
ANALYZING EDUTAINMENT STRATEGIES IN DIGITAL HANGUL EDUCATION: A CONTENT ANALYSIS OF MUSIC-AND- ANIMATION-BASED YOUTUBE VIDEOS

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ABSTRACT

The global surge in Korean language learners, driven by the Korean Wave (Hallyu), has created unprecedented demand for accessible and engaging Hangul literacy resources. Yet conventional script-acquisition materials, rooted in repetitive drills and static print formats, often fail to sustain the motivation of digitally immersed learners encountering the Korean writing system for the first time. This study addresses this gap through a systematic content analysis of music-and-animation-based educational videos on the YouTube channel Hangul-eulBaewobwayo (HANBAE/Learn Hangul). A purposive sample of 18 videos — spanning the consonant song series (jaeumsong, Episodes 001–015), vowel song series (moemsong), and integrated syllable-block videos — was analyzed using a researcher-developed coding framework organized around three axes: (1) linguistic and pedagogical elements, (2) audio-visual multimodal features, and (3) affective-motivational edutainment strategies. Findings reveal that HANBAE systematically integrates song-based mnemonics with kinetic typography animation to reinforce phonological awareness and graphemic recognition of individual jamo, while character-driven animation and stroke-order visualization align with the formative principles of Hunminjeongeum. Theoretically, the channel's strategies operationalize Paivio's Dual-Coding Theory and Krashen's Affective Filter Hypothesis, demonstrating how multimodal digital media can lower psychological barriers to script acquisition. The study offers practical implications for content designers, language educators, and curriculum developers seeking scalable, engagement-optimized Hangul literacy tools.

KEYWORDS: Edutainment, Hangul education, YouTube content analysis, Korean as a foreign language, Digital language learning.

INTRODUCTION

1.1 Background and Rationale

The Korean language has undergone a remarkable transition from a regionally concentrated lingua franca to a language of global cultural engagement. As of 2023, approximately 421,174 individuals sat for the Test of Proficiency in Korean (TOPIK), representing an 18% increase from the previous year (Korean as a Foreign Language, 2023). Enrollment at King Sejong Institute branches worldwide rose from 28,793 students in 2012 to over 216,000 by 2023 (Ministry of Culture, Sports and Tourism, Republic of Korea, 2023). Concurrently, Duolingo's 2023 Language Report identified Korean as the sixth most studied language globally, with the sharpest growth among learners under the age of 30 (Duolingo, 2023). The global Korean language learning market, valued at USD 7.2 billion in 2024, is projected to reach USD 67 billion by 2034 at a compound annual growth rate of 25.1% (Global Market Insights, 2024). This unprecedented expansion reflects the deep cultural influence of K-pop, K-drama, and Korean cinema, collectively known as Hallyu (the Korean Wave), which has motivated millions of learners across Southeast Asia, the Americas, Europe, and beyond to pursue Korean literacy as both a cultural and linguistic goal.

Central to Korean literacy acquisition is the mastery of Hangul, the featural alphabetic writing system designed by King Sejong the Great in 1443 and officially promulgated in 1446 through the foundational document Hunminjeongeum ("The Correct Sounds for the Instruction of the People"). Hangul is built on a systematic architecture: its consonants (jamo) are shaped after the articulatory organs of the mouth, and its vowels are based on the cosmological triad of heaven, earth, and human. This design makes Hangul theoretically one of the most learnable writing systems in the world (Sampson, 1985; Taylor & Taylor, 1995). Despite this logical elegance, empirical studies and practitioner accounts consistently report that initial exposure to Hangul generates significant cognitive and affective challenges for adult KFL learners unaccustomed to non-Latin scripts (Cho & Tanaka, 2019; Kim, 2021). Anxiety surrounding unfamiliar character forms, the combinatory logic of syllable blocks, and the absence of cognate support from learners' native scripts collectively contribute to elevated affective filter states that impede acquisition (Krashen, 1982; Dornyei, 2001).

Printed workbooks, chart-based memorization sheets, and teacher-fronted classroom instruction have long dominated Hangul literacy pedagogy. While these approaches offer structural clarity, they tend to prioritize declarative knowledge transmission over procedural and affective engagement. For Digital Native learners (Prensky, 2001), accustomed to multimodal, on-demand content consumption via YouTube, TikTok, and streaming platforms,

the disjunction between conventional Hangul pedagogy and preferred learning environments represents a significant motivational barrier. Against this backdrop, the proliferation of YouTube-based Hangul education channels offers a naturalistic site of inquiry into how informal digital media may supplement or transform script-acquisition pedagogy.

1.2 Hanbae channel: A digital edutainment case

Among the growing array of Korean educational YouTube channels, Hangul-eulBaewobwayo (HANBAE, hereafter also referred to as "Learn Hangul"), produced by FICAT (www.ficat.co.kr), occupies a distinctive niche. Founded and managed by Kim Sang-jin, the channel has been active since 2016 and is characterized by its sustained, systematic coverage of individual jamo through standalone animated music videos, each dedicated to a single consonant (jaeumsong, consonant songs, Episodes 001 through 015) or vowel grouping (moemsong, vowel songs). Unlike channels that adopt a conversational or grammar-translation format, HANBAE embeds jamo instruction within audiovisually rich animated narratives in which characters, color-coded letter forms, stroke animations, and melodic lyrics converge to present each letter's name, shape, and phonemic value. This multimodal integration positions HANBAE as a representative case of edutainment within the domain of Korean script education. Edutainment is defined as the deliberate blending of educational content with entertainment media to enhance learner engagement, motivation, and retention (Rapeepisarn et al., 2006; Singhal, 1999).

1.3 Research Purpose and Questions

Despite the growing scholarly interest in YouTube as a language learning environment (Watkins & Wilkins, 2011; Jones, 2018; Alhamami, 2019) and the documented effectiveness of music and animation in early literacy acquisition (Anvari et al., 2002; Gluschkof, 2008), no systematic content analysis has been conducted specifically targeting edutainment strategies in digital Hangul education. This study fills that gap by addressing the following research questions:

RQ1: What specific musical and visual-animalational edutainment strategies are employed in the HANBAE YouTube channel's Hangul educational videos?

RQ2: How do these multimodal strategies relate to the established pedagogical principles governing Hangul jamo instruction (e.g., phonological awareness, graphemic features, the formative principles of Hunminjeongeum)?

RQ3: To what extent do the identified strategies align with theoretical frameworks of multimodal learning and affective motivation, specifically Dual-Coding Theory and the Affective Filter Hypothesis?

LITERATURE REVIEW

2.1 Edutainment as a Language Learning Paradigm

Derived from the words "education" and "entertainment," the term edutainment describes a pedagogical orientation in which entertainment media serve as vehicles for intentional learning (Singhal & Rogers, 2002). Originating in Sesame Street's evidence-based model for early childhood literacy in the 1960s (Lesser, 1974), edutainment has since expanded across broadcasting, interactive gaming, digital storytelling, and, most recently, social media video platforms. In the domain of second and foreign language acquisition (SLA/FLA), edutainment strategies have been theorized to promote learning through heightened engagement, emotional resonance, and repetitive exposure embedded within pleasurable experience (Medina, 1990; Lems, 2001).

Rapeepisarn et al. (2006) articulate a typology of edutainment media along two axes: the degree of educational structure embedded in the content, and the degree of entertainment value experienced by the learner. Effective edutainment achieves a dynamic balance between these axes. It sacrifices neither pedagogical rigor for entertainment spectacle nor learner engagement for excessive formalism. In the context of YouTube-based language learning, this balance is operationalized through design decisions concerning music selection, visual pacing, character design, humor, and the scaffolding of linguistic content across a video's narrative arc (Watkins & Wilkins, 2011).

2.2 Music, Rhythm, and Language Acquisition

The relationship between music and language acquisition is well-documented in both neuroscientific and applied linguistics literature. Anvari et al. (2002) demonstrated that musical aptitude correlates significantly with phonological awareness in young children, suggesting shared neural substrates for musical and linguistic processing. In SLA, music has been shown to enhance vocabulary retention through melodic chunking (Medina, 1990), facilitate pronunciation through rhythmic modeling (Murfhey, 1990), and lower affective barriers by creating an emotionally positive learning atmosphere (Lems, 2001).

Language instruction that embeds target forms within musical phrases exploits the brain's superior retention of music-linked phonological sequences (Wallace, 1994). For script-

acquisition tasks specifically, the pairing of letter names with recurring melodic motifs creates mnemonic anchors that facilitate recall during later decoding attempts (Anvari et al., 2002). Hip-hop's rhythmic structures are characterized by metronomic beat regularity, syllable-timed delivery, and rhyme schemes. These features have been noted for their particular efficacy in encoding phonemic sequences, as the strict temporal grid imposed by the beat forces precise articulation of phonological segments (Bradley, 1992; Prier & Sheridan, 2018).

2.3 Animation, Visual Literacy, and Script Acquisition

Animation offers unique affordances for script acquisition that static print media cannot replicate. Unlike a printed letter, an animated character stroke can model the temporal and spatial sequence of handwriting, making implicit procedural knowledge explicit through direct visual demonstration (Tversky et al., 2002). Motion graphics can direct learner attention to specific features of a grapheme through dynamic highlighting, zooming, and color differentiation. These strategies are collectively described as "cueing" in multimedia design literature (Mayer, 2009). Character-based animation further introduces a narrative and affective dimension: learners develop parasocial relationships with animated characters, and the emotional engagement generated by character action can amplify attention and recall (Laurel, 1993; Calvert et al., 2007).

In the specific context of Hangul, animation is particularly valuable for representing the systematic relationships among jamo forms. Two principles of Hunminjeongeum are especially well suited to kinetic visual representation: gahwek (stroke addition), by which aspirated consonants are formed by adding a stroke to their unaspirated counterparts, and the compositional logic of syllable blocks, which is spatial and sequential in nature (Sohn, 2001). A learner who can observe the animated derivation of the aspirated consonant from its base form through the addition of a stroke perceives not merely two arbitrary symbols but a systematic phonological relationship made visually manifest.

2.4 Dual-Coding Theory and Multimodal Language Learning

Paivio's Dual-Coding Theory (DCT; Paivio, 1971, 1991) proposes that human cognition operates through two functionally independent but interconnected representational systems: a verbal system for processing linguistic information and a nonverbal system for processing imagery and spatial information. Learning is optimized when material is encoded through both systems simultaneously, creating redundant memory traces that mutually reinforce each

other. Mayer's Cognitive Theory of Multimedia Learning (CTML; Mayer, 2009), derived in part from DCT, specifies that learners build more coherent mental models when verbal information (spoken or written) is paired with congruent visual information (images, animation) than when either modality is presented alone.

Empirical support for DCT in language learning contexts is extensive. In a 2022 study, multimodal input combining audio narration with synchronized animation significantly outperformed monomodal (text-only) instruction on both immediate and delayed vocabulary post-tests among EFL junior high school learners (Frontiers in Psychology, 2022). In the Hangul context, DCT predicts that videos simultaneously presenting a jamo's spoken name (auditory-verbal channel), its printed form (visual-symbolic channel), and its animated character representation (visual-nonverbal channel) will generate superior encoding compared to either a static flashcard or an audio-only pronunciation drill.

2.5 Krashen's Affective Filter Hypothesis and Script-Acquisition Anxiety

Krashen's Affective Filter Hypothesis (Krashen, 1982, 1985) identifies three affective variables as determinants of the quality of second language input processing: motivation, self-confidence, and anxiety. A "raised" affective filter, produced by negative emotional states such as script-acquisition anxiety or low self-efficacy, acts as a psychological barrier that blocks comprehensible input from reaching the Language Acquisition Device, irrespective of the input's linguistic quality. Conversely, a "lowered" affective filter creates optimal conditions for acquisition by allowing comprehensible input unrestricted access to underlying acquisition mechanisms.

For KFL learners approaching Hangul as an entirely foreign script, the affective filter risk is particularly acute. The visual unfamiliarity of jamo forms, the combinatorial complexity of syllable blocks, and the social exposure inherent in vocalizing unfamiliar phonemes all constitute anxiety-generating conditions (Cho & Tanaka, 2019). Edutainment media may systematically lower the affective filter by embedding jamo instruction within entertaining, low-stakes, anonymous viewing contexts through several mechanisms: entertainment reduces performance anxiety by removing social accountability; music and animation create positive emotional states that enhance receptivity; familiar entertainment genres such as children's songs and hip-hop provide cognitive frames that reduce the perceived foreignness of the material; and the repeatability of video content allows repeated exposure without the social cost of requesting clarification in a classroom setting.

2.6 YouTube as a Language Learning Environment

YouTube has emerged as one of the most widely used informal language learning environments globally, with learners citing accessibility, authenticity of native-speaker input, visual-auditory multimodality, and the algorithm-facilitated discovery of relevant content as primary advantages (Watkins & Wilkins, 2011; Alhamami, 2019). Content analysis studies of educational YouTube channels have examined strategies in English as a Foreign Language (EFL) contexts (Alwehaibi, 2015; Jones, 2018), but empirical analysis of Hangul-specific YouTube pedagogy remains nascent. Existing KFL studies have noted the role of K-pop music in motivating learner engagement (Byon, 2008; Keum, 2020) and the effectiveness of multimodal materials in supporting vocabulary acquisition (Kim, 2021), but no study has applied content analysis methodology to systematically document the pedagogical architecture of a dedicated Hangul YouTube channel.

METHODOLOGY

3.1. Research Design

This study employs qualitative content analysis (Hsieh & Shannon, 2005) within an interpretive research paradigm. Content analysis is selected as the primary method because it enables systematic, replicable examination of the communicative content of recorded media artifacts, allowing for the identification of latent and manifest patterns across a defined corpus (Krippendorff, 2018). A directed content analysis approach (Hsieh & Shannon, 2005) is adopted, in which coding categories are derived a priori from the theoretical frameworks of Dual-Coding Theory and the Affective Filter Hypothesis, while remaining open to emergent categories arising from close viewing of the data corpus.

3.2. Data Corpus and Sampling

The data corpus consists of 18 videos from the YouTube channel Hangul-eulBaewobwayo (HANBAE), produced by FICAT. Purposive sampling was employed (Patton, 2002) to ensure that the corpus represented the full range of the channel's content typologies. The sampling frame comprised all publicly available videos on the channel as of the data collection period, and the final corpus was selected according to the following criteria:

Inclusion criteria: (a) videos primarily oriented toward jamo instruction (consonant or vowel); (b) videos incorporating both musical and animated elements; (c) videos with Korean and/or English metadata confirming educational intent; and (d) videos of sufficient duration (minimum 90 seconds) to permit meaningful multimodal analysis.

Exclusion criteria: (a) video compilation or highlight clips; (b) videos consisting primarily of on-screen text without animation; (c) promotional or channel introduction videos.

Table 1. Hanbe Video Corpus by Series.

Series	Content Focus	No. of Videos	Episode Range
Consonant Song Series (Jaumsong)	Individual consonants: basic 14 + 1 compound	15	Episodes 001-015
Vowel Song Series (Moemsong)	Vowel groupings: basic 10 vowels	2	Episodes 001-002
Integrated Syllable Videos	Syllable block construction with jamo	1	Integrated
Total		18	

3.3. Coding Framework

The coding framework was developed through a three-stage process: (1) preliminary instrument design based on DCT, CTML, and the Affective Filter Hypothesis; (2) pilot coding of three non-corpus videos to refine categories and operational definitions; and (3) final framework validation through expert consultation. The framework encompasses three principal axes:

Axis 1 - Linguistic and Pedagogical Elements: phonological presentation (letter name pronunciation, sound demonstration, minimal pairs); graphemic presentation (stroke order, shape features, Hunminjeongeum derivation principles); phoneme-grapheme correspondence cuing; syllable block integration; metalinguistic commentary.

Axis 2 - Audio-Visual Multimodal Features: musical genre and rhythmic structure (children's song, hip-hop, electronic, mixed); vocal delivery mode (singing, chanting, narrated, spoken); animation style (character-driven, typographic, kinetic letter, hybrid); color coding and visual salience strategies; on-screen text and subtitle deployment; temporal synchronization of audio and visual elements.

Axis 3 - Affective-Motivational Edutainment Strategies: character design and parasocial engagement features; humor and playfulness indicators; repetition and chorus structure for mnemonic reinforcement; visual rewards and positive reinforcement cues; accessibility features (tempo, complexity, assumed prior knowledge).

3.4. Trustworthiness and Reliability

To enhance the credibility of the analysis, a peer debriefing procedure was employed in

which two colleagues familiar with Korean linguistics and multimedia pedagogy independently coded a 20% random subset of the corpus ($n = 4$ videos) using the same framework. Inter-rater agreement was calculated using Cohen's Kappa (κ). Kappa values of $\kappa = .81$ (Axis 1), $\kappa = .78$ (Axis 2), and $\kappa = .84$ (Axis 3) indicate strong agreement (Landis & Koch, 1977), supporting the reliability of the coding scheme. Member checking was not applicable given that the data corpus consists of publicly available recorded media rather than participant-generated data; however, transferability is addressed through thick description of the analytical process and the provision of representative illustrative examples from the corpus.

RESULT

4.1. Overview of Corpus Characteristics

The 18 videos in the corpus range in length from 1 minute 52 seconds to 4 minutes 17 seconds ($M = 2$ min 51 sec, $SD = 38$ sec). All 18 videos incorporate both musical and animated elements, confirming their eligibility against inclusion criteria. Table 2 summarizes the distribution of musical genres and animation styles across the corpus.

Table 2. Distribution of Musical Genre and Animation Style Across Corpus. (N=18)

Category	Subcategory	Frequency	% of Corpus
Musical Genre	Children's Song / Dongnyo-style	11	61.1%
	Hip-hop / Beat-based	5	27.8%
Animation Style	Electronic / Ambient	2	11.1%
	Character-driven + Kinetic Typography	14	77.8%
	Typography-primary	3	16.7%
	Character-primary	1	5.5%
Vocal Delivery	Singing	16	88.9%
	Chanting / Rhythmic speaking	2	11.1%

4.2. Axis 1: Linguistic and Pedagogical Elements

4.2 Axis 1: Linguistic and Pedagogical Elements

4.2.1 Phonological Presentation

All 18 videos in the corpus explicitly present the phonemic value of the target jamo through vocal demonstration. In the consonant song series, each episode structures phonological presentation around a tripartite vocal sequence: (1) the name of the consonant, (2) the initial-

position sound of the consonant embedded in a repeated syllable, and (3) the final-position (batchim) sound where applicable, embedded in contextual words. This tripartite structure corresponds closely to the phased phoneme-grapheme correspondence instruction advocated in systematic phonics approaches (Adams, 1990; National Reading Panel, 2000) and represents a deliberate progression from letter identity to phonological function. Hip-hop episodes ($n = 5$) amplify phonological presentation through rhythmic intensification: the target phoneme is delivered on metrically stressed syllable positions within a 4/4 time signature, effectively doubling its auditory salience.

4.2.2 Graphemic Presentation and Hunminjeongeum Principles

Fourteen of the 18 videos (77.8%) incorporate animated stroke-order sequences demonstrating the construction of the target jamo. In 9 of these videos, the stroke-order animation is accompanied by vocal narration or on-screen text that explicitly references the shape's iconic relationship to its articulatory basis, consistent with the HunminjeongeumHaerye's principle of Sanghyeong (ideographic derivation from speech organ shape). Eight videos in the consonant series additionally demonstrate the Gahwek principle, by which a single stroke is systematically added to transform an unaspirated consonant into its aspirated counterpart. This visual representation of a systematic phonological relationship goes significantly beyond what static print media can offer, enabling learners to understand the script's internal logic rather than memorizing each letter as an independent arbitrary symbol.

4.2.3 Syllable Block Integration

Seven videos (38.9%) move beyond individual jamo presentation to demonstrate syllable block construction, combining a learned consonant with vowel forms to produce the basic CV (consonant-vowel) syllable structure characteristic of Korean. In these videos, animated elements show how individual jamo "assemble" within a syllable block frame. This serves as a visual metaphor for the combinatory morphology of Hangul, transforming abstract rules into observable, spatially navigable processes.

4.3. Axis 2: Audio-Visual Multimodal Features

4.3.1 Musical Genre and Rhythmic Structure

The dominant musical genre across the corpus is the children's song (dongnyo) style ($n = 11$, 61.1%), characterized by simple, singable melodies in major keys with tempos ranging from $MM = 92$ to $MM = 120$. These melodic structures are cognitively accessible, exploit learners' prior familiarity with children's song schemas, and facilitate phoneme-melody alignment

through regular phrase structures and recurring refrains. Hip-hop styled episodes ($n = 5$, 27.8%) are concentrated among the mid-series consonant songs (Episodes 007-012) and are distinguished by: (a) the use of synthesized bass-heavy beats at tempos of $MM = 80-95$; (b) syllabic chanting rather than melodic singing; and (c) the delivery of target phonemes in short, staccato bursts that maximize phonemic distinctiveness.

4.3.2 Temporal Audio-Visual Synchronization

A defining feature of all 18 corpus videos is the tight temporal synchronization between musical events (note onsets, melodic peaks, rhythmic accents) and visual events (letter appearance, stroke completion, color changes, character movements). All 18 videos demonstrated high-density synchronization (defined as three or more synchronization events per 10 seconds of video). Such temporal coupling operationalizes Mayer's (2009) temporal contiguity principle, which holds that learning is enhanced when related auditory and visual information are presented simultaneously rather than sequentially.

4.3.3 Color Coding and Visual Salience

Across the corpus, a consistent color-coding strategy is observable: consonants are rendered predominantly in blue-family hues while vowels appear in red-family hues in all videos that present both jamo types. Within individual consonant songs, the target consonant is rendered in a visually prominent color (typically yellow or bright red against a contrasting background) while contextual syllable-block elements are rendered in more subdued tones, maintaining the target jamo's figure-ground salience throughout the video.

4.4. Axis 3: Affective-Motivational Edutainment Strategies

4.4.1 Character Design and Parasocial Engagement

Sixteen of the 18 videos (88.9%) feature anthropomorphized animated characters, primarily round-faced, expressive human or animal figures, who interact with the target jamo or model its pronunciation through visible mouth movement and gesture. Character design across the corpus adheres to several well-established principles of parasocial engagement (Calvert et al., 2007): characters have large, expressive eyes that establish eye contact with the implied viewer; their emotional displays such as smiling, nodding, and clapping are congruent with successful phonological performance, creating an implicit feedback loop.

4.4.2 Repetition and Chorus Structure as Mnemonic Architecture

All 18 videos employ a refrain or chorus structure in which the target jamo's name, sound, and a representative word are repeated between three and seven times within a single video. The musical embedding of these repetitions ensures that each repetition is experienced as

pleasurable rather than tedious. This is a critical distinction, as research on effortful repetition demonstrates diminishing returns in motivation over successive exposures (Dornyei, 2001).

4.4.3 Lowering the Affective Filter: Humor, Pace, and Accessibility

Analysis of the corpus reveals three distinct strategies through which HANBAE videos systematically lower the affective filter. First, fourteen videos (77.8%) incorporate moments of visual humor in which animated characters stumble, overshoot, or playfully exaggerate phoneme sounds, normalizing imperfect performance and signaling a low-stakes learning environment (Cho & Tanaka, 2019). Second, the average video length of 2 minutes 51 seconds, combined with YouTube's individual viewer control over replay and pause, enables self-paced exposure that eliminates classroom performance anxiety. Third, all 18 videos begin with the presentation of the target jamo form without presupposing knowledge of previously covered letters, ensuring each video functions as a complete, self-contained unit.

DISCUSSION

5.1. Theoretical Alignment: Dual-Coding Theory

The analytical results confirm that HANBAE's content design instantiates Paivio's (1971, 1991) Dual-Coding Theory at multiple levels. Each video simultaneously activates the verbal representational system through sung phoneme names, vocalized letter sounds, and on-screen text, while activating the nonverbal system through character animation, kinetic stroke sequences, and color-coded graphemic forms. Of particular theoretical significance is the corpus's systematic use of animated Gahwek derivation sequences, which create a third representational channel not anticipated by the original DCT framework: a systematic relational channel, in which the visual animation represents a dynamic logical relationship between graphemic forms. This finding suggests that for script-acquisition contexts involving internally systematic writing systems such as Hangul, DCT may need to be extended to accommodate "relational visual" encoding as a distinct cognitive channel.

5.2. Theoretical Alignment: Affective Filter Hypothesis

HANBAE's affective design strategies demonstrate a sophisticated, if intuitive, operationalization of Krashen's (1982) Affective Filter Hypothesis. The three affective variables Krashen identifies are motivation, self-confidence, and anxiety. The channel addresses each through distinct design choices: the content's entertainment value sustains motivation; character-modeled phoneme production scaffolds self-confidence; and the low-stakes, humor-inflected presentation format reduces anxiety. The consistent deployment of

positive reinforcement cues, including characters applauding after phoneme demonstrations and visual celebrations at video conclusions, further constructs the script-acquisition experience as an achievement-oriented narrative rather than an error-management exercise.

5.3. Pedagogical Alignment with Hunminjeongeum Principles

A theoretically distinctive finding of this analysis is the degree to which HANBAE's visual strategies align with the formative principles of Hunminjeongeum, whether intentionally or organically. The Haerye document articulates three major principles governing consonant design: Sanghyeong (iconic formation based on speech organ shape), Gahwek (aspirate derivation through stroke addition), and Hapyong (composition of complex sounds through jamo combination). All three principles find animated expression in the HANBAE corpus. This correspondence suggests that effective digital Hangul edutainment actively restores and re-presents the original pedagogical logic of Hangul's design, a logic that static print media has historically obscured by presenting jamo as arbitrary symbols rather than principled derivations.

5.4. Implications for Digital Language Education

The findings of this study carry several practical implications for the design and evaluation of digital Hangul education resources. First, the effectiveness of temporal audio-visual synchronization, demonstrated across all 18 corpus videos, argues for synchronization as a non-negotiable design standard in animated language learning video rather than a stylistic option. Second, the systematic color-coding of consonant and vowel categories offers a replicable scaffold that could be standardized across Hangul educational platforms, creating cross-channel consistency. Third, the identification of the hip-hop genre's motivational function for mid-series learner fatigue management suggests that intentional genre variation should be built into the design logic of series-based Hangul content. For educators and curriculum developers in KFL contexts, pre-instruction exposure to HANBAE videos may lower the affective filter sufficiently to make formal jamo introduction more efficient.

CONCLUSION

This study has conducted a systematic content analysis of 18 music-and-animation-based Hangul educational videos on the HANBAE YouTube channel, examining their edutainment strategies across three analytical axes: linguistic and pedagogical elements, audio-visual multimodal features, and affective-motivational design. The findings demonstrate that HANBAE deploys a coherent and theoretically grounded multimodal edutainment

architecture that simultaneously serves phonological awareness development, graphemic recognition, Hunminjeongeum principle animation, affective filter lowering, and mnemonic repetition through embedded entertainment structures.

The study makes three primary scholarly contributions. First, it establishes and validates a three-axis coding framework for the content analysis of digital Hangul edutainment, providing an instrument applicable to future systematic analyses of the growing corpus of KFL YouTube content. Second, it demonstrates empirically that the convergence of Dual-Coding Theory and the Affective Filter Hypothesis provides robust explanatory coverage of the pedagogical strategies observable in effective Hangul edutainment, and proposes the extension of DCT to include a "relational visual" encoding channel for systematic script contexts. Third, it identifies the animated representation of Hunminjeongeum formative principles as a distinctive and significant feature of high-quality Hangul digital pedagogy.

6.1 Limitations

This study is subject to several limitations. First, the analysis is restricted to a single YouTube channel, and while purposive selection was employed to maximize representativeness within that channel, the extent to which findings generalize to other Hangul edutainment channels remains an open empirical question. Second, the study is a content analysis of the video artifacts themselves, and makes no empirical claims about learner reception, comprehension, or acquisition outcomes. Third, inter-rater agreement, while strong, was not conducted by independent raters with no prior exposure to the theoretical framework. Fourth, the channel's production standards evolved over its active period (2016-present), and the cross-sectional snapshot approach adopted here does not capture longitudinal changes in the channel's pedagogical design philosophy.

6.2 Recommendations for Future Research

Future research should address the following directions: (1) learner response studies examining whether and how KFL learners engage with, comprehend, and acquire jamo from HANBAE-style content, using eye-tracking, post-viewing recall tests, and retrospective verbal protocol analysis; (2) comparative content analyses across multiple Hangul YouTube channels to establish whether the strategies identified in this study constitute a generalizable "digital Hangul edutainment grammar"; (3) intervention studies testing the efficacy of HANBAE videos as pre-instruction input in formal KFL classroom contexts; and (4) extension of the three-axis coding framework to other non-Latin script YouTube education

channels (Japanese Kana, Arabic, Devanagari) to test its cross-linguistic applicability.

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