections that can help learning).

These concepts are the focus areas for the monthly learning activities held, which include movie watch parties featuring environment-themed films, workshops, and eco-friendly gatherings; a sample being a gathering that does not use single-use plastic utensils such as spoons and forks. During the COVID-19 pandemic, since in-person learning was not possible, the sessions were done via Zoom and set to a daily schedule. The frequent meetings allowed the learners to learn more about environmental topics such as waste segregation, COVID-19 technology initiatives, sustainable gardening, and sustainable living. Aside from their learnings, the learners produced concrete outputs such as radio productions, creative art forms, comics, and sketches.

Educational/Edutainment Videos on Video Streaming Platforms

With the continuous advancement of technology, television programs are no longer confined to the limits of the traditional medium. Watson and McIntyre (2020) said televised content might increasingly be accessible on additional media platforms. Supplementing television-based learning with these platforms might be an effective way of keeping up

engagement rather than watching it solely on TV. These programs are also known as Internet Television or Internet TV. Countries such as the United States of America, the United Kingdom, Japan, Korea, China, India, and the Philippines, for example, have experience in the use of the format for more than 18 years. The advantages of Internet TV compared to conventional TV are listed by Latiff et. Al. (2016). These are: (1) allowing the viewer to choose any TV or video program from a vast selection of content, (2) can be streamed in real-time, and (3) can be downloaded and viewed at the audience's convenience. The availability of programs on multiple platforms strengthens the connection with the audience as it allows them to view any content that they have not had a chance to watch (Rankova, 2013). Additionally, this availability is important because program producers are always finding ways to integrate educational television programs with multimedia platforms (Ballagas et al., 2011). The integration of television with the Internet through access to streaming services and other online video platforms allowed the boom of video content available (Allam et al., 2021). Such definitions are considered to be under "New Media". The main characteristic of new media is participatory content, wherein these formats can unite ordinary people when it comes to levels of involvement, and enable an ordinary person to produce and distribute their own film and television productions (Zhang, 2020).

With the distribution of educational, edutainment programs, and new media being a widespread practice, access to education has become easier. Some of the most common video-sharing platforms include YouTube and Vimeo. There are also platforms where educational videos are delivered via MOOC initiatives (Coursera, edX, and Stanford Online), non-profit educational organizations (Khan Academy), and for-profit

educational organizations (Udacity and Lynda.com) (Kleftodimos et al., 2020). As these video-sharing sites have grown in popularity, these sites have also drawn the attention of researchers from various disciplines (Bartolome and Niu, 2023).

Out of this list, one of the most well-known platforms that streamed video content was YouTube. YouTube is a platform that is the easiest to access for all kinds of people, educated or uneducated, around the world. This platform acts both as an entertainment channel and an educational channel (Chakma et al., 2022). These channels are known as the term ‘Owned and Operated’. This means that this gives the owner access to how much advertising will go to the platform. Still, the owners need to abide by some restrictions when it comes to the distribution of content. With this shift, TV programs and consumption became widely accessible, and the creation of TV content could be easily done by anyone, making them *prosumers or* people who produce their goods or services (Toffler, 1980).

While mentioned earlier are the four components that affect how an individual learns from educational TV programs, different factors determine the effectiveness of educational media, specifically on the YouTube platform. These are communication skills (how the viewer processes and understands complex information), existing knowledge (information received by the viewer when it comes to certain topics), and social contact (networks that can reinforce the received information) (Kohler and Dietrich, 2021).

Research conducted by Pires et. al. (2022) aimed to monitor the YouTube consumption of teens in eight countries, namely, Australia, Italy, Portugal, Spain, the United Kingdom, Finland, Uruguay, and Colombia. The research was done mostly in a

qualitative format, including interviews, workshops, and observations. In terms of learning from the platform, observations have shown that adolescents use YouTube as an added element to their learning curriculum. The use of the platform is tied to three main reasons: (a) they need to understand a topic they have difficulty understanding, (b) for homework research, and (c) as a way to prepare for their exams. Teens go directly to the platform for searching due to its audio and visual nature.

Topics about agriculture and the environment also made their way around online streaming platforms. With this distribution platform added, the effectiveness of the videos on an online platform remains effective. A research study by Manichandana et al. (2022) reviewed Professor Jayashankar Telangana State Agricultural University (PJTSAU) videos about crop production and crop protection videos of paddy and cotton crops. The review was about the effectiveness of these materials as perceived by the viewer/audience using categories such as video description, thumbnail, video content, video acoustics, video frame rate, video hue, and color intensity. When it comes to the content of the paddy videos, a number of the respondents appreciated the content in the videos provided with clear and step-by-step information, with others saying that the videos focused on farmers' problems and solutions. As for the videos covering topics about cotton, most respondents felt that the content presented could be self-learned, with others saying that the videos contained systematically classified content.

In another study on YouTube, a content analysis from Ford and Moore (2021). While not necessarily classified as a traditional program, this analysis viewed five farming vlogs as the focus of the research. The channels were picked by looking at the total views, agricultural practice demonstration, and common vlogging style. The results revealed that

step-by-step instruction and farm business fact videos were the most common topics covered, with innovation, crop handling, and livestock being the next most common, and nutrition being the least covered topic.

For environmental topics, though, the existence of YouTube has helped viewers who are environmentally aware broaden their knowledge about it. Research by Tybussek (2019) looked at the engagement of youth audiences when it comes to “green” topics on YouTube. The research was done by interviewing eight students who were regular platform viewers. The interviewees appreciated the existence of environmental content on the video platform as awareness about environmental problems and challenges is now more than ever, and helps them take action and become more conscious about what is happening around them. Awareness of subjects that directly help the environment, such as the reduction of meat consumption and other sustainability practices, is also present in the students’ responses.

While there are a good number of environmental videos on YouTube, these videos still face challenges in gaining popularity, engagement, and audience retention. An interesting finding by Allgaier (2019) shows that only seven (7) out of 200 environmental videos about climate change have a reach of more than 1,000,000 views. The majority of the videos that managed to hit such marks are those from mainstream media. The views are attributed mostly to the video’s production value and presentation of content.

Challenges in Implementing Educational/Edutainment Programs

Like every other initiative/production, edutainment/education programs also face a variety of challenges when it comes to creating one. In Serbia, a study by Sarkovic et al. (2020) looked at the environmental and educational topics discussed in four popular agricultural programs. These are Znanje imanje or “Knowing–Having” (national program); Brazde or “Furrows” (provincial program), Dobrazemlja or “Good Land” (commercial program), and Domaćin or “Host” (commercial program). These four programs were analyzed based on the criteria of actors (Sources of information and opinions), topical focus of the broadcasts, presence, and type of environmental content, and educational content on environmental issues. While these are primarily agricultural programs, results from the study showed an average of 11.62% of the combined percentage of the programs have episodes that have content that covers environmental topics. All programs covered the topics of Organic agriculture on rural farms, Rural tourism, Renewable energy sources, Branding of traditional high-quality products, Preservation of indigenous cereals and fruits, and Preservation of indigenous livestock breeds.

An entertainment-education TV program from India titled *Kyunki... Jeena* is a program that discusses UNESCO’s Facts for Life (FFL) Initiative’s messages, which cover medical topics and issues. The program is produced through the use of a soap opera format, a style that is highly popular in the country. One program encountered in the pre-production phase is the convergence of the entertainment-education format with the soap opera approach. The challenges of communicating uncommon topics on television, such as safe motherhood, diarrhea management, HIV AIDS, and so on were a creative challenge in making it entertaining yet informative.

Content-wise, problems in implementing educational/edutainment programs might also stem from the content they provide, sometimes having a vague goal in relaying its message. A content analysis by Becerra et al. (2020) looked at 100 YouTube videos about climate change to see its learning potential within the youth. The videos reviewed contained information that proves that climate change is not a hoax and presented how the environment is affected by such a phenomenon. Only a small number of videos tackled the topic of how one can help lessen the effects of climate change; half only focused on a specific kind of environment. Also, videos with a focus on the environment are presented to an adult audience.

While TV is a proven and trusted device/appliance that the majority of people own, problems like educational framework development, digital signal processing, and multimedia production are things that need to be given attention, and specialized research is needed to be done when it comes to looking at user–TV interaction (Bures et al., 2017). Media production is a complex process, and this is where those in management need to assign the work to suitable people to ensure the efficiency and correct process up to the delivery of the final product (Li, 2022).

Producing television programs is also expensive to create, especially those of broadcast quality. Other factors include the time needed and the technical requirements to produce such programs. Lastly, information is difficult to renew or update once the program is produced (Gurses and Yuksel, 2009). Given that the market and environment for such programs are becoming more competitive, high-quality content is one of the keys to creating engaging experiences on television programs. One of the most notable challenges that needs to be addressed and overcome in terms of these projects is how

the production costs associated with the high-quality content will be covered (Revelle et al., 2014).

In line with production, one of the challenges when producing is how it will cater to a diverse audience. Usually, this involves much more than linguistic translation. The involvement of the potential target audience and how the program will be sustainable within the target community should also be considered when it comes to designing one (Hudson, 2001).

Lastly, edutainment programs are not equally effective. The higher quality programs mostly have technical capabilities and robust approaches, are well-researched, and have mass reach and appeal. These programs are sustained through time through several channels, which in turn, can manage to produce better results (Perlman et al., 2013).

Suffice it to say that the literature presented in this review shows the various qualities of an edutainment program in different platforms, mainly, radio, TV, and online. As important as the technical aspects of the program are, content and audience engagement play a large role in what makes a program focused on edutainment. Apart from this, the studies also showed how programs made to provide education and entertainment affect their audiences. As such, Austria, Jr. (2016) said that edutainment's role is to create awareness, provide information/knowledge, promote acceptance, and encourage changes in behavior. While edutainment programs are steadily being produced, challenges are still present, especially in smaller production groups, coupled with gathering an audience base for such programs. It can be surmised, then, that

programs should be created for a specific or intended audience and not the general public. A more targeted programming in terms of content and format may be to have a more strategic direction in creating or producing programs that are educational and entertaining, anchored on empirical studies. The way people process information largely depends on their cognitive abilities.

Comparison of Edutainment Programs with PAK! Para sa Agrikultura at Kalikasan

Looking at other edutainment programs that cover topics about either agriculture, the environment, or both can provide insights when it comes to their structure and execution. Two programs that have similarities with PAK! are analyzed as a way to understand how such programs work. These are Landbank's *Agricoolture*, and Knowledge Channel's *Puno ng Buhay.*

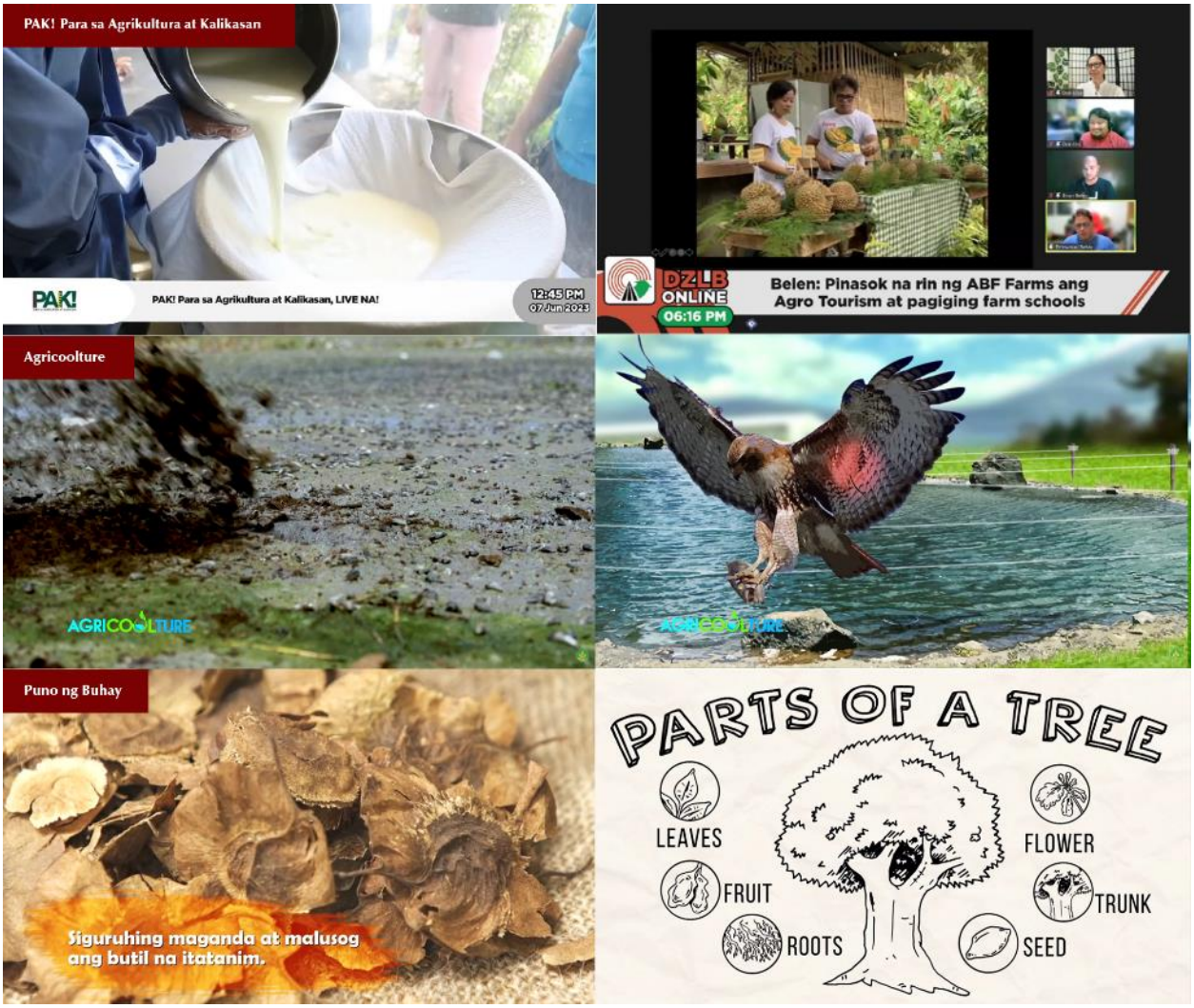
The study looked at edutainment aspects such as how visuals and audio were used, how text is displayed on the screen, dynamics between the hosts and guests, and other factors when it comes to transmitting information to the audience. Looking through these similar products can assist the study in terms of answering what makes PAK! an edutainment program.

Displaying visuals

The three programs have different ways of effectively displaying visuals, whether it be images, illustrations, videos, or demonstrations. While distinct, there are still overlapping ways in which these programs present such data.

Figure 1.

How PAK!, Agricoolture, and Puno ng Buhay show visual information.



As seen in the images above, the three programs have varying ways of presenting information. PAK! Shows information in a direct manner based on what is currently being talked about. These only vary from either a photo or a video. Videos and images are shown along the discussion portions of the program as a way to further highlight specific information about what is being discussed/demonstrated.

For Agricoolture, visuals are split between videos and animations. Similar to PAK!, video cutaways are shown during the discussion depending on what the guest is talking about. Animations are used to provide a more dynamic illustration of methods and occurrences that aid in enhancing the understanding of the subject matter.

Similar to the above, Puno ng Buhay also displays visuals using videos, images, and animations. Videos and images are shown based on what is currently being discussed, similar to the style that the two programs above use. The use of animations in Puno ng Buhay complements processes or illustrates things to make it easier for the audience to understand.

Use of audio elements

The three programs use music in various ways. For PAK!, audio elements are used as background music, mainly as complementary elements in video montages. Other than that, audio elements are used in the opening billboard of the program and the break bumpers as part of the program's branding.

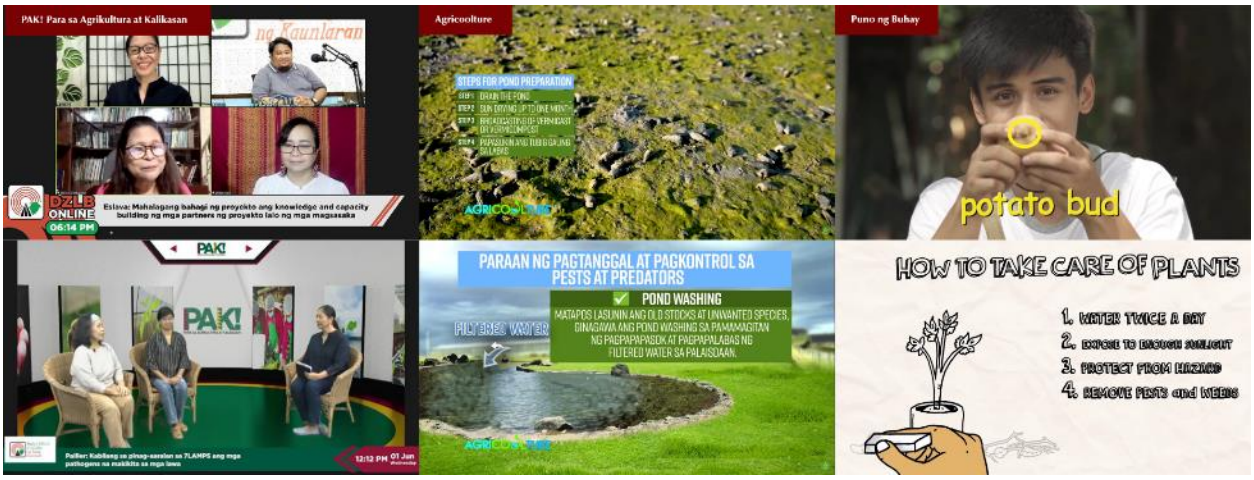
Agricoolture uses audio elements in a few ways. One is that music always plays in the background during the program. Another is the use of voice-overs as a way to explain processes and concepts to the audience. Aside from this, similar to PAK!, audio elements are also used in the opening billboard of the program as part of its branding.

Lastly, Puno ng Buhay uses audio elements as background music in some parts of the program. The use of background music ranges from music for video montages to music as part of explanation segments within the program.

Displaying textual data

Figure 2.

How PAK!, Agricoolture, and Puno ng Buhay show textual information.



Textual information is displayed in a variety of ways in these three programs. As mentioned in the earlier sections, PAK! displays text through the use of character generators or *chargen*. The information presented in these chargen reflects a summarized version of what the expert/guest has previously said during the discussion and can give a simpler method of explaining technical terms to the audience.

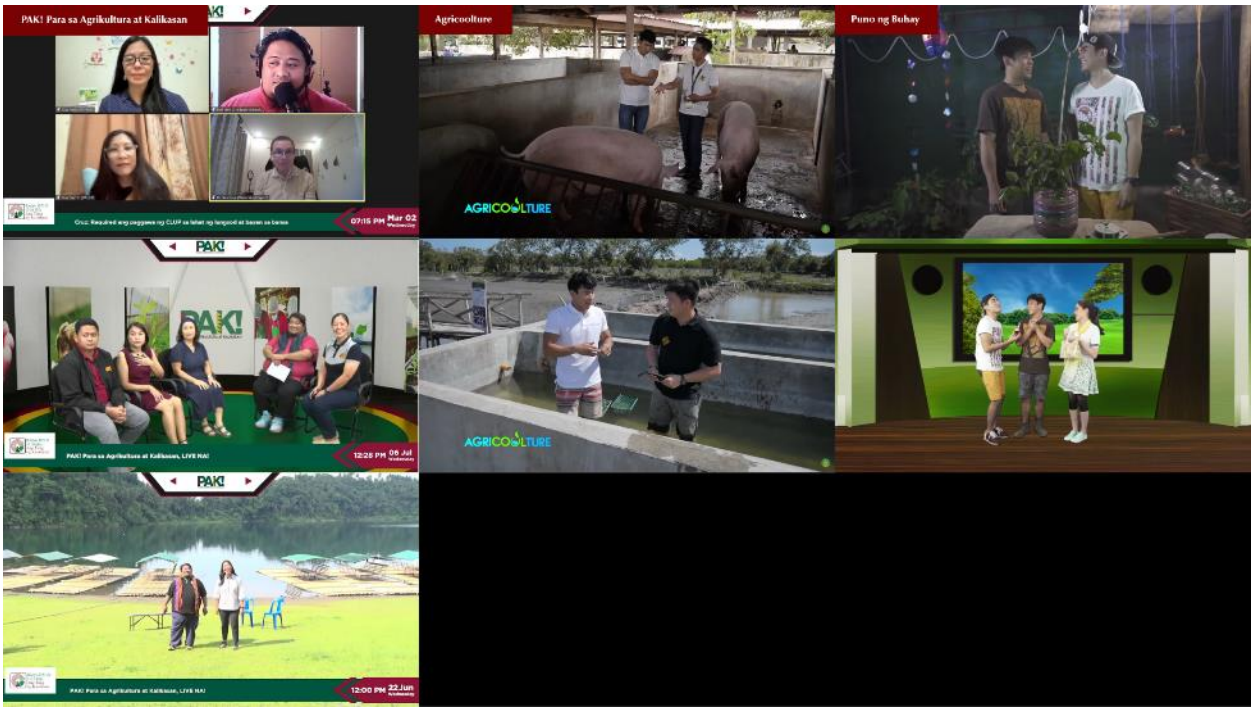
Regarding Agricoolture, textual information is displayed in a simplified way, often showing only a few words as explanations. These short pieces of text display important information about the topic being discussed currently. The program also shows longer bits of text, usually accompanied by graphics.

As for Puno ng Buhay, textual information is displayed based on what is shown on the screen. These texts are short pieces of information and give a summary of the subject matter displayed. Aside from this, the program also displays process steps (if any) on the screen along with corresponding graphics.

Program episode location

Figure 3.

Locations where PAK!, Agricoolture, and Puno ng Buhay's episodes take place.



The three programs' episodes take place in different locations. PAK!, due to the various formats it utilized during its run, had three different places where the episodes were broadcast/taped. As said in the earlier sections, PAK!'s episodes took place in an online, studio, and field setup. These episodes showed the program's evolution and how it created an identity based on the technological capabilities of the station throughout its run. For example, the online setup, while limiting, allows for a more flexible programming method as the guests and hosts can easily access the video teleconferencing platform. The studio setup helped bridge the transition between online and field episodes. The studio setup helped for better interactions between the hosts and guests while still providing a live component in its programming. Lastly, the transition to the field setup of

programming allowed for a better showcase of the episode topic, along with actual demonstrations of what is being discussed. This setup allowed video editing elements to be introduced, but it lost the live interaction with its audience.

All of Agricoolture's episodes are shot in the field. As mentioned above, conducting episodes in a field environment better demonstrates the concepts and processes that the program episode is covering.

Puno ng Buhay's episodes come as a mix of a virtual studio and a field component. This setup allows for the actors to be in different locations through the use of a green screen. The field component provides a more tangible demonstration when it comes to showing processes and subjects within the episode.

Theoretical Framework

The study was guided by the Cognitive Theory of Multimedia Learning (CTML) by Dr. Richard E. Mayer (2001) and the Structuralism Theory, which first appeared in Ferdinand de Saussure's (1916, 2011) works.

Cognitive Theory of Multimedia Learning (CTML)

The Cognitive Theory of Multimedia Learning (CTML) says that the brain is separated into multiple channels. These channels process visual and auditory information, allowing an individual to better process information (McGraw-Hill Canada, 2019). It answers the question "How can people learn and how can we help people learn" (Mayer, 2024). Throughout the years, the theory has included principles that define various multimedia material elements. Known as "Mayer's principles of multimedia learning", the addition of these principles allowed CTML to be involved in the design of effective multimedia instructional messages.

Mayer's principles of multimedia learning help connect the visual and auditory elements to connect with the audience. These principles are presented in Table 1.

Table 1.

Mayer's principles of multimedia learning.

CTML Principle	Definition
Coherence	Use of simple text and visuals that relate directly to the topic. Keep only what is needed.
Signaling	Show what needs to be paid attention to on the screen, highlighting important details.
Redundancy	The audience can learn better with narration and graphics only, as opposed to narration, graphics, and text.
Spatial Contiguity	The audience learns better when connected text and visuals are closely presented.
Temporal Contiguity	The audience learns better when connected audio, text, and visuals are presented at the same time.
Segmenting	Provides the audience with control over their learning. This allows the audience to learn at their own pace.

CTML Principle	Definition
Pre-Training	Allows the material to have an introductory guide throughout the learning process.
Modality	Supports learning by limiting the amount of text used in a material.
Multimedia	The audience learns better through the use of words and images as opposed to using words only.
Personalization	The audience learns better when a conversational tone of voice is used.
Voice	Information is absorbed better when the voice comes from a human.
Image	The audience does not necessarily learn from a person's image alone. Relevant visuals should aid this process.

Given these elements that affect the cognitive processes of humans, it can be argued that materials possessing these would have a more lasting effect on their audience.

Structuralism

As for structuralism, the theory seeks explanations within a system to understand its structure. In short, structuralism is finding meaning between connections of objects and elements based on their structures. The theory was used to examine how PAK!'s content can or is used to engage viewers and deliver entertainment simultaneously. With this, the research can employ elements of the program like narrative structure, audiovisual components, patterns, etc., to explain how these relate to the program's edutainment aspect.

Analytical Framework

A simple framework showing the convergence of various edutainment elements along with the Cognitive Theory of Multimedia Learning was formulated to better understand the concept of edutainment. The combination of these elements/aspects allowed for a more effective learning experience. The framework contains three major dimensions, namely, the edutainment experience, multimedia element integration/presentation, and cognitive processing.

The Edutainment Experience

This integrates the concept of edutainment, which is to inform and entertain the audience, along with the use of interactive media through social media broadcasting. This combines the storytelling aspect of the format, or in the case of PAK!, the standard flow of the segments, interactions, and dynamics, with the modern multimedia elements that were viewed in the earlier analysis. The addition of a social media aspect aids in engaging

within the program as a way of providing real-time feedback and inputs from both the hosts, guests, and audience.

Multimedia Element Integration/Presentation

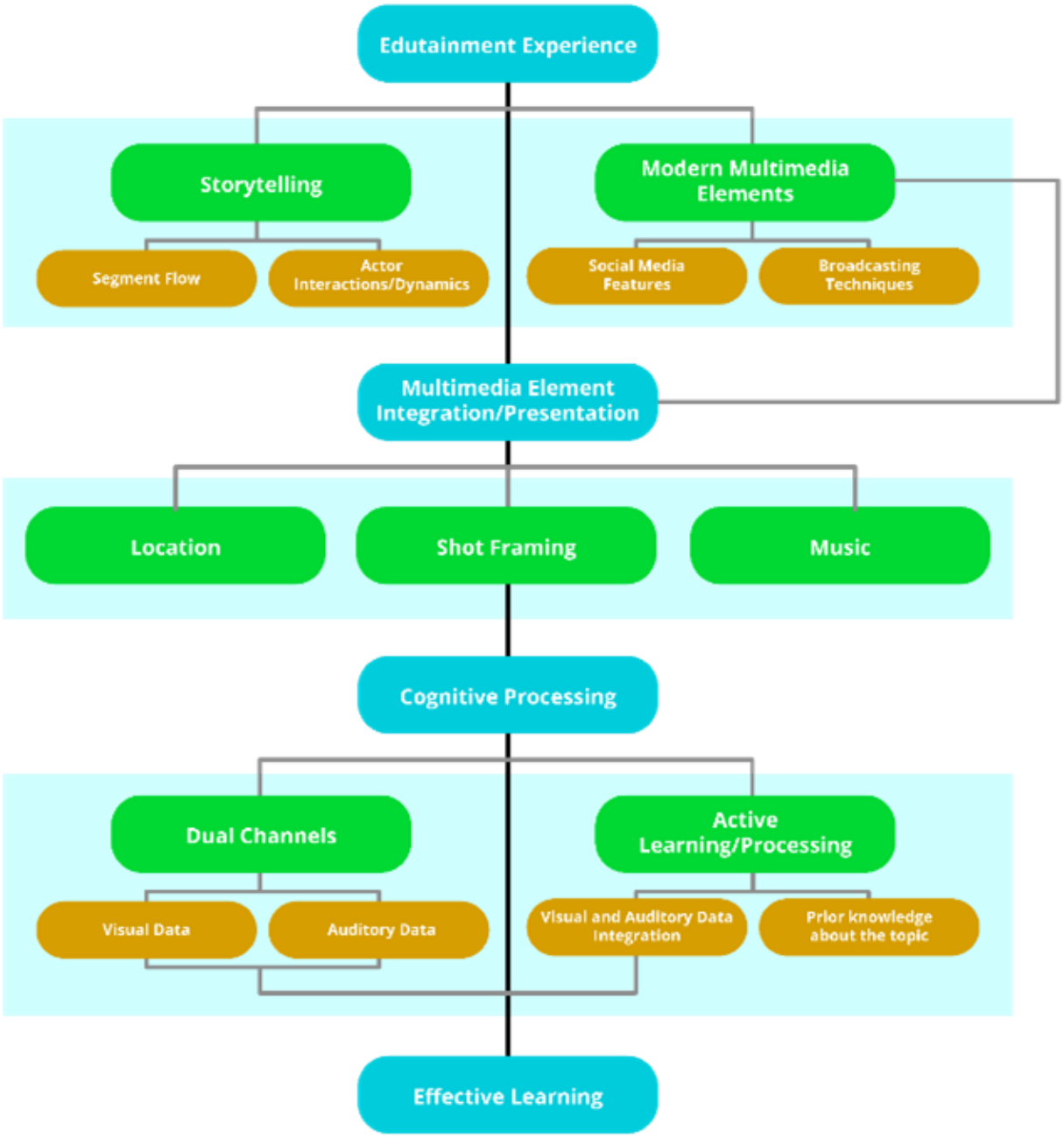
Elements such as location, shot framing, and music create an effective way of presenting an edutainment program episode. Being on location adds immersion to an episode, which in turn helps the audience to better grasp the topic at hand. Shot framing helps give focus on who is currently providing information, while music helps create a mood in certain segments of the program.

Cognitive Processing

The visual and auditory *(dual channel)* elements present in the edutainment material facilitate a learning environment, as said in Mayer's CTML. Aside from this, active learning/processing is another aspect that also comes into play as part of the learning process. Active learning/processing is the integration of information from visual and auditory data with prior knowledge about the subject matter being discussed.

Figure 4.

Dimensions of edutainment to promote mediated learning.



Assumptions

First, while there are set parameters for what makes a program an “edutainment,” it does not necessarily need all the qualities present to be classified as one. Due to the flexibility of the format and the number of media types it can fit, the qualities of the program or material still embody the idea of edutainment as long as the general idea of educating and informing is present.

Second, edutainment or entertainment-education initiatives are not limited to the audio or audiovisual format. As suggested in a study by UNESCO (2024), learning is facilitated better with a combination of materials present. This shows the flexibility of the format to cater based on the needs of its audiences.

Third, the transition to on-demand media for the edutainment format is considered an additional element when it comes to how watchable the format is. Still, the defining elements and factors remain when it comes to classifying one as an edutainment program and should aid in how these programs will be identified online.

With these assumptions, edutainment programs must always have the audience and the platform in mind when it comes to producing such content. With the continuous evolution of technology, the core aspect of edutainment must always be present when it comes to creating these types of programs.

Operational definition of terms

Variables	Operational Definitions	Indicators
Visual Elements *refer to graphics and camera shots. These were classified in terms of the following characteristics*		
Cutaway shots	refer to the use of corresponding shots depending on what is being explained in the segment	Use of videos and images as a way to show an example
Shot Variety	refers to the use of various camera angles during the program	Changes on visual focus within the program. Involves both the hosts and guests
Auditory Elements *refer to the use of audio within the program episode. These were classified in terms of the following characteristics*		
Background music	refers to the use of appropriate music during the program	Use of music within the program or program segments
Location *is the place or platform where the episode is filmed/shot. These were classified using the following*		

Field	refers to episodes shot on-location	Scenes that are filmed outside of a studio environment
Studio	refers to episodes shot inside a studio	Scenes that are filmed in an indoor studio. Can either be recorded or live
Online	refers to episodes done online with the aid of teleconferencing tools	Scenes that are filmed in online videoconferencing tools like Zoom or Google Meet
Mixed	refers to episodes shot using a mix of two or three location types	Scenes that are filmed via a hybrid format
Entertainment Value *refers to how the production is made concerning keeping the audience's interest. This was classified using the following features*		
Host Dynamic	refers to how the hosts interact with each other	General method of how the hosts drive the program. Seen throught an episode
Addressing the Audience	refers to how the hosts attempt to	Can be seen when the

	engage the audience	hosts ask the audience to comment reactions within the episode Can be seen when the hosts try to “speak” at the audience as a way to initiate discussion in the online space
Guest Interaction	refers to how the hosts interact with the episode’s featured guest/s	Based on how the hosts engage the guests during discussions
Information Processing *refer to the various guests of the program. These can be classified using the following characteristics*		
Reflection	refers to how the involved people during the program exchange ideas and share information with the audience	Present when the host or guest respond with their thoughts/insights on the topic discussed
Explanation	refers to how the guest states information during the discussion part of the program	Present during the guests explanations on topics

Featured Entities		
Frequency of Appearance	refers to how frequently the guest/expert appeared during the season	Determined during a season's run Dependent on the overall theme of the season
Guest Classification	refers to the affiliation of the guest or the occupation of the featured guest	Explained before the program discussions begin

Chapter III

METHODOLOGY

Research design

This study employed Narrative Structural Analysis to analyze PAK's themes, principles, and elements. Narrative Structural Analysis, as defined by Seçmen et al (2023), is a method of understanding media through breaking it down into its parts and analyzing it. Elements such as plot, character, setting, point of view, language, and tone are identified to determine patterns, messages, and meaning.

Recent research also used a similar design, which also connects to the Cognitive Theory of Multimedia Learning (CTML) as its framework. Research by Wijaya et al (2023) used said method to analyze TikTok content that aids in teaching the English subject. The study further looked into elements present in the various TikTok videos, such as auditory and visual aspects of the videos. These were further analyzed and linked to their compatibility with the theory.

Using a similar research design can aid the study as it provides a different lens when it comes to reviewing PAK!. The use of this method is also in its early stages, as there is still a small amount of research that anchors CTML to the method.

Selecting the program episodes analyzed

Selecting the program episodes that were analyzed involved looking at all four seasons of Radyo DZLB Online's *PAK! Para sa Agrikultura at Kalikasan*. With a total of 26 episodes, the research hopes to have an in-depth look at the qualities of the program as an edutainment program.

Data Analysis

Coding or qualitative coding in this case is the process of categorizing details in the qualitative data to find themes and patterns (Delve, n.d.). Coding was done through watching the episodes of PAK! where codes were identified based on the elements present. An initial list of codes has been identified to use in the operational definition of terms to aid in starting the coding process.

Figure 5.

Codebook generated by Atlas.ti.

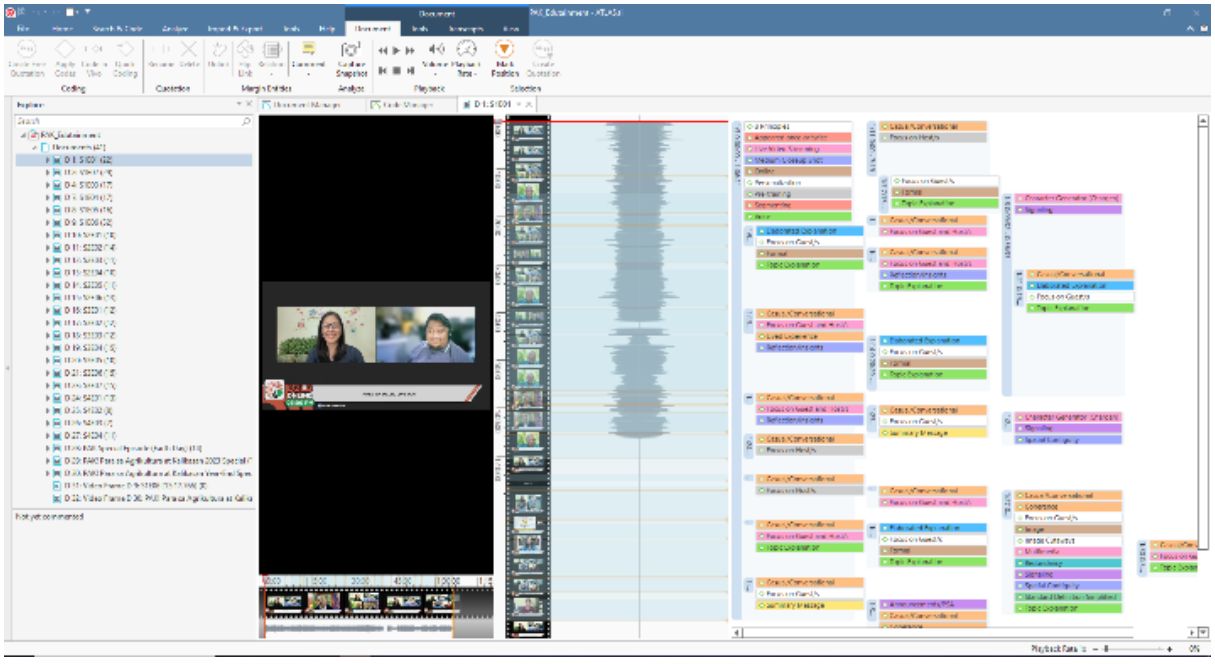
Code	Comment	Code Group 1	Code Group 2	Code Group 3	Code Group 4	Code Group 5	Code Group 6	Code Group 7	Code Group 8	Code Group 9	Code Group 10	Code Group 11	Code Group 12	Code Group 13
Announcements/PSA								Interaction Types						
Appeared more than twice						Frequence of Appearance of Guest								
Appeared once or twice						Frequence of Appearance of Guest								
Casual/Conversational				Dynamics and Discussion			Guest Interaction							
Character Generator (Chargen)														Visual Elements
Closeup Shot												Shot Variety		
Coherence			CTML Principle/s											
Elaborated Explanation													Type of Explanation	
Field									Location					
Focus on Guest and Host/s					Framing									
Focus on Guest/s					Framing									
Focus on Host/s					Framing									
Formal				Dynamics and Discussion			Guest Interaction							
Full Shot												Shot Variety		
Humorous				Dynamics and Discussion			Guest Interaction							
Image			CTML Principle/s											
Image Cutaways														Visual Elements
Live Video Streaming										Media Features				
Lived Experience													Type of Explanation	
Medium Closeup Shot												Shot Variety		
Medium Full Shot												Shot Variety		
Medium Shot												Shot Variety		
Mixed									Location					
Mixed/Hybrid										Media Features				
Modality			CTML Principle/s											
Multimedia			CTML Principle/s											
Online									Location					
Personalization			CTML Principle/s											
Pre-training			CTML Principle/s											
Redundancy			CTML Principle/s											
Reflection/Insights								Interaction Types						
Research Results Simplified													Type of Explanation	
Segmenting			CTML Principle/s											
Signaling			CTML Principle/s											
Spatial Contiguity			CTML Principle/s											
Standard Definition Simplified													Type of Explanation	
Studio									Location					
Summary Message								Interaction Types						
Temporal Contiguity			CTML Principle/s											
Topic Explanation								Interaction Types						
Video Cutaways														Visual Elements
Video Editing										Media Features				
Video Recording/Uploading										Media Features				
Voice			CTML Principle/s											
with BG music		Background Music												
without BG music		Background Music												

The codes were grouped based on elements that were analyzed. Code groups are as follows: CTML Principle/s, Dynamics and Discussion, Framing, Frequency of Appearance of Guests, Guest Interaction, Interaction Types, Location, Media Features, Shot Variety, Types of Explanation, Visual Elements, and Background Music.

Once codes have been established, the data were coded through the use of Atlas.ti, a qualitative data analysis software. Codes were applied as an episode of PAK! was watched, and was automatically sorted by the software based on the groupings determined.

Figure 6.

Coding environment within Atlas.ti.

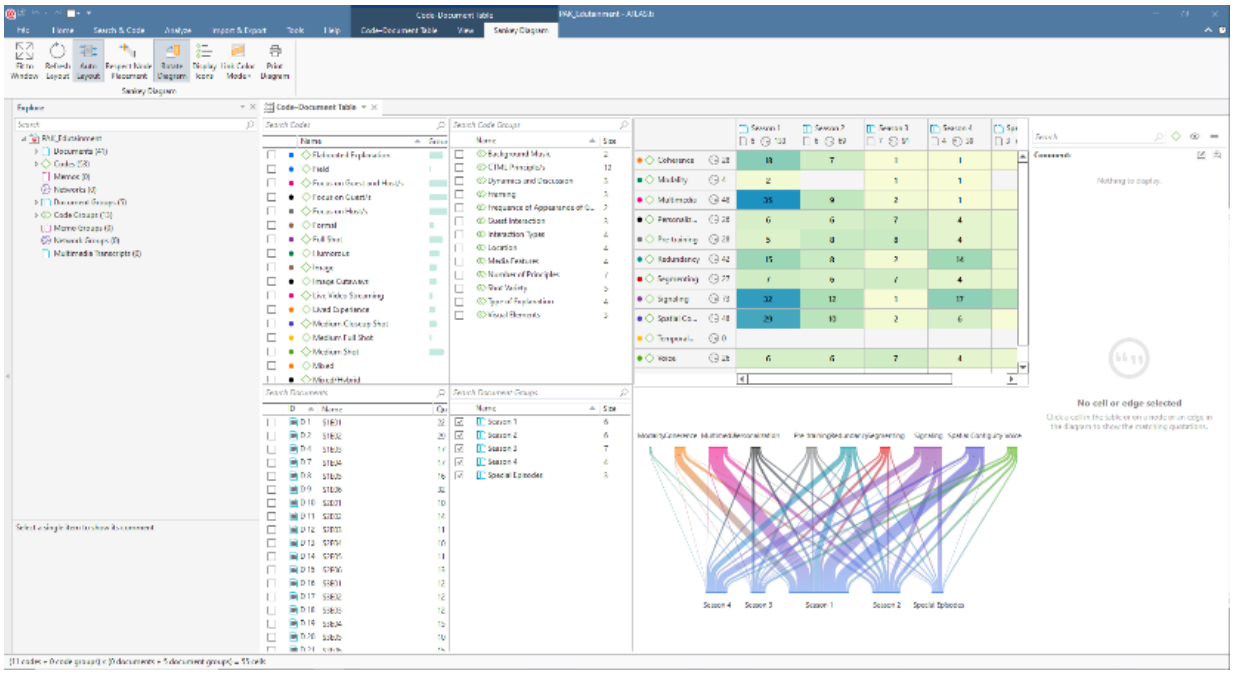


Interpreting the coded data was made easier once the codes had been established and applied during the data-gathering process. Codes and documents can be grouped in

a code-document table in the software. Interpretations are possible and vary from bar charts, word clouds, and Sankey diagrams.

Figure 7.

Combining data coded into a visual representation.



Chapter IV

RESULTS AND DISCUSSION

Program Structure of PAK!

PAK! started airing in October 2021, during the pandemic. As a program, PAK! aims to provide information about agriculture and the environment that is on-point (tumPAK), impactful (may imPAK), and useful (kaPAKipakinabang). More specifically, PAK! aims to:

1. Serve as a platform for educational discussion of various agricultural and environmental issues;
2. Popularize agricultural, environmental, and ecological concepts among the masses; and
3. Establish networks and highlight UPLB projects focused on agriculture and the environment.

While the initial idea of the program is to “inform” its audience about environmental and agricultural topics, hints of an aim to educate exist. This is most present when the program took on a school-on-the-air approach during its second season. The school-on-the-air format followed a lesson plan that outlines the current and future episodes for the season as a guide for the viewer. A form of evaluation is also present in these episodes as a way to gauge how much the audience has learned from the episode.

Information from the program’s progress reports shows that the program follows the pre-production, production, and post-production phases for the program. For pre-production, the bulk of the preparation of the program goes into this phase as various

factors need to be considered before recording or airing live. Scheduling of interviews, planning of locations where the episodes will take place, and the equipment needed for the selected type of production are considered before the actual episode takes form. The pre-production phase is also where topic pitching takes place. Research is an important part of topic pitching, and information is formed through scripts and rundown sheets to guide the hosts. Aside from standard research, story conferences or story cons are occasionally held before the filming/broadcast date to finalize details before moving into the production phase.

The production phase of the program has taken on two forms throughout PAK!'s run. Originally, PAK! is an online program that is broadcast live. No post-production is done during this time, as once the episode is broadcast, it is kept as-is since minimal to no issues are happening during the program that require post-production interventions. Later on, as pandemic restrictions became less restrictive, on-location filming became possible. This entailed a larger demand in terms of manpower and equipment, as recorded episodes have a larger production volume compared to the episodes that are broadcast live.

The post-production phase of the program is initially used for the episodes of the program that are uploaded on DZLB Online's other platforms. Later seasons allowed the use of various editing techniques through the use of video editing software as the episodes are broadcast as video packages.

For the first season, PAK!'s standard program flow is usually cut into three segments: an introductory segment, a discussion segment (Agri to Agree), and an

announcement/information segment (Level UP PSAE). For the second to the fourth season, the program is still divided into three segments but lost Agri to Agree and Level UP PSAE in favor of a more focused and feature-type discussion for each episode. Episodes are mainly driven by the hosts, Ronilo Flores (Dok Onil) and Rina de Luna (Dok Rina). The hosts' familiarity with each other allows for a fun and welcoming dynamic during the program, which in turn helps the guests ease themselves and become more involved in the discussion.

As far as topics go, season 1 touched on various agricultural projects, concepts, and views on agriculture. Season 2 continued the same format as the first season, wherein episodes are done live. One big difference from the previous season is that the program used the school-on-the-air format for its programming. This has been made possible through a collaboration with UPLB WILUP. This partnership had the program follow a set of lessons relating to the topic of watersheds, wherein participants will be able to receive a certificate of completion upon answering all episode questions that appear throughout the season's run.

Figure 8.

Material outlining Season 2's episodes, along with a QR code for the audience evaluation.

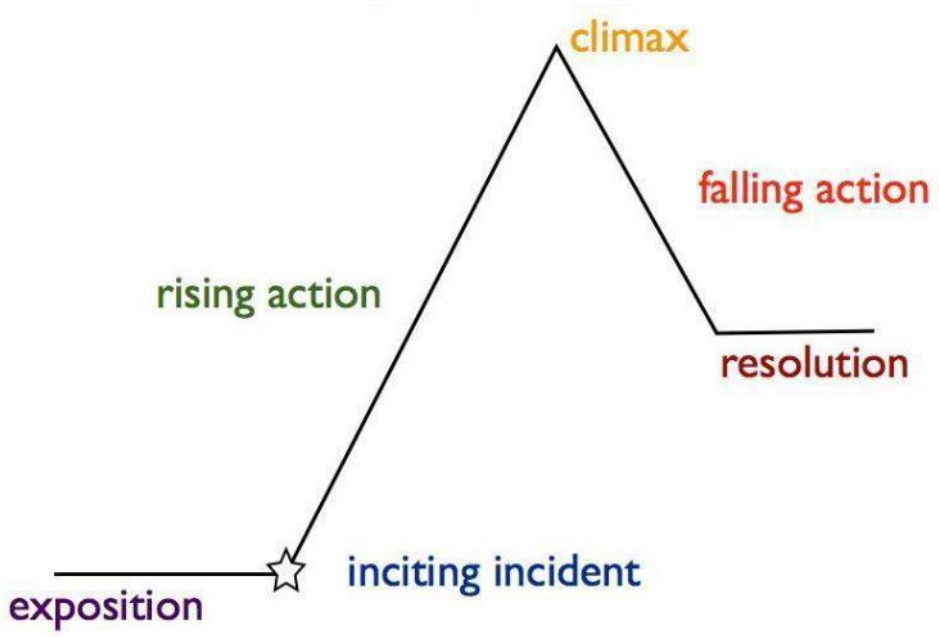
The third season continued to cover environmental topics, where this time, the focus of discussions revolved around the seven lakes of San Pablo City, Laguna. The episodes covered factors such as the problems the lakes are facing and what is being done to address such issues. The fourth season returns to feature topics about agriculture but is more focused on agriculture as a business, featuring human interest stories from various individuals.

Narrative Structure of PAK!

The program's narrative structure exhibits elements from Freytag's pyramid. The visualization offers a method of organizing narrative into the beginning, middle, and ending portions. Such elements are ***Exposition (introduction)***, ***Rising Action (interest building)***, ***Climax (explanation of concepts)***, ***Falling Action (lesson culmination)***, and ***Resolution (summary)***.

Figure 9.

Freytag's pyramid (Source: writers.com).



The analysis borrows these elements to guide how PAK!'s narrative comes into play. From the selection of episodes, the first episode of the fourth season of the program has been used as the benchmark for analyzing the narrative structure of the program.

PAK!'s uses **exposition** through the introduction of the setting, and usually happens during the introduction up to the first part of the program. This part is where the characters/actors (Dok Rina and Dok Onil) are introduced, along with the setting of the episode, Graco Farms. The exposition also explains initial details about the farm, which tie into the episode's topic. In the context of the episode, the theme of sustainable farming, animal welfare, and community building is introduced as the main idea around which the episode will revolve. The delivery of the introduction is conversational and enthusiastic, which helps set the overall mood of the episode/program. This portion of the program

helps jumpstart the viewer's existing knowledge and provides a sort of "teaser" on what's to come as a way to set expectations.

Table 2

Introduction of the episode (Season 4, Episode 1) that sets the scene, and a peek at the episode's topic.

[Dok Onil] (0:00 - 0:14) Alam mo, Dok Rina, balita ko, sobrang daming farms dito sa Laguna na hindi na nating kailangang ano ang umeksena pa sa ibang lugar. Kaya naman feeling ko, panahon na para talagang tingnan natin yung mga farms dito. **[Dok Rina] (0:15 - 0:24)** Tama yan, PAKner, naalala mo yung ating nakaraang taon, ginugol natin ang ating Season 2 and Season 3 para pag-usapan ang tungkol sa kalikasan. **[Dok Onil] (0:25 - 0:32)** Very environment ang peg natin noon. Kaya naman this season, talagang mag-agri tayo na talagang agrikultura naman. **[Dok Rina] (0:33 - 0:45)** Pero naalala mo, PAKner, yung ating year-ender sa Mindanao, naalala mo, pinakita natin kung gaano kasaya ang agrikultura, AgriSaya, 'no? **[Dok Onil] (0:46 - 1:05)**

Kaya naman dahil sobrang saya ng naidudulot ng agrikultura, pero hindi na nating kailangang lumayo pa dahil sa tabi-tabi lamang na ating bakuran dito sa Laguna kung saan nandito kami. Dok Rina, speaking of tabi-tabi, napansin mo ba ang nasa tabi ko? O diba, na may balahibo ng...

[Dok Rina] (1:05 - 1:06)

Peacock!

[Dok Onil] (1:06 - 1:11)

Peacock. At nakita mo ba ang nakasulat? Graco Farms.

[Dok Rina] (1:11 - 1:16)

Welcome! Wow, ang ganda naman ng kanilang pa-welcome. PAKner, nasaan ba tayo ngayon?

[Dok Onil] (1:16 - 1:29)

Tayo ngayon ay nandito sa Pila, Laguna kung saan matatagpuan itong pinakatagu-tagong farm na tinatawag nating Graco Farms.

[Dok Rina] (1:29 - 1:33)

Pero ikaw ba, ano ang excited kang makita dito sa Graco Farms?

[Dok Onil] (1:33 - 1:50)

Alam nyo, excited ako dahil sa gate pa lang marami ng impormasyon na makikita at excited akong malaman ano ba ibig sabihin ng training institute, ito daw ay isang training institute, may mga overnight pa dito yung mga activities. Ikaw naman.

[Dok Rina] (1:50 - 2:00)

Ako naman, PAKner, siyempre dahil kahayupan, nakita ko doon din sa gate nila. Ang isa sa concern nila is animal welfare.

So excited ako mag-immerse with the animals.

[Dok Onil] (2:01 - 2:18)

Kaya naman, magandang stop ito mga ka-PAK. Sa unang stop natin sa Laguna tour at hanapin natin itong mga farms na ito sa buong Laguna. At ito ang simula ng season 4 ng...PAK! Para sa Agrikultura at Kalikasan!

For the **rising action**, this portion of the narrative builds on the established points and further explores the topic. The visit to the farm's various facilities and the introduction of how they take care of the animals during the episode help give the viewer a glimpse of techniques and proper handling of livestock and other animals. Aside from this, the hands-on activities done by the children featured add to the learning experience within the episode. These all show the "interconnectedness" of the farm's operations as a way to bring home their advocacy of sustainable farming to the audience. The rising action also introduces information that might be new to the common audience. With this new information, the audience stays actively engaged and creates a constant stream of understanding.

Figure 10.

Various segments of the episode that feature discussions and activities that aid in its rising action.

The episode's **climax** is the highlight of the episode. This part of the episode is the culmination of all that happened in the earlier segments into one. For this specific episode, the climax happens during the lunch scene, where Dok Rina reflects on how the ingredients for the food came from the farm itself and other neighboring farms. This drives the idea of sustainable farming and community participation in an agricultural setting. As learning culminates during this scene, the information received is strongly retained due to the feelings of realization.

For the **falling action**, the hosts reflect on the experiences that happened throughout the episode. The reflections reinforce the ideas of sustainable farming, community participation and support, along with animal welfare. Along with this, reflections also help in the integration of newfound information into the viewer's existing knowledge. In the case of the analyzed episode, the information helps frame the idea of a farm into a type of dynamic ecosystem wherein it integrates various concepts and ideas in its operations rather than a straightforward idea.

Table 3.

Reflection of the hosts near the end of the episode.

[Dok Rina] (10:51 - 11:19) Ang ginawa naman namin ay umikot kami, umibot namin itong farm at nakita ko yung ibat-ibang animals, ibat-ibang hayop ano. Tapos ang kagandahan yan ay tama nga na sobrang kid-friendly, family-friendly. Kasi kanina kasama natin yung mga cute na cute na mga anak ni Direk no. At kapag try sila mag-feed ng animals, mag-fishing. At yung mga animals, sobrang bait, lumalapit talaga sila sa tao. So, ang gandang experience. Ganda. **[Dok Onil] (11:19 - 11:58)** Ako din, marami akong natutunan sa aming pag-uusap ni Tita Hope at nalaman ko na integrated talaga, pati yung solid waste management dito sa farm. Zero waste, farm

to table, lahat ng kakainin nyo dito ay galing mismo sa farm o galing din sa ibang farms.

At nakakatulong din talaga yung farm sa community, kinabibilangan nila by employing yung mga kapibahay nila na dito rin nakatira. At hindi lang yan, pati ang iba pang mga gustong magtayo ng farms ay nagbibigay na rin sila ng mga training kasi nga sila ay accredited ng Agricultural Training Institute.

[Dok Rina] (11:58 - 12:11)

Kaya pala kanina, PAKner, mayroong activity with the kids naman. Para maaga pa lang, matuto na sila kung paano magtanim from seed. Tapos from seedling, paano nila inilipat sa training.

[Dok Onil] (12:12 - 12:24)

At hindi lang yung, dahil nga sabi mo kanina, animal welfare is also their concern. Talaga naman yung mga, kitang-kitang siguro nakita mo na yun, na masaya yung mga animals dito.

[Dok Rina] (12:24 - 12:24)

Correct.

[Dok Onil] (12:25 - 12:26)

Malinis.

[Dok Rina] (12:26 - 12:31)

Anong pinaka-paborito mo, PAKner, dito sa experience natin sa Graco Farm?

[Dok Onil] (12:31 - 12:54)

Farm to table. Kasi parang namdam mo na malinis yung kinakain mo, namdam mo na fresh siya, at hindi ka magdadalawang isip na namnamin yung fruits of your labor ang nanggaling sa lupa at biyaya ng agrikultura.

[Dok Rina] (12:55 - 13:08)

Ang saya makita kung saan nanggagaling yung kinakain natin at yung talagang hindi ka magdadalawang isip na kainin siya dahil alam mong safe, walang mga chemicals, walang antibiotics, walang hormones.

Finally, the **resolution** occurs during the episode's wrap-up. This sets up the plans for the fourth season, in which various farms within Laguna will be visited. The resolution is delivered enthusiastically and leaves the audience with an invitation from the hosts to join the program in later episodes. This builds up anticipation for the next episodes and gives the viewer a motive to follow the program's continuation. Additionally, a call to action to visit local farms and interact with their activities can potentially encourage the viewer to immerse themselves in similar experiences.

Table 4.

Extro of the hosts that gives an idea of what's coming next and signals the start of the season

[Dok Onil] (13:16 - 13:32) Excited na rin akong libutin pa ang iba't iba pang mga farms dito sa Laguna dahil patikim pa lang yan ng ating season 4 ng pa kung saan nilibuti natin at i-feature natin ng iba't ibang mga farms dito lamang sa Laguna. **[Dok Rina] (13:32 - 13:39)** At dahil nandito lang naman tayo sa Laguna, mas maganda kung kasama natin ang buong barkada. Kaya tara na!

Alignment of PAK! Para sa Agrikultura at Kalikasan within the principles of the Cognitive Theory of Multimedia Learning

Table 5.

Table showing the most commonly occurring CTML principle/s in PAK!

	Coherence	Image	Modality	Multimedia	Personalization	Pre-Traini	Redundancy	Segmenting	Signaling	Spatial Contiguity	Temporal Contiguity	Voice	
S1													
S1E01	1	1		1	1		1	1	1	1		1	8
S1E02	1	1	1	1	1	1	1	1	1	1		1	10
S1E03	1	1		1	1	1	1	1	1	1		1	9
S1E04	1	1		1	1		1	1	1	1		1	8
S1E05	1	1	1	1	1	1		1	1	1		1	9
S1E06	1	1		1	1	1	1	1	1	1		1	9
S2													
S2E01		1			1	1		1	1	1		1	6
S2E02	1	1		1	1	1		1	1	1		1	8
S2E03	1	1		1	1	1	1	1	1	1		1	9
S2E04	1	1		1	1	1	1	1	1	1		1	9
S2E05	1	1		1	1	1	1	1	1	1		1	9
S2E06	1	1		1	1	1	1	1	1	1		1	9
S3													
S3E01	1	1		1	1	1	1	1	1	1		1	9
S3E02					1	1		1				1	3
S3E03					1	1		1				1	3
S3E04					1	1		1				1	3
S3E05					1	1		1				1	3
S3E06		1	1	1	1	1	1	1		1		1	8
S3E07					1	1		1				1	3
S4													
S4E01	1	1	1	1	1	1		1	1	1		1	9
S4E02					1		1	1	1	1		1	5
S4E03					1	1	1	1	1			1	5
S4E04					1	1	1	1	1			1	5
Special													
Special 1	1			1	1	1	1	1	1	1		1	8
Special 2		1			1	1	1	1	1			1	6
Special 3					1	1		1	1			1	4
	14	16	4	15	26	23	16	26	20	17	0	26	

Principles of the Cognitive Theory of Multimedia Learning are present within all episodes of PAK! Para sa Agrikultura at Kalikasan, to some degree, with multiple principles appearing in an episode at the same time. Currently, there is no episode where all twelve principles appear at once. Out of the 26 episodes of the program, 1 episode is aligned with 10 principles of CTML, 9 episodes are aligned with 9 principles, 5 episodes are aligned with 8 principles, 2 episodes are aligned with 6 principles, 3 episodes are aligned with 5 principles, 1 episode is aligned with four principles and 5 episodes are aligned with three principles. The principles that have appeared the most throughout the program's run are the principles of ***personalization***, ***voice***, and ***segmenting***. These three principles have appeared on all 26 of PAK!'s episodes. Given that PAK!'s episodes are primarily driven by the interactions between the hosts and guests, the human aspect is important for learning. The conversational tone from the hosts and guests helps the viewer/learner absorb knowledge in a manner that is not intimidating, which in turn allows for a better learning environment, which aligns with Pressbooks' (n.d.) guideline on use as the presence and tone of the instructor or in this case the host/guest share perspectives and encourages the audience to join the discussion. Accessibility is also a factor in such programs, especially those broadcast online. The online space acts as a repository of learning materials wherein the materials can be accessed anytime or at the viewer's own pace, a quality that the segmenting principle has. With PAK! being a TeleRadyoNet program, the episodes are archived through its media channels and are grouped based on the seasons aired. Aside from this, the division of the program topics into a set of short segments aids in making the content of the program more digestible.

This division makes use of CTML's limited-capacity assumption, where the audience has a hard limit on how much information they receive (Risepoint, n.d.). Cutting the presentation of information into smaller parts helps in keeping information and engagement since the audience can pace themselves in watching the program.

The fourth most common occurring principle is ***pre-training***, which occurred in 23 episodes. These 16 episodes of PAK! starts with a refresher on the previous episodes and a small introduction to what to expect in the episode of the day. Some terms discussed or will be discussed are also mentioned in these introductory portions. Some seasons also had an introductory episode to give the viewer a rundown of the season's episodes.

Table 6.

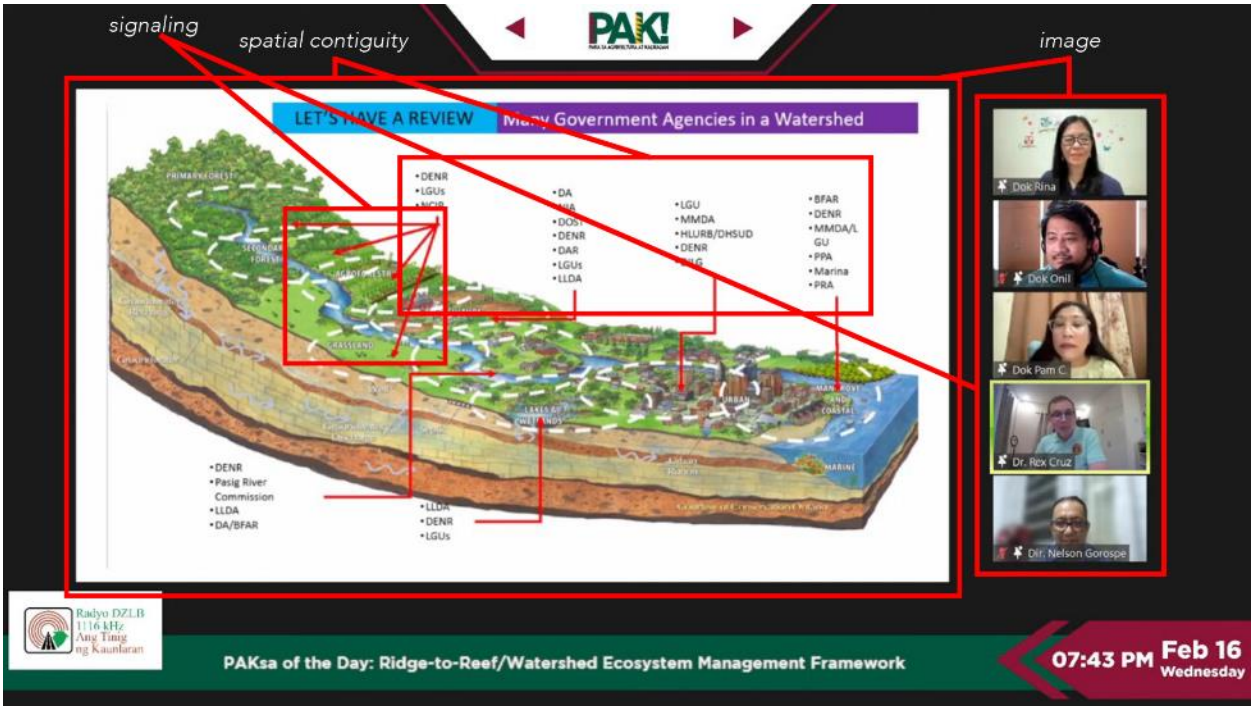
An example line indicating the pre-training principle.

"…kaya naman nung nakaraang Linggo, Dok Rina, kung matatandaan ninyo ay pinag-usapan natin ang kapasidad ng pitong lawa at pinag-usapan natin dito ang kahalagahan ng pagsasa-ayos ng mga aktibidades para mapanatili ang water quality ng mga lawa dito sa San Pablo." - *PAK! Season 3, Episode 5, Ronilo Flores | 00:01:52 - 00:02:14*

The fifth most common occurring principle is ***signaling***, which appeared in 20 episodes of PAK! Signaling occurs when images or cues help guide the viewer on what element needs to be focused on. Some examples are the use of arrows in images, or the occasional shift in focus when a media pop-up occurs, and the host and guest views become smaller so that the focus will be on the media being presented. This occurred the most during the first and second seasons of the program.

Figure 11.

Episode of PAK! showing the signaling, spatial contiguity, image, and multimedia principles



This helps in understanding the topic, especially for those topics that are harder to grasp. Related to this is the appearance of the ***spatial contiguity*** principle, which appeared in 17 episodes. This usually occurs when images or videos with corresponding text appear close to each other. This guides the viewer on explanations that require better

understanding through related visuals and textual information. Another principle connected to the above occurrences is the ***image*** and ***redundancy*** principles, which both have appeared in 16 episodes of the program. Image, which relates to the above, are elements that aid in the learning process, especially those that are relevant to the topic being discussed. This is not exclusive to images only, as videos and the host and guest's images are also part of why the principle occurs. Redundancy happens when only visuals are shown at a specific moment when the topic is being discussed. The main focus of this principle should only be the image. This focuses less on text.

The eighth most commonly occurring principle is the ***multimedia*** principle, which is shown in 15 episodes. Similar to the image principle, this occurs when related explanations supplement corresponding images.

The ninth most commonly occurring principle is ***coherence***, which is shown in 14 episodes. Coherence occurs when graphics or video support what is being discussed and only show what is needed to be seen at the moment.

Lastly, the least-occurring principle is the ***modality*** principle, which only appeared in four episodes. This principle occurs when images are complemented with a minimal amount of text. In PAK!'s context, modality occurs during the presentation of digital posters that contain images along with corresponding text.

Figure 12.

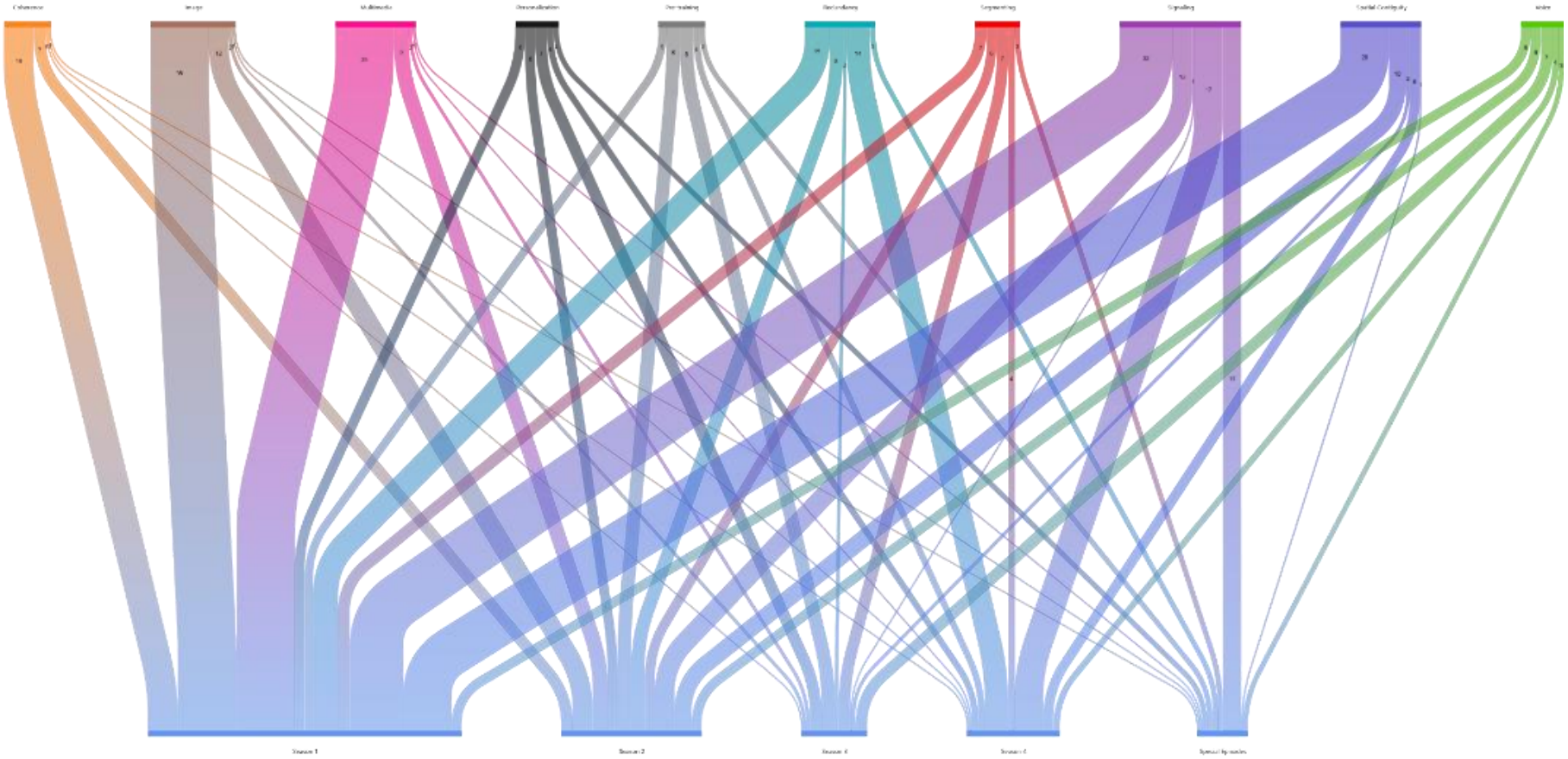
Diagram showing the most occurring principle in PAK!'s seasons.

	Season 1 6 133	Season 2 6 69	Season 3 7 91	Season 4 4 39	Special Epis... 3 30	Totals
Coherence 28	18	7	1	1	1	28
Image 51	35	12	2	1	1	51
Modality 4	2		1	1		4
Multimedia 48	35	9	2	1	1	48
Personaliz... 26	6	6	7	4	3	26
Pre-training 28	5	8	8	4	3	28
Redundancy 42	15	8	2	14	3	42
Segmenting 27	7	6	7	4	3	27
Signaling 73	32	12	1	17	11	73
Spatial Co... 48	29	10	2	6	1	48
Temporal... 0						0
Voice 26	6	6	7	4	3	26
Totals	190	84	40	57	30	401

Contrary to the above explanation, though, the occurrence of principles in an episode happens multiple times. In this context, the ***Signaling*** principle becomes the most present throughout the series. The presence of this principle aligns with CTML's ***active-processing*** assumption, where it asserts that learners need to engage in active cognitive processes such as selecting information that is relevant and integrating it with existing knowledge (Risepoint, n.d.).

Figure 13.

Frequency of occurrence of each principle within every season of PAK!



Furthermore, there has been a decline in the occurrences of the CTML principles present within the episodes as further seasons continue to air. This is more visible during seasons three and four as they move to a canned episode approach, allowing the episodes to be shorter and discussions to be more compact. This has been traded with more hands-on demonstrations and on-field episodes to better showcase the subject topic/s.

Themes present within PAK! Para sa Agrikultura at Kalikasan

With the analysis of the structure along with its compatibility with CTML, some themes and subthemes have appeared that are common throughout the program. These are:

Theme	Subthemes	Definition	Transcript Example
Narrative Progression	Exposition	Introductory phase of the program.	*Dok Onil:* Alam mo, Dok Rina, balita ko, sobrang daming farms dito sa Laguna na hindi na nating kailangang ano ang umeksena pa sa ibang lugar. Kaya naman feeling ko, panahon na para talagang tingnan natin yung mga farms dito.
	Rising Action	Questions that expand the ideas introduced.	*Dok Rina:* Tapos ano po yung nandito sa loob ng farm? Crops lang po ba o may animals din po? *Tita Hope:* Originally, nung ini-start yung farm, ang talagang purpose nito dapat ay goat farming. Kasi since noong 2009, ang goat farming sa Pilipinas ay sunshine industry. Kaya yun

			agad-agad ang naisip.
	Climax	Realization of the relation of experiences.	*Dok Rina:* Ang masaya dito ay lahat, halos lahat ay galing sa farm na yung ingredients, and yung iba naman ay galing sa ibang farm. So that's their way to support also other farms. So sisimulan natin sa ating appetizer na salad composed of arugula and then merong tomatoes.
	Falling Action	Reflection on what happened and what was discussed during the episode.	*Dok Onil:* Ako din, marami akong natutunan sa aming pag-uusap ni Tita Hope at nalaman ko na integrated talaga, pati yung solid waste management dito sa farm. Zero waste, farm to table, lahat ng kakainin nyo dito ay galing mismo sa farm o galing din sa ibang farms. At nakakatulong din talaga yung farm sa community, kinabibilangan nila by employing yung mga kapibahay nila na dito rin nakatira. At hindi lang yan, pati ang iba pang mga gustong magtayo ng farms ay nagbibigay na rin sila ng mga training kasi nga sila ay accredited ng Agricultural Training Institute.
	Resolution	Gives an idea or teaser of what's to come on the next episode.	*Dok Onil:* Excited na rin akong libutin pa ang iba't iba pang mga farms dito sa Laguna dahil patikim pa lang yan ng ating season 4 ng pa kung saan nilibuti natin at ifeature natin ng iba't ibang mga farms dito lamang sa

			Laguna.
Education and Engagement	Lesson Introduction and Callback	Gives context of what happened previously and what is coming next.	*Dok Rina:* Tama yan, PAKner, naalala mo yung ating nakaraang taon, ginugol natin ang ating Season 2 and Season 3 para pag-usapan ang tungkol sa kalikasan. *Dok Onil:* Very environment ang peg natin noon. Kaya naman this season, talagang mag-agri tayo na talagang agrikultura naman. *Dok Rina:* Pero naalala mo, PAKner, yung ating year-ender sa Mindanao, naalala mo, pinakita natin kung gaano kasaya ang agrikultura, agrisaya, no? *Dok Onil:* Kaya naman dahil sobrang saya ng naidudulot ng agrikultura, pero hindi na nating kailangang lumayo pa dahil sa tabi-tabi lamang na ating bakura dito sa Laguna kung saan nandito kami. (0:58) Dok Rina, speaking of tabi-tabi, napansin mo ba ang nasa tabi ko?
	Personalized conversations	Uses terms that sound friendly to engage the hosts and viewers.	*Dok Onil:* Alam nyo, excited ako dahil sa gate pa lang marami ng impormasyon na makikita at excited akong malaman ano ba ibig sabihin ng training institute, ito daw ay isang training institute, may mga overnight pa dito yung mga activities. Ikaw naman.

			Dok Rina: Ako naman, PAKner, siyempre dahil kahayupan, nakita ko doon din sa gate nila. Ang isa sa concern nila is animal welfare. So excited ako mag-immerse with the animals. *Dok Onil:* Kaya naman, magandang stop ito mga ka-PAK. Sa unang stop natin sa Laguna tour at hanapin natin itong mga farms na ito sa buong Laguna. At ito ang simula ng season 4 ng...PAK! Para sa Agrikultura at Kalikasan.
	Segment Transition	Gives pause to continue to the next segment of the program.	*Dok Onil:* Thank you very much, Tita Hope, at simula ngayon ay hanapin ko na si PAKner Dok Rina kasi feeling ko nauna na siyang mag-explore ng Graco Farms kaya naman mga kasama, mga ka-partner samahan nyo kami ng i-explore ang Graco Farms.

Use of visual and audio elements within the program

As a Radyo DZLB Online program, PAK! also shares visual elements present in other station programs. These visual elements aid in emphasizing and highlighting important points within a program's discussion area. For PAK!, the program employs ***character generators***, ***images***, and ***videos*** as a regular part of the program.

Character Generator (Chargen)

Figure 14.

A scene showing the appearance of the character generator or chargen (red box) during discussion of the topic.

Character generators or chargen, for short, are pieces of information that are taken from the guest's or host's explanations or discussion within the program. Chargen is usually provided live during broadcast or taped-as-live productions. This information is always provided by another member of the production team, listening to the discussion

while the program is ongoing. Information is then summarized by the listening team members and is then sent to the livestream operator. The resulting text is then patched to the live broadcast. Due to the lower third area having small dimensions, chargen text usually has a limit of three lines. This limitation allows the listener to better compress the information while maintaining its message and helps further summarize the topic or questions that are currently being talked about.

Images

Figure 15.

Scenes showing the appearance of image cutaways during discussion.

Another part of PAK!'s visual component is the use of image cutaways. Images during discussion or explanations allow a more interactive approach to learning, as the images are used to complement what is being said by the guest. This is also primarily where the bulk of the ***image*** *and* ***spatial contiguity*** principles appear. Image cutaways are shown live during broadcast or are inserted during the editing phase of recorded

episodes. Starting with Seasons 3 and 4, though, image cutaways showed less and less, with video cutaways being more favored as the method of showing media along with explanations. Aside from the use of images as aids in explanations, they are also used for announcements within the program.

Figure 16.

Scenes showing the appearance of image cutaways as announcements.

In Seasons 1 and 2, the program had a segment called ***Level UP PSAE,*** which is targeted for public service announcements and other information dissemination initiatives. While these are not related to the previous discussions from the Envision segment, this segment still aims to provide educational information, as the announcements also give context and background information on programs that are being talked about in the segment.

Videos

Figure 17.

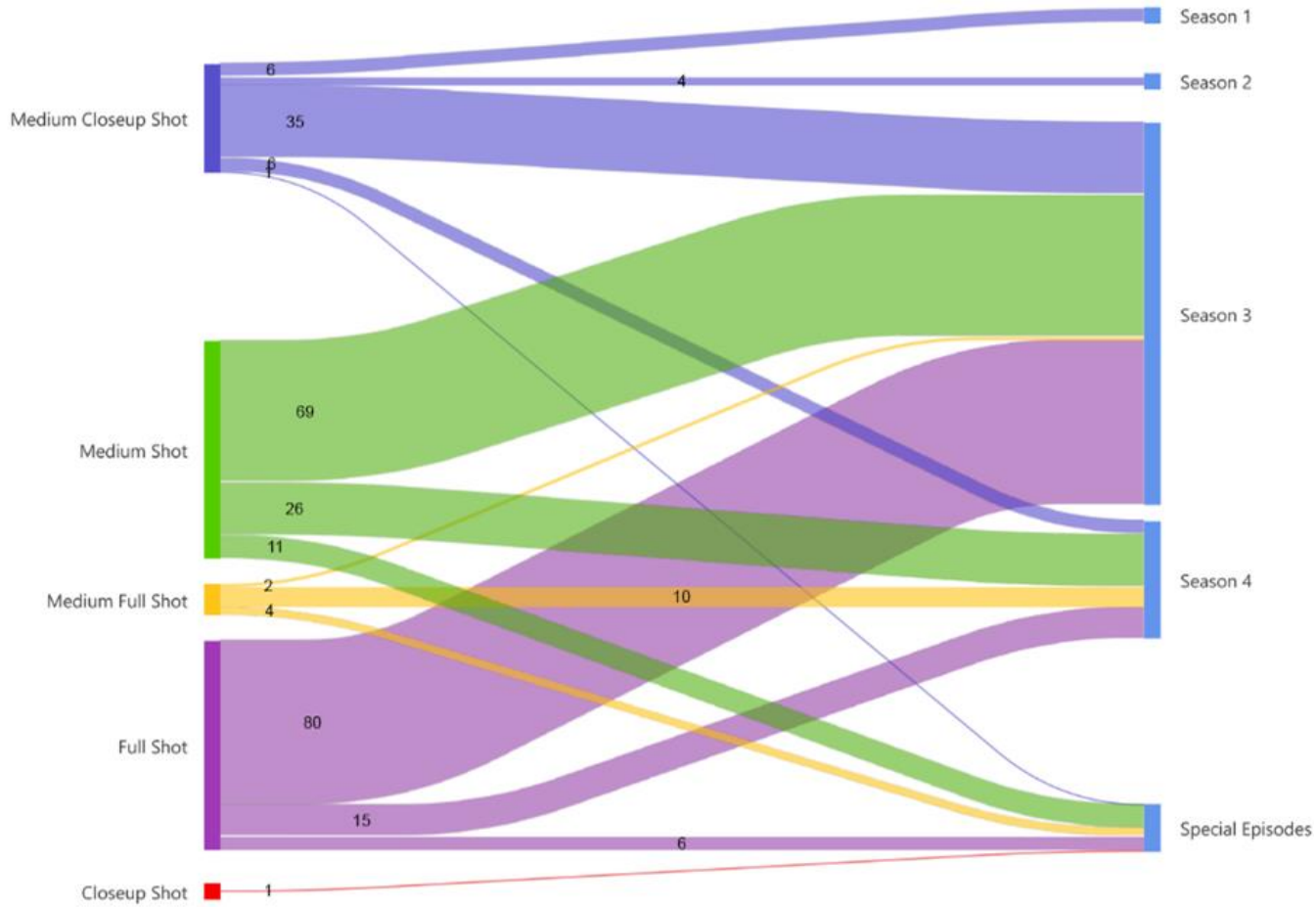
Scenes showing the appearance of video cutaways during discussion or as part of a montage.

Throughout PAK!'s run, the method of showing graphics has changed. Aside from images and illustrations, the program has also used videos to show visuals during an explanation. Videos allow for a more dynamic showcase of visuals within the program compared to showing still images. Videos are also not limited to being shown as part of the discussion.

Shot Framing

Figure 18.

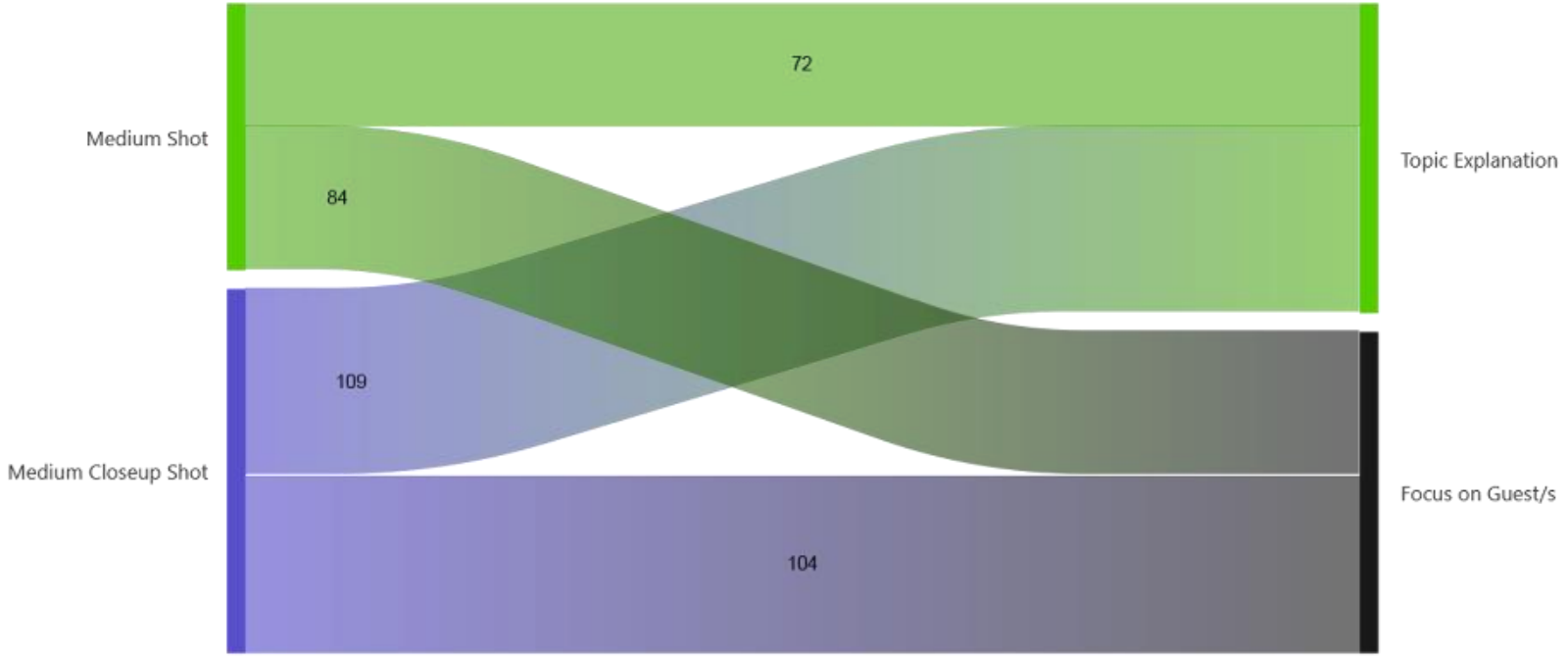
Frequency of occurrence of various shot types per season.



PAK! uses various framing in their shot list when it comes to broadcasting and recording the program. Shot framing has been most used during the third and fourth seasons, as the episodes are mainly filmed outside. The use of various shot-framing types was not available in the first two seasons due to the limitations of teleconferencing platforms. This setup uses multiple camera setups to bring variety to the program's visuals. While this is true, the switching of shots should be done sparingly, as using too much can irritate the audience. The use of these various shots also helps in maintaining visual attention. Visual attention or attentional engagement is also one of the staying factors when it comes to such programs, so long as it's supported by easy-to-understand information, as supported by Anderson and Collins (1988).

Figure 19.

Example co-occurrence of types of medium shots with the guest explaining the topic.



Aside from giving variety to the program's visuals, shot framing also helps achieve focus on reactions, insights, and interactions within the program. For example, using a medium shot or a medium close-up shot allows a more focused view of the expert. Focusing on the individual speaking gives a sense of "attention" to the viewer, which is, in a way, like a lecture/education setup.

Figure 20.

Example of a full shot frame with the hosts located with the topic's location (UPLB OARDEC) in the background.

Another example is using a full shot to show reactions from the guests and hosts. This is also used as a way to provide a transition to other shots. Aside from this, using a full shot also helps in showcasing the featured location as a way of immersion with not just the host and guests, but also the viewer.

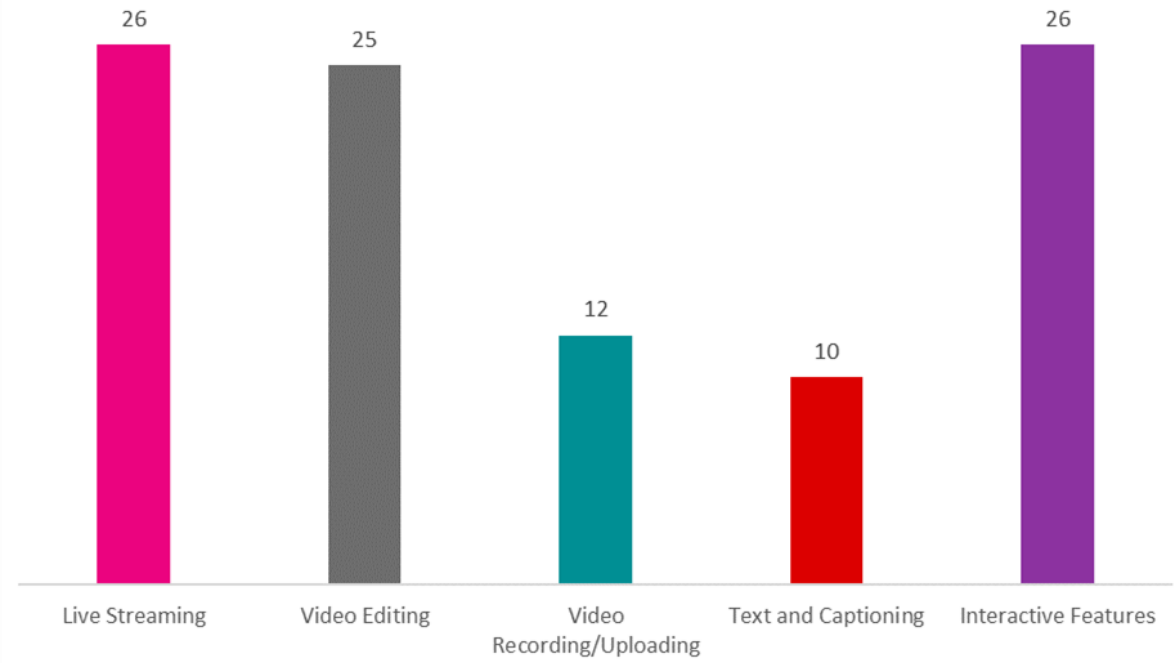
Audio Elements

The audio element that is mainly used in PAK! aside from the voice of the hosts and guests, there is the background music and the program's theme music. This element is used sparingly as these types of music are used only to supplement video and image montages. These assets are downloaded from websites that offer free music; in this case, the music used for the program is from the *Pixabay* website.

Media qualities present in the program as a way to add accessibility and allow engagement

Figure 21.

Graph showing the usage of various media qualities within PAK!



As an online program, PAK! uses various media qualities as part of the airing process. Media qualities such as the use of images, videos, music, and voice aid in the learning process of an edutainment program. PAK! and Radyo DZLB Online primarily use live streaming to get their messages across to their audiences.

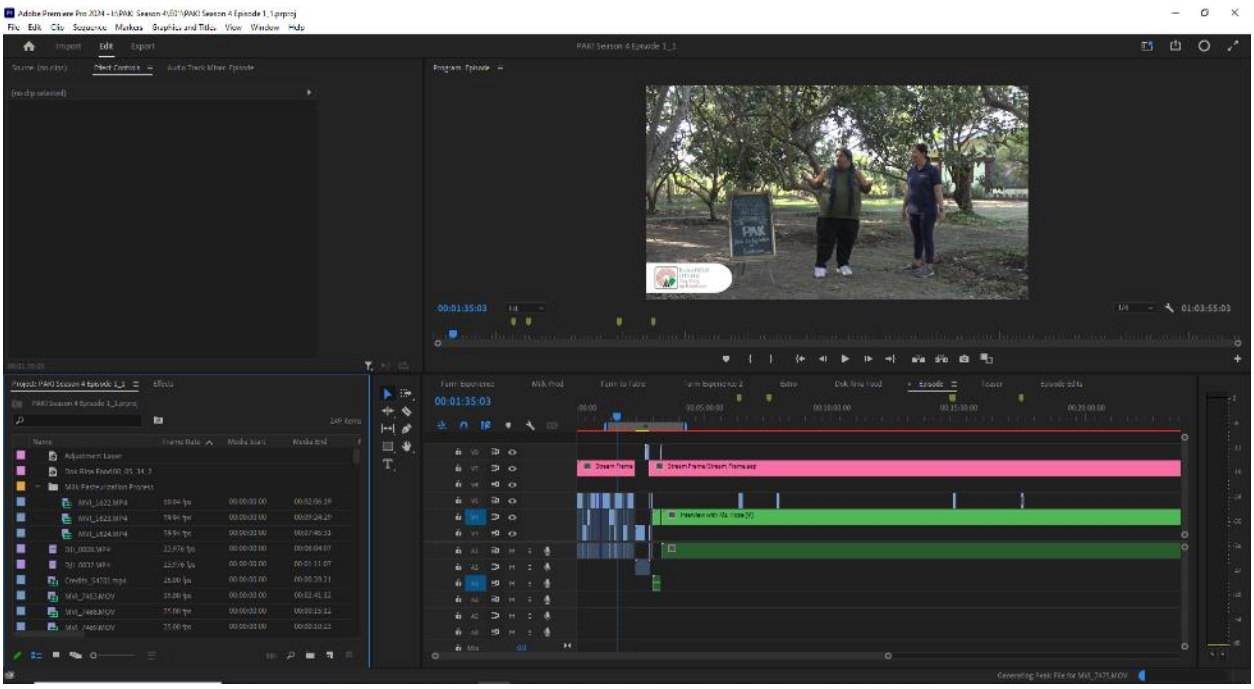
Live streaming is used in PAK! for a total of 26 times, which is the current number of episodes available. Live streaming PAK! and Radyo DZLB's programs as a whole helped in the progress of DZLB Online! to the digital space. Broadcasting programs this way gives the audience something to look forward to, as the programs follow a set

schedule. The advantage of the program being online is in line with Latiff et. al's (2016) list, where programs broadcast online give the viewer options and convenience when it comes to what and when they want to watch a program.

Video Editing

Figure 22.

Video editing timeline of an episode of PAK!



Video editing has occurred 25 times throughout the program's run and was implemented heavily during the third, fourth, and two special episodes of PAK!. This is due to later seasons being filmed on location, and video recording and editing have been a necessary method for these episodes. Video editing is composed of arranging and cutting clips to fit the narrative of an episode. While video editing is mainly used for the

episodes, some parts, such as video cutaways and video montages, also use this technique.

Video Recording/Uploading

Video recording/uploading is used for canned episodes or live episode recordings. This is usually done when publishing program episodes on platforms such as YouTube and Spotify, to name a few. While there are now ways to broadcast episodes on multiple platforms simultaneously, such capabilities were not explored in PAK! during the time that the program ran.

Text and Captioning

Figure 23.

An episode of PAK! that uses Facebook's text and captioning feature.

Text and captioning appeared in 10 episodes of the program. Text and captioning are a feature for videos that adds subtitles whether the video is uploaded or broadcast live. This feature allows for accessibility for other audience groups as captions/subtitles are produced in real-time. One disadvantage, though, is that the captions are done through auto-captioning, which sacrifices a level of accuracy in subtitles, especially those that are spoken in a language other than English. Captions help viewers who have difficulty hearing benefits from this feature as textual information is present during the program, which improves accessibility. While custom captions can be included in the episodes via subtitle (.srt) files, doing so will entail manpower that the team does not have at the time.

Interactive Features

Figure 24.

Interactive features present within PAK! through the use of Facebook's various tools.

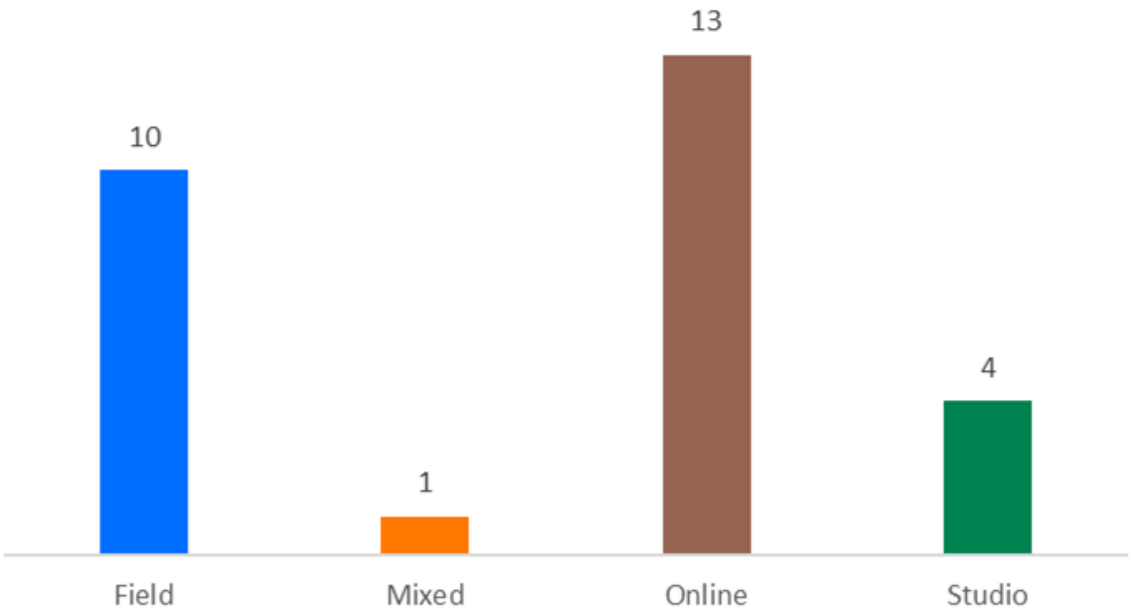
One of the advantages of PAK! as a Radyo DZLB Online program is that it can use the online space as a way of interacting with its audience. The live format of the program, which is most prominent in earlier seasons, enables the audience to provide comments, reactions, and direct feedback to the hosts and technical team. This, in turn, allows the hosts to respond to any questions and comments, and for the technical team to respond accordingly.

Aside from responding in live broadcasts, these interactive features are also used as insight data, which is useful for Radyo DZLB's reporting of program progress, performance, and reviews.

Location where the program episodes took place

Figure 25.

Number of occurrences of various locations where episodes are broadcast/recorded.



PAK! has experienced different environments where the programming was conducted. It allowed flexibility from the hosts and a variety in its visuals and format.

Figure 26.

An episode of PAK! is broadcast through Zoom.

Most of the program's episodes have been done online. As PAK! started during the COVID-19 pandemic, most communication methods are done online through video conferencing applications such as Google Meet, Discord, or Zoom. The online method of programming lasted until the second season. These episodes are aired live to facilitate real-time interaction with the audience. This mode of airing also helped establish PAK! in its early stages, even with the limited broadcasting capabilities of the format. It also gave convenience to the hosts and guests when it came to the filming location of the episodes, as the discussions are broadcast in the comfort of their homes.

Figure 27.

An episode of PAK! that is recorded in the field.

Aside from broadcasting episodes via online teleconferencing applications, the program's episodes are also done in the field. Done for 10 episodes of the program, these are always recorded beforehand and are broadcast at a later date. This setup is difficult to prepare for a live program as the logistics needed to set up require manpower and transportation of the studio equipment to the field. Recording episodes in the field allows for a higher production quality in episodes. Styles such as video montages and better camera work/angles are made possible due to the editing time allotted for each episode. Seasons 3 and 4, along with two special episodes, used this approach when it comes to the location where the episodes are shot.

Figure 28.

An episode of PAK! that is broadcast live using a studio setup with live production elements.

Similar to other DZLB programs, PAK! is also aired in a studio setup. This setup appeared in 4 episodes of the program. These episodes are aired live in the studio and use a chroma/green screen as background, along with a basic live production setup. Similar to the online setup back in Seasons 1 and 2, these episodes also benefited from their live nature as it helped provide real-time feedback whenever a viewer comments/asks a question.

Figure 29.

An episode of PAK! that is broadcast live using a mixed location setup where Dr. Ronilo Flores (upper right) is in the Radyo DZLB Studio with Dr. Rina de Luna and the guests inside Zoom.

Lastly, one episode of PAK! was done in a mixed setup, wherein one of the hosts went live in the studio, and another host and the guests were within the online teleconferencing setup. This setup, while having one person physically in the studio interacting with those within the online space, contains the same benefits if the episode is done online. No specific interactions have changed aside from visuals.

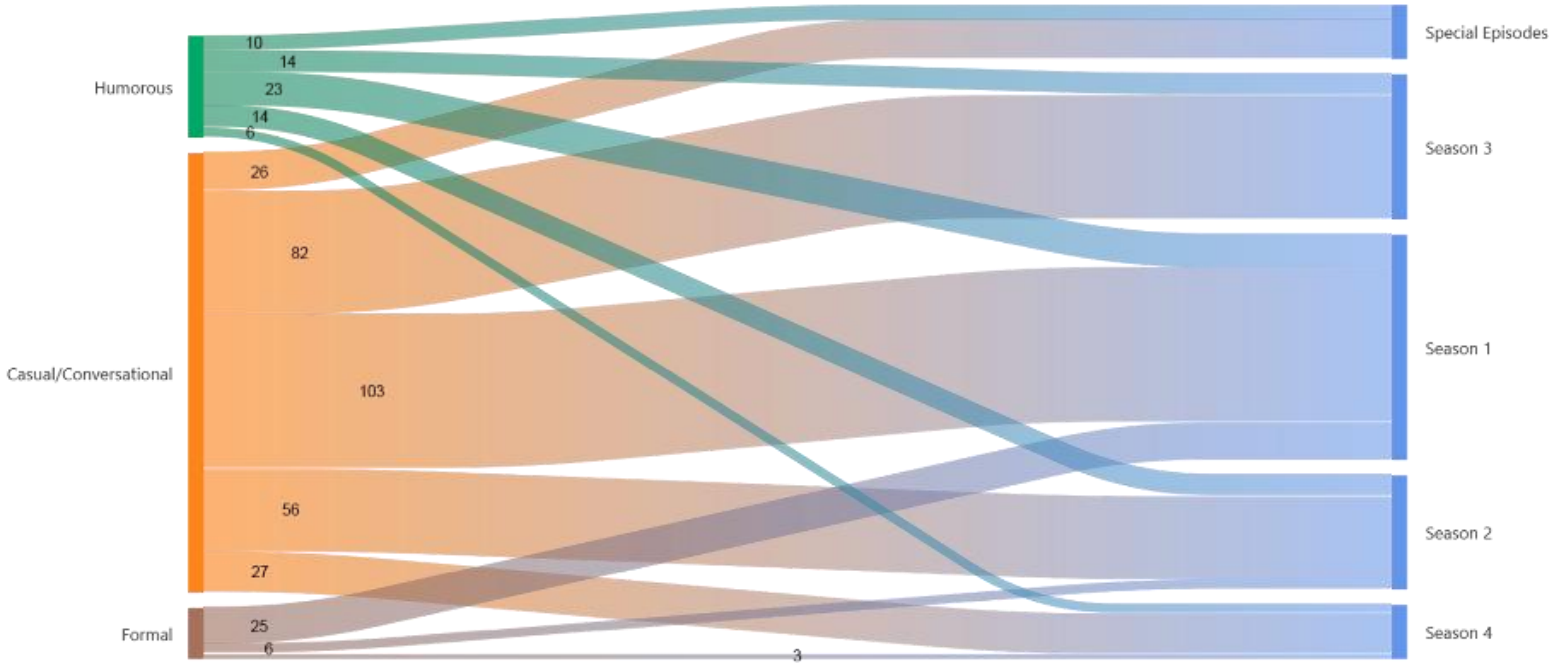
Dynamics between the hosts and guests

Aside from the various methods of communicating the message of agriculture and the environment to its audience, the dynamics between the actors in the program are also

important to sell these topics. Dynamics between the hosts and guests are important as they help establish the mood of the episode and the program as a whole. These interactions are important in what makes PAK! an edutainment program, as it is a source of the *entertainment* aspect of edutainment.

Figure 30.

Diagram showing the three dynamics between the hosts and guests.



When it comes to dynamics between the hosts and guests, it usually leans more on the casual/conversational aspect as seen in the figure above. This, in turn, creates an environment where the guests can freely share, especially for

personalities such as researchers or people from science, agriculture, and the environment. Such an environment is possible due to the host's welcoming personality. Terms such as *"PAKner"* and *"ka-PAK"* are some of the host's ways of connecting and engaging with the guests and the audience. Casual/conversational interactions also spark humorous interactions between the hosts and guests. This is also where the CTML principles of ***personalization*** and ***voice*** come in, as the tone of interaction set by the hosts is in a relatable format instead of a formal style.

Table 7

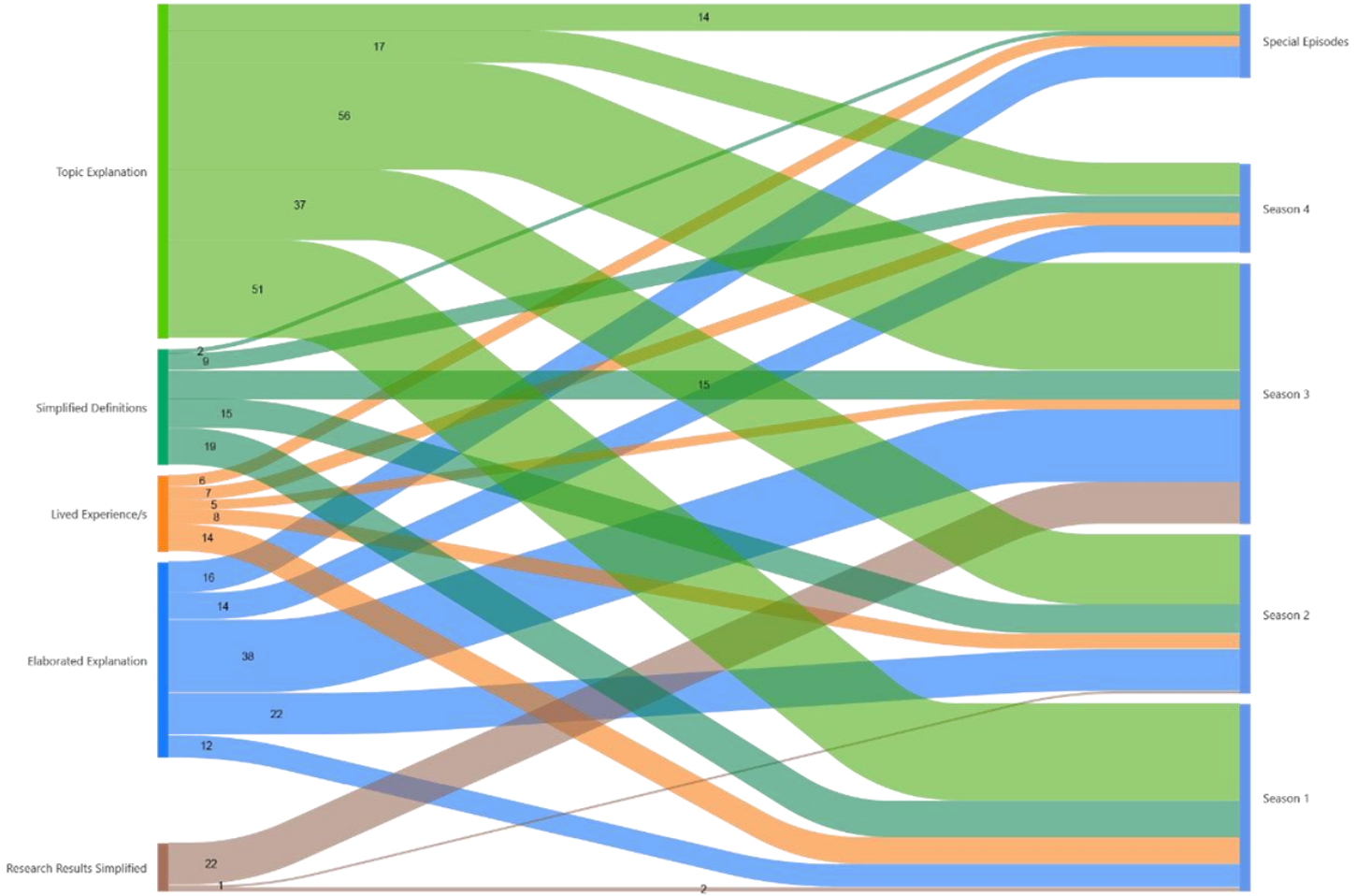
Lines from the hosts that show a casual interaction between them.

"Magandang gabi, mga ka-PAK! February 9 na at episode 2 na! Kumusta na kayo? Ako si Dok Rina." *"At ako naman si Dok Onil, samahan niyo kami sa programang PAK na PAK sa usaping agrikultura at Kalikasan, ang inyong Wednesday habit after work dito sa Radyo DZLB Online! Ito ang…"* *"PAK!"* *"Para sa Agrikultura…"* *"…at Kalikasan"* - *PAK! Season 2, Episode 2, Rina de Luna and Ronilo Flores, Standard Intro | 00:00:00 - 00:00:28*

Methods of communicating topics about agriculture and the environment

Figure 31.

Diagram showing the occurrence of methods of communicating information in the program.



Aside from interaction between the guests and the hosts, explanations are another way to convey the message to the audience. When it comes to communicating the program's topics during its airing, there are five forms of sharing information that surfaced throughout the analysis of the program. These are ***topic explanation***, ***research results simplified***, ***simplified definitions***, ***lived experience/s***, and ***elaborated explanations***. These ways of sharing information by the guests, combined with the interactions with the hosts, allow for a more interactive way of conversation and discussion within the program's episode.

The majority of communicating information falls below ***topic explanation***, which occurred 175 times throughout the four seasons of the program. This is the most standard method of discussion within the program, as this is where the bulk of the information is. This occurs when the guest shares definitions and experiences, usually after the host asks a primary question. Most of the methods of explanation develop from this as topics are expanded to further the discussion.

As topic explanation is the core of information sharing, information from these is connected via ***elaborate explanations***, which occurred 102 times. Elaborated explanations complement terms, steps, processes, and other related information that need further explanation. The experts dig deeper into the usual explanations and give detailed insights on occurrences and phenomena, based on what is being discussed at the time.

Simplified definitions come second, as they occurred 60 times during the program's current run. These usually occur at the start of a discussion or after a question about a specific term or process has been brought up. These simplified definitions are always followed up by elaborated explanations, giving further context to the topic at hand. Such explanations are a good opener in the flow of the program's discussion, especially when the question usually starts with ***"Ano po ang…? (What is…?)"***.

Another method is explanation through ***lived experience/s,*** which appeared 40 times in the program's current run. Lived experiences make the information being explained relatable, which can aid in a better learning environment. These explanations aid in providing a form of "mental image" to the viewer as the explanations are based on what the guest/expert has experienced when it comes to a particular method with regards to the episode topic.

Table 8

Lived experience from a guest.

"...ang ginawa naming una, noong dito pa lang sa farm, kinukuha dati yan na fresh. May mga kumukuha dito na kooperatiba but eventually, parang nagrereklamo sila na…yung handling kasi, hindi tama. Nakikita namin yung handling nakalagay sa bote, nakalagay sa water container so eventually, nag-pasteurize kami pero mahirap ang bentahan so nag-join kami ng night market sa

Mercato. So sa Mercato Global City dinadala namin yung gatas. Yung first time naming nagbenta ng gatas, siguro out of 20 liters na baon namin, siguro 10 liters muna doon ang mapapainom mo. Then yung reaction ng mga tao; "Hm, anggo ()." And then eventually, natitikman nila kasi pag dairy goats tapos proper handling, mabango, malinis ang bahay, wala siyang "goaty" taste. So eventually, nakakuha kami ng mga client na nag-oorder ng weekly, 20 liters, ganun."

- *PAK! Season 4, Episode 1, Hope Yapjuangco on describing her early experience of entering the goat industry as a "sunshine industry"* | *00:29:32 - 00:30:36*

Lastly, ***research results simplified*** have 25 instances in the program. Guests, from time to time, share some of their research results with the audience. Of course, one of the challenges of communicating research is the risk of using terminology that might become difficult for the audience to absorb. Simplifying the explanation of research results makes it so that information can be absorbed more easily by the common audience.

Table 9

Simplified research result explanation from a guest.

"...sa bawat lawa,may tinatawag tayong 10% na area na siya lamang yung capacity. Surface area yan na dapat yun lamang yung lugar na dapat pagtayuan ng mga fish cages. Syempre, ang mga aquaculture lakes natin na talagang ang focus ay yung fish farming ang activities ay kabilang dyan ang Sampaloc Lake, ang Bunot Lake, ang

Mohicap Lake, at Palakpakin Lake. So, may mga ilan kaming napapansin na lumalampas sa 10% na surface area na limit at bukod pa doon, syempre, iba't iba yung practices ng mga fish cage operators. Nag-conduct kasi kami ng participatory rural appraisal kung saan tinipun-tipon namin yung mga mamamayan na nakatira malapit sa Pitong Lawa, tinatanong namin; gaano po ba karaming semilya ng isda ang inyong inihuhulog, for example, per cubic meter ng tubig, kasali din yan sa konsiderasyon, nagva-vary sila depende. Mayroong mga 10, mayroong up to 20 so iba-iba sila."

- *PAK! Season 3, Episode 4, John Vincent Pleto on findings about the fish carrying capacities of the Seven Lakes | 00:20:15 - 00:21:41*

Insights

The analysis looked at various aspects that create PAK! Para sa Agrikultura at Kalikasan; including how the program compares to other shows with a similar programming style and content. With this, various takeaways have surfaced throughout the analysis:

PAK!'s narrative structure aids its compatibility with the Cognitive Theory of Multimedia Learning. The program's flow, which consists of the introductory segments, in-depth discussions and experiences, and reflections, helps their identity as a program. Combined with the principles of CTML, the presence of both gives the emotional and cognitive aspects that are necessary in learning. The principles of ***personalization***,

voice, and ***segmenting*** help encourage engagement and assist the viewer in processing information more easily***.***

Images and videos carry a great majority of PAK's instructional capabilities. Images and videos give a more tangible visual description of a topic, which aids in the learning process. These elements greatly aid in giving a visualization of what is being described or discussed by the expert.

The "pre-training" principle is done differently in PAK! As discussed earlier, the pre-training principle allows the material to have an introductory guide before starting. PAK! does this through explaining what happened or what was discussed in the previous episode. This takes place through a conversational manner that flows seamlessly when it comes to leading the episode to the main topic. The compared shows have their own methods in initiating the pre-training phase, with them using visuals as a way to lead the audience into the episode.

The program finds a balance in communicating its message with the entertainment aspect. While the program incorporates the use of entertainment in its production, messaging about environmental and agricultural topics and stories is always the main focus. The use of local language also helps the program be "approachable" to the audience and makes explanations easier to grasp.

The dynamics between the hosts and guests, along with the topics and stories featured in the program, create an "air of relatability" within the program. Aside from localizing technical concepts and results, interactions between the guests and hosts, which come off as light and humorous, allow for a casual setup of programming.

This casual setup further aids in the program's approachability to its audience. Aside from this, the topics and stories shared within the episode contain stories that can relate to the audience when it comes to their daily life. These experiences further reinforce the importance of relating subjects to the audience as a way for them to understand complex topics.

Due to its programming also being in the online space, PAK! allows greater engagement capabilities with its audience compared to being aired on a single platform only. With Radyo DZLB currently operating online, PAK! has adopted the TeleRadyoNet format. Broadcast in this format takes place on streaming sites and social media, which allows the program to take advantage of modern media qualities that raise engagement. This interaction between the program and the audience allows for spontaneous feedback and communication. This also allows dynamism as responses can be done in real time, at least for the episodes that are broadcast live.

Chapter V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The study looked at Radyo DZLB's program PAK! Para sa Agrikultura at Kalikasan to explore its compatibility as an edutainment program. The study investigated its narrative structure, how it facilitates learning and engagement, and how its technical elements helped in the delivery of educational information.

To examine its structure, PAK!'s evolution across its seasons was analyzed, using an episode from its latest season as a benchmark. Freytag's Pyramid served as a framework for this analysis, highlighting how each narrative stage appears within the selected episode. Even if the program does not follow a fixed script, a narrative arc still emerges through the hosts' talking points and actions. Narrative stages—exposition, rising action, climax, falling action, and resolution—became evident through the introduction and development of the topic. Typically, an episode begins with background information about the venue and subject, which is then elaborated through discussion or demonstration activities. This narrative flow culminates in the hosts' reflection, where they offer insights and synthesize key points from the episode's discussions and activities."

When it comes to how it facilitated learning and engagement, the program utilized Freytag's pyramid along with the Cognitive Theory of Multimedia Learning (CTML). The presence of the various principles aided in the emotional and cognitive aspects of the program. Aspects such as the execution of lines and delivery of explanations, appearance of visuals, and the division of the segments, combined with existing and supplemental

knowledge, all contributed to how one processes information and how interest is retained. This further reinforces Kohler and Dietrich's (2021) mentioned of factors that determine how effective educational media is.

Various elements of the program also contributed to the learning and engagement process. The use of audio and visuals helped the audience focus on and better understood the topics presented within the program. Image and video cutaways, along with the use of various camera shot framings, allowed the audience to see a variety of information within their viewing devices. Similar to Manichandana et. al's (2022), such elements aid in providing the audience a clear visualization of information.

The use of music, while not as utilized, gave "flavor" to some parts of the program, when available. The methods by which information was presented by the experts and the hosts were also a factor in learning and engagement. Simplifying terminologies, sharing of experiences, and standard explanations helped bring research information closer to the common audience and helped in the understanding of why and how the topics affected various agricultural and environmental phenomena.

The presence of the program on social media also contributed to how it delivered its messages and information across audiences. Its presence on various platforms, mainly social media, allowed it to receive and relay information from the viewer in real time, a quality that is most present in the first and second seasons. This supports Rankoya's (2013) statement that the availability of programs on multiple programs helps strengthen the connection with the audience and allows them to return to any episode/content that they were not able to watch. The program's accessibility on various

platforms helps in furthering its message to various users. While UNESCO (2024) says about requiring a combination of audio recordings and printed materials is required to be an effective education program, the literature states that this is only for radio. PAK! however, makes use of audio-visual recordings and digital media such as social media posters as its method, which makes it effective. While later seasons relied more on taped episodes, the quality of production became higher, and the information presented is more in-depth and hands-on as the episodes are produced on-site.

Conclusions

It can be surmised that *PAK! Para sa Agrikultura at Kalikasan* is an edutainment program that follows a well-planned structure through storytelling, consisting of exposition, rising action, climax, falling action, and catastrophe.

Facilitation of learning lies mainly in the program's human aspects, which are the hosts and guests. From analyzing the program's alignment with the Cognitive Theory of Multimedia Learning, the four most prominently present principles during the program's run are the personalization, voice, segmenting, pre-training principles, two (personalization and voice*)* of which rely more on the delivery and character of the hosts and guests. The human aspect of the program aided in the learning process since the audience knows that actual humans are speaking in the program instead of digital or AI-generated models. This, along with how the hosts become relatable in their interaction form and the idea that the hosts learn something new along with the audience, creates a "welcoming atmosphere" within the program. This, in turn, shows the theory's active processing assumption. The segmenting and pre-training principles relied more on the

technical side of learning, where dividing the program into chunks *(*segmenting*)* helped the audience process information better, which aligns with the theory's limited capacity assumption. Providing a primer on what to expect on an episode or what happened during the previous episode (pre-training*)* gives the audience an idea of what is expected when it comes to learning. Methods of communicating its messages are also a factor, as experts transform scientific information into a more understandable way, and relating it to simpler day-to-day occurrences and experiences gives the audience a better grasp of the topics discussed.

In producing edutainment programs, the use of technical elements, which varied over time, has helped contribute to how it delivered its message throughout its run. The use of images, videos, and music aligns with how learning is implemented based on the Cognitive Theory of Multimedia Learning, as these are used with corresponding explanations/narrations when shown. Visual elements can be broken down further, as aspects such as how each shot was framed and the location where an episode takes place greatly contribute to the learning experience.

These elements further sold an idea of immersion throughout the episode. Aside from the common technical elements, the program's presence online allowed it to use various social media tools that allowed further engagement capabilities. The presence of these social media tools gave the program interactions that helped deliver feedback more quickly.

Given these points, PAK!'s utilization of both storytelling and technical elements in its programming gives the audience convenience. Its story structure aided the

entertainment aspect along with other technical elements. With the program being broadcast online, the audience watches the episodes at their own time and pace themselves when it comes to watching the episodes.

While the edutainment format for PAK! can still be further improved as seen from comparing with other programs, its current style of programming can be called unique on its own. The way it retained the education and entertainment aspect while experiencing various changes in styles throughout the seasons showed the importance of keeping its core objectives, even with the shifts in its identity.

Recommendations

For Development Communication

1. The use of edutainment approach in delivering development-oriented topics should be employed since it does not simply disseminate information but connects to how people should act or do something about a certain issue. The approach stimulates the brain to think and understand its contents.
2. Edutainment programs appear to be more engaging, which could be a potent tool for social behavior change. Affecting the mind and the heart may lead to informed actions.
3. Use of multimedia as a communication tool to optimize learning since it affects various senses, which implies deeper learning.

1. **For Policy** Development-oriented intervention may be used in producing materials that can aid Local Government Units in forwarding their cause without compulsion.

Edutainment initiatives may be able to deliver a message that can enhance engagement and understanding. As a communication strategy, it can subtly affect how directives are promoted.

2. Funds for producing edutainment programs should be provided by agencies in educating specific audiences if change has to occur. There are many programs meant to better people's lives, but may not be appealing because they may not be relatable or lack the human side of information.

For Future Studies

1. Audience impact and behavioral change studies may be conducted to find out how the program influences their knowledge, attitudes, and behaviors related to agriculture and the environment.
2. Analyze how changes in format or storytelling style between PAK's early and later seasons affect learning outcomes or viewer engagement.
3. Focus group discussions or watch parties with an audience may be conducted to gauge how well the program communicates its messages with the edutainment first in mind. Knowing the program's effectiveness in communicating its topics can help the program improve its messaging methods, which in turn aids in bringing agricultural and environmental information to the common person its current form.

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Appendix

APPENDIX A: Atlas.ti Codebook

Code	Comment	Code Group 1	Code Group 2	Code Group 3	Code Group 4	Code Group 5	Code Group 6	Code Group 7	Code Group 8	Code Group 9	Code Group 10	Code Group 11	Code Group 12	Code Group 13
10 Principles											Number of Principles			
3 Principles											Number of Principles			
4 Principles											Number of Principles			
5 Principles											Number of Principles			
6 Principles											Number of Principles			
8 Principles											Number of Principles			
9 Principles											Number of Principles			
Announcements/PSA								Interaction Types						
Appeared more than twice						Frequence of Appearance of Guest								
Appeared once or twice						Frequence of Appearance of Guest								
Casual/Conversational				Dynamics and Discussion			Guest Interaction							
Character Generator (Chargen)														Visual Elements
Closeup Shot												Shot Variety		
Coherence			CTML Principle/s											
Elaborated Explanation													Type of Explanation	
Field									Location					
Focus on Guest and Host/s					Framing									
Focus on Guest/s					Framing									
Focus on Host/s					Framing									
Formal				Dynamics and Discussion			Guest Interaction							
Full Shot												Shot Variety		
Humorous				Dynamics and Discussion			Guest Interaction							
Image			CTML Principle/s											
Image Cutaways														Visual Elements
Live Video Streaming										Media Features				
Lived Experience													Type of Explanation	
Medium Closeup Shot												Shot Variety		
Medium Full Shot												Shot Variety		
Medium Shot												Shot Variety		
Mixed									Location					
Mixed/Hybrid										Media Features				
Modality			CTML Principle/s											
Multimedia			CTML Principle/s											
Online									Location					
Personalization			CTML Principle/s											
Pre-training			CTML Principle/s											
Redundancy			CTML Principle/s											
Reflection/Insights								Interaction Types						
Research Results Simplified													Type of Explanation	
Segmenting			CTML Principle/s											
Signaling			CTML Principle/s											
Spatial Contiguity			CTML Principle/s											
Standard Definition Simplified													Type of Explanation	
Studio									Location					
Summary Message								Interaction Types						
Temporal Contiguity			CTML Principle/s											
Topic Explanation								Interaction Types						
Video Cutaways														Visual Elements
Video Editing										Media Features				
Video Recording/Uploading										Media Features				
Voice			CTML Principle/s											
with BG music		Background Music												
without BG music		Background Music												