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Assessment of Gameplay Content as a Retention Strategy on Netizens' Attention Span and Engagement

Cristel Kate M. Famini[1]; Aeron Jhon E. Canta[2]; Richard Anthony G. Iddurut[3]; Alex Joyous D. Pielago[4]; Kathleen Mae R. Priol[5]; Pops V. Madriaga[6]

Electrical and Allied Department, Technological University of the Philippines, Taguig Campus, Taguig City, Philippines
[1] cristelkate.famini@tup.edu.ph; [2] aeronjhon.canta@tup.edu.ph; [3] richardanthony.iddurut@tup.edu.ph;
[4] alexjoyous.pielago@tup.edu.ph; [5] kathleenmae.priol@tup.edu.ph; [6] pops_madriaga@tup.edu.ph

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Abstract: This study will assess whether a second video, mostly gameplay content, influences the viewer's ability to concentrate on the information content. Such an approach interests the study because it can maintain the audience's focus and enhance learning.
As digital media consumption increases, new content strategies have emerged to ensure that viewers are hooked; one of the most visible is the two-content video, also known as Sludge content. Two simultaneous video feeds are presented in this form, and one stream has either information or is informational. Information and the other stream are usually. Including irrelevant data, i.e., divertissements, amusements, or amusements. Of interest to this paper is the success of this method in its ability to remain focused on the audience and enhance the learning process. The cognitive connotations of such a format are explored by comparing information retention, attention span, and motivation of the viewer watching the dual-content videos, and the same is true of watching the informational-oriented pure videos. The initial indication is the positive effect of enhancing immediate engagement and attention. However, even in the long-term context, information retention may be negated, and the desire to see the core material, with dual content videos, is reduced. The dual content strategies can also be optimized, and the study determines the implications of the nature of the secondary content in terms of the influence of focus and learning results. The current study may be provided with the existing literature on the most appropriate methodology for designing educational videos that will be interesting and generate positive learning experiences.

Keywords: Sludge Content, Attention Span, Retention Strategy, Retention, Dual-Contents

I. INTRODUCTION

In this modern world, digital media consumption has become a routine in our lives, especially in the lives of the young generation who spend their hours online and reading online materials daily. Facebook, TikTok, YouTube, Instagram, and Twitch social media platforms consistently produce a load of content, and the range of media positions seeking the attention of netizens is overwhelming. This has led to a visible reduction in attention spans. One research study indicated that the human being's average attention span has dropped to 8.25 seconds. [8]. The other study reported that young adults between 18 and 29 were the most active social media users [7]. In this regard, the question of teachers and producers of the material is indeed compounded by the necessity to attract and maintain the attention of the audience, listeners, and viewers, the reasoning of which is severely disoriented by the chaos of the modern world of the Internet [2]. Statements between two channels of stimulation can interfere with the viewer's ability to concentrate on the presented information and introduce doubts concerning such approaches.

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Consequences of developing and possibly such forms, such as sludge content, are distracting. Necessary, the study's implications would clarify how people pay attention and engage in digital contexts and how to adapt content design to audience practices while maintaining the integrity of the learning process.

II. METHODOLOGY

Phase 1: Preparation

To ensure that the experiment proceeded systematically and was organized, the study's initial phase focused on establishing a clear research framework, preparing all necessary materials, such as content in the text and pictures, and selecting the study participants. It involved defining the research objectives, formulating the hypotheses, specifying the independent and dependent variables, and outlining the procedures for data collection. All experimental materials, including assessment instruments and two distinct video versions, were prepared.

The experimental groups were then designed as Group 1, which consisted of participants who would watch a purely informational video, and Group 2, which would watch a dual-content video combining informational and engaging content. The two video versions were produced in parallel to ensure consistency and readiness for the study. By completing these preparatory steps, the study ensured that participants, materials, and procedures were fully prepared, laying a solid foundation for the subsequent experimental phase.

Figure 1: Preparatory Stage Flowchart for Phase 1 Methodology. This flowchart is the group's original work, made from miro.com.

Phase 2: Data Collection / Implementation

This phase involves conducting the experiment and collecting real-time data on participants' attention, engagement, and learning. Participants are first briefed about the study and provided informed consent. A pre-survey is administered to gather demographic information and assess prior knowledge. Participants then watch the assigned video, followed by an immediate post-viewing evaluation using multiple-choice questions and Likert-scale surveys. Participants complete this pre-survey, video, and post-survey cycle, which may be repeated for multiple sessions or stimuli to monitor changes in engagement and learning over time. The data collected in this phase serve as the primary source for comparing responses between the two experimental groups.

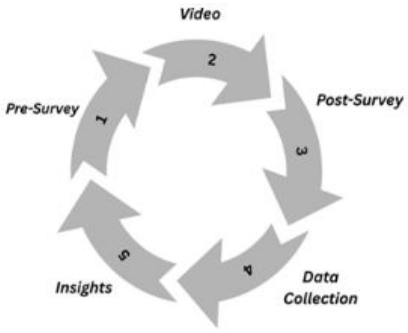

Figure 2: Workflow of Data Collection and Implementation Process. This output is the group's original work, which Canva made.

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Phase 3: Data and Content Analysis

The study will perform a content analysis on social media websites to discover the functionality of dual-content videos that can be manipulated regarding attention and engagement. The analysis will examine different types of videos, including the results of comparing secondary sources. The Content Analysis will entail monitoring trends, patterns of engagement, and literature deficits.

Figure 3: Sample image of a Dual-content. This image is the group's original work, which was made by Canva and captured by Canta, Aeron.

Phase 4: Collection Comparison

This step will compare the variations and consistency in the participants' instant responses to the general online engagement trends. It will also show whether the experiment's findings are discrepant or similar to the secondary data.

Phase 5: Collection Comparison

This phase focuses on assessing the long-term impact of the two video formats on participants' learning, engagement, and retention. The insights gained in this phase will help refine the study's conclusions and provide evidence-based recommendations on how video design influences learning outcomes. An easy way to comply with the conference paper formatting requirements is to use this document as a template and simply type your text into it.

III. RESULTS AND DISCUSSION

A. Comparative Retention Outcomes

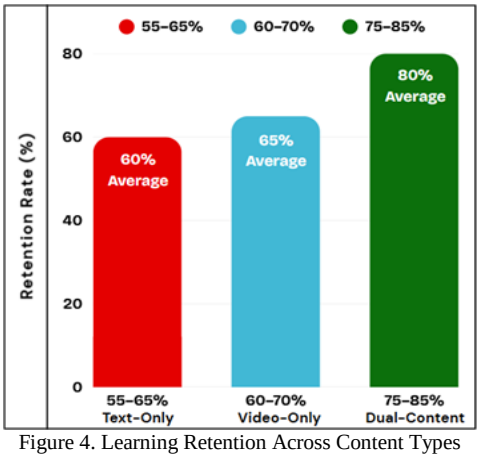

Figure 4. Learning Retention Across Content Types

Studies have shown that this influences how much information people remember according to their presentation mode. Learners who use text and video recall more than learners who only use a single format. Recent studies also prove that word and visual association enrich memory [4][9].

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Figure 4 shows the difference: dual-content learners remember about 75–85%, video-only learners about 60–70%, and text-only learners about 55–65%. This means using visual and verbal channels simultaneously helps learners recall information better [6].

B. Attention Span and Engagement Patterns

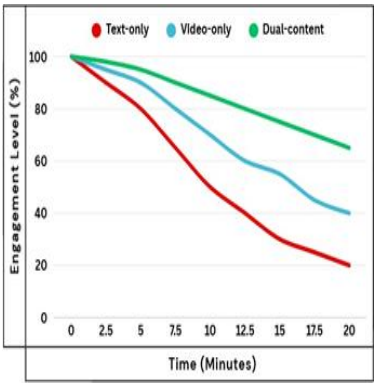

Figure 5. Task Duration vs. Participant Engagement

Figure 5 shows how long learners stay focused when using different types of content. With text-only materials, attention drops after 7–10 minutes. With video-only content, learners stay engaged for 10–15 minutes [1]. Dual-content, with 15-20 minutes, can sustain the learner's attention the longest. This is because with text and video, the learning process is not as monotonous, and the stress of mental loading decreases [9].

C. Cognitive Load and Learning Effectiveness

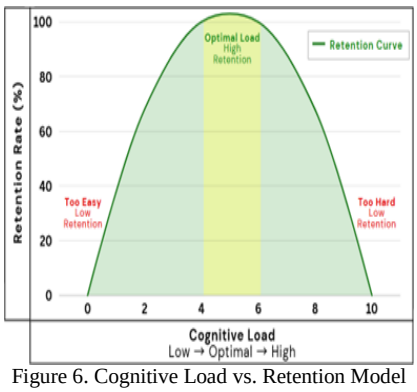

Figure 6. Cognitive Load vs. Retention Model

Figure 6 shows the link between mental effort (cognitive load) and learning. Learning is weak when the material is either too simple or too complex. Balanced dual-content usually stays in the "optimal load" zone, which helps learners remember more [6].

Research also shows that well-designed dual content, such as narrated videos with text highlights, performs better than text-only or poorly made multimedia [4]. This confirms that learning is enhanced when individuals proactively choose, organize, and relate data from words and images [9].

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D. Online Engagement Trends Comparison & Observation and Comparison of Retention

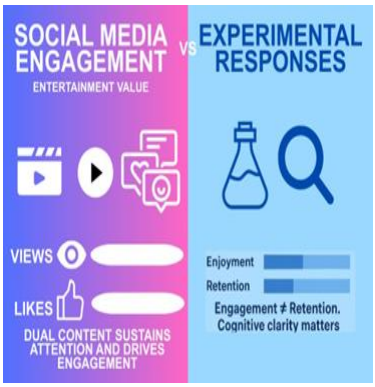

Figure 7. Social Media Engagement and Experimental Responses

Examining the most popular social media sites, such as TikTok, YouTube, and Instagram, shows that dual-content videos have always had greater views, likes, and completion than information videos presented in distinct streams. This confirms Weaver's discovery that sludge-style formats sustain interest by offering parallel streams of stimulation [10]. However, the results of the controlled experimental tests were contradictory. The dual-content viewers of video in the laboratory were more interesting and fun for the subjects to view. Nevertheless, their knowledge retention outcomes were not necessarily better than those of the informational-only group. That suggests that social media engagement (measured as views and participation) differs from knowledge retention.

In addition, Ge, Leng, and Baharudin highlighted that multimedia's success relies heavily on design aspects, including temporal contiguity, in which narration and images are synchronized [3]. Likewise, Liu (2024) discovered that breaking multimedia into more manageable blocks decreases cognitive load and enhances long-term retention [5]. These studies highlight that, whereas social media maintains novelty and entertainment, instructional video design must balance attention capture and cognitive clarity.

E. Implications for Educational Practice and Instructional Design

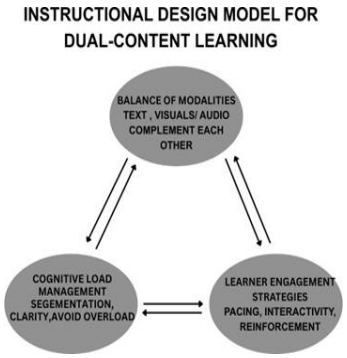

Figure 8. Instructional Model for Dual-Content Learning

Because all findings in Figures 4 to 7 point in the same direction, it is a fact that although recall, engagement, and attention span are maximized using a dual-content format, the value of this particular format is also not automatic but rather is determined by the creative genius of the design. Mazouk (2025) asserts that balanced good presentation techniques that can generate a high retention level have a regular way of affecting the retention status, given that attention can vary even in the absence of good structuring, you have rich learning [6]. This is an application of engagement to entertainment, often due to the presence of sludge material, and engagement to learning, which must be explicit and remembered [2][10]. The work by Shaikh and Asif (2022) illustrates that the influence of keeping runners engaged in online spaces is directly connected to the

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minimization of dropout, inactivity, and multi-modalities [9]. In a similar vein, Asif and Kazi demonstrate that it is possible to have learners listen to short videos, yet the long comprehension involves more teaching [1]. Langerock et al. (2024) also prove the necessity of load management. In the case of excessive multimedia, memory work is also influenced despite the awareness of the learners [4]. Simultaneously, Pew Research/researchcenter (2024) and Samba Recovery (2025) sources support that social media platforms have taught people to exhibit shorter attention spans, and it is a challenge and opportunity among the education professionals [7][8]. On the one hand, it exemplifies the worth of novelty and brevity in generating interest, and on the other, the futility of attentions not procured by retention throughout the system. Analysis of the contents of the sludge, though by Weaver, showed such a distinction by stating that concurrent streams of the stimulations had the potential of guiding attention, although superficial [10]. Principles of instructional design are therefore very crucial. Ge, Leng, and Baharudin emphasize the standard significance of time contiguity, or the picture story should be time-matched to give sense to either one [3]. Liu Dongyang underlines the importance of segmenting to alleviate cognitive load and long-term learning [5]. These results add up to the previous results of the test, in which it is shown that a productive dual content format should include pace, clarity, and reinforcement strategies to keep the interest, followed by meaningful content. The messages are real together. Dual-content learning can transform the instructional design of video with the purpose of education into a valuable education, overcoming the fusion of modalities, the management of cognitive loads, and active learning as its execution.

IV. CONCLUSIONS

The study has found that two-content videos (two contents in one) are better in recall, attention, and engagement than single-form types. The attention lasted 15-20 minutes, and students recalled 75-85%, better than video alone (60-70%) and text alone (55-65%). However, in contrast to the activity on social media (likes, views, percentage completion on TikTok, YouTube Shorts, Instagram Reels), the result of learning depends on comprehension and retention, rather than attention. The studies focus on managing cognitive loads. Dual-content works best when informed by temporal contiguity (matching images and words) and segmentation (easy bites). Poor design will congest and reduce retention. Educationalists should prepare systemic pictures and words with dual content balancing, borrowing brevity and interactivity of social media, but adding the element of reinforcement. The long-term outcomes of the sludge content on learning need research because minimal studies have investigated the content of sludge.

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