

UNIVERSITY OF EDUCATION, WINNEBA

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES



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**A thesis in the Centre for Research in Culture and Creative Arts,
School of Creative Arts,
submitted to the School of Graduate Studies,
in partial fulfilment of the requirements for the award of the degree
of
Doctor of Philosophy
(Arts and Culture)
In the University of Education, Winneba**

May, 2025

DECLARATION

Student's Declaration

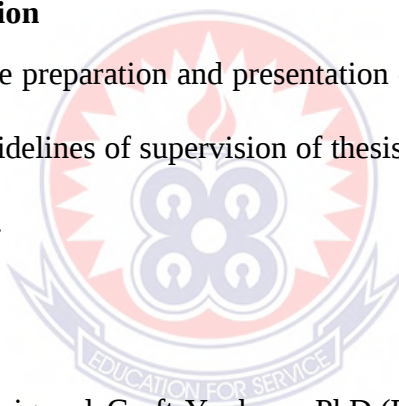
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I hereby declare that the preparation and presentation of this work were supervised in accordance with the guidelines of supervision of thesis as laid down by the University of Education, Winneba.



Prof. Patrique deGraft-Yankson, PhD (Principal Supervisor)

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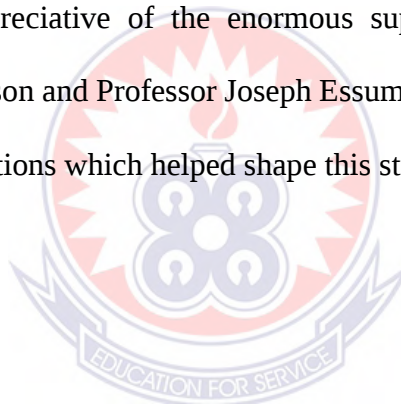
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Date:

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DEDICATION

For Patrick, Elyon and El-Roi'y



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DEFINITION OF TERMS

- **3D Animation:** a type of animation that involves creating movement in a three-dimensional space, typically with characters, objects, and backgrounds that are modeled or created in three dimensions with a specialized software (height, width and depth).
- **Adzagba:** the name for Ewe lullaby.
- **Animatics:** a type of pre-production tool used in animation and filmmaking to visualize the timing, pacing, and overall flow of a scene before full animation or filming begins.
- **Animation:** creating the illusion of movement by displaying a sequence of images or frames, each slightly different from the last.
- **Cartoon:** a form of visual art, typically in the style of drawings, used for entertainment, storytelling, or humour.
- **Characters:** people, animals, creatures, or objects that are brought to life through movement and storytelling.
- **Colour correction:** the process of adjusting and enhancing the colours and tones of video footage to achieve a more natural, consistent, and aesthetically pleasing result.
- **Composition:** the arrangement and organization of visual elements within the frame to create a harmonious, visually engaging, and effective storytelling experience.
- **Compositing:** the combination of multiple layers or elements, such as animations, backgrounds, and effects, to create a final, unified image or scene.
- **Dynamics:** the simulation and control of physical forces and behaviours that influence the movement and interaction of objects within an animated scene.

- **Ewe:** an ethnic group primarily found in the Volta Region of Ghana. The term "Ewe" refers both to the people and their language, which is also called Ewe.
- **Extruding/Extrusion:** a fundamental modeling technique used to create 3D geometry by pulling or pushing existing faces, edges, or vertices along a specified direction.
- **Folklore:** traditional beliefs, stories, customs, songs, and practices passed down from generation to generation, usually by word of mouth.
- **Folktale:** a traditional story passed down orally from generation to generation, usually to teach a moral lesson, explain a natural phenomenon, or simply entertain.
- **Frame:** refers to one single still image in a sequence of many images that, when played in quick succession, create the illusion of motion.
- **Key pose:** a specific, crucial pose that defines a particular moment or action in an animated sequence.
- **Keyframe:** a specific frame in an animation sequence that marks the beginning or the end of a significant movement or action.
- **Lighting:** the technique of simulating the effect of light in a 3D or 2D environment, ensuring that objects, characters, and environments are illuminated in a way that enhances the visual storytelling and mood of the scene.
- **Live-action:** films, TV shows, or animations that are made using real people, objects, and locations. The actors, sets, and scenes are filmed in real time with actual cameras and not through animation or CGI (computer-generated imagery).
- **Lullabies:** these are soft, gentle songs sung to soothe babies or young children, especially to help them fall asleep.

- **Modeling:** the process of creating 3D characters, objects, and environments in a digital space.
- **Mother tongue:** the language which a person has grown up speaking from early childhood.
- **Normals:** these are imaginary lines in Maya 3D software, that indicate the direction a surface faces. They are perpendicular to the surface at a specific point and play a crucial role in determining how light interacts with the model, affecting shading and rendering.
- **Praxinoscope:** an early animation device invented in 1877 by Charles-Émile Reynaud. It improved on the zoetrope by using mirrors to create a smoother and clearer illusion of movement.
- **Rendering:** the final process of creating the finished visual output from the 3D models, textures, lighting, and animation data in a scene.
- **Rigging:** the process of creating a skeletal structure for a 3D model, allowing animators to manipulate and move the model as though it were a puppet.
- **Roughs:** initial, unpolished drawings or frames that are created early in the animation process.
- **Sketches:** quick, loose, and often unfinished drawings that serve as preliminary visual representations or studies for more detailed works.
- **Technicolor:** a colour motion picture process that was widely used in the film industry, especially during the 1930s to the 1950s, to produce vibrant, full-colour films.
- **Visualization:** the process of creating a mental image or representation of how an animated scene, character, or environment will look before it is fully developed or animated.

- **Weight Painting:** a technique used primarily in 3D animation to control the influence that a character's bones or joints have on the mesh (the 3D model's surface) during movement.



ABBREVIATIONS USED

- **3D** – three dimensional
- **AAFFia** - Accra Animation Film Festival
- **AAG** – Animators Association of Ghana
- **AAN** - African Animation Network
- **CGI** – computer-generated imagery
- **GIA** - Girls in Animation
- **KNUST** – Kwame Nkrumah University of Science and Technology
- **NAFTI** - National Film and Television Institute
- **UEW** – University of Education, Winneba
- **UMAC**-University of Media, Arts & Communication



ABSTRACT

The influx of foreign animations on the Ghanaian market has become an increasingly valuable tool for communicating educational and developmental messages to children. In Ghana, producing locally relevant animated content specifically tailored to Ghanaian children's cultural and cognitive needs remains underexplored and relatively scarce. This study therefore, sought to examine the current state of the animation industry in Ghana, adapt and develop persuasive animations from five selected Ewe lullabies intended for Ewe children. The Ewe language was selected for emphasis in order to foreground it, as other ethnic languages in Ghana have received comparatively greater exposure. The research was underpinned by an integrated conceptual framework that combined Cultural Preservation Theory and Cognitive Load Theory. Anchored in the interpretivism paradigm, the study adopted a qualitative approach and utilized a studio-based research design structured across three key phases: pre-production, production, and post-production. The research engaged seven (7) participants, including a member of the National Folklore Board, three (3) animators, and three (3) mothers, who were recruited through purposive sampling from the National Folklore Board, selected studios in Accra, and mothers who hail from Kpeve in the Volta Region of Ghana. Data collection techniques included observation, semi-structured interviews, with thematic and textual analysis applied during interpretation. Findings from the pre-production phase revealed a significant gap in locally produced animated content and the influx of foreign animations that do not reflect Ghanaian culture, language, and everyday experiences. The findings also highlighted substantial growth in the animation industry, though the industry is faced with challenges such as infrastructure, funding, and deficiencies in skills and training. The post-production evaluation indicated that the produced animations were perceived as both engaging and educationally effective. The persuasive elements embedded in the animation enhanced the moral and cognitive learning of the Ewe tradition. The study also revealed that the rich potential of traditional Ghanaian lullabies could serve as a foundational source for 3D animated content, focusing on their thematic depth and aesthetic qualities. The study concludes that although the animation industry in Ghana is in its budding stage, it demonstrates remarkable potential for further development. Additionally, the increasing integration of traditional Ghanaian narratives into digital animation is successfully bridging cultural heritage with modern technology by producing content that appeals to local and international audiences. It recommends increased investment in Indigenous animation initiatives and the incorporation of such media into formal educational settings to enhance learning and cultural identity formation among Ghanaian children.

CHAPTER ONE

INTRODUCTION

1. Background to the study

Animation as a dynamic medium has been widely used to convey stories and express creative ideas. It involves the creation of a sequence of images, which are presented in rapid succession to create an illusion of movement. The origins of animation can be traced back to the early days of cinema, where pioneers such as Émile Cohl and Winsor McCay created hand-drawn cartoons. Over time, animation has evolved and diversified, incorporating various techniques and styles. Animation has emerged as a popular form of entertainment in countries such as the United States, creating characters such as Mickey Mouse and Bugs Bunny (Wells, 2015) and in Japan, as anime influenced by Japanese manga comics. In France, the art form was heavily influenced by the work of artists such as Paul Grimault and Jacques Prévert, who created films such as "The King and the Mockingbird" (1952) (McCarthy, 2018). Likewise, in the United Kingdom, the animation industry was dominated by the work of the Aardman Animations studio, which created the popular "Wallace and Gromit" series (Crafton, 2018).

In recent years, animation has evolved and adapted new technologies and platforms with computer-generated animation becoming increasingly popular. Films such as "Toy Story" (1995) and "Frozen" (2013) showcase the capabilities of this medium. In addition, animation has also found a new audience through the rise of streaming services such as Netflix and Hulu, which offer a wide range of animated content to viewers around the world.

Ghana has not been left out of this evolution; animation in Ghana has experienced significant growth in recent years. Ghanaian animators have been able to produce both traditional and computer-generated animation, drawing inspiration from various sources including African mythology, folklore, and current affairs (Graphic, 2017).

Despite facing challenges such as lack of funding, influx of foreign animations, and limited access to technology, Ghanaian animators including Parables and AnimaxFYB have been able to showcase their talent on both local and international platforms by producing educational and historic content using various styles of animation. In the face of all these challenges, the government including the Ghana Folklore Board is making efforts and trying to put measures in place to ensure our tradition through folklore is not lost, thus the board is encouraging content creators to as much as possible create contents that are akin to our culture, promote and sustain our heritage. Animation, a dynamic medium, can be used to preserve lullabies that fall under folklore and tell stories about our way of life. Therefore, understanding how animation can be used to enhance the presentation of lullabies that fall under folklore could help preserve and promote our cultural traditions.

While there is some research on the benefits of animation for children's learning and development, there is limited research specifically on the role of animation in the presentation of lullabies. Research has shown that lullabies activate actions of the brain which starts from the mother's womb; owing to this, babies who received lessons and lullabies during the pre-natal period are able to learn geometrical figures much easier than those who didn't get an education in their mother's womb at all (GÜNEŞ & GÜNEŞ, 2012).

Importantly, babies learn how to differentiate between sounds and melodies from a very early stage. Essentially, lullabies calm and relax crying babies by helping them express their emotions in a better way instead of anger (Selterman, 2019). Additionally, as babies listen and learn different languages and new vocabulary from lullabies, they develop strong language and literacy skills at a tender age which may help the baby to start speaking early and also form emotional connections that can help them develop empathy, self-awareness, and a sense of belonging (Selterman, 2019).

Though lullabies stimulate the brain, information is better perceived when it is seen or visualized. This is because the brain can process 75% of all information from visual formats (Raiyn, 2016). This is supported by research carried out where children were each made to watch an animated video of two characters singing. The responses of the babies to each video were evaluated based on several relaxation indicators such as pupil dilation, heart rate, blinking frequency, and electrodermal activity (a feeling of pleasure from the skin's electrical resistance) (Bahrick & Lickliter, 2000). The findings showed that the babies had decreased heart rates, dilated pupils, and reduced electrodermal activity to the lullabies with special psychological effects that could put babies to sleep (Bahrick & Lickliter, 2000).

Therefore, the best way to present both lullaby and visuals to the child is through animation that will help to tell stories in the lullaby and communicate emotions in a unique, easy-to-perceive way that can be understood by the young mind. Thus, visual stimulation helps infants learn better and faster as presented in a study by the Journal of Experimental Child Psychology that infants who were presented with audio-visual stimuli learned new information faster than those who were presented with audio stimuli alone (Bahrick & Lickliter, 2000). This promotes interactive learning which

makes animation an effective tool for teaching young children (babies) new vocabulary and concepts better than traditional teaching methods (Chiang & Lin, 2015).

Hence, the study which is studio based will adapt *five Ewe* lullabies as a way of promoting and preserving an aspect of Ghanaian folksong through animation. Hence, this study could contribute to filling this gap identified.

2. Statement of the problem

Animation provides a dynamic platform for the production and dissemination of local content, offering significant benefits across cultural, educational, and economic domains. As a visual storytelling medium, animation is well-positioned to preserve and promote the unique traditions, histories, and identities of diverse communities. By drawing upon traditional folklore, customs, and oral histories, animated content can foster cultural pride and a strong sense of identity, particularly among younger audiences who are frequently exposed to foreign media that may not reflect their cultural backgrounds.

The medium's versatility also allows for the exploration of abstract cultural themes through symbolic and visually engaging narratives, often surpassing the capabilities of live-action formats (Moreno, 2020). Notably, African animation is increasingly embracing local myths and folklore, offering alternative cultural narratives and reshaping global perceptions of African societies.

Beyond cultural preservation, the production of local animated content contributes significantly to national development by stimulating growth in the creative and technological sectors. Emerging animation industries, such as those in Ghana, create

employment opportunities for animators, screenwriters, voice actors, and digital artists. This growth also extends to adjacent industries, including media distribution, marketing, and software development. Through international collaborations, Ghanaian studios have the potential to export creative services, attract foreign investment, and integrate into the global animation value chain, as seen in countries like South Korea, India, and Nigeria (Smith & John, 2018).

Moreover, local animation can catalyze cultural tourism by elevating national symbols and folklore through iconic characters and stories. Animated representations of Ghanaian heritage may inspire both domestic and international audiences to engage with the cultural and geographical roots of these narratives.

In educational contexts, culturally relevant animated content can enhance learning outcomes by contextualizing material in familiar settings, languages, and narratives. This approach can improve learner engagement and retention, particularly for children in early education. Animation can also simplify complex or abstract concepts, making them accessible to diverse learners, including those in under-resourced rural communities.

In addition, animated content can be harnessed to address pressing social and environmental issues. For example, animations addressing local challenges such as illegal mining (galamsey) or deforestation can promote awareness and behavioral change through relatable and culturally resonant storytelling (Lee, 2021).

Despite recent progress in Ghana's animation sector, the dominance of foreign content, often misaligned with local cultural values, remains a concern. Many of these imported animations do not reflect Ghanaian traditions, thereby contributing to cultural erosion. There is an urgent need for increased investment in local content creation to promote

indigenous knowledge systems, support community development, and safeguard national heritage.

This study, therefore, undertakes the production of five (5) 3D animated Ewe lullabies as a means of preserving and disseminating traditional Ghanaian oral culture. The project aligns with the objectives of the National Folklore Board, which advocates for the promotion of local content as a national priority. Through the adaptation of indigenous lullabies into animated form, the study contributes to cultural preservation while making such content accessible and appealing to younger generations.

Furthermore, there is a noticeable gap in empirical research on the role of animation in the production of local content in Ghana. Further academic inquiry is needed to assess the impact of localized animation on cultural identity, social cohesion, and educational development. Understanding the influence of cultural context on the reception and effectiveness of animated content can inform best practices in content creation and policy development.

Local animation holds immense potential as a medium for cultural representation, educational transformation, and economic empowerment, and also reflects society by shaping it, challenging stereotypes, fostering inclusivity, and addressing critical social issues through accessible and engaging formats (Anderson, 2019). By embracing local animation, Ghana can assert its cultural identity on the global stage, contribute to global media diversity, and participate meaningfully in international cultural exchange.

3. Purpose of the study

This study created 3D animations for five selected Ewe lullabies. The animations commenced after the adaptation and evaluation of the state of local content in the form

of animation. The evaluation of the state of local contents used helped to deepen the knowledge about the kind of content to create for Ghanaian folklore. Consequently, the study will serve as a reference for future production of animations with local content.

Also, with the increasing availability of digital media, there is a growing demand for high-quality entertainment and educational materials for children. Understanding the role of animation in the presentation of local content could help meet this demand and improve the quality of content produced for the Ghanaian populace.

Conducting this study provided valuable insights into the potential benefits for child development and offered practical applications for developing entertainment and educational materials through animation.

4. Objectives

The objectives of the project were:

1. To investigate the current state of local content in animations in Ghana.
2. To conduct a comprehensive study into indigenous Ghanaian lullabies in to establish their suitability for 3D animation.
3. To rearrange selected Ewe lullabies in terms of rhythm and instrumentation to render them suitable for animation
4. To create 3D animations for selected Ewe lullabies
5. To test animations with selected mothers and their babies from Kpeve.

5. Research questions

1. What is the extent to which local cultural elements are considered when creating animations in Ghana?

2. Which creative content and assets within the indigenous Ghanaian lullabies make them suitable for adaptation into animated art?
3. What technical processes are involved in arranging rhythms and Ewe lullabies to make them suitable for animation?
4. What are the key creative studio processes required for producing 3D animations based on the selected Ewe lullabies?
5. How should the animated adaptations of selected Ewe (Ghanaian) lullabies be tested with mothers and their babies to evaluate their functionality and cultural relevance?

6. Significance of the study

This study examines the potential of animation as a medium for preserving Ghanaian cultural heritage by adapting five (5) traditional Ewe lullabies into 3D animated content. The significance of this research lies in its interdisciplinary contributions to cultural preservation, education, the development of the creative industry, and policy formation. The study contributes to cultural sustainability by demonstrating how animation can be used to document and revitalize oral traditions that are at risk of fading due to globalization and modernization. Indigenous lullabies serve as important vehicles for transmitting cultural values, language, and identity across generations. By translating these oral forms into animated narratives, the study provides a model for preserving intangible cultural heritage in a visually engaging and accessible format, especially for younger audiences who are more familiar with digital media.

Further, the study highlights the educational value of culturally relevant animated content. It argues that integrating local narratives and indigenous languages into children's media can enhance cognitive development, promote language acquisition,

and foster a deeper sense of cultural identity. Essentially, the use of animation as an educational tool makes learning more interactive and enjoyable and also bridges the gap between traditional knowledge systems and contemporary learning environments. Additionally, the study contributes to the growing discourse on the creative economy in Ghana and the broader African context. It emphasizes the role of local animation in creating employment opportunities, supporting creative entrepreneurship, and expanding the digital media landscape. By demonstrating how traditional content can be transformed into marketable digital products, this research supports efforts to strengthen the animation sector as a viable contributor to national development.

Moreover, this study is significant for informing cultural and educational policy. It emphasizes the importance of institutional support for the production and distribution of local animated content as part of broader strategies for heritage preservation and curriculum reform. Policymakers can draw on the findings to design initiatives that promote local content development, support indigenous languages in education, and leverage digital technologies for cultural transmission. The study also aligns with the objectives of the National Folklore Board and similar bodies that seek to ensure that Ghanaian cultural expressions are preserved, protected, and made relevant in modern contexts.

Thus, the study demonstrates that animation is not merely a tool for entertainment but a multifaceted medium capable of advancing cultural education, fostering national identity, and contributing to socio-economic development. Its findings have implications for educators, cultural practitioners, media producers, and policymakers interested in harnessing digital media for sustainable cultural preservation and inclusive development.

7. Delimitation

The study produced five (5) 3D animated Ewe lullabies and involved a member of the National Folklore Board, two animation studios as well as three mothers and caregivers with babies from the age of twelve (12) months who gave relevant information to support the study.

The mothers selected for the research live in Accra but come from Kpeve, South Dayi District because they fit into the description of respondents for the study; they could speak and understand the Ewe language, and could contribute to the study.

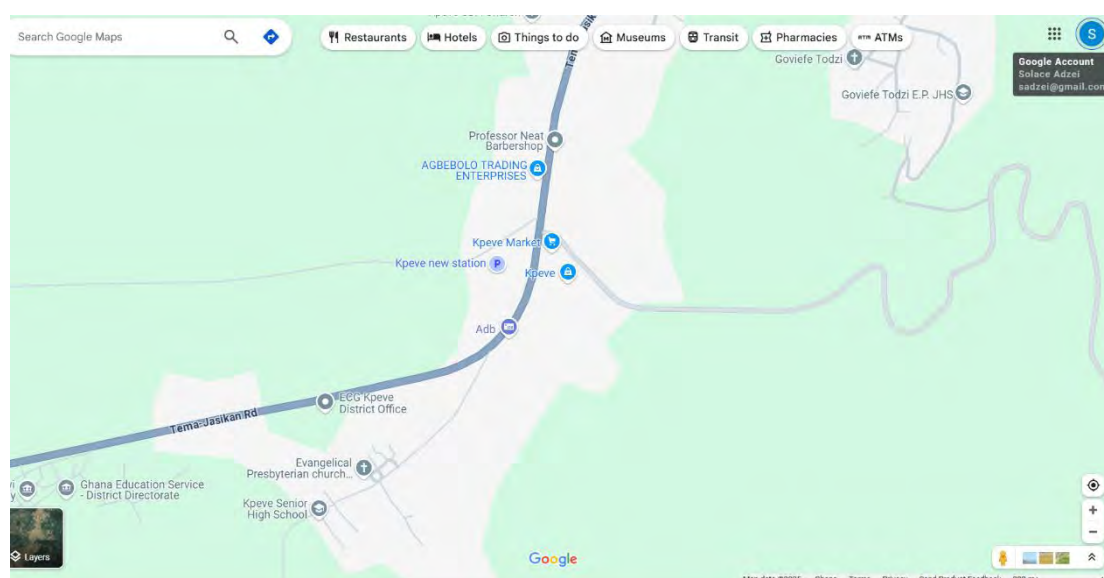


Figure 1: Map of Kpeve Source: Google Maps, June 2025

8. Organization of the rest of text

This work is organised into six chapters. Chapter One gives a background to the study and also presents the statement of the problem, research objectives, and questions, significance of the study, delimitations, and limitations of this study. The Chapter Two explores the literature that supports the production of five culturally appropriate animated Ewe lullabies. The chapter is structured as follows: overview, Theoretical Framework, Review of Related Literature, Identification of Gaps, and Conceptual

Framework. The Chapter Three discusses the Research Design, Population for the Study, Sample and Sampling Techniques, Data Collection Instruments, Data Collection procedure, ethical considerations, validity and reliability, and Data Analysis. This is however, preceded by a discussion of the philosophical underpinning of the study. The Chapter Four concentrates on the pre-production and production techniques used for the production of the four animations taking into consideration the theoretical concept and framework established from related literature reviewed as well as data collected to ground the study. Additionally, this chapter reports the findings from the initial production of the research; organised into two phases: pre-production and production. Chapter Five gives an account of the presentation and discussion of data obtained during pre-studio and post-studio research. Additionally, relevant images relating to the study were also included in this chapter to help authenticate the data collected. Chapter Six presents an overview of the current state of the animation industry in Ghana, highlighting key developments, emerging trends, and the potential for future growth. The chapter additionally explores the potential of traditional Ghanaian lullabies as a rich source of content for 3D animation. The chapter also gives a summary of findings, conclusions, recommendations for the study with a reflection of the productions.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Overview

This chapter explored the literature that supports the production of five culturally appropriate animated Ewe lullabies. The chapter is structured as follows: overview, Theoretical Framework, Review of Related Literature, Identification of Gaps, and Conceptual Framework. These reviews succinctly discuss the essential elements of animation and lullabies from the global perspective with a subsequent focus on animating Ewe lullabies for the Ewe community of Ghana and the worldwide

2.2 Introduction

Animation as a dynamic medium has been widely used to convey stories and express creative ideas. It involves the creation of a sequence of images, which are presented in rapid succession to create an illusion of movement. The origins of animation can be traced back to the early days of cinema, where pioneers such as Émile Cohl and Winsor McCay created hand-drawn cartoons. Over time, animation has evolved and diversified, incorporating various techniques and styles (Crafton, 2018).

The earliest forms of animation can be traced back to prehistoric times, where cave paintings depicted animals in motion (Ramaswamy, 2016). In recent times, animation has emerged as a popular form of entertainment globally, with the creation of characters such as Mickey Mouse, Bugs Bunny, Snow White, etc. (Wells, 2002). These cartoons were created using hand-drawn animation techniques, which involved drawing each frame of the animation by hand. This was a labour-intensive process that required a team of animators to work together to create a coherent sequence of images.

In recent years, animation has evolved and adopted new technologies and platforms. Computer-generated animation has become increasingly popular, with films such as "Toy Story" (1995) and "Final Fantasy" (2009) showcasing the capabilities of this medium. In addition, animation has also found a new audience through the rise of streaming services such as Netflix and Hulu, which offer a wide range of animated content to viewers around the world.

Animation of lullabies

Animation as an art form breathes life into inert images, making them perform actions and reactions. This can make the animation of lullabies a powerful tool in early childhood development, offering a range of benefits that contribute to a child's emotional, cognitive, and social well-being. This holds since lullabies have been a part of human culture since ancient times and are found in virtually every culture and language around the world. While the melodies and lyrics of lullabies vary widely across cultures, the central purpose remains the same: to soothe and comfort infants and young children.

The earliest known lullabies can be traced back to ancient cultures such as the Middle East, Africa, and India, where mothers sang simple melodies to their infants and rocked them to sleep (Rosen, 2013). During the Middle Ages in Europe, lullabies often incorporated religious themes and were sung in Latin (Granfield, 1997).

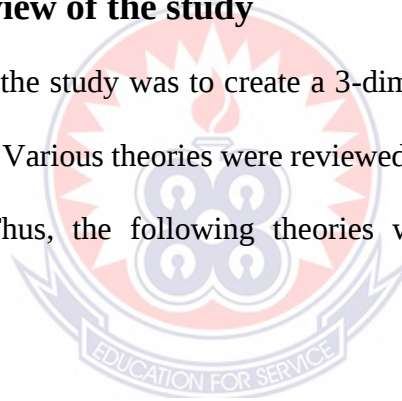
In many African cultures, lullabies have traditionally been used not only to help children sleep but also to communicate cultural values and wisdom. For example, the Zulu lullaby (South Africa) "Thula, thula" teaches children to be quiet and patient, while the Swahili lullaby "Lala salama" emphasizes the importance of community and family (Lullabies from Around the World, 2023).

Over time, lullabies have evolved and changed to reflect cultural and musical trends. In recent times, lullabies have incorporated elements of pop and rock music, folk music, and world music. Some modern lullabies even incorporate electronic sounds and other experimental techniques.

In whole, lullabies from around the world reflect the unique cultural traditions and musical styles of various regions, while also emphasizing the universal human desire to provide comfort and security to infants and young children through music (Latham, 2002).

2.3 Theoretical review of the study

The main objective of the study was to create a 3-dimensional animation for five (5) selected Ewe lullabies. Various theories were reviewed to help in the production of the various animations. Thus, the following theories were considered based on the following reasons.



2.3.1 Cultural Preservation Theory

This theory emphasizes the importance of preserving cultural heritage for future generations (Hewitt & Stokes, 2016). The theory also emphasized the importance of maintaining cultural identity and promoting cultural diversity (Smith, 2006). In the context of creating animations for lullabies, Cultural Preservation Theory suggests that the animations should be designed to promote and preserve the cultural traditions associated with the Ewe lullabies.

Lullabies are essentially an important aspect of the Ghanaian culture, and they have been passed down through generations as a means of maintaining cultural traditions

and values. Thus, the animations of lullabies were designed to preserve these cultural traditions by incorporating elements of Ghanaian culture and tradition, such as traditional semiotics, music, and instruments. This helped to promote a deeper understanding and appreciation of the cultural significance of the Ewe lullabies.

Additionally, the use of the theory helped to develop animations to promote cultural diversity and promote cultural assimilation. By promoting cultural diversity, the animations helped to preserve and promote the unique cultural traditions associated with the selected Ewe lullabies. Consequently, the Cultural Preservation Theory provided a useful framework for the creation of animations for the Ewe lullabies that promote and preserve Ewe cultural traditions, values and celebrate the cultural diversity of Ghana, and highlight the importance of traditional knowledge and practices.

2.3.2 Cognitive Load Theory

This theory was postulated by Sweller (1988) and suggests that learners have a limited capacity to process information. In considering the suggestions of this theory, the animations were designed to minimize cognitive load and facilitate learning. The animations are simple, clear, and easy to follow with visual aids and audio cues to help babies understand the meaning and significance of the lullabies.

Research has shown that the use of music, including lullabies, can improve cognitive function in infants and children (Trainor, Gao, Lei, Lehtonen, & Harris, 2012). However, it is important to note that too much complexity or novelty in the presentation of lullabies can increase cognitive load, and may hinder learning and understanding.

It is in this vein that the animations for the Ewe lullabies have been designed to minimize the cognitive load by using simple models and vibrant colours which are

attractive for children. The animations also use visual aids and audio cues to help the babies follow, without overwhelming their memory.

Beneficially, this theory provided a useful framework for designing effective and engaging animations of lullabies, by considering the cognitive limitations of the babies, thus presenting the material in a manner that is conducive to learning and understanding.

The theory emphasized the importance of preserving cultural heritage for future generations (Hewitt & Stokes, 2016). The theory also emphasized the importance of maintaining cultural identity and promoting cultural diversity (Smith, 2006). In the context of creating animations for lullabies, Cultural Preservation Theory suggests that the animations should be designed to promote and preserve the cultural traditions associated with the Ewe lullabies.

Likewise, the Cognitive Load Theory postulated by Sweller (1988) recommended that learners have a limited capacity to process information. In considering the suggestions of this theory, the animation was designed to minimize cognitive load and facilitate learning. The animations were simple, clear, and easy to follow with visual aids and audio cues to help babies understand the meaning and significance of the lullabies.

Consequently, since animation was used to present both audio (lullaby) and visuals to the child through storytelling, it was important to utilize these theories and ensure the animations communicate emotions in a unique and easy-to-perceive way.

This provided opportunities for the children to observe and interact, thereby helping them to develop new skills and behaviours and at the same time teaching them our traditions through the selected lullabies.

2.4 Why Animation?

Animation frequently draws upon folklore as a source of inspiration for its narratives, characters, and themes. Folklore, encompassing myths, legends, and traditional tales, embodies the collective wisdom, beliefs, and cultural identity of a society. Animators often adapt these stories into visually captivating and emotionally resonant experiences for audiences worldwide (Wells, 2002).

Studio Ghibli's works, such as *Spirited Away* and *Princess Mononoke*, are renowned for their rich incorporation of Japanese folklore elements with the infusion of motifs and creatures from Japanese mythology, thereby preserving and celebrating the country's cultural heritage. Also, Jesse Sunkwa-Mills' animation *Asantewa* infuses motifs and symbols of rich Ghanaian culture to tell the story of the greatest Ashanti female warrior.

The deployment of folklore in animation has broader implications for cultural policy and education. As countries seek to define their cultural industries and promote heritage preservation, animated adaptations of folklore can serve as strategic tools for curriculum development, national identity formation, and creative industry growth. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has recognized the importance of safeguarding intangible cultural heritage through digital media, highlighting animation as a viable and compelling vehicle for such efforts (UNESCO, 2018)

Consequently, the integration of folklore into animation is not merely an artistic choice but a culturally and politically significant act. It allows for the re-imagination of collective memory, reinforces identity, and helps in the transmission of traditional knowledge in forms that resonate with contemporary audiences. As the global

animation industry continues to diversify, the role of folklore in shaping indigenous and diasporic narratives remains a vital area of scholarly interest and creative innovation.

2.4.1 Animation: the evolution

The history of animation can be traced back to the early 19th century with devices like the zoetrope and phenakistoscope, which created the illusion of motion through spinning images (Smith, 2018). Émile Reynaud's "Pauvre Pierrot" (1892) is considered as the first animated film, using his invention, the praxinoscope. While Winsor McCay's "Gertie the Dinosaur" (1914) marked a breakthrough, featuring a character with personality and interacting with the audience (Smith, 2018). The 1930s saw the Golden Age of Animation, characterized by the creation of iconic characters like Mickey Mouse and the introduction of synchronized sound in cartoons. Importantly, Walt Disney also played a pivotal role during this era by releasing the first full-length animated feature, "Snow White and the Seven Dwarfs" (1937). The success of Disney's film opened new possibilities for animation as a medium for storytelling.

The medium continued to evolve with the introduction of Technicolor, allowing for vibrant colours in animated films. Stop-motion animation, popularized by figures like Ray Harryhausen, also gained prominence.

In the latter half of the 20th century, the advent of computer animation revolutionized the industry when Pixar's "Toy Story" (1995) was released. It was the first feature-length film created entirely with computer-generated imagery (CGI), showcasing the potential of this new technology.

Animation today is incredibly diverse, encompassing traditional hand-drawn animation, stop-motion, 3D, CGI, and a variety of experimental techniques. The history

of animation reflects a fascinating journey of technological advancements, artistic innovation, and the creation of timeless characters that have captivated audiences for over a century.

Besides, the boundaries between animation and live-action filmmaking continue to blur, thanks to innovations in technology such as motion capture and virtual production. Films like *Avatar* and *The Lion King* (2019) demonstrate how animation techniques have been used to create photorealistic environments and characters, blurring the line between reality and animation (Ramin, 2020).

However, while technological advancements have undoubtedly expanded the possibilities within the animation industry, it's essential to acknowledge the importance of storytelling and artistic expression. In other words, while advancements in technology enable animators to create increasingly stunning visuals, it's the storytelling and creativity that ultimately engage the audience.

2.4.2 Animation techniques

Animation is a diverse field encompassing various techniques that bring inert images to life. This review explores several prominent animation techniques, highlighting their characteristics, applications, and significance in the industry.

- *Traditional Animation*

This technique also known as hand-drawn animation, involves meticulously creating individual frames by hand and sequencing them to produce motion. Key poses known as "keyframes" are sketched followed by filling in the gaps with additional frames to create smooth motion. This technique requires skilled craftsmanship and is renowned for its expressive and artistic qualities. This technique has a rich history dating back to

early animated shorts such as Disney's "Steamboat Willie" (1928). It also offers unparalleled artistic expression and has been the cornerstone of the animation industry for decades (Thomas & Johnston, *The Illusion of Life: Disney Animation*, 1995). While traditional animation has become less common in mainstream productions, it remains cherished for its classic charm and timeless appeal.

- *2D Vector animation*

2D vector animations employ computer-generated vector graphics to create motion. Though it has its roots in traditional animation, it utilizes digital tools for drawing and animating characters within a software environment. Digital vectors are manipulated to create characters, backgrounds, and effects, offering greater flexibility and efficiency in the animation process. Popular software such as Adobe Animate and Toon Boom Harmony facilitates the creation of 2D vector animations, making the process more efficient and accessible (Parent, *Computer Animation: Algorithms and Techniques*, 2016). This technique is widely used in television shows, web series, and short films.

- *3D Animation*

This technique, unlike 2D animation, involves the creation of three-dimensional digital models and environments, manipulated through software to simulate movement. The technique has revolutionized filmmaking and has become ubiquitous in the animation industry, powering blockbuster films, television shows, and video games, thus enabling the production of visually stunning and immersive animated features such as "Big Hero 6" (2014). With advancements in computer graphics technology, 3D animation continues to push the boundaries of realism and creativity (Olliver, 2012) by offering unparalleled realism and depth, allowing animators to craft intricate worlds and lifelike characters.

- *Computer-generated imagery (CGI)*

CGI involves generating animated images entirely through computer software. This technique is widely used in feature films, television shows and video games for its versatility and realism. CGI has become integral to the visual effects industry, enabling the creation of breath-taking landscapes, creatures, and characters (Cohen, 2018) by encompassing a wide range of techniques, from creating realistic simulations of natural phenomena to crafting fantastical creatures and environments. CGI has revolutionized filmmaking by enabling directors to realize ambitious visions that were previously impossible or prohibitively expensive.

- *Stop motion animation*

Stop motion animation relies on capturing individual frames of physical objects or puppets in different positions and sequences. The objects are slightly moved between each frame, creating the illusion of movement when played back at a certain speed. Stop motion animation has a distinct tactile quality, as it often involves tangible materials like clay, fabric, or paper evoking nostalgia and charm. Iconic examples include the works of Aardman Animations, known for their claymation films like "Wallace & Gromit: The Curse of the Were-Rabbit" (2005) (Lord & Sproxtton, 2013).

- *Motion graphics*

Motion graphics combine graphic design elements with animation to convey information or enhance visual storytelling. They are commonly used in advertising, title sequences, and user interfaces. Motion graphics blurs the line between animation and graphic design, offering dynamic and engaging visual experiences (Barnard, 2017).

- *Typography animation*

Typography animation focuses on animating text to convey messages or enhance visual appeal. It is often used in title sequences, commercials, and music videos to create

captivating visual narratives. Typography animation showcases the creative fusion of typography and motion design (Beaird, 2012).

2.5 Animation in Africa

The animation industry in Africa, including Ghana, is a growing sector that has gained significant attention and steady growth in both traditional and digital animation in recent years. Several factors contribute to this growth, including increased access to technology, government support, and the rise of local studios and talent. There has been a push for more locally produced content, which has led to an increase in animation production across the continent. A report by the African Animation Network (AAN), indicates the animation industry in Africa is growing rapidly, with new studios and productions emerging across the continent (AAN, 2020). The report also highlights some challenges the industry faces such as limited funding which can hinder the production of high-quality content. As posited by Osae (2019), most African animators rely on personal funds and crowdfunding to produce their projects, making it difficult to compete with international studios.

Additionally, the lack of skilled animators poses a significant obstacle to the industry's expansion. Without sufficient talent pool, studios struggle to meet the growing demand for animation content. Furthermore, the lack of accessible and limited distribution platforms makes it difficult for African animators to reach wider audiences both locally and internationally.

On the bright side, Mail & Guardian Africa highlights the emergence of local animation studios in Africa, (Mail & Guardian Africa, 2016) that are producing content that resonate with local audiences and are also gaining international recognition.

In Ghana, though the animation industry is still in its early stages, there is a growing interest and investment in the sector. A report by Ghana Web indicates, the animation industry is gaining traction, with new studios and collaborations emerging (GhanaWeb, 2021). The report also notes that Ghanaian animators are focusing on creating content that is reflective of the country's culture and traditions. This has led to the emergence of associations such as the Animators Association of Ghana (AAG) and Girls in Animation (GIA) who have created platforms to help promote the works of animators in Ghana. Some studios under the animation associations in Ghana, also receive support from organizations such as the National Film and Television Institute (NAFTI) now University of Media, Arts, and Communication (UMAC), the French Embassy, the British Council Ghana, and the Goethe Institute (Accra) by exposing animators to the international community. These exposures not only promote Ghanaian talent but also opens up opportunities for collaboration and co-production with international partners. Another notable initiative contributing to the development of animation in Ghana is the Accra Animation Film Festival (AAFFia), which showcases local and international animated films while also providing training and networking opportunities for Ghanaian animators. The aim of the festival is to aid in the growth of the animation industry in Ghana by providing a platform for local talent to showcase their work and connect with industry professionals (AAFFia, 2022).

While the animation industry in Ghana face challenges, there is a growing interest and investment in the sector. Local animators are creating content that reflect our culture and traditions, with a growing recognition of the potential for Ghanaian animations to reach both local and international audiences.

2.6 Folklores and lullabies

Folklores and lullabies are cultural expressions that have been studied in various literature. They serve as a means of preserving cultural heritage and identity, as well as a way of transmitting moral values, beliefs, and ideas. This review explores the significance of folklores and lullabies in different cultures and their impact on children's socialization and cognitive development based on recent research.

Folklore refers to the traditional stories, legends, myths, proverbs, riddles, and songs that are passed down orally within a particular cultural group. Various literature suggests that folklore is important in shaping cultural identity and inculcating moral values in children. For example, a study by Barber (2020) revealed that African American folklore is an important tool for preserving cultural identity and promoting a positive self-image among African American youth. Similarly, Bilalić, Langner, and Erb's study (2020) established that folktales promote moral reasoning and empathy in children. Though folklores and lullabies vary significantly across different cultures, reflecting the unique history and traditions of each group, research suggests that understanding these cultural differences is important for promoting cultural diversity and reducing prejudice. This is supported with a study by Zhou, Fiske, and Wu (2020) who found that exposure to different cultural myths and legends reduces prejudice and promotes cultural understanding. Similarly, a study by Lu, Chen, and Chen (2021) revealed that exposure to lullabies from different cultures promotes cross-cultural empathy.

2.6.1 Folklore in Ghana

Folklore is an important aspect of the cultural heritage and identity of the people of Ghana. This is because it encompasses a wide range of genres, including myths,

legends, folktales, proverbs, riddles, and songs. Traditionally, information is passed orally from one generation to the next in Ghana and these oral traditions serve as a vital means of preserving and transmitting cultural knowledge, history, and values. These traditions comprise various forms of verbal expression, including storytelling, recitations, songs, and poetry. Through oral traditions, communities pass down myths, legends, historical accounts, and moral teachings, fostering a sense of identity and continuity within the culture. These play an important role in preserving the cultural heritage and identity of the Ghanaian people. As postulated by Agyemang and Asamoah-Gyadu (2021), Ghanaian folklore is moralistic in nature, with many tales serving as a means of transmitting moral values, beliefs, and ideas to children. Additionally, Dzobo and Mawere (2021), affirms that folklore in Ghana often reflects the historical and cultural experiences of the people, providing a means of understanding and interpreting their past. Folktales are commonly told during communal gatherings, festivals, and educational settings, serving both entertainment and instructional purposes (Opoku, 2007).

Currently, research is focused on the importance of preserving and promoting Ghanaian folklore in the modern era, with Agyemang and Asamoah-Gyadu (2021) believing that the digitization of Ghanaian folklore can help in its preservation for future generations. They also suggest that the incorporation of folklore into the school curriculum can help promote cultural awareness and understanding among Ghanaian youth. Similarly, a study by Appiah and Appiah (2021) discovered that the use of storytelling and folktales in the classroom improved students' engagement and academic performance. This is because the elements of Ghanaian folklore used in the classroom are interconnected and contribute to the rich tapestry of cultural heritage in the country. Inherently, Ghanaians uphold their traditions, transmit their values, and celebrate their shared

identity as a diverse and dynamic society through oral traditions, myths, proverbs, folktales, music, and dance, (Wiredu, 1980).

2.6.2 Folklores and lullabies in different cultures

Folklores and lullabies vary significantly across different cultures, reflecting their unique history and tradition. Folklores in African cultures often feature animals as central characters that convey moral lessons through the actions of these animals (Akinraso, 1987). Similarly, in Native American cultures, folklores often involve the natural world and emphasize the interconnectedness of all living things (Bruchac, 1993). When it comes to lullabies, Japanese often feature repetitive sounds and rhythms that are believed to soothe infants (Suzuki, 1998), while in Arabic cultures, lullabies often feature the mother's voice as the primary source of comfort for the child (Serageldin & Phillips, 1990).

In many African cultures, folklore plays a significant role in shaping people's identity and understanding of the world around them. Folkloric stories are often used to explain natural phenomena, express societal norms and beliefs, and provide moral guidance (Parker, 2016). For instance, in the Yoruba culture of Nigeria, folklore is used to teach children about their history, religion, and social norms (Oyebade, 2004). These stories often feature animal characters, such as the tortoise, who embodies cunning and wit and is used to teach children important life lessons.

Lullabies also serve as a means of comforting and calming infants and young children. They are sung by parents or caregivers and often reflect the cultural beliefs and values of a particular society. As is prevalent in many West African cultures, lullabies are sung in the mother tongue and feature simple melodies and repetitive lyrics (Oyebade, 2004).

These songs often incorporate elements of nature, such as animals and trees, and are used to teach children about their environment.

In Ghana, folklore and lullabies are an integral part of the country's cultural heritage. The country has a rich tradition of storytelling, with folktales being used to entertain and educate children (Osuagwu, 2013). These stories often feature animal characters, such as the spider, who is known for his cunning and trickery nature. Ghanaian lullabies are also an important aspect of the country's cultural heritage, with parents singing soothing songs to their infants and young children. These songs often reflect the cultural beliefs and values of society, such as the importance of family and community.

Conclusively, folklore and lullabies are important aspects of cultural heritage not only Ghana but in many African societies and globally. They serve as a means of transmitting cultural values, beliefs, and knowledge from one generation to the next.

2.7 Lullabies and animation

Lullabies are deemed to be a worldwide occurrence because they have been played since ancient times in practically every country in the world (Anzak, Sultana, & Zulfiqar, 2019). These lullabies have a boundary context that includes everything from culturally unique readings of lullabies to scientific and psychiatric research. Lullabies from different cultures display various stylistic facets that highlight the cultural thought processes (Anzak, et al., 2019). Research has shown that lullabies have a calming effect on infants and aid them to sleep better (Hall, 2009). However, creating animation for lullabies can enhance the effectiveness of lullabies by creating a multisensory experience for the infant. A study conducted by Laroche et al., (2019) explored the effectiveness of an animated lullaby on infant sleep. The study revealed that animated

lullabies were more effective in improving infant sleep compared to non-animated lullabies (Laroche et al., 2019). A study conducted by Troseth et al. (2006) opined that infants from six months are easily able to recollect and try to mimic information presented in an animated format. The findings of this study by Troseth et al. (2006) are in line with those of Kuhl et al. (2003), which further states that infants easily and smartly pick up information from videos, and this enhances their memory and learning processes. Animation has also been found to have a positive impact on the emotional development of infants. A study by Pons et al., (2018) found that infants showed greater attention and positive affect when presented with animated stimuli compared to non-animated stimuli. Lullabies are frequently thought of as "fuzzy baby tunes," but they are far more powerful than they appear since they reflect the cultural feature of a particular community and also, in a beautiful way, represent the universal innocence of humanity (Trehub, 2001). In Pakistani culture, it is customary for mothers to sing to their babies in a mellow, harmonic tone to calm them (Scheherazade, 2010). However, in creating animation for infants in terms of lullabies, factors such as age and context are very essential as these influence the content of the video for easy understanding of visuals.

Thus, several studies support the idea that young children have musical preferences and are frequently referred to as musical creatures (Trehub, 2001). A baby's overall perception of a lullaby is influenced by hearing the mother's soft voice while lying on her bosom, experiencing the vibration, and smelling her. This is described by Young as being "multi-sensory and multi-dimensional, involving perception through all physical capacities" (Young, 1995) as cited in Anzak et al., (2019). When singing lullabies to their children, mothers control their voices by softening, hardening, rising or slowing. Studies have shown that singing lullabies to premature infants has a positive effect on

their physiological development and functioning. With the slow, repetitive rhythmic syllables, it is also possible to monitor how infants regulate their sucking behaviour. Infants have a built-in tendency to entrain the sounds in their environment. Singing lullabies to infants improves parent-child relationships and reduces parental stress related to providing intensive care for infants. As a result, it can be concluded that mothers' lullabies encourage rest and healthy growth and development (Loewy and Stewart, 2013). Additionally, lullabies are a crucial instrument in the process of enculturating youngsters, with mothers having the most significant relationship with their children (Aitken & Trevarthen, 2001).

2.7.1 Lullabies among the Ewe culture in Ghana

Lullabies play an important role in the Ewe culture of Ghana, where they are known as "*adzagba*" (Ladzekpo, 2008). These lullabies are typically sung by mothers to their infants and young children as a way to soothe them to sleep or calm them down during times of distress.

In Ewe culture, the *adzagba* are often characterized by a slow and steady rhythm, with lyrics that may be repetitive or include onomatopoeic sounds to imitate natural sounds such as a bird's chirp or a river's flow. The melodies of *adzagba* are often simple and may be accompanied by clapping, humming, or the use of rattles or bells (Ladzekpo, 2008).

Adzagba is not only a means of calming infants but also serves as a way of transmitting cultural knowledge and values. Through these songs, parents pass on stories, proverbs, and moral lessons to their children. *Adzagba* is also used in traditional ceremonies and

rituals, such as weddings and funerals, where they are sung as a way of expressing emotions and honouring the newlyweds or the deceased (Ladzekpo, 2008).

In contemporary Ewe tradition, lullabies still play an important role in the upbringing of children. However, with the influence of modernization and globalization, there have been some changes in the way lullabies are created, performed, and transmitted.

One example of this is the incorporation of new musical instruments and styles into the traditional *adzagba*. For instance, some Ewe musicians may now use electronic keyboards, guitars, and drums in addition to traditional instruments such as the xylophone and drums to create contemporary versions of *adzagba* (Mawere & Mwanaka, 2021).

Furthermore, in urban areas, lullabies may also be heard on radio and television programs, in recorded form which has increased the reach and accessibility of these songs by a wider audience beyond the traditional Ewe communities. However, there are concerns that the increasing use of modern technology and recorded music may diminish the traditional practice of *adzagba*, which relies on oral transmission and communal participation (Mawere & Mwanaka, 2021).

Despite these changes, lullabies remain an important aspect of the Ewe culture and continue to serve as a means of communication, education, and socialization for children. As such, efforts are being made to preserve and promote the traditional practice of *adzagba*, including through community-based initiatives and the incorporation of *adzagba* in formal education programs (Mawere & Mwanaka, 2021). Overall, *adzagba* are an integral part of the Ewe culture of Ghana, serving as a means of comfort, communication, and cultural transmission.

2.7.2 Creating an animation of lullabies

Lullabies have been used by parents for generations to soothe and calm their babies. With the advancement in technology, lullabies can now be accompanied by animations that help enhance their impact on babies and young children. Animations have been found to be a useful tool in helping children learn and retain information (Valkenburg, et al., 2017). In recent years, there has been a growing interest in creating animations for lullabies. One of the benefits of animating lullabies is that it creates a more engaging experience for children. According to Maresova and Dobsikova (2020), animations can enhance the emotional and cognitive impact lullabies have on children, making them more effective in calming and soothing. Animations can also help children visualize the lyrics of the lullaby, making it easier for them to understand and remember through the promotion of cultural heritage.

Another advantage of creating an animation of lullabies is that it helps preserve cultural heritage. Lullabies are often tied to specific cultures and traditions, and animating them can help promote and preserve these cultural practices (Lieberman & Muldoon, 2017). By animating lullabies, parents can pass on their cultural heritage to their children in an engaging and fun way.

However, creating an animation of lullabies comes with its own set of challenges. One of the main challenges is finding the right balance between the animation and the lullaby. The animation should not override the lullaby but should complement it in a way that enhances the overall experience (Maresova & Dobsikova, 2020).

2.7.3 Impact of animations on lullabies

Animations have become a popular medium to engage children and enhance their learning experiences. In recent years, there has been an increasing interest in creating

animated videos of lullabies. Animated lullabies can provide a fun and interactive way for children to learn and engage with the music. Research has shown that animations can improve children's attention and memory skills (Lillard, et al., 2015). Animated lullabies can also have a positive impact on children's language development. According to Schmitz and Lillard (2014), animated videos that include music can enhance children's ability to recognize and remember words.

Animated lullabies can also provide a visual representation of the lyrics and melody. This can be especially helpful for children who may not yet understand the language being sung. The animation can help children connect the words with the melody and create a more immersive and engaging experience. However, the impact of animation on lullabies may depend on the quality of the animation. Poorly executed animations may distract children and hinder their ability to learn from the music. Therefore, it is important to ensure that the animations are well-designed and appropriate for the target age group (Hancock, et al., 2017).

Animated lullabies can provide a fun and interactive way for children to engage with the music. They can also have a positive impact on children's attention, memory, and language development. However, the quality of the animation is an important consideration to ensure that the animation does not distract children from learning from the music.

2.8 Animations, 3D animation, and animating for children

Animations have become increasingly popular over the years, particularly among children. Animations can be used to convey complex ideas, teach new concepts, and entertain children.

Research has shown that 3D animations can be particularly effective for children and can improve children's learning outcomes by increasing their interest and motivation to learn (Park & Lee, 2015). Additionally, 3D animations can provide a better understanding of abstract concepts, making it easier for children to learn complex information (Johnson, et al., 2015). When creating animations for children, it is important to consider their cognitive development and age-appropriateness. According to Piaget's theory of cognitive development, children between the ages of 2 and 7 are in the preoperational stage and may struggle with abstract concepts. Therefore, animations for this age group should focus on concrete concepts that are easily understood.

Animations for children should also be engaging and visually appealing. A study by Desmet and Schifferstein (2008) found that children prefer animations with bright colours, characters, and humour.

3D animation has been used to create visual representations of lullabies, which are songs traditionally sung to soothe and put children to sleep. The combination of lullabies and 3D animation can create a calming and visually appealing experience for children. Research has shown that lullabies can have a positive impact on children's sleep patterns and emotional development. A study by Mindell et al. (2017) found that lullabies can improve sleep quality and reduce the amount of time it takes for children to fall asleep. Additionally, lullabies have been shown to reduce stress and anxiety in children (Loewy et al., 2013).

3D animations can enhance the soothing effect of lullabies by providing a visual component that can capture children's attention and imagination. The combination of soothing music and engaging visuals can help children feel relaxed and calm, which

can improve their ability to fall asleep and stay asleep. When creating 3D animations of lullabies, it is important to consider the tone and mood of the music. Lullabies are traditionally slow and gentle, and the animation should reflect this by using soft colours and gentle movements. The animation should also be age-appropriate, with simple and easy-to-understand visuals that are appropriate for young children.

3D animation can be a useful tool for creating visually appealing representations of lullabies, which can have a positive impact on children's sleep patterns and emotional development. When creating 3D animations of lullabies, it is important to consider the tone and mood of the music, as well as the age-appropriateness of the animation.

2.9 Impact of technology on lullabies

In recent years, the use of technology in African music has increased significantly, including in the production and distribution of lullabies (Nketiah, 2004). This is due to the availability of digital recording equipment that has made it easier for musicians to produce and distribute their music, including lullabies. Additionally, the use of social media and online platforms has made it easier for musicians to reach a wider audience and connect with fans (De Witte, 2017).

However, it is important to note that the impact of technology on lullabies in Africa is likely to be influenced by a range of cultural, economic, and social factors. For instance, some communities may prefer traditional methods of singing lullabies, while others may embrace modern technology as a way to preserve and share their musical heritage (Nzewi, 2010).

2.10 Semiotics

Semiotics, the study of signs and symbols and their meaning-making, offered a valuable lens for developing effective animations for the selected Ewe lullabies (Scollon & Wong Scollon, 2003). By understanding how children interpret visual cues, language, and even layout, the animations were crafted to be informative and also engaging and age-appropriate.

This is because children are exposed to information through a multitude of channels – pictures, sounds, and interactive experiences. Thus, semiotics emphasized the importance of multimodal communication during the developmental stages of this project, acknowledging that children learn best when information is presented through various modes (Jewitt, 2008). While an overreliance on images could leave a kinesthetic learner disengaged, incorporating a variety of moods, catering for diverse learning styles which creates an inclusive learning experience (Kress, 2003).

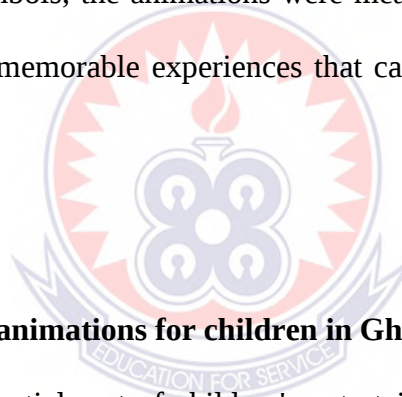
This approach also helped to decode how different modes work together to construct meaning for the child. The interplay between the visual and the verbal reinforced the concept, making it easier for the child to grasp (Scollon & Wong Scollon, 2003).

From the cultural point of view, modern visuals and concepts that resonate with the Ghanaian cultural background specifically Ewe tradition was utilized through the lens of semiotics. This cultural sensitivity fostered a sense of connection and familiarity, allowing children to relate to the material on a deeper level (Lemke, 1995). Beyond symbols, semiotics also encouraged the consideration of the cultural context of language itself. Hence, the lullabies were recorded specifically by a male who spoke, understood the Ewe language and paid attention to the diction. This made the

experience more meaningful and inclusive, ensuring cultural appropriateness was well represented (Ball & Tinning, 2008).

A critical aspect that ensured the effectiveness of the development and production of the animated lullabies was aligning the storylines with the targets' (babies') developmental stage. Consequently, the approach equipped the researcher to tailor the signs and symbols used based on the child's cognitive abilities (Scollon & Wong Scollon, 2003).

Essentially, the use of semiotics offered a valuable framework for developing animations that resonate with infants on multiple levels. By understanding how children interpret signs and symbols, the animations were meaningfully crafted to engage the target and also create memorable experiences that cater to build a bridge across the Ghanaian culture.



2.11 Local content in animations for children in Ghana (The Gap)

Animations are an essential part of children's entertainment, providing a unique and engaging way of delivering educational and entertainment content (Owusu-Ansah, 2020). In Ghana, there has been a growing interest in producing local content for children's animations. However, there is still a long way to go in terms of meeting the demand for high-quality and engaging content that reflects the local culture and values. According to Owusu-Ansah (2020), most of the animations produced for Ghanaian children are foreign-made, which do not represent cultural values and traditions. He argues for the need for more locally-produced animations that capture the culture, language, and social values. This is essential because animations that reflect Ghanaian culture and values have a greater potential to engage children and teach them about

their cultural heritage. The lack of local content in animations for children is a result of various challenges facing the animation industry in Ghana. These challenges include limited funding, inadequate infrastructure, and a shortage of skilled professionals (Amanor & Adjei, 2020). These challenges have made it difficult for local producers to create high-quality animations that can compete with foreign-made ones.

Despite these challenges, there have been some efforts to promote local content in animations for children in Ghana. For instance, the Ghanaian government has initiated policies and programs to promote local content production in the animation industry. Additionally, there are now more training programs and workshops aimed at building the capacity of local animators and producers.

The current state of local content in animations for children in Ghana is still a work in progress. While there have been some efforts to promote local content, there is still a need for more investment in the industry to enable local producers to create high-quality animations that reflect Ghanaian culture and values.

2.12 Conceptual framework

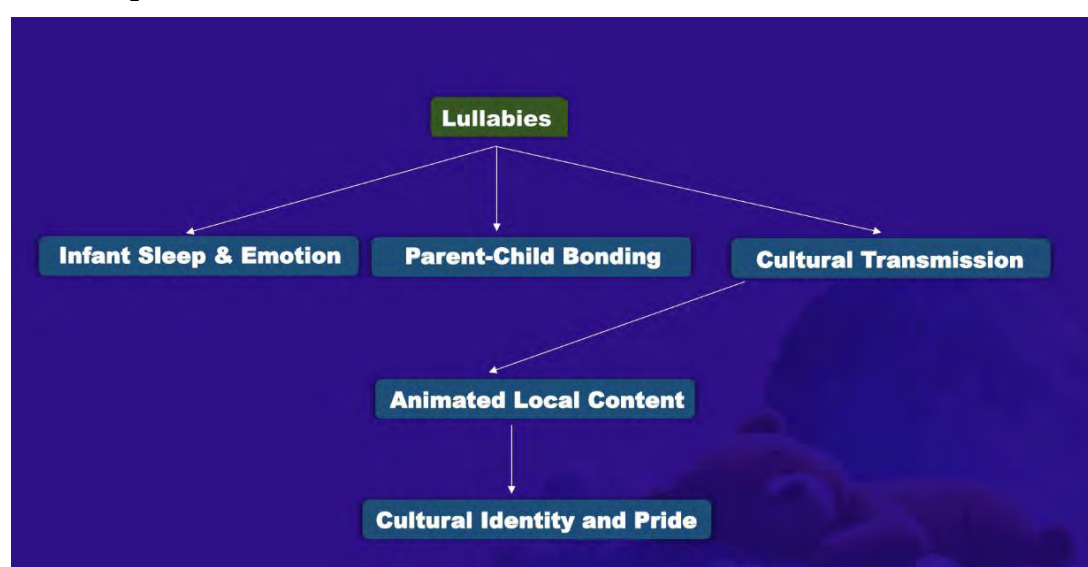


Figure 2: Conceptual framework – Researcher's construct, 2025

The diagram illustrates the multifaceted role of lullabies in early childhood development and family dynamics. Lullabies facilitate infant sleep and emotional regulation, thereby providing comfort and a sense of security. Concurrently, the act of singing lullabies promotes parent–child bonding through intimate and nurturing interactions. Beyond these immediate developmental and relational benefits, lullabies function as a vehicle for cultural transmission by conveying language, traditions, and societal values across generations. This cultural function is further manifested in animated local content, where traditional melodies and themes are adapted into children’s media. Exposure to such culturally grounded content enhances children’s familiarity with their heritage, thereby contributing to the formation of cultural identity and the cultivation of cultural pride.

As confirmed by Kibby et al. (2019) lullabies do not only help to soothe infants to sleep but also provide an important opportunity for parent-child bonding. They also noted that lullabies served as a form of cultural transmission, passing down important values and beliefs from one generation to the next.

In Al-Azami, Rashed, & Al-Otaibi (2018), the exploration of the use of lullabies in Arab culture, they found that lullabies were an important part of Arab cultural heritage and were often used to transmit religious and moral values to young children. These lullabies in Arab culture often contained references to Islamic teachings, reflecting the strong influence of religion on Arab society.

Also, Mousavi and Tavakoli (2017) research on the exploration of lullabies focused on the use of lullabies in Iranian culture. Their findings revealed that lullabies were an important part of Iranian folklore and were used to communicate cultural values and traditions to young children. Importantly, they observed that lullabies in Iranian culture

often contained references to nature and the natural world, reflecting the country's deep connection to its environment.

Among the Kikuyu people of Kenya, Karanja, Njoroge & Njoroge, (2018) examined the use of lullabies and found that they served as a means of communicating cultural heritage and promoting socialization and bonding between mothers and infants. They also noted that lullabies were often used to transmit moral values and teachings about proper behaviour.

Ndebele (2016) focused on the use of lullabies in Zimbabwean culture and found that lullabies played an important role in promoting mother-infant attachment and that they were often used as a means of teaching children about their cultural heritage and traditions. His study revealed that lullabies in Zimbabwean culture often contained references to local flora and fauna, reflecting the country's deep connection to nature.

As well, Oludhe-Macgoye (2018) explored the use of lullabies in East African cultures. Where he found that lullabies were an important form of cultural expression, used to transmit cultural values and beliefs from one generation to the next. The study also discovered that lullabies in East African cultures often contained references to traditional stories, myths, and legends.

In Indonesia, Mawarni, Sumarni, & Syafitri, (2019) found that children who watched animations lullabies were more likely to remember the lullabies and were better able to understand the cultural significance of the songs when they explored the use of local content in animated lullabies. Thus, the animations helped to promote a sense of cultural pride among the children.

To support this, Kim and Lee's (2020) study focused on the impact of local content animation of lullabies in South Korea found that children who watched the animations

were more likely to engage with the lullabies and were better able to understand the lyrics and cultural context of the songs. This essentially helped to promote a sense of cultural identity among the children.

Subsequently, Odumosu and Adeniran (2021) also buttress the impact of animated local content (animation of lullabies) in Nigeria. Their study also supported other findings that suggested children who watched the animations were able to retain the lyrics of the lullabies and were able to understand better the cultural and linguistic context of the songs. The findings also revealed that the animations helped to promote a sense of cultural awareness and pride among the children as found in other countries.

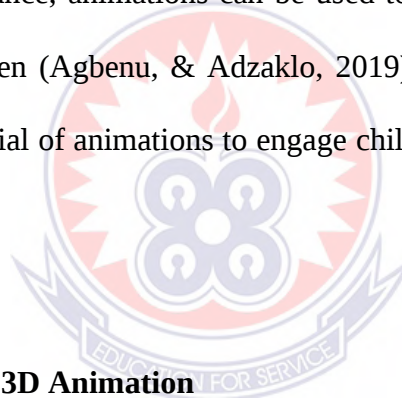
In Karimian, Mir, & Khalili's, (2021) examination of "The Effects of Local Content of Animation of Lullabies on Children's Emotions and Sleep Quality", which included 120 children aged 3-6 years who were randomly assigned to one of two groups: a control group that listened to a traditional lullaby, and an experimental group that watched an animation of a local lullaby. They found that children in the experimental group had a significantly better emotional response to the local animated lullaby, compared to the control group. Additionally, children in the experimental group had significantly better sleep quality, as measured by a sleep quality index. They concluded thus that using local content in animations of lullabies can have positive effects on children's emotional responses and sleep quality. They suggest this approach could be useful in promoting the cultural identity of children and preserving indigenous lullabies.

Chevallier, & Young, (2020) examined "The Effect of Parental Singing on Infant Sleep and Mood in the First Year: A Randomized Controlled Trial". This systematic review examined the cultural specificity of lullabies and sleep-related rituals for infants and young children. Their examination revealed lullabies could have a positive impact on

infants' sleep quality and emotional well-being and that culturally specific lullabies may have an even greater impact. Their study therefore highlights the importance of recognizing and promoting cultural diversity in the use of indigenous lullabies.

Aside watching animated lullabies, children who are sung to by their parents had better sleep quality and more positive moods, compared to a control group. This study carried by Mustard, Polka, & Peretz, (2018) examined the effects of parental singing on infants. This randomized controlled trial investigated the effect of parental singing on infant sleep and mood. The study suggests that parental singing, including the use of local lullabies, can be a useful tool for promoting infants' emotional and physical well-being.

As a matter of importance, animations can be used to revive and promote Ghanaian lullabies among children (Agbenu, & Adzaklo, 2019) to preserve Ghanaian cultural heritage and the potential of animations to engage children and promote language and cultural development.



2.13 Benefits of using 3D Animation

The utilization of 3D animation in educational contexts has garnered considerable attention due to its potential to revolutionize learning experiences across diverse student populations. Different literature has delved into the multifaceted benefits of employing animation, encompassing digital animations, cartoons, simulations, and games, as a potent tool for conveying educational content and instilling socio-cultural values.

A study by Zin et al. (2010), delved into the advantages of employing animation as a potent tool for conveying educational content and instilling socio-cultural values in children. Animation, encompassing digital animations, cartoons, simulations, and games, is lauded for its capacity to captivate learners through visually engaging

storytelling methods. Drawing on Mayer's (2005) research highlighting how multimedia elements like animations enhance learning outcomes by engaging multiple senses simultaneously aiding in student information retention underscores the importance of visual stimuli in education. Additionally, supported by Clark & Lyons' (2010) findings that animations simplify complex ideas breaking them down into more digestible components and facilitating better comprehension among learners further solidifies the role of animation as an effective educational tool.

Complementarily, Animation has also been established as a valuable tool for enhancing the learning experience of individuals with special needs as well, such as those with dyslexia, autism spectrum disorder, and intellectual disabilities. As animation in education is emphasized as a means to facilitate communication, it improves visual and auditory learning, and enhance overall engagement and understanding. In Baglama et al. (2018), study on “Using Animation as a Means of Enhancing Learning of Individuals with Special Needs” they pointed out that, utilizing animation in special education is its ability to make learning materials more visually engaging and interactive. Visual and auditory training methods are considered essential in modern education, particularly for individuals with special needs who often learn more effectively through visual stimuli. By visualizing concepts and information through animations, students can better comprehend and retain the presented material. This visual representation helps individuals with special needs to connect with the content on a deeper level, leading to improved learning outcomes.

Again, as cited in Baglama et al. (2018) by Brodin & Lindstrand (2003), animations can play a crucial role in boosting confidence, promoting collaboration, and fostering a sense of accomplishment among individuals with special needs. Through animated scenarios, students can see themselves as part of the learning process, which enhances

their sense of self-identity and involvement in the educational content. This personalized approach to learning can significantly impact the students' motivation and willingness to engage with the material. Karal, Kokoc, & Ayyildiz (2010) also add that hand movements, motor skills, and hand-eye coordination may be weak for people with mental disabilities and it is animations that can be used to overcome this situation.

Pandey and Seema Singh also explored the benefits of utilizing 3D animation in medical education to enhance learning outcomes and spatial knowledge among students at Era's Lucknow Medical College in India (Pandey & Singh, 2019). In their study, they agreed with Marsh, Giffin, and Lowrie who demonstrated that 3D animation aids in understanding embryological development, leading to better long-term retention of information. They argued that by providing a visual representation of intricate biological concepts, the animation is capable of engaging students in a way that traditional methods cannot, promoting deeper understanding and retention of knowledge (Marsh, Giffin, & Lowrie, 2008).

Lin et al. (2004), also discuss how combining fractals, imaging, and animation can model liver physiology, offering a comprehensive view of organ function. Per their observations, this spatial representation allowed students to explore anatomical structures from various perspectives, facilitating a more holistic understanding of complex biological systems.

Moreover, Liao et al.'s work (2017) accentuates how animations transcend traditional academic settings being widely utilized across various industries such as advertising campaigns and science communication efforts due to their efficacy in conveying information effectively underscoring versatility across different fields. Furthermore, Piaget's theory on cognitive development (Piaget & Inhelder, 1969), suggests exposure

to animated content stimulates creativity and imagination especially crucial during childhood developmental stages

Additionally, Smith et al. (2020) research emphasize the significance of multicultural representation within media including animation, to promote inclusivity and acceptance diversity society, however, there are other perceptions, debates, and arguments surrounding the assertions made on the benefits of using animation and 3D animation in educational contexts. Some critics argue that while animations can enhance engagement and visual appeal in learning materials, they may also lead to passive consumption without active cognitive processing (Mayer & Moreno, 2002). Again, Tversky et al. (2002) debate that, the effectiveness of animations for all learners as individual preferences for learning styles vary; some students might not benefit equally from animated content. Other scholars have also discussed the potential distractions caused by overly complex or flashy animations that could detract from the educational message being conveyed (Sweller et al., 2011).

However, on a more positive note, researchers argue that well-designed animations facilitate deeper understanding through dynamic visualization of abstract concepts which aids in knowledge retention among students with diverse learning needs. A study by Schnotz & Lowe (2020) suggests that interactive elements within animated content should be considered to promote active engagement and critical thinking skills fostering deeper comprehension of the material presented.

Irrefutably, while there are differing perspectives on the efficacy of using animation particularly 3D animation, both informers and animators must consider the varied viewpoints discussed above when incorporating multimedia tools specifically 3D animation into pedagogical practices to ensure a balance between engaging visuals and

effective instructional strategies promoting meaningful learning experiences among diverse student populations.

2.14 Cultural significance and value of animation

The cultural significance and value of animation as a medium for storytelling and social commentary have garnered increasing scholarly attention in recent years. Studies have explored how animation transcends mere entertainment, serving as a powerful tool for promoting socio-cultural values, preserving indigenous heritage, and addressing pressing social issues.

Building upon seminal studies, Zin et al. (2010) discuss the cultural significance and value of animation within the context of promoting socio-cultural values through storytelling using edutainment software. They expound that animation, as a form of multimedia technology, has been recognized for its ability to engage audiences and convey messages effectively. In particular, anime has been highlighted for its impact on shaping adolescents' identities and developing various skills. The use of animation in educational settings is seen as a powerful tool to transmit cultural values and traditions to younger generations in an engaging manner.

Drawing from other studies, scholars have explored how animation can be utilized not only for entertainment but also for educational purposes that promote cultural understanding. For example, research by Smith (2017) emphasizes how animated films serve as vehicles for conveying complex social issues while maintaining audience engagement through visual storytelling techniques. Through detailed analysis of various animated films and their treatment of social issues such as environmental degradation, discrimination, or political unrest, Smith demonstrates how animation

allows filmmakers to address these themes creatively without losing audience interest. By utilizing visually compelling storytelling methods like vibrant visuals, symbolism, and metaphorical representations, he demonstrates that animators can communicate nuanced messages that provoke thought and discussion among viewers. Moreover, Smith argues that the imaginative nature of animation enables storytellers to explore challenging subjects in ways that live-action cinema may struggle to achieve. The use of fantastical elements or anthropomorphized characters in animations provides a level of abstraction that helps audiences connect emotionally with complex societal problems while maintaining a degree of distance necessary for reflection.

In Bowden's (2024) study, he delves deeper into Smith's demonstration of the cultural significance and value of animation as a powerful medium for addressing social issues and promoting positive change. He explains in agreement with Kress (2003) that leveraging interdisciplinary research, critical thinking, and collaboration can lead to a multifaceted approach that animators can take to address cultural issues and spark meaningful conversations. By challenging preconceived notions and offering diverse perspectives, animation is capable of cultivating understanding and acceptance, encouraging audiences to broaden their viewpoints and embrace inclusivity. The portrayal of marginalized characters and the representation of underserved demographics in animated content contribute to breaking stereotypes and promoting a more inclusive society.

Again, Bowden (2024) emphasizes the role of contemporary animators in pushing the boundaries of animation to address societal norms and engage with audiences on a deeper level. Works like "Wall-E" by Pixar and "Hair Love" by Matthew A. Cherry exemplify how animation can tackle pressing social issues such as environmental sustainability and diversity. Through stunning visuals and compelling narratives, these

animations not only entertain but also educate and inspire viewers to reflect on their impact on the planet and challenge beauty standards, respectively.

Furthermore, Pioneers like Winsor McCay and Walt Disney utilized cartoons to convey powerful messages, such as highlighting the horrors of war and shaping public opinion during World War II. These early works laid the foundation for the cultural significance of animation as a medium for storytelling and social change (Bowden, 2024). In the contemporary landscape, modern animated films continue to tackle important social issues through thought-provoking storytelling and visuals. Films like “Animal Farm” and “Spirited Away” explore themes of corruption, environmentalism, and identity loss, resonating with audiences worldwide. Additionally, animated series like “South Park” challenge societal norms through satire and humour, sparking debates on controversial topics and prompting viewers to question established beliefs.

Additionally, Bowden’s study acknowledges the growing influence of animation in promoting equality and justice, with the industry experiencing significant growth and being utilized by social activists, NGOs, and governments to raise awareness and inspire action. As animation continues to evolve and adapt to the digital landscape, its potential as a tool for advocating for social justice causes becomes increasingly evident. By shedding light on systemic injustices and advocating for positive change, animated content serves as a platform for advocating for equality and justice, inspiring viewers to act and contribute to a more inclusive society.

Additionally, Jones et al. (2019) discuss the role of animation in preserving indigenous cultures by incorporating traditional stories into modern media formats. They conducted an in-depth analysis of various animated projects that have successfully integrated indigenous folklore, myths, or legends into their narratives. Some of the

animation projects included in their research include: “*Songlines: The Animated Series*”. This project focused on Aboriginal Australian Dreamtime stories and traditional songlines, aiming to convey spiritual connections to land and ancestors through visually engaging storytelling. Secondly, the “*Legends of Aotearoa*”, an animated series from New Zealand that delved into Maori mythology and legends, seeking to highlight themes of respect for nature, ancestral wisdom, and community bonds within Maori culture. And finally, “*Tales from Turtle Island*”. This is an animation anthology based on Native American folklore that explored themes such as resilience, interconnectedness with nature, and oral traditions passed down through generations among Indigenous communities. These animation projects sought not only to entertain audiences but also to educate viewers about indigenous cultures rich heritage while promoting understanding and appreciation for diverse belief systems. By incorporating traditional stories into modern media formats like animation, the creators aimed to preserve cultural identities and values while fostering cross-cultural dialogue.

A study by Esseku, Teye, and Musa (2023), delves into the cultural significance and value of animation, particularly in the context of preserving Ghanaian cultural heritage. They emphasize the crucial role that animation plays in safeguarding traditional stories, art, and music for future generations. By utilizing animation as a medium, Ghanaian cultural heritage can be effectively interpreted and showcased to a wider audience, especially the youth. This sentiment is echoed in various research articles and studies that highlight animation as a valuable tool for not only preserving cultural heritage but also for educational purposes, boosting tourism, and supporting conservation efforts (Owusu, 2021; Moore & Stewart, 2015; Hsieh, 2018). Through animation, cultural heritage can be brought to life in a visually engaging and interactive manner, capturing the attention of audiences in a way that traditional methods may not always achieve.

Furthermore, their study also underscores the unique ability of animation to bridge generational and cultural gaps, making Ghanaian cultural traditions more accessible and appealing to younger audiences. By reimagining classic works of art, literature, and music in animated form, animation ensures that these cultural elements remain relevant and captivating for contemporary viewers (Esseku et al., 2023). This sentiment is supported by the idea that animation offers a platform to depict and transmit cultural history, contributing significantly to the conservation and promotion of Ghana's rich cultural legacy. The use of animation in preserving cultural heritage is not limited to Ghana alone but extends to discussions on museums, indigenous languages, and African cultural heritage, showcasing its broader applicability and impact. However, it is noted that the importance of community involvement in the creation of animated content aimed at preserving cultural heritage is a key consideration for an effective visual communication output. By engaging the community in the process, animation projects can be enriched with authentic cultural insights and perspectives, ensuring that the essence of Ghanaian heritage is accurately portrayed and celebrated. This collaborative approach aligns with recommendations from existing literature on cultural preservation, emphasizing the value of community participation in safeguarding intangible cultural heritage (Kpobi, & Bamfo-Agyei, 2019; Adeyemi & Adefila, 2020).

While animation is celebrated for its potential in cultural heritage preservation, Esseku et al., (2023) acknowledge the challenges associated with this endeavour. One such challenge is the need to make traditional forms of expression more appealing to younger audiences, who may be more accustomed to modern forms of entertainment. Thus, balancing authenticity with contemporary relevance is crucial in ensuring that cultural heritage is not only preserved but also embraced by evolving generations. This

challenge is echoed in discussions on the potential obstacles of using animation in the context of cultural heritage preservation, highlighting the need for innovative approaches to engage diverse audiences effectively.

Per the above discussions, researchers have highlighted how animation allows for creative reinterpretations of cultural heritage while respecting its authenticity. Through visually captivating representations, animators can breathe new life into age-old tales, making them accessible to wider audiences beyond their original communities. Just as Jones et al.'s research aligns with Esseku et al.'s research, they have underscored the importance of collaboration between animators and indigenous storytellers or community members is key to ensuring accurate representation and cultural sensitivity throughout the adaptation process. By involving stakeholders from within these cultures, animation projects can authentically capture nuances that might otherwise be lost in translation when retelling traditional stories through other mediums.

2.15 The link between animation, folklore and lullabies

Folklore refers to traditional beliefs, customs, and stories passed down through generations within a specific culture or community whereas lullabies are a form of folklore that consists of soothing songs sung to children to help them sleep (Uktolseja et al., 2021).

A few studies have looked at folklore and lullabies and the potential of incorporating animation in them for various purposes. For instance; A study conducted by Lulu Jola Uktolseja, Abraham Manuhutu, and Jalmijn Tindage explores the effectiveness of using folklore-based animation videos, incorporating elements of lullabies, to enhance students' speaking skills in English language learning. This study delves into the

intersection of animation, folklore, and lullabies as educational tools to create a culturally rich and engaging learning environment. Deducing from their findings, the integration of folklore and lullabies in animation videos serves as a bridge between traditional cultural heritage and modern educational practices, offering a unique approach to language learning that goes beyond conventional methods. Mayowa (2020), also highlighted the historical significance of folklore and lullabies as oral traditions passed down through generations, serving as a means of preserving cultural heritage and transmitting values. He argues that animation serves as a modern medium through which these traditional forms can be reimagined and brought to life for contemporary audiences.

Animation, as a multimedia tool, has been widely recognized for its ability to captivate and engage learners. By incorporating animation into language education, educators can create visually stimulating content that enhances students' comprehension and retention of information. With respect to this study, animation is used to bring folklore and lullabies to life, making the learning experience more interactive and immersive for students. One key point raised in Mayowa (2020)'s studies is how animation has been used to adapt folk tales from various cultures around the world, bringing them to new audiences in an engaging visual format. By animating these stories, animators and filmmakers are able to capture not only the essence of the original narratives but also infuse them with fresh interpretations that resonate with modern sensibilities. This process allows for cross-cultural exchange and appreciation, fostering understanding among diverse communities. The visual and auditory elements of animation can help students connect with the cultural significance of folklore and lullabies, thereby deepening their understanding and appreciation of the material (Uktolseja et al., 2021).

Folklore, which is a rich repository of traditional beliefs, stories, and customs, plays a crucial role in preserving cultural heritage and transmitting values across generations. Incorporating folklore into language learning, educators can provide students with a window into the cultural practices and beliefs of different communities. Drawing on existing literature from scholars like Dundes (1965) emphasize how folk tales serve both entertainment purposes while also conveying moral lessons embedded within their narratives - aspects which are often retained even when adapted into animated formats today (Zipes 2002). Additionally drawing upon research by Tatar (1999), who highlights how fairy tales specifically offer psychological benefits by helping individuals navigate complex emotions through symbolic representations present throughout many traditional stories – something which animations continue exploring today albeit using more visually stimulating methods than ever before due technological advancements available now compared to past eras where limited resources constrained creativity possibilities significantly impacting final products produced then versus now.

Otten (2002) in his study highlights the importance of folklore in shaping children's character traits and citizenship attitudes, emphasizing its role in instilling pride in cultural identity. He posited in his study that, folklore from the Papua region is used as a thematic framework for the animation videos, allowing students to engage with stories and cultural elements that are rooted in their own heritage.

Again, the inclusion of lullabies in the educational context adds a layer of emotional and cultural depth to the learning experience. Lullabies, traditionally sung to children to soothe them to sleep, carry with them a sense of comfort, familiarity, and cultural identity. By incorporating lullabies into the animated videos, educators can create a sense of connection and nostalgia for students, tapping into the emotional resonance of

these traditional songs. Consequently, the use of lullabies in language learning not only enhances the cultural relevance of the material but also creates a nurturing and inclusive learning environment that values students' cultural backgrounds and experiences.

Thus, the link between animation, folklore, and lullabies in the study underscores the importance of cultural authenticity and relevance in language education. By integrating elements of students' cultural heritage into the curriculum, educators can create a more meaningful and engaging learning experience that resonates with students on a personal level. Mutiarani and Rahman (2019) emphasize the value of using folklore as a tool for character education and language learning, highlighting its potential to instil noble values and local wisdom in students. The incorporation of folklore and lullabies in language education not only enhances students' language skills but also fosters a sense of cultural pride and identity.

Furthermore, the use of folklore-based animated videos in language learning aligns with the principles of effective multimedia instruction outlined by Mayer (2001). Mayer emphasizes the importance of selecting relevant words and images, organizing information coherently, and integrating visual and verbal representations with prior knowledge to facilitate successful learning.

2.16 Suitability of selected lullabies for animation

Several factors were taken into consideration in the selection of the five Ewe lullabies for animation. One of the major factors included imagination and song characteristics that could help visualize the songs. The following paragraphs give a breakdown of the factors considered in the selection of Ewe lullabies for animation.

2.16.1 Theme and imagery

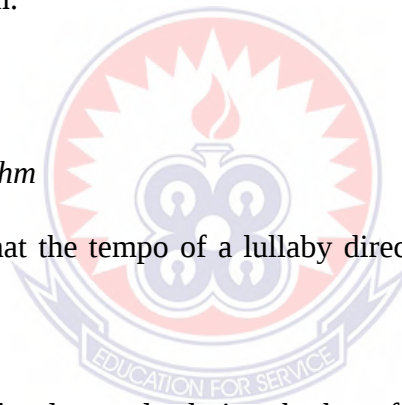
The themes and imagery in the lullabies were key for animation because they determined how easily the songs could be visualized in a way that captivate an audience.

- *Rich visual potential:* the lullabies were selected because of their strong visual elements which helped in the creation of visually engaging and harmonious scenes that aligned with the song's mood.
- *Consistency in mood:* also, the lullabies had consistent and peaceful tones throughout for animation. This ensured a sturdy maintenance of visuals for a soothing rhythm.

2.16.2 Pacing and rhythm

There is no denying that the tempo of a lullaby directly influences the pacing of an animation.

- *Gentle tempo:* the slow and calming rhythm of the lullabies lend to the smooth transitions and gentle movement in the animations. This also allowed for the prolonged shots, subtle movements and transitions that helped the audience into the calm state of the animations. The slow also helped to build the various scenes that mirror the lullabies' soothing effect.
- *Consistency in tempo:* the consistent rhythm of the lullabies provided a solid structure for animation timing. Key events or changes in visuals were aligned with the rhythm of the song, thus synchronizing the animations with the music.



2.16.3 Emotional depth

Animation works best when they evoke emotions, and the lullabies did exactly that with deep emotional resonance that enhanced these connections.

- *Emotional resonance*: the selected lullabies conveyed feelings of love, security, and warmth, which were translated into tender, heartwarming scenes in the animations, creating strong emotional bond with the viewer.
- *Universality*: emotions such as safety, peace, and love are easily relatable across different cultures and ages. The animations leaned into these universal emotions by creating scenes that resonate with viewers regardless of their background.

2.15.4 Narrative potential

The storytelling aspect of the lullaby determined the cohesive animated narrative of the visual experience.

- *Clear narrative arc*: the selected lullabies told simple stories, which formed great foundation for animation; this gave the animator a built-in narrative to follow.

2.16.5 Cultural and symbolic significance

The selected lullabies carry deep cultural significance, and this enriched the animated adaptations.

- *Cultural depth*: the lullabies are tied to the Ewe culture and contained symbolic elements that were reflected in the animations. For example, the drum, rattle and gong, which are instruments found with the Ewe community were

introduced in the animations, thus influencing the setting and character designs. This celebrated and highlighted the cultural context by staying true to these elements, creating a rich, immersive experience for the target.

- *Universal symbols*: the animations for the lullabies also incorporated common symbols, such as the trees, stars, firefly, rivers etc. These universal symbols are easily recognizable and translated well into the animations, allowing for creative interpretations.

2.16.6 Melodic simplicity

The melody of the lullabies had a direct impact on how easily they were visualized and animated.

- *Memorable melody*: Simplicity is key in lullabies. The repetitive, easy-to-follow melodies made it easy to animate because it provided the structure for the visual flow. Essentially, it allowed the animator to create smooth, calming transitions without sudden jumps that might disrupt the flow of the animation.
- *Instrumental Variety*: the incorporation of other instruments with the lullabies went beyond just vocals. These instruments such as the xylophone, African drum, rattle and gong inspired different moods in the animations.

2.16.7 Target audience

Understanding the target of the lullabies ensured that the animations ed with the expectations and needs of that audience.

- *Child-friendly content:* lullabies are primarily meant for young children; therefore, the animated adaptations reflect this. The contents of the animations were calming, non-threatening, and comforting. There were no overly complex themes which ensured that the animations supported a relaxed and peaceful mood that aligned with the purpose of the lullaby.
- *Appeal to parents:* although the primary audience is children, parents are often the ones sharing these lullabies. Hence, the animations were crafted to also appeal to parents, through subtle layers of emotion. By ensuring that both children and parents connect with the animations, it increased the likelihood that the lullabies will be shared and appreciated in homes.

2.17 Conclusion

The suitability of a lullaby for animation rests on its ability to inspire visuals that complement its soothing, gentle qualities. Lullabies with strong imagery, a clear emotional tone, and universal appeal offer the best foundation for creating engaging and calming animations. The lullaby's narrative potential, rhythmic structure, and cultural depth further enhance its adaptability into a visual medium. By considering all these factors, the animator is able to create a harmonious blend of music and visuals that captivate audiences both young and old.

CHAPTER THREE

METHODOLOGY

3.1 Overview

This study aimed to create animations for five (5) selected Ewe lullabies. This was done by considering the appropriateness of the chosen lullabies in terms of language. The chapter discusses the Research Design, Population for the Study, Sample and Sampling Techniques, Data Collection Instruments, Data Collection procedure, ethical considerations, validity and reliability, and Data Analysis. However, this is preceded by a discussion of the philosophical underpinning of the study.

3.2 Philosophical assumptions of the research

The study is situated in the constructionism and interpretivism paradigms since the aim of the study is to examine the subjective responses seeking to understand the unique perspective and cultural context of animated lullabies in the form of audio-visual communication for babies. These views of research suggest that knowledge is subjectively constructed and exists in multiplicity; where understanding the context is crucial for meaningful interpretation (Denzin & Lincoln, 2018) from subjective and multiple responses (Creswell & Poth, 2017). Besides, the research sought to investigate meanings, reasons, and other subjective experiences of individuals and human behaviour as they interact within their cultural space (Crotty, 1998).

Furthermore, the interpretivist paradigm focused on the cultural construction of reality and human experiences by emphasizing the importance of subjective experiences, meanings, and interpretations of individuals.

Using this approach allowed for an in-depth exploration of the meanings and perspectives of individuals within their social context and made it possible to delve deeply into the intricacies of human behaviour, beliefs, and values relating to the use of audio-visual communication artforms as well as the functions of the content and elements of design affecting such human experiences (Silverman, 2006).

As emphasized by Denzin and Lincoln (2011), the importance of understanding the social and cultural context in which people live helps in the appreciation of the influence of culture, history, and context on people's actions and interpretations, leading to a more holistic understanding of the project. As advocated by Creswell (2007), a richer exploration of diverse perspectives and meanings can help capture these subjective insights. Such social

3.3 Research design

This study used both qualitative research and a studio-based approach. The qualitative research focussed on understanding the depth and nuance of human experiences, through the provision of rich insights into multifaceted phenomena (Denzin & Lincoln, 2018) by offering a holistic view of subjects, through the exploration of individual and societal contexts (Creswell & Poth, 2017). On the other hand, the studio-based research allowed for exploration, experimentation, and discovery of new knowledge through practical, hands-on methods from the initial sketches, roughs, modeling, and animation of characters to the recording of sounds in the studio for the selected Ewe lullabies (Laurel, 2003).

The project was done in three phases: pre-studio research, studio research, and post-studio research. The pre-studio phase researched current issues relating to animation,

the history of animation, types of animation, lullabies, Ewe lullabies, and animating lullabies, including the use of appropriate multimedia for the selected Ewe lullabies. The aim was to obtain an in-depth understanding of the appropriate form of animation for the lullabies, the nature of the animation and the associated perceptions to justify and guide the production of persuasive storylines to support the selected lullabies.

This stage also involved concept development of creative ideas for the animations. It involved brainstorming sessions, storyboarding, and character designs. This was however, done after the script had been written to outline the dialogue, scenes, and overall story structure. It was however important to understand the target audience; thus, similar animations were analysed to identify trends to help gauge audience preferences.

Essentially, this helped to determine the project's budget, allocate resources, with a production schedule which ensured the project stayed on track. Additionally, the required tools and software for animation (technology) were assessed to aid in the facilitation of the project. Apart from this, the visual style, colour schemes, and art direction of the animation including the creation of mood boards and concept art were also decided. Further, storyboards which are visual representations of the various animation scenes, were created that helped in planning the shot sequences during animation.

These activities in pre-studio research were crucial for laying the foundation for a successful animation project, as they ensured that the project was well-planned with clear direction before the production phase.

The studio (production) phase combined field study and studio practices and design methods to collect additional data to aid in the production of animation including

animatics which is a draft version of the animation to pre-test production with selected members of the target population to refine the content and form of the animation. The use of the animatics for pre-testing helped to subject the content, concept, narrative, and other communication elements to review and to incorporate the responses into the actual production.

The post-studio research involved fieldwork which examined how the content and design strategies shaped the experiences of babies, mothers as well as care givers and how the communication and persuasive elements in the animations shaped their responses and interpretations. This approach helped to explore and evaluate the effect of the animations in a holistic manner to make an academic conclusion about the expressive use of animations for Ghanaian lullabies.

The approaches adopted; qualitative and studio-based research are valuable approaches in academia with qualitative research, characterized by their focus on understanding the depth and nuance of human experiences, which provided rich insights into complex phenomena (Denzin & Lincoln, 2018). It also offered a holistic view of subjects, making it suitable for exploring subjective aspects and societal contexts (Creswell & Poth, 2017). In the same vein, the studio-based research, fostered creativity and innovation (Laurel, 2003). Thereby allowing for the exploration, experimentation, and discovery of new knowledge through its practical, hands-on method. This approach was particularly important because of the tangible outcomes central to the research process.

For the purpose of this research, these methods most definitely helped contribute to the advancement of knowledge. Where qualitative research helped uncover hidden patterns leading to the generation of theories (Charmaz, 2014). On the other hand, studio-based research, promoted the development of novel artistic works (Sullivan & Lindgren,

2010). Most importantly, both approaches supported diversity in research methodologies and expanded the scope of inquiry. Furthermore, they were crucial because they addressed real-world problems. As a result, the qualitative aspect of the research shed light on complex social issues that informed strategic decisions (Merriam & Tisdell, 2016) while the studio-based aspect of the research enhanced the production of innovative artworks in the form of animations, which will influence cultural discourse of Ghana (Frayling, 1993).

The essence of practice-based research: knowledge embodied

This study is Practice-based and integrates creative practice as a cornerstone methodology for inquiry (Gauntlett, 2008). Thus, the animated lullabies are an intrinsic part of the research leading to the production of knowledge (Sandell, 2006) embedded within the creative outputs (Whitehead, 2003).

This unique approach offered a multitude of advantages. First, it dismantled the traditional divide between theory and practice, fostering a more integrated comprehension (Gauntlett, 2008) by exploring the research questions through the act of creation, leading to unparalleled insights that might be elusive through conventional methods (Sandell, 2006).

Furthermore, this approach unlocked avenues for exploring fresh ideas and possibilities while developing concepts, creating 3D models and animating the various stories for the lullabies (Kim, 2013) which nurtured innovation and progress within the study.

Additionally, the practice-led research positioned the researcher not just as a maker, but as a critical investigator who harnessed creative practice to guide and inform the research process (Stuples, 2008). Hence, the creative practice acted as a catalyst for

generating research questions, refining methodologies, and ultimately, shaping new knowledge (McIntyre, 2007). The focus thus was on how the practice led the research to the final creative outcome which served as a form of evidence alongside the written analysis (Sandell, 2006).

It can therefore be concluded that the implementation of the Practice-based research presented a valuable method for creativity. It also empowered the act of creation and fostered knowledge creation in a unique and insightful way. Consequently, the embodied knowledge gleaned from this creative practice offered a depth of understanding that would be difficult to achieve through traditional methods alone.

3.4 Population

The human population of the study constituted two groups. The first group included a member of the National Folklore Board and two respondents from two animation studios all based in Accra. The second group constituted three (3) mothers with babies from the age of twelve (12) months from Kpeve. They formed the core of the population helping to examine and fulfill the objectives of this study (Creswell, 2013).

The material population for the study was made of the selected lullabies.

Lullabies have long served as a soothing cultural expression, carrying with them deep emotional, narrative, and cultural significance. As source material for animation, they offer an abundance of creative and educational opportunities. This justification examines how lullabies provide a compelling foundation for animation production through their narrative, emotional, and cultural dimensions.

3.5 Sample and sampling technique

The study purposively sampled six (6) respondents made up of five (5) females and a (1) male, ensuring the selected participants possessed specific knowledge relevant to the study, to enhance the depth and relevance of the research (Creswell & Creswell, 2017). This was done to help maximize resources efficiently (Palinkas, et al., 2015). Moreover, the purposive sampling method was chosen to facilitate data collection from hard-to-reach populations, making it valuable in this qualitative research (Guest, Bunce, & Johnson, 2006).

Additionally, the stakeholder sampling strategy was used to select major stakeholders who directly promote local content through animation. This sampling technique was a deliberate plan used to identify, engage, manage, and collaborate with individuals who have an interest in, and could influence the research project and its outcomes. By using this strategy, a diverse range of perspectives was included, which enhanced the richness and depth of insights gained through the study (Mitchell, Agle, & Wood, 1997). At the core of it, the animation studios used were allowed to concentrate their resources and efforts on key issues relating to the study, making their engagement more efficient and effective (Clarkson, 1995). This as a result increased the relevance of their input (Bryson, 2004). And also saved time and resources because the right stakeholders were directly contacted who had genuine interest in the project's success which aligned with the objectives of the study. Consequently, bias was minimized by ensuring a balanced representation of viewpoints (Ackermann & Eden, 2011).

For this study, it was important to search for mothers with babies who were at least twelve (12) months of age who can watch and react to what they watch or view. The three mothers with a child each were selected from Kpeve in the Volta Region who formed part of the six respondents. After all, the main aim of the project was to produce

animation for lullabies in the local Ewe dialect which automatically presupposes participant mothers/caregivers understand and speak the language hence purposive sampling.

The lullabies used as the material population for the animations were selected taking into consideration the following:

Lullabies often convey universal themes like love, protection, dreams, and comfort, which naturally translate into powerful visual storytelling. Trehub and Trainor (1998) postulate that lullabies soothe and foster emotional bonds, making them ideal for narratives that resonate across various age groups. Besides, the layered nature of many lullabies offers animators the chance to explore duality. For instance, the Ewe lullaby "*Tutugborvi*" (which means "don't cry little child") encourages the child to stop crying and sleep peacefully. The lullaby contains several soothing elements that help calm the infant and encourage sleep. First, the lyrics convey reassurance and comfort, expressing care, protection, and the promise of safety, which can reduce distress and anxiety in the child. Second, the repetitive structure of the words create predictability, a feature known to have a calming effect on infants because it mimics rhythmic patterns experienced in the womb (Trehub & Trainor, 1998). Third, the gentle melody and slow tempo typical of lullabies promote relaxation by lowering physiological arousal. Additionally, the soft vocal delivery of the caregiver provides emotional warmth and a sense of presence, reinforcing attachment and security (Shenfield, Trehub, & Nakata, 2003). Together, these lyrical, musical, and relational components work synergistically to soothe the child, reduce crying, and facilitate the transition to sleep. Such duality enhances the depth of animations, appealing to both children and adults.

Moreover, lullabies are a repository of cultural heritage, reflecting the traditions, values, and histories of different societies. As Lomax (1968) argues, these songs are a "mirror

of culture,” passed down orally through generations. For example, the Ewe lullaby “*Toboli*” encapsulates affection for the child at the same time encouraging the child to rest, assuring them of safety and well-being (Beaudry, 2013).

Animating these lullabies allowed for the celebration and preservation of cultural diversity by introducing audiences to the richness of Ewe traditions in an accessible, engaging format.

Additionally, the poetic and metaphorical language of the lullabies provided fertile ground for imaginative animation. With the dreamlike imagery, they were a natural fit for the animations. As Betts (2020) points out, their symbolism allowed for the exploration of abstract, artistic styles that evoked the themes of the song in visually compelling ways.

Consequently, the animations inspired by the lullabies transported the viewers into ethereal dreamscapes settings.

The lullabies were also selected based on their universal appeal and accessibility.

Lullabies have a timeless, cross-generational appeal; thus, the animations based on the selected lullabies have the potential to attract diverse audiences, making them commercially viable as well as artistically impactful. The animations based on the selected lullabies have the potential to attract diverse audiences because they integrate culturally grounded and universally appealing elements.

Musically, features such as memorable melodies, gentle rhythms, and repetitive structures enhance accessibility and listener engagement, making the lullabies easy to recognize and recall across age groups.

Linguistically, the use of simple, emotive, and meaningful lyrics broaden audience reach while preserving cultural authenticity.

Visually, the animation style employs vibrant colour palettes, expressive character design, and culturally symbolic imagery to heighten aesthetic appeal and facilitate emotional connection.

Narratively, embedding the lullabies within relatable themes can increase viewer investment and interpretive depth. Additionally, high production quality, including sound design, vocal performance, and synchronization between music and visuals, contributes to professional polish and commercial competitiveness. Collectively, these musical, linguistic, visual, narrative, and production-related components interact to make lullaby-based animations attractive to broad audiences, thereby supporting both their commercial viability and artistic significance. While children are captivated by the soothing melodies and simple lyrics, adults often connect with the deeper emotions or nostalgia they evoke. Kivy (2002) highlights music's universal ability to elicit emotions, and the lullabies exemplified these.

Moreover, the musical structure of the lullabies provided a built-in framework for sound design and narrative pacing. Their repetitive and calming melodies helped shape the rhythm of animated sequences, thus creating a cohesive audiovisual experience. Patel (2008) emphasizes that the integration of music in visual media enhances emotional impact, and lullabies, with their emotive simplicity, were particularly effective in this regard.

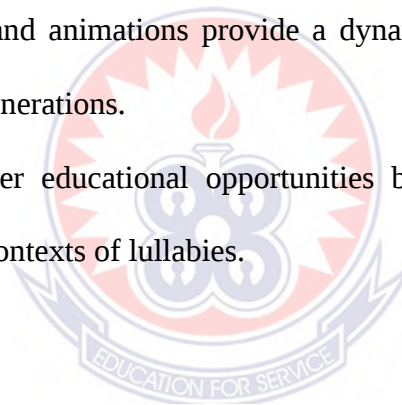
In this regard, reimagining the traditional Ewe lullabies with contemporary arrangements further modernized their appeal, blending traditional and modern artistic sensibilities.

Resultantly, the animations based on the selected lullabies will potentially preserve intangible cultural heritage. To ensure both visibility and long-term preservation, the lullaby-based animations will be disseminated across multiple platforms that combine

broad audience reach with archival stability. Broadcast media and digital streaming services will provide widespread access, while educational institutions will support their use for language, cultural, and socio-emotional development. Cultural institutions and community venues will facilitate preservation, public engagement, and intergenerational transmission. Additionally, mobile applications will enhance accessibility for contemporary audiences, and formal archiving in national and academic repositories will safeguard the materials against technological obsolescence and loss. Collectively, this multi-platform approach will maximize the animations' visibility, sustainability, and role in cultural preservation.

As emphasized by UNESCO (2018) using modern media is important to sustain traditional art forms, and animations provide a dynamic way to pass these cultural treasures to younger generations.

Additionally, they offer educational opportunities by teaching viewers about the histories and cultural contexts of lullabies.



3.6 Data collection procedure

To answer research objectives one, two, three and four which sought to investigate the current state of local content in animations in Ghana, a comprehensive study was conducted into lullabies to establish their suitability for 3D animation, followed by the adaptation five Ewe lullabies for animation and rearrangement of the selected lullabies, leading to the creation of 3D animations for the selected lullabies. A number of interviews were conducted among two selected animation studios, three mothers /caregivers and a member of the National Folklore Board to find out their views on the current state of local content in Ghana as well as the production of local contents in animation. The aim of the study was explained to them which was followed by booking

appointments for interviews. The interviews were done face to face for selected participants at locations of their choice. The questions for the interviews were semi-structured guided by the research objectives, questions, conceptual framework of the study and themes from the reviewed literature. Each interview session lasted between an hour to two hours. Sessions with mothers / caregivers also included a period to observe the reaction of the babies while they watched the lullabies which was then followed by the interviews. During these sessions, various animations for children were also collected which were mostly foreign in nature to help evaluate the performance of the animated lullabies in areas that need improvement against existing ones.

It was important to be acquainted with the participants before the start of each session. This was done to foster trust and rapport and also put participants at ease to give a more accurate and reliable data which enhanced the quality of the research process. The non-participant observation method was used to minimize potential bias that may have arisen from direct involvement; thus, enhancing the credibility and reliability of the research findings. Guided by the research objectives and literature review a checklist was developed after explaining the purpose of the study to the various participants. The checklist included appropriate use of visual communication material, the dominant visual material used, and participants' reaction and responses. Additionally, a systematic record of responses, communication and interactions were made.

3.6.1 Data collection instruments

The study used interviews, discussions, observation, and artistic methods. The application of such multiple data collection tools helped in the collection of rich data which is typical of qualitative research (Creswell & Creswell, 2017).

- *Individual and group interviews*

One of the instruments used for data collection was interviews which was used during the pre-production (investigations) and post-production (testing) stages. The study used both structured and semi-structured styles during meetings. The structured interviews questions were predetermined to reflect the conceptual frameworks for this study and allowed respondents to answer the standardized questions to ensure consistency in data collection thereby enhancing the reliability of results (Babbie, 2016). Similarly, semi-structured interview used allowed for clarification of answers and further explanation of complex ideas. Apart from encouraging productive responses, the semi-structured interviews helped to probe further to gain insight and understanding about the views of the participants (Creswell, 2013).

Therefore, the combination of both structured and semi-structured interviews was useful in contextualising the variables under discussions and concurrently created a conducive atmosphere for both interviewer and interviewee to discuss variables of the research questions in more detail (Rubin & Rubin, 2012). The data collection instruments were administered through conversation in a friendly environment; ensuring every data collected was reliable, valid, and met the objectives of the study (Smith, 2009).

- *Observations*

The observation method was employed at both the pre-studio and post-studio research stages of the study to gather first-hand, contextual data relevant to the research objectives. During the pre-studio phase, non-participant observation was conducted to critically assess existing animated lullabies available on the local market. This process facilitated the identification of content gaps, stylistic limitations, cultural relevance, and potential opportunities for improvement. Observations also extended to the post-studio

phase, where infants' responses to these animations were systematically recorded. Particular attention was given to non-verbal cues such as facial expressions, attention span, body movements, and emotional reactions.

This method proved valuable in unobtrusively collecting rich, naturalistic data, thereby minimizing researcher interference and capturing authentic behavioural responses. As noted by Mertens (2015), observation enables researchers to document events as they unfold in real time, allowing for the capture of nuanced, often-overlooked behaviours and environmental dynamics. The observation process in this study was guided by the conceptual framework, which informed the development of an observation guide and helped ensure a focused and theory-informed analysis of the collected data.

** Kindly check the appendix for the checklist*

3.7 Method of data analysis

The study adopted thematic and textual analysis as methods of data analysis.

3.7.1 Thematic analysis

The study used themes to analyse data from respondents during the post-studio investigations. The study adopted the qualitative approach, thus, data from the research was rich with descriptive meanings, perceptions, and experiences. The following are the steps used to analyse data from the field study.

1. *Data preparation and familiarisation:* data was prepared through three main stages. First, all recorded data from interviews and field notes from observation studies were collated and transcribed verbatim. After that, a backup of all data was made to ensure the safety and retrieval of the data in the event of damage. Next, all the names of respondents were masked to maintain their anonymity.

Finally, the data was reviewed several times to help familiarise the respondents with the nature of the content.

2. *Development of codes and coding:* this phase involved systematically identifying and labelling interesting features or patterns within the data collected. It also involved coding segments of text relevant to the research question. Both the deductive and inductive coding technique was used at this stage. A code was developed to guide the search for themes and patterns. These codes were developed based on the conceptual framework and reviewed literature in relation to the objectives of the study. As a result, the deductive coding helped to capture relevant issues emerging from the data through the lens of literature, research objectives and conceptual framework. This led to the appreciation of meanings that emanated and helped create a sort of marker within the data which helped locate specific themes easily. In order not to miss any important and surprising opinions, thoughts, and expressions, the inductive approach was used to capture valuable subjects, perceptions, and thoughts that may be lost through the deductive approach. This was done through several careful reviews of data to help detect both obvious and concealed themes and concepts that kept emerging from responses though the interview questions did not directly address them.
3. *Generating of themes and refinements:* Themes were then generated based on patterns that emerged from the coding. Some of the codes were reviewed and refined in line with the objectives of the study. The data was described and codified into sub-themes as they emerged by reading thoroughly through the text while taking notes. Next, the data were categorized into major thematic subjects by aligning them to vital statements, units of meaning, and new

knowledge. Additionally, data was synthesized to provide interpretation and explore implications from the realities and interpretations of the respondents by describing the importance of their responses concerning the objectives of the study and existing literature. Lastly, all the themes and codes were reviewed to establish the accuracy and clear representation of the data.

4. *Presentation:* Finally, the findings were presented following the themes that were created and emerged in relation to the objectives of the study. The presentation was done in a clear logical manner to preserve the integrity of the findings.

3.8 Validation and reliability of the study

To ensure the objectives of the research were met, checklists were developed to accurately measure the specific constructs under investigation. This was done to produce consistent results over time and across different conditions with the confidence that the measures put in place are stable and not randomly influenced. This enhanced the credibility of research findings for more accurate inferences and the drawing of conclusions with greater confidence thus, strengthening the overall trustworthiness of the study.

Importantly, copies of the questionnaire were made available for peer review to avoid any misinterpretation which ensured the collection of data in a manner consistent with the objectives of the study, thereby reducing the likelihood of drawing incorrect conclusions.

The input of professionals in the field of animation, folklore, and other experienced researchers from other universities, were also solicited to promote consistency and facilitation of a better understanding of trends concerning the study. The final

instruments were submitted to the research supervisor for input and final validation. Some corrections were made before the administration of the instruments to the various participants of the study.

Thus, the reliability and validation of research instruments essential for the credibility, reliability, and generalizability of the research findings were assured; ensuring that the research measures were contributing to the overall robustness of the study.

3.9 Ethical considerations of the study

Ethics in research is very important for several reasons as it first and foremost serves to protect the rights and well-being of research participants. This is in line with the ethical principle of beneficence, which requires researchers to maximize benefits and minimize harm to individuals (National Institute of Health, 2020). Thus, ethics can be expressed as given rules that help to distinguish between acceptable and unacceptable behaviour in society (Resnik, 2015). Given this study, certain ethical issues were considered regarding the use of human participation. These ethical considerations were necessary for ensuring the confidentiality as well as the safety of the participants. These issues were identified and addressed to prevent imminent problems that could have risen during the research process. The significant issues that were considered included consent of participants, anonymity and confidentiality, and data protection.

To facilitate the research, the interview guide for the interview were drafted clearly and concisely to avoid confusing respondents, thus ensuring that responses were not conflicting. Also, participants were given ample time to watch the animations and respond to the questionnaires to avoid mistakes and inaccuracies in their answers.

It was also important to get the informed consent of the participants which included the agreement to take part in the study based on access to all relevant and easily digestible information about what participation means (Rönnberg & Arne, 2017). Based on this, it was only appropriate to take all necessary measures to ensure participants understood what they were getting into. Participants were therefore invited to the study and given the choice to participate out of their own free will. Contact details of the researcher was also made available in case respondents had any enquiries to make with regards to the study.

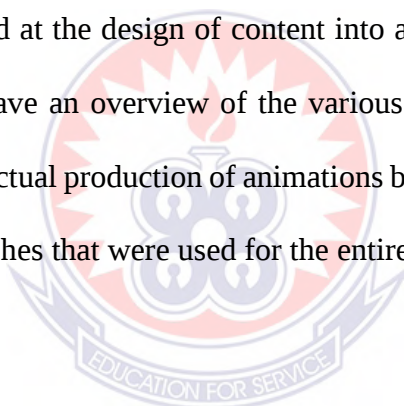
Additionally, the respondents were given a consent form regarding the confidentiality of their identity and the information they were giving out. This ensured that the identities of the participants were protected and most importantly whatever information they were giving out was not going to affect them in any way or anytime. As stressed by the National Institute of Health (2020) research participants should be well-informed and guaranteed anonymity and confidentiality. However, participants were made aware it was not always possible to guarantee anonymity and privacy nonetheless utmost care will be taken when recording sensitive information. Given this, the respondents' cooperation was zealously sought after, with the assurance that the data gathered from them would be treated with the strictest confidence. This was done with the expectation to promote trust between the researcher and the respondents.

CHAPTER FOUR

PRODUCTION PROCESSES

4.1 Objectives three (3) and four (4): Overview

This chapter concentrates on the pre-production and production techniques used for the production of the five animations taking into consideration the theoretical concept and framework established from related literature reviewed as well as data collected to ground the study. The study demonstrates the use of various techniques and processes that were used in the production of content for five animations for five selected Ewe lullabies. Additionally, this chapter reports the findings from the initial production of the research; organised into two phases: pre-production and production. The pre-production stage looked at the design of content into a persuasive message. Also, the pre-production stage gave an overview of the various steps employed that helped to shape contents before actual production of animations by looking at specific techniques and production approaches that were used for the entire production.



4.2 Equipment and devices

To complete this project, several devices and equipment were used to put images, audio and text together for a successful work. The following pages present the various equipment and devices used for the production.

4.2.1 Computer (workstation)

It was imperative to use a workstation with a powerful hardware, and ample RAM, to handle the resource-intensive demands of the varied software used ensuring smooth and efficient workflow. This guaranteed reliability and stability thus reducing the risk of crashes or data loss during modeling, animation and rendering. The workstation also

made it possible to multitask, allowing work to be done on multifaceted scenes, render animations, and use other applications simultaneously. Because the workstation is equipped with large, high-speed storage, large animation files were quickly stored and accessed without any hassle.

Additionally, the workstation with its high-quality monitor gave the accurate colour representation, which was important for ensuring that animations looked as intended. Most importantly, using a workstation for the production of the animations significantly improved productivity and the quality of works.

Apart from using the workstation for modeling, animating and rendering, it was also used in the creation of script, storyboard, and animatics. It was also used for render views and assisted in the editing process. The editing process included the organisation of rendered file into one composite shot into narratives through the use of specialised software. Further, the workstation was used for colour grading and rendering of animations.



Figure 3: computer workstation source: Amazon.sg

4.2.2 Microphones

Tube microphones with large diaphragms were used to aid in the recording of audio and sound for playback. This type of microphone was used because of the low self-noise level making it ideal for capturing quiet sources without introducing unwanted noise. It also made it possible to capture vocals with a rich natural sound quality which gave a professional and polished sound in the studio.



Figure 4: microphone source: Beymen.com

4.2.3 Software used

The production of storyboard for the animations started with illustrations on A4 sheets which were then transferred unto the computer using Adobe illustrator. The illustrations were then retraced and painted in photoshop and arranged in panels. The textures for the models were also painted in Photoshop before importing them into Maya for use. The illustrations made up of characters and environment were further translated into models using Autodesk Maya. Rendered files from Maya were composited using Adobe Premier Pro and Adobe After Effect. Fruity loops was used to record, programme and edit the selected lullabies for the animations.



Figures 5-9: various software used - Source: Researcher's Field work

4.3 Concept development

The study conducted two different pre-tests. The first was done during the pre-studio and studio stages to test the communicative value of animation scripts, previsualisation

concepts, and animatics. This approach allowed the scripts as well as the content to be examined professionally to ascertain the communicative value of the animations.

4.3.1 Preproduction

- *Conceptualizing*

This stage of animation started with the creative process of conceptualization of various storylines. This involved brainstorming ideas, developing a plot, and defining the central themes of the animation (Smith, 2018). Concurrently, character design took place, where appearance of key characters for the animations were created and refined to align with the narrative and overall aesthetics for the selected lullabies.

It was important to have well-crafted characters that were relatable to the Ghanaian populace who are the target of the animations. This was essential for audience engagement and emotional connection (Smith, 2018). And also, because the characters serve as the narrative vessels, conveying the story's themes, conflicts, and resolutions through their design and expressions. Further, the design of characters significantly contributed to the visual storytelling with distinctive and memorable characters thus enhancing the overall appeal and uniqueness of the animation, leaving a lasting impression on viewers through retention (Williams, 2020).

Effectively designed, the various characters helped in conveying personality traits, and relationships within the storyline (Tillman, 2011) which was made possible through visual elements that communicate nuances that enriched the narrative experience making it more immersive for the audience.

More importantly, visual continuity was maintained by ensuring consistency in the appearance of elements in the various scenes to maintain the audience's suspension of disbelief and also enhanced the overall quality of the animation (Tillman, 2011).

- *Technical planning*

The technical planning stage involved strategic decisions regarding animation techniques, visual styles, and overall design aesthetics (Williams, 2020). This phase was crucial for laying the groundwork for a seamless and efficient production process. The choice of animation technique; computer-generated imagery (CGI) was decided at this stage. Using CGI for the animations offered tremendous advantages. This is because the selected animation technique helped to address potential challenges and limitations, ensuring that the chosen animation technique aligned with the available resources and timeline (Masson, 2007). The technique also aided in evaluating the technical feasibility of implementing specific visual elements and effects, contributing to the successful execution of the animations.

- *Visual Style*

The establishment of a visual style was also decided at this stage. This included decisions on colour schemes, art direction, and the overall look and feel of the animation.

It was important to consider the colour schemes for the animations for several reasons. The target for the animations being children influenced the choice of colours because firstly, colours play a significant role in influencing children's emotions, behaviours, and cognitive development. It is without a doubt that bright and vibrant colours tend to evoke feelings of happiness, excitement, and positivity, which could stimulate and engage the children (Adams & Osgood, 1973). Additionally, soothing and calming colours such as pastels, blues and greens could help to promote relaxation and concentration, while watching the animations (Valdez & Mehrabian, 1994). Moreover, the choice of colours aided in the organization and categorization of information, which was essential for children's learning and understanding of the virtual

environment. For example, using consistent colour-coding for different subjects or activities could help children easily distinguish between them and improve their ability to recall information (Baxter & Courage, 2012). Likewise, the children could relate with certain colours associated with specific concepts, such as green with nature or blue with water, which could enhance their comprehension and retention of animated content (Bellizzi & Hite, 1992).

Besides, cultural and developmental factors were importantly considered during the selection of colour schemes for the animations. This was because different cultures have varying associations with colours, and these cultural sensitivities were taken into consideration to ensure inclusivity and accessibility (Poulsen, 2000). This was done to enhance the storytelling, and also to create a unique identity, engaging the audience (children) on a visual and emotional level (Williams, 2020). It also contributed to the creation of a distinctive identity for the project (Williams, 2020) thus setting the tone for the animation to evoke specific emotions in the audience (Smith, 2018).

The chosen visual style was also selected to complement and enhance the storytelling process and also used as a visual language to communicate themes, moods and character traits, enriching the narrative experience for the audience (Smith, 2018).

Further, the selected visual style served to depict consistency and cohesiveness in the use of visual elements creating a more immersive experience, keeping the audience engaged throughout the animation (Williams, 2020).

Additionally, the selected visual style helped in maintaining a unified look across characters, environments, and overall design, thereby providing a polished and professional appearance. Most importantly, the selected visual style allowed for the display of creativity and innovation (Smith, 2018). As a result, a cohesive visual style

was achieved which enhanced the storytelling and contributed to the overall aesthetic appeal of the animations (Smith, 2018).

The integration of music to complement the animation, was decided which led to the recording of the selected lullabies, pacing and coding of bells as well as other musical embellishments for a seamless integration of audio elements to enhance the viewer's immersive experience.

- *Visual Research*

Visual research was used because of the qualitative nature of the study. This method was used to identify and collect visual materials such as images in the form of illustrations, 3D models and texts, used in the production of the animations for children. This was essential in order to gain insights and understanding within the context of the study. It was also a tool employed to explore the world of animation (for children) in new and creative ways to create new knowledge (Rose, 2015).

- *Scriptwriting*

The next stage involved writing scripts for the selected lullabies. Scripts were written to establish the narrative structures and overall tones of the animations (Johnson, 2019).

The scripts served as the blueprint for the narrative and dialogue of the animation (Johnson, 2019). It involved crafting written documents that outlined the storyline, character interactions, and essential elements of the animations' plot. Additionally, the scripts served as a guide by providing a clear vision for the animation. They also established the foundation for character development, plot progression, and thematic elements including outlines of essential information to the audience (Johnson, 2019). Moreover, the scripts helped to define the pacing of the stories, ensured cohesive and engaging narrative (Smith, 2018) by offering a structured framework for the entire production process. Most importantly, the details of the scripts served as guide for the

storyboard artists and animators in visualizing the aim of the project more accurately (Williams, 2020) thus contributing to the overall visual storytelling and maintaining consistency throughout the animation. The script also helped in voice casting the most suitable singer to bring characters to life.

- *Shooting scripts*

Several concepts were developed which involved visual thinking to represent messages to compliment the various lullabies. This was done through various visual thinking, writing, reflection, and reviews for animation. The following pages show the shooting scripts used for the animations.

Table 1: Script for Kofi Agbledela - Source: Researcher's Field work (2024)

SCRIPT FOR KOFI AGBLEDELA	
This lullaby is about Kofi the farmer (agbledela) who turns leaves into various objects	
CHARACTERS: Various objects, Baby	
The location is set outside and inside a house	
Shot	Scene / Action
Close shot (CS) of seed	(Camera follows the seed): Seed falls into the ground and begins to germinate.
Extreme Close Shot – Long Shot (ECS to LS):	The seed grows into a tree.
Medium Shot (MS):	Leaf drops from the tree and begins to morph into various items such as hat, shoe, dress etc.
Various shots:	The morphed objects roll around and hang on the baby carousel on the cot.
Medium Shot to Close shot (MS):	Baby is peacefully sleeping in cot. Scene fades out with lullaby.

The use of imagery such as a falling seed, gradual growth into a tree, and gently dropping leaves in the animated lullaby is motivated by both symbolic resonance and developmental appropriateness. These natural processes depict slow, continuous transformation and cyclical rhythms that parallel the child's transition from wakefulness to sleep, conveying themes of stability, nurturing, and protection. The tree functions metaphorically as a sheltering presence, similar to caregiving, while the downward movement of leaves evokes release, slowing, and rest.

From a perceptual perspective, the slow, repetitive, and predictable motion characteristic of such natural imagery aligns with children limited attentional capacities and helps prevent overstimulation. Organic shapes, soft contours, and rhythmic movement are generally perceived as soothing and non-threatening, thereby supporting emotional regulation and sleep readiness. Situating a peacefully sleeping child within this tranquil natural setting reinforces a sense of safety and enclosure.

Hence, the use of nature-based motifs provides developmentally appropriate sensory input while symbolically representing calm progression and security, making them particularly effective visual metaphors for facilitating the child's relaxation and sleep.

Table 2: Script for Kofi kple Ama - Source: Researcher's Field work (2024)

SCRIPT FOR KOFI KPLE AMA (Kofi and Ama)	
CHARACTERS: Various objects	
The environment is one of fantasy with vibrant and exciting colours.	
Shot / location	Scene / Action
Exterior (EXT.) Long shot (LS), Close up shot (CU) and medium shot (MS)	Ball sitting on the mouth of the mountain. Mountain shakes and causes ball to roll from the mountain top into the valley
LS, CU and MS	The ball hits various objects on its way down.
A mix of LS, MS and CS.	The ball finally hits a pestle and a mortar.

	The pestle rolls and stand up straight, goes into the mortar and begins to pound magically. The camera shots include various cuts to make the story interesting. LULLABY WITH BELLS FADES OUT
--	--

The use of fantasy elements such as a slowly rolling ball and a rhythmically moving mortar and pestle in the animated lullaby served to provide repetitive, predictable, and gently paced sensory stimuli that support baby's calmness. The downward motion of the ball suggests progression toward rest, while the cyclical pounding action produces a steady rhythm analogous to soothing patterns such as rocking or heartbeat-like cues, thereby facilitating relaxation and sleep readiness.

Presented within the softened fantasy context, these objects became benign components of a tranquil environment and symbolically evoked familiarity, domesticity, and caregiving. Coordinated with slow tempo and smooth continuity, and placed alongside a peacefully sleeping child, the imagery function as a representation of a regulated and secure world. The animation's effectiveness there lies in the predictable orchestration of motion and rhythm to create a calming sensory experience conducive to sleep.

Table 3: Script for Papa and Mama - Source: Researcher's Field work (2024)

SCRIPT FOR PAPA AND MAMA	
CHARACTERS: Hand, drum, triangle	
Shot	Scene / Action
Interior (INT.) Long shot (LS) /Medium shot (MS) / Close shot (CS)	Hands beating drums. The triangle is hit intermittently.

Long shot (LS) /Medium shot (MS)/ Close shot (CS)	Musical notes appear from the drums as drumming is on-going.
	Playful musical bells fade out.
Close shot (CS) / Medium shot (MS) / Long shot (LS)	The camera pans from the baby through the window and fades.
	The lullaby fades away.

The inclusion of drums and rattles for this concept is motivated by their ability to produce steady, repetitive rhythms that can support calming and sleep readiness. Soft, low-intensity drumming may approximate heartbeat-like patterns, while gentle rattling can resemble consistent background sounds that infants often find soothing. When presented at a slow tempo and moderate volume, such rhythmic input can facilitate entrainment, allowing the infant's physiological and attentional states to align with predictable external patterns.

Visually synchronized, the slow movements associated with these instruments further reinforce the calming effect through cross-modal correspondence, culturally they symbolized caregiving, protection, and communal nurturing. Their effectiveness, however, depended on careful modulation to avoid overstimulation. The use of drums and rattles served as sources of gentle, rhythmic sensory input that promote emotional regulation and peaceful sleep in the babies.

Table 4: Script for Tutugbovi Source: Researcher's Field work (2024)

SCRIPT FOR TUTUGBOVI	
CHARACTERS: Hand, rattle, baby	
The location is set outside and inside a cottage in a peaceful meadow	
Shot	Scene / Action
Exterior (EXT.) Long shot (LS)	The camera goes through the foliage to reveal a cottage in a peaceful meadow (day time).
Interior (INT.) Long shot (LS) / Medium shot (MS) / Close shot (CS)	The camera moves into the interior of the cottage
LS / MS/ CS	And moves into the nursery; an invisible hand is playing a rattle for a baby in a cot.
CS / MS / LS	The baby soon falls asleep.
	The camera pans from the baby through the window and fades.
	The lullaby fades away.

The selection of a peaceful meadow and a calm nursery interior is motivated by their associations with safety, familiarity, and emotional comfort, which are conducive to infant relaxation. Natural settings with soft colours and gentle movement help reduce sensory overload, while the nursery environment reinforces security and routine, supporting emotional regulation and sleep readiness. The inclusion of a baby in a cot further emphasizes protection and containment.

Additionally, the soft, rhythmic sound of a rattle provides soothing auditory stimulation that can mask disruptive noises and promote calmness through repetitive patterns reminiscent of prenatal auditory experiences. Collectively, these visual and auditory features create a low-arousal, multisensory environment that minimizes stimulation, fosters a sense of safety, and facilitates a smooth transition into peaceful sleep.

Table 5: Script for Toboli - Source: Researcher's Field work (2025)

SCRIPT FOR TOBOLI	
CHARACTERS: firefly, star and flower	
Location is a gentle meadow with flowing river	
Shot	Scene / Action
EXT. LS	A serene landscape of a gentle meadow with flowing river and starry skies accompanying the calming lullaby (night time).
LS / MS/ CS	Trees softly swaying with twinkling stars and fireflies.
CS	Firefly lands on a flower
CS / MS/ LS	The firefly flies away when flower begins to open.
CS / MS/ LS	The flower opens to reveal a glowing star that flies into the sky.

The use of a gentle meadow, with flowing river, and a star ascending into the sky is motivated by their symbolic and sensory associations with calmness, continuity, and transition. The natural elements such as slow-moving water and open landscapes evoke serenity and stability, while the star's gradual upward movement represents a subtle shift from wakefulness to sleep.

These features were used to promote peaceful sleep by providing predictable, low-intensity visual stimulation that reduces cognitive and emotional arousal. Thus the coherent, tranquil imagery reinforces nighttime cues and supports relaxation, thereby facilitating a smooth transition into sleep for young children.

Sketches

- Toboli



Figure 10: peaceful meadow - Researcher's Field work (2025)



Figure 11: trees swaying - Researcher's Field work (2025)

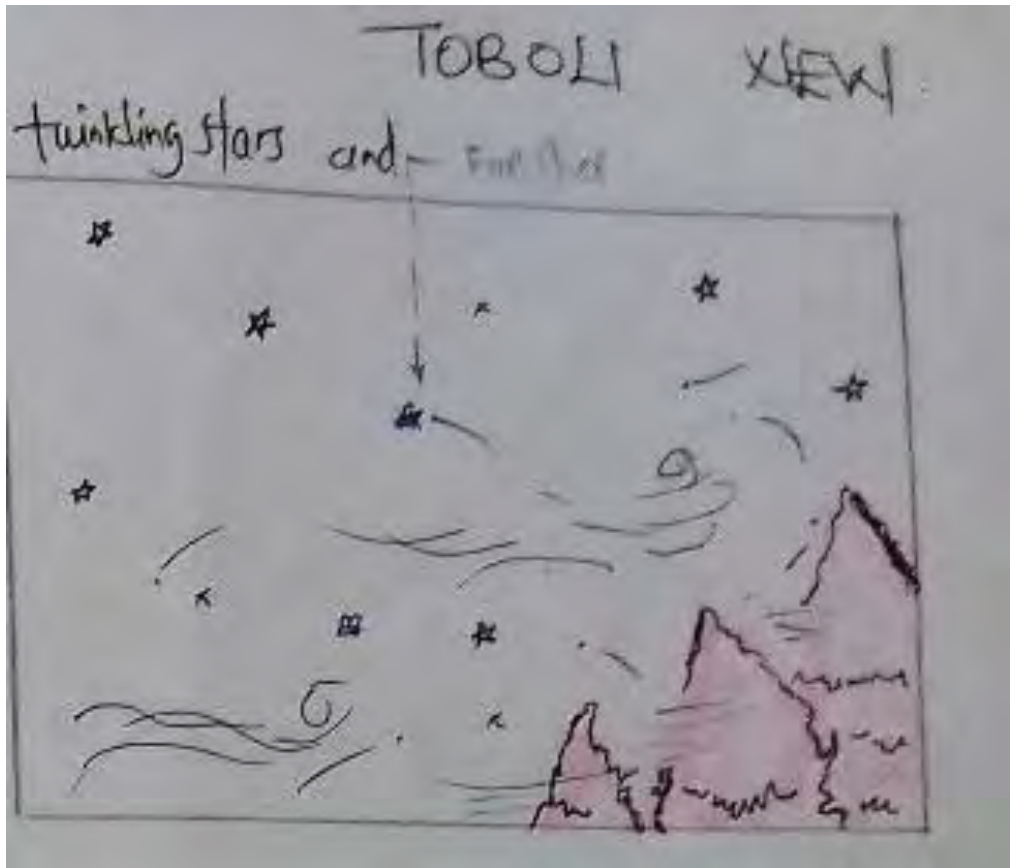


Figure 12: twinkling stars with fireflies - Researcher's Field work



Figure 13: firefly flying - Researcher's Field work (2025)



Figure 14: firefly flying towards flower - Researcher's Field work (2025)



Figure 15: firefly perching on flower – Source: Researcher's field work, (2025)

- Papa and Mama



Figure 16: Hands drumming - Researcher's Field work (2025) (2025)

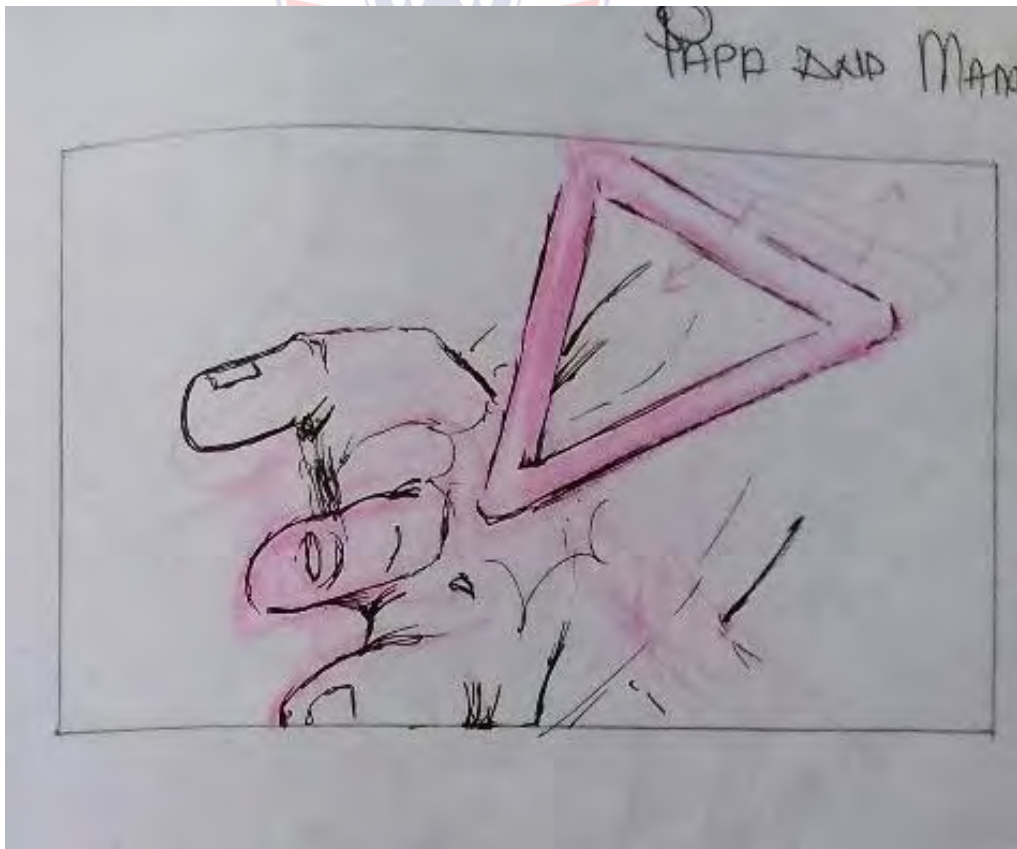


Figure 17: Hand hitting triangle - Researcher's Field work (2025) (2025)



Figure 18: Musical notes coming from drums - Researcher's Field work

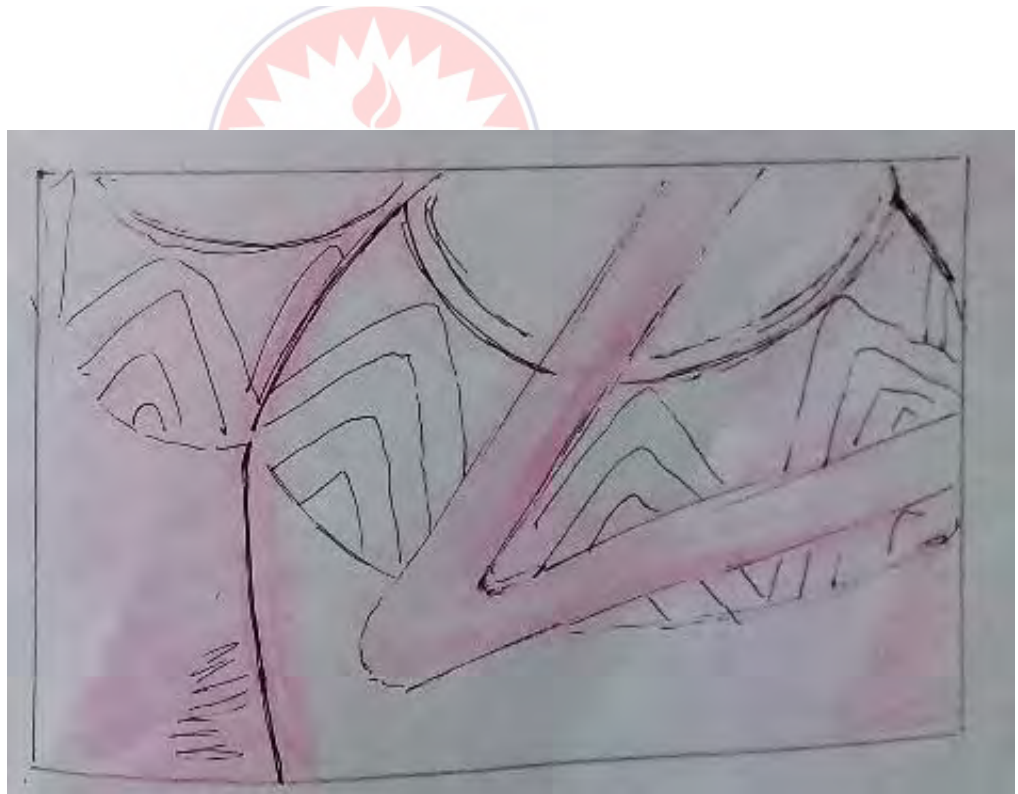


Figure 19: close shot of drums and triangle - Researcher's field work, (2024/25)

- Kofi Agbledelela

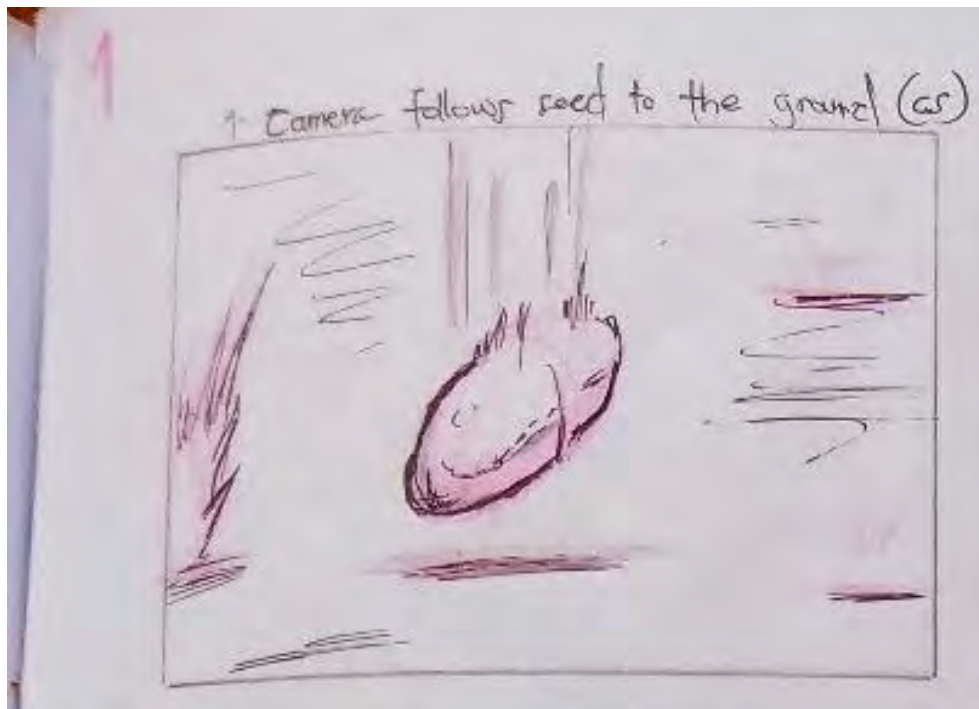


Figure 20: seed falling to the ground - Researcher's Field work (2025)



Figure 21: seed germinating into a tree - Researcher's Field work (2025)



Figure 22: seed grows into a tree - Researcher's Field work (2025)



Figure 23: leaves form into several objects - Researcher's Field work

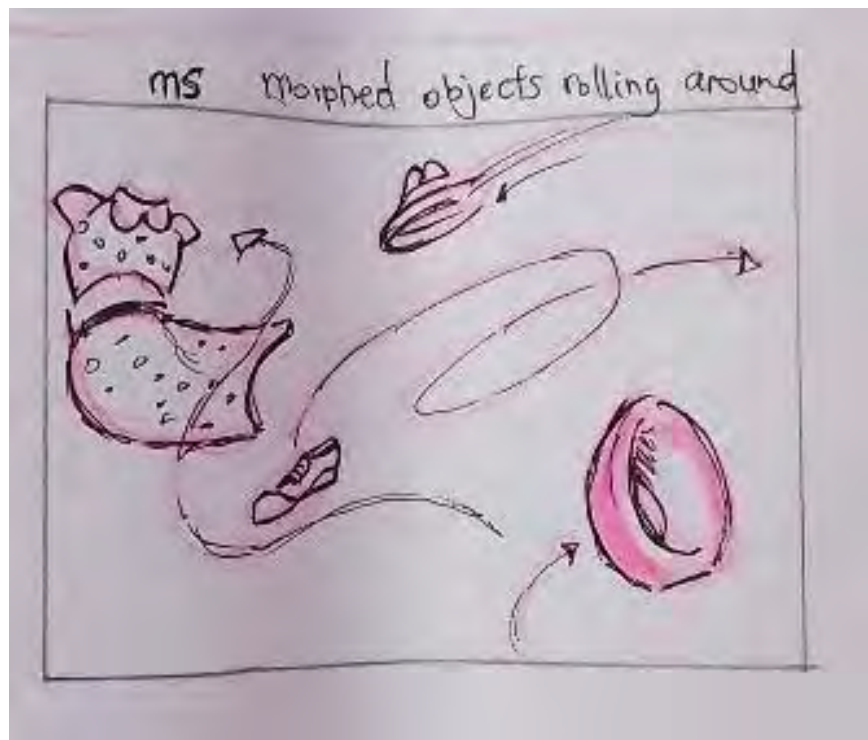


Figure 24: morphed objects move into nursery - Researcher's Field work



Figure 25: morphed objects move to the baby cot - Researcher's Field

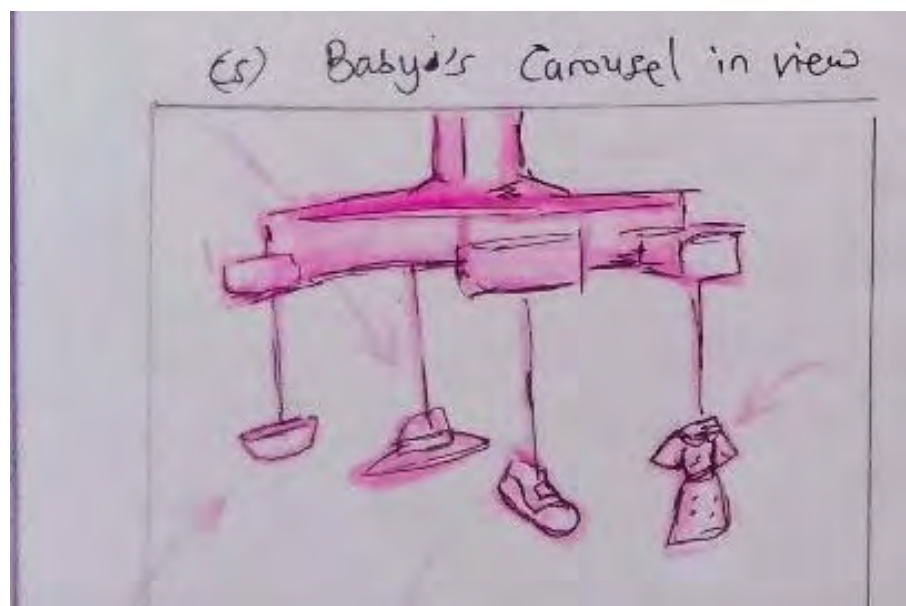


Figure 26: morphed objects hang on carousel - Researcher's Field work



Figure 27: baby sleeping in cot - Researcher's Field work (2025) (2025)

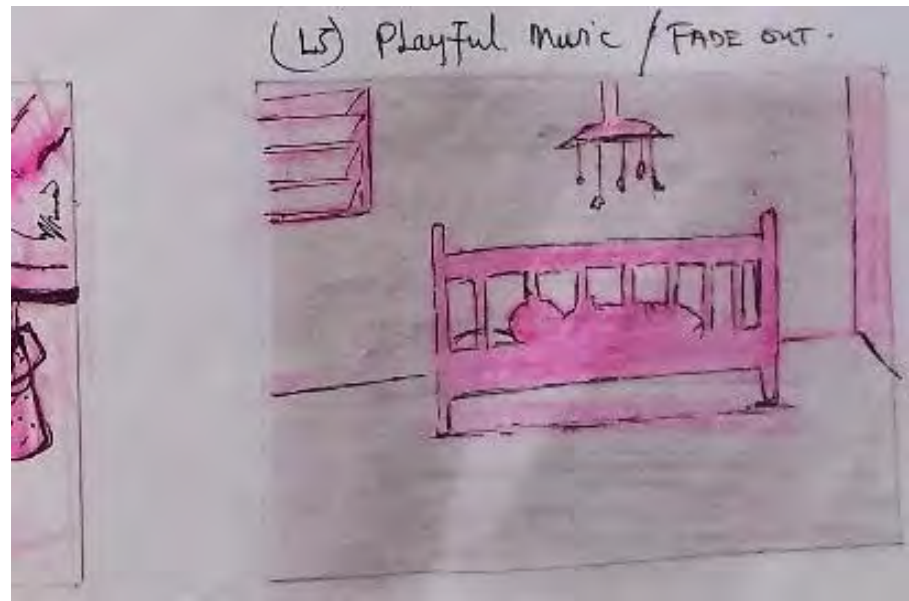


Figure 28: cot fades out of view - Researcher's field work, (2025)

- Kofi and Ama

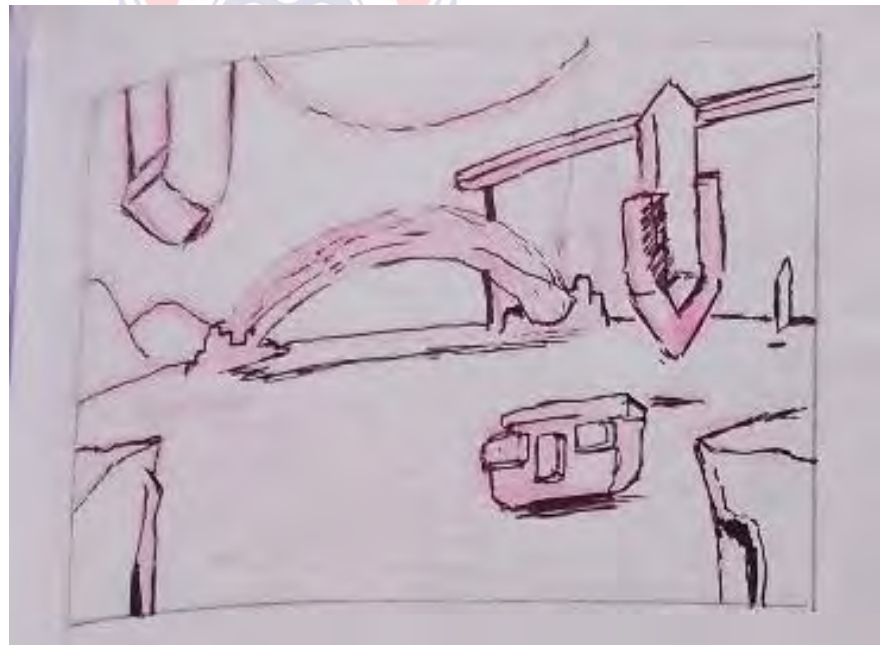


Figure 29: fantasy land - Researcher's Field work (2025)

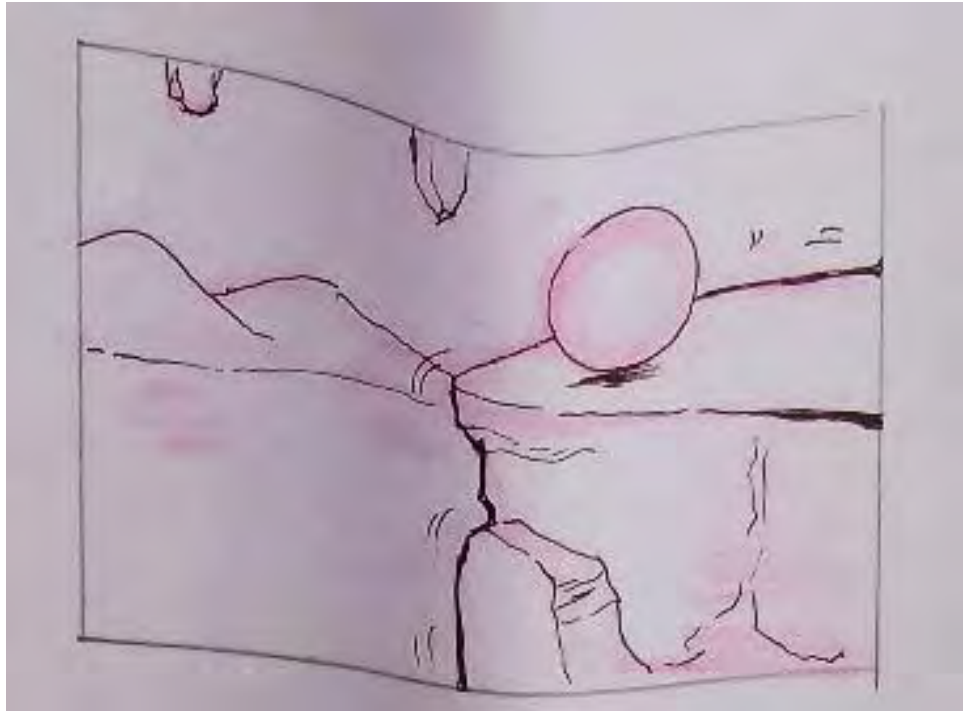


Figure 30: ball on of mountain - Researcher's Field work (2025)



Figure 31: ball rolls from the mountain - Researcher's Field work (2025)

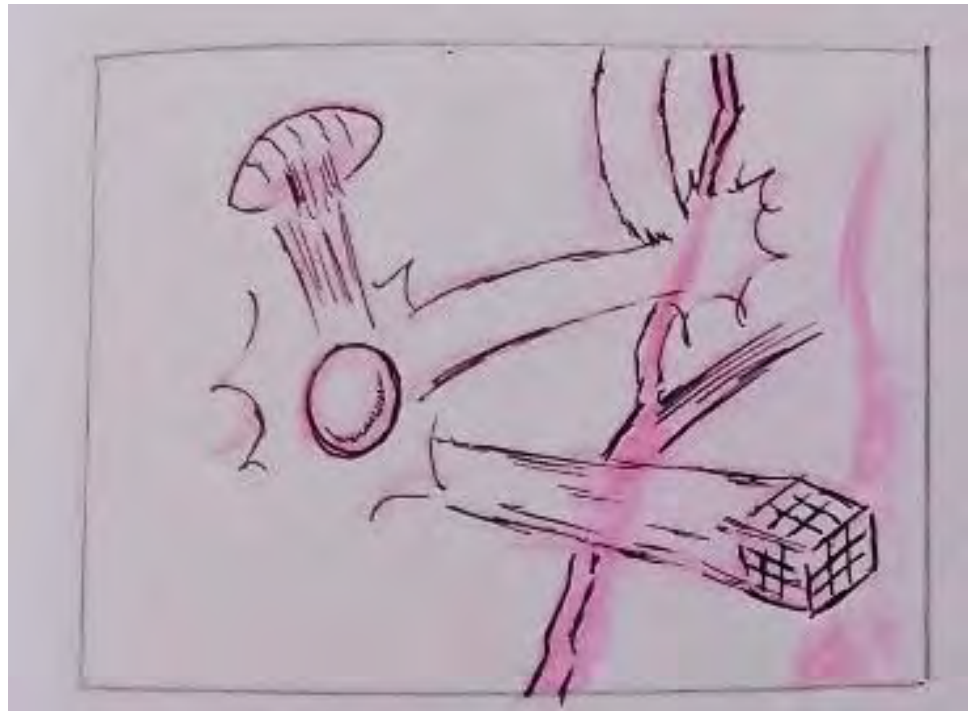


Figure 32: ball hits a rock - Researcher's Field work (2025)

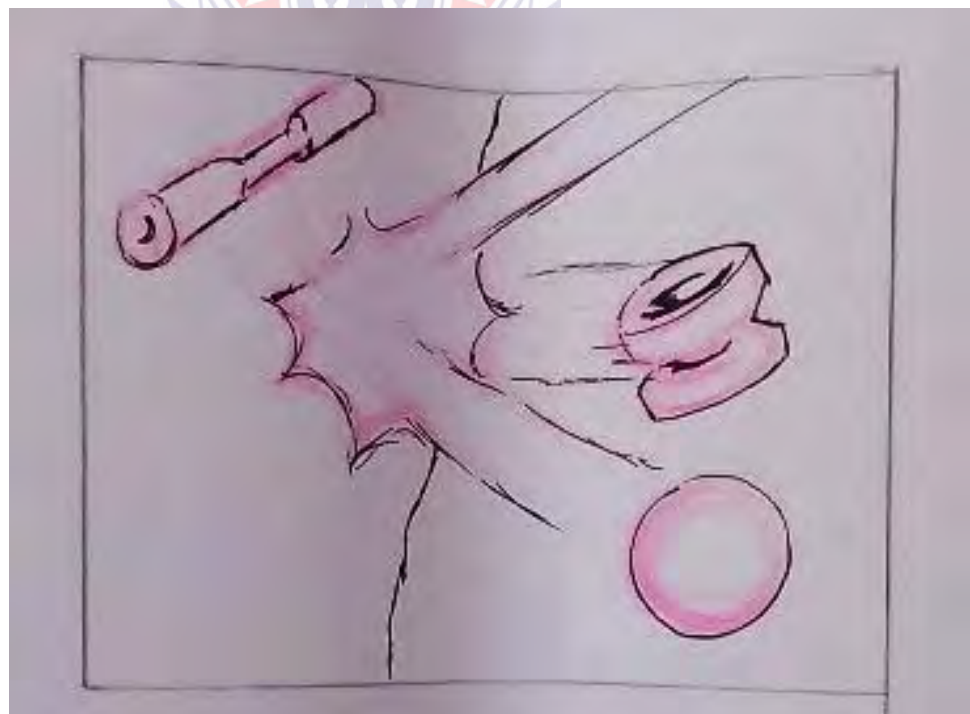


Figure 33: reveals mortar and pestle - Researcher's Field work (2025)

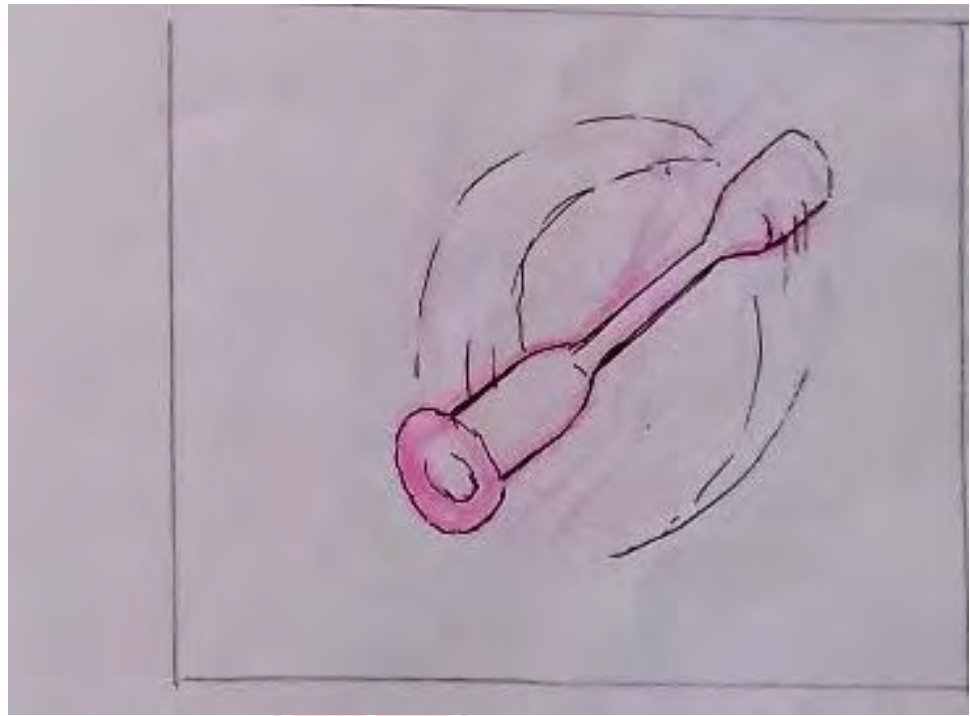


Figure 34: pestle rotates - Researcher's Field work (2025)

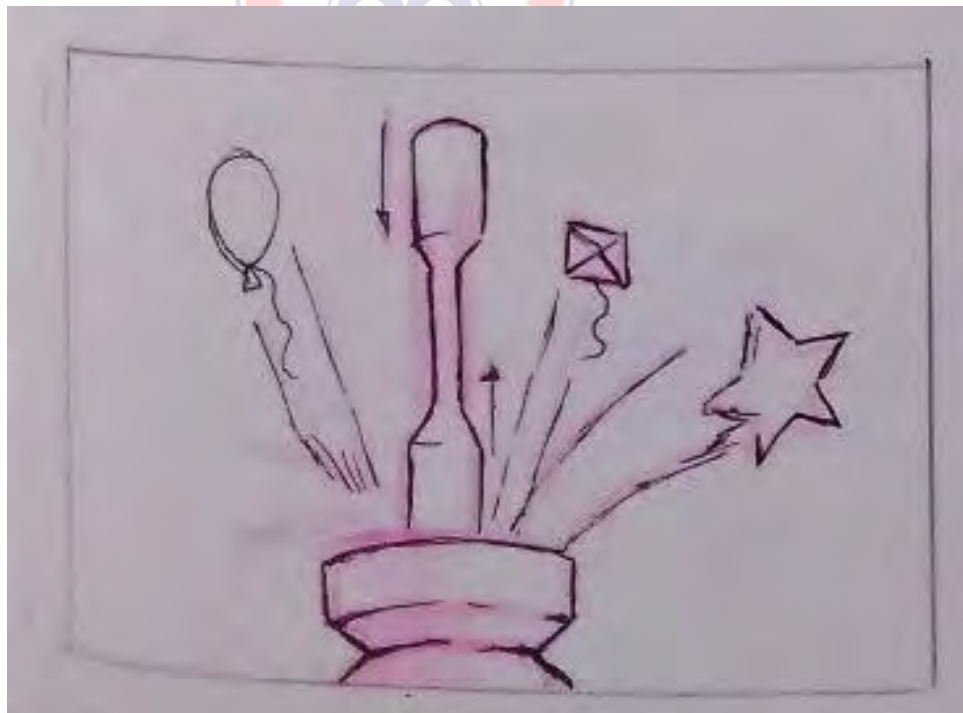


Figure 35: pounding reveals several shapes - Researcher's Field work

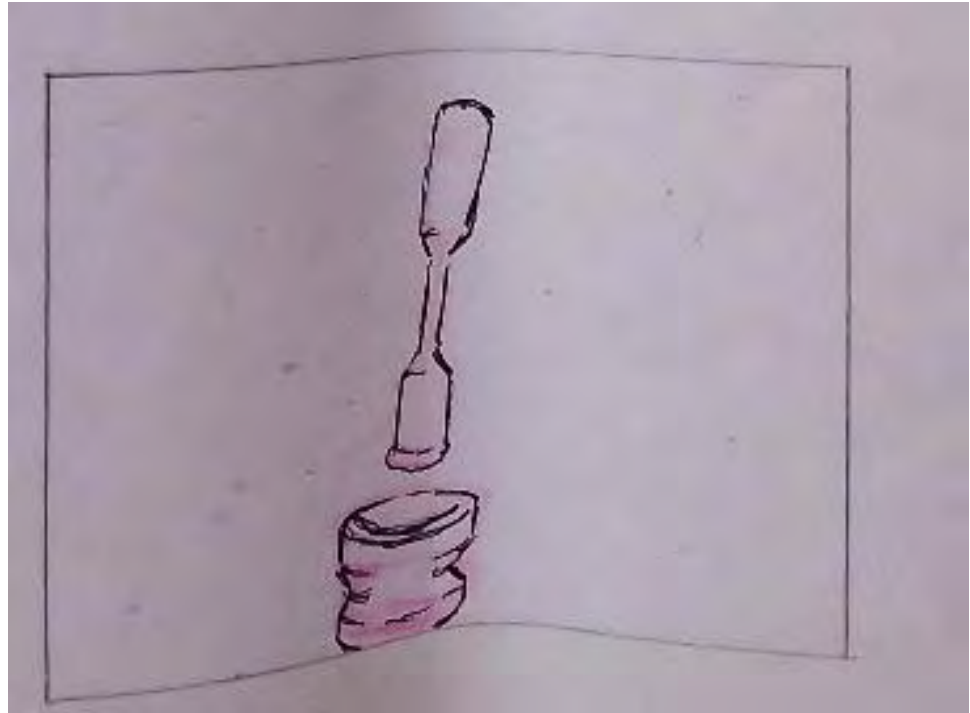


Figure 36: mortar and pestle - Researcher's Field work (2025)



Figure 37: close shot of mortar and pestle - Researcher's field work, 2025

Storyboarding

After the script was the development of storyboards; a sequence of illustrated panels representing key scenes (Tillman, 2011). They served as visual blueprints, allowing for the planning of the composition and flow of the animation before committing to full production.

An animatic was developed which is essentially a moving storyboard with rough timing and sound, providing a dynamic preview of the animation's pacing which also helped to identify potential issues before production commenced (Tillman, 2011).

KOFI AGBLEDELA



Figure 38: Camera follows seed to the ground (CS) - Source: Researcher's field work, 2024/25



Figure 39: Seed germinating (CS) - Source: Researcher's field work, 2024/25



Figure 40: Seed grows into a tree (LS) - Source: Researcher's field work, 2024/25



Figure 41: Leaf drops from the tree and begins to morph into various items (MS) – Source: Researcher's field work, 2024/25



Figure 42: Morphed objects moving around (MS) - Source: Researcher's field work, 2024/25



Figure 43: Objects move into baby's room to hang on the carousel (CS) –
Source: Researcher's field work, 2024/25



Figure 44: baby sleeping (MS) - Source: Researcher's field work, 2024/25

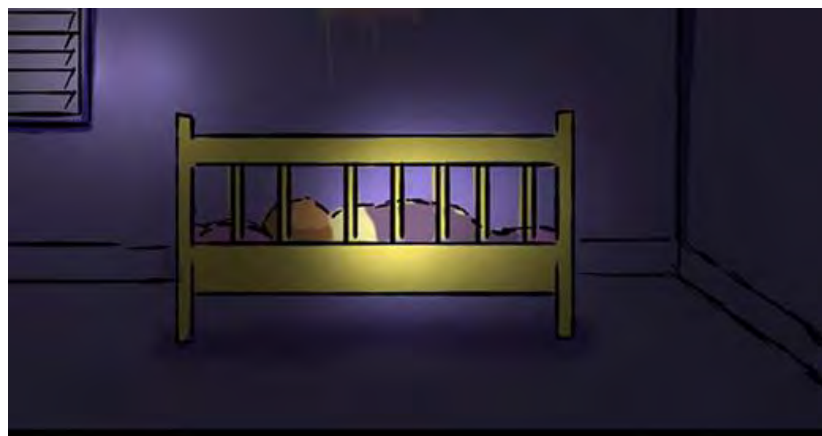


Figure 45: Playful musical bells into fade out (LS) - Source: Researcher's field work, 2024/25

KOFI KPLE AMA



Figure 46: View of fantasy land (LS) - Source: Researcher's field work, 2024/25



Figure 47: Mountain shakes with the ball at the top of the mountain (MS) – Source: Researcher's field work, 2024/25



Figure 48: Ball falls off the mountain - Source: Researcher's field work, 2024/25

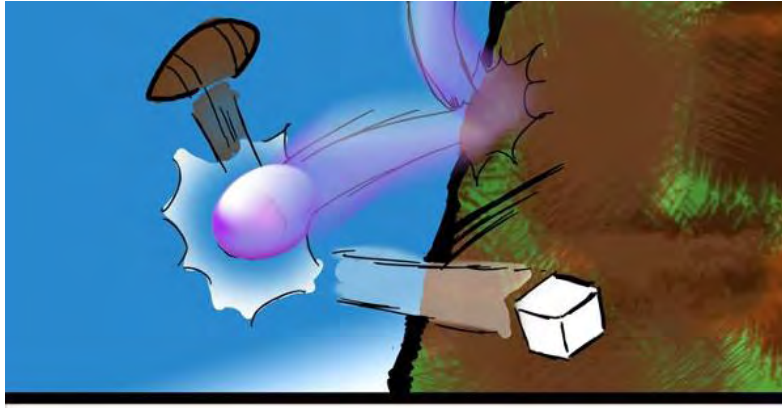


Figure 49: Ball hits several objects (MS) - Source: Researcher's field work, 2024/25

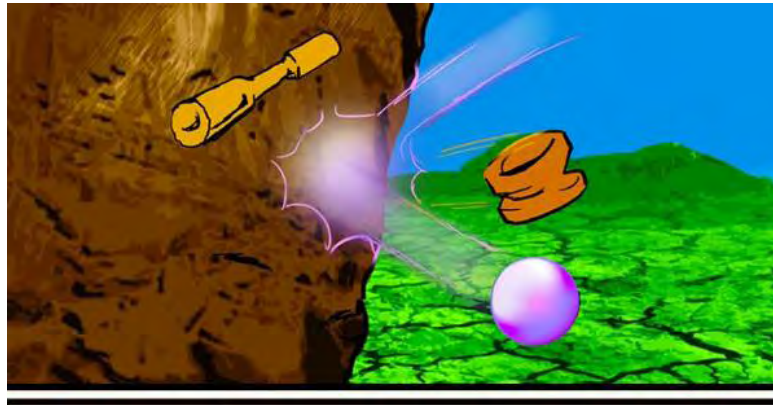


Figure 50: Pestle hits ball (LS) - Source: Researcher's field work, 2024/25

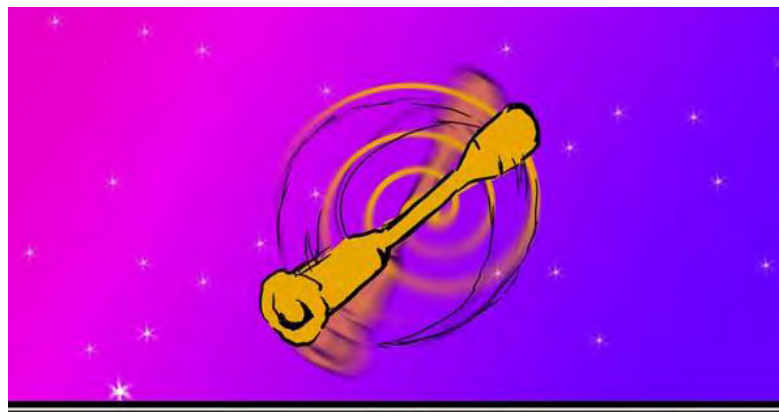


Figure 51: Pestle magically rolls (MS) - Source: Researcher's field work, 2024/25

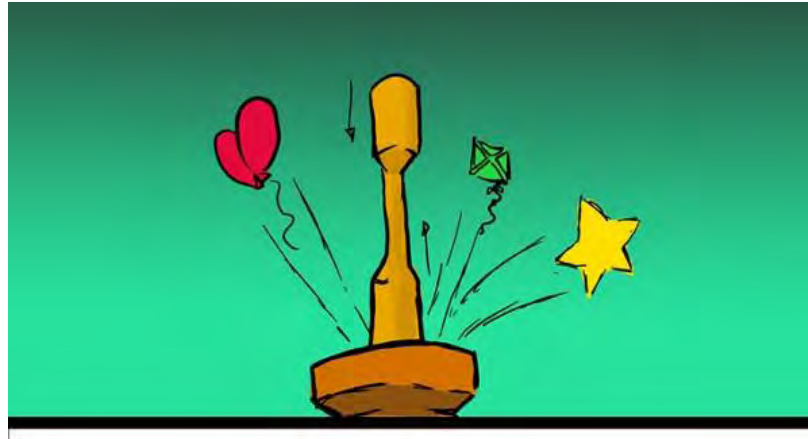


Figure 52: Magical objects coming out of the mortar (MS) - Source: Researcher's field work, 2024/25



Figure 53: Pestle continues to pound in the mortar (LS) - Source: Researcher's field work, 2024/25

PAPA AND MAMA



Figure 54: INT. Hand beating drums (CS) - Source: Researcher's field work, 2024/25



Figure 55: Triangular bell his intermittently (CS) - Source: Researcher's field work, 2024/25

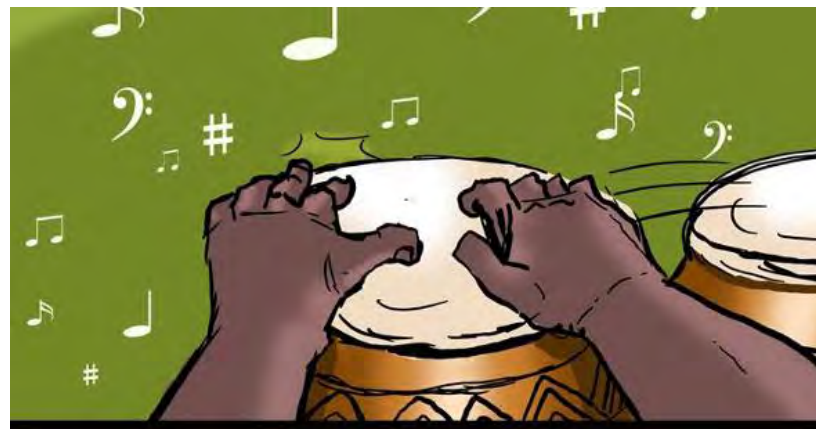


Figure 56: Musical notes appear as drumming is on-going (MS) –
Source: Researcher's field work, 2024/25



Figure 57: Playful musical bells into fade out (Ext. CS) - Source: Researcher's field work, 2024/25

TOBOLI

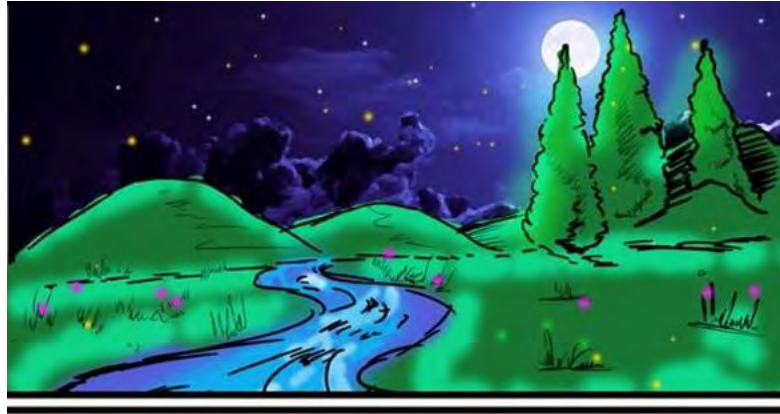


Figure 58: EXT. Gentle meadow with flowing river and starry skies (LS)
Source: Researcher's field work, 2024/25



Figure 59: Softly swaying trees (MS) - Source: Researcher's field work, 2024/25



Figure 60: Twinkling stars and fireflies (MS) - Source: Researcher's field work, 2024/25

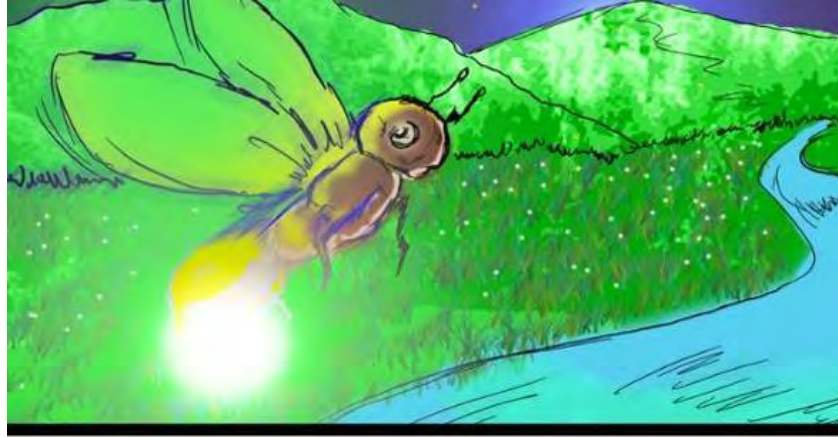


Figure 61: Firefly moving towards a flower (CS) - Source: Researcher's field work, 2024/25



Figure 62: Firefly landing on flower (LS) - Source: Researcher's field work, 2024/25

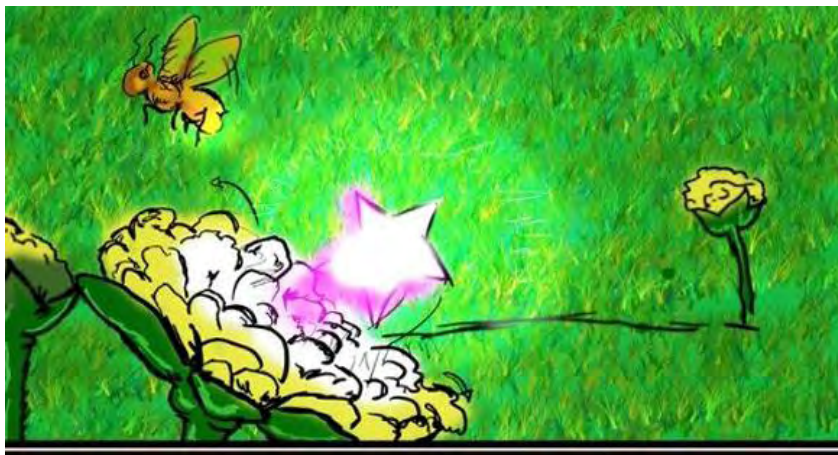


Figure 63: Firefly flies away as flower begins to open (CS) - Source: Researcher's field work, 2024/25



Figure 64: Flower opens up and star flies out (MS) - Source: Researcher's field work, 2024/25



Figure 65: Glowing star flies into the sky (LS) - Source: Researcher's field work, 2024/25

4.3.2 Production: Modeling the characters in Maya

After the development of the storyboards, the various characters were then modelled in Maya; a 3D software. Apart from using the storyboard, other images were also used as reference during modeling for realism.

PAPA and Dada: the modeling process

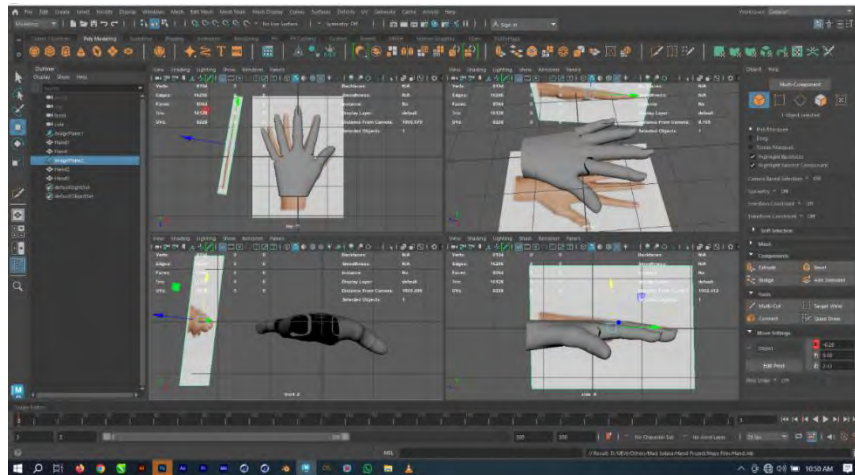


Figure 66: Modeling the hand using a reference - Source: Researcher's field work, 2024/25

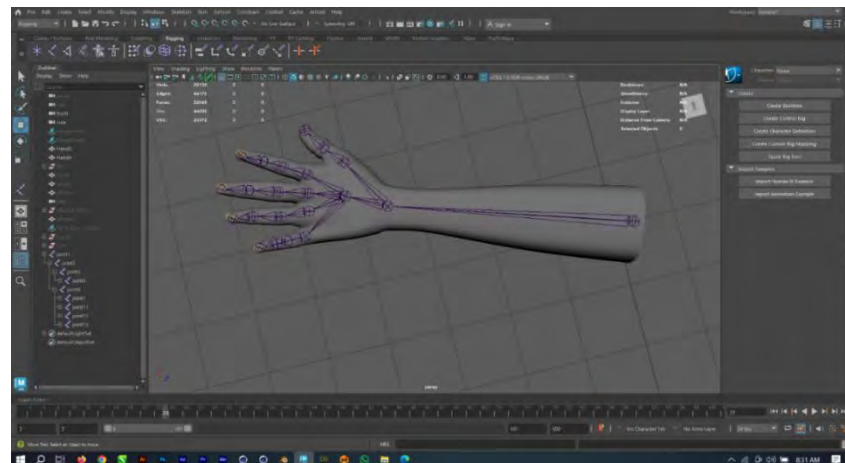
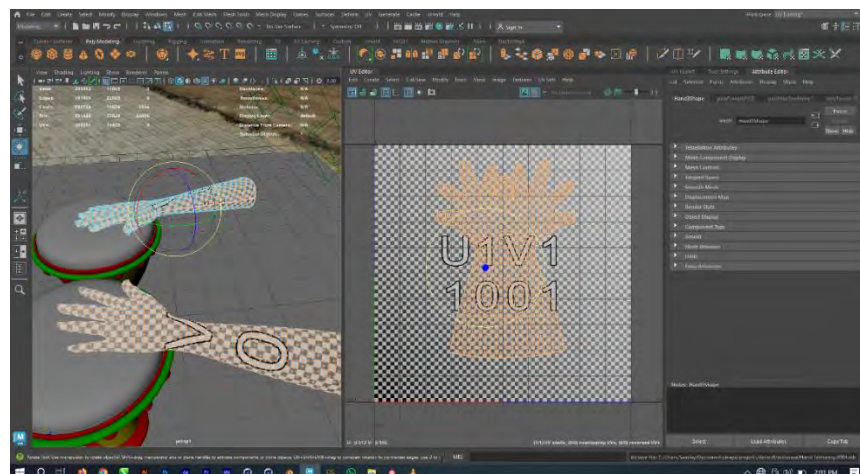


Figure 67: Hand with rigs for animation - Source: Researcher's field work, 2024/25



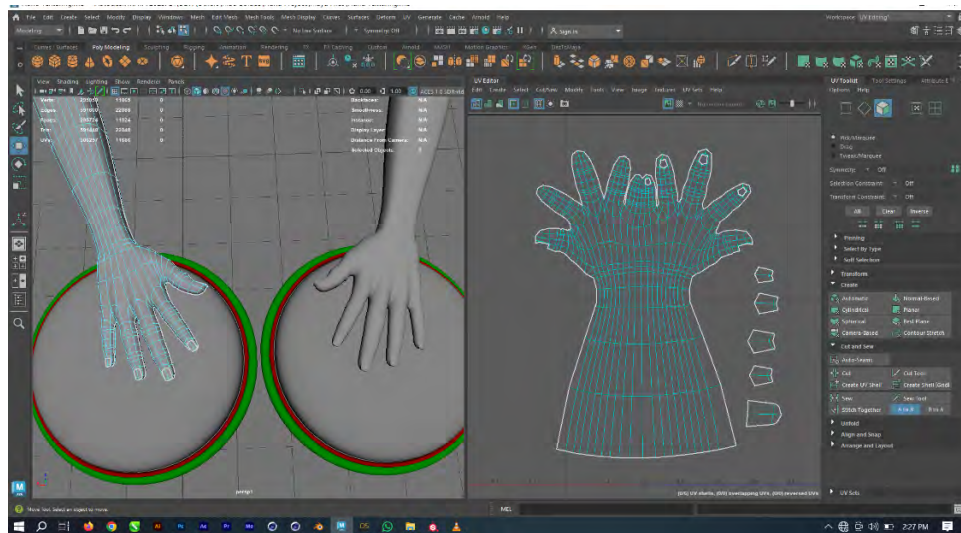


Figure 68-70: applying UV textures to hand - Source: Researcher's field work, 2024/25

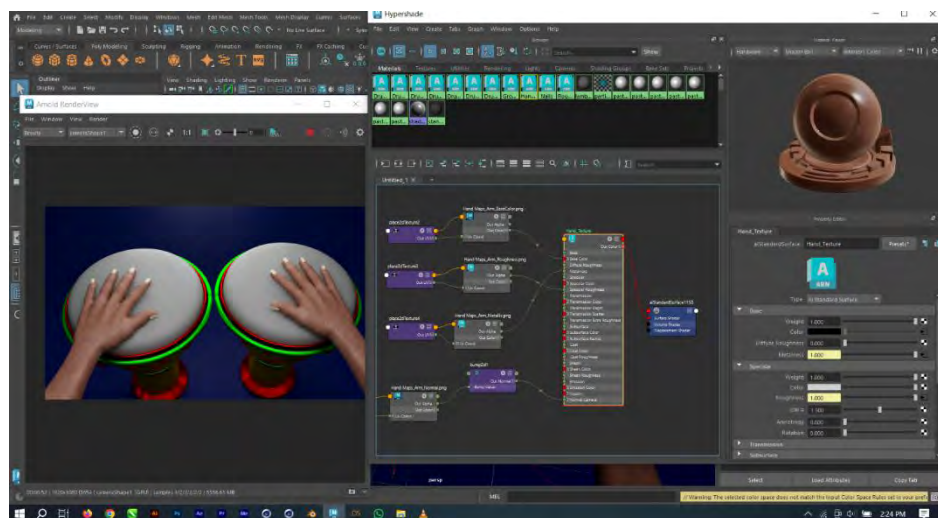
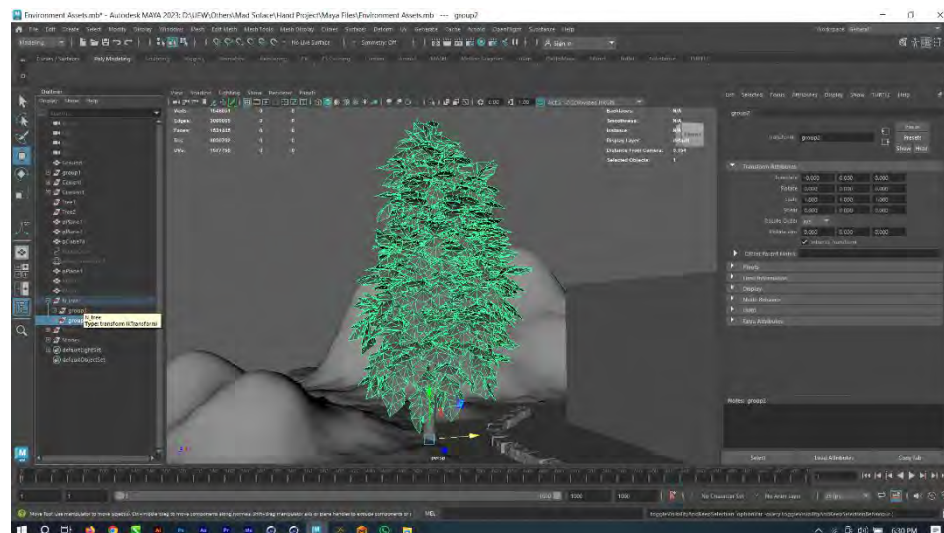
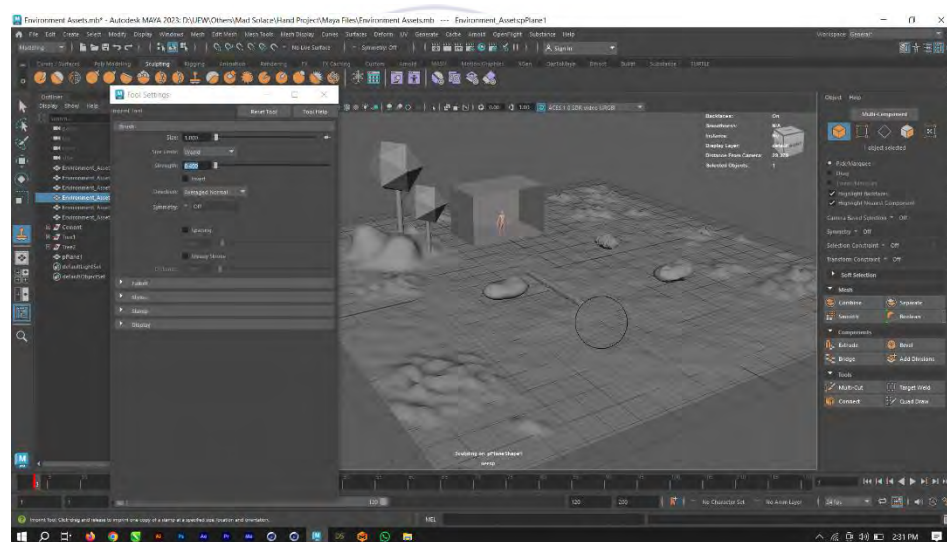


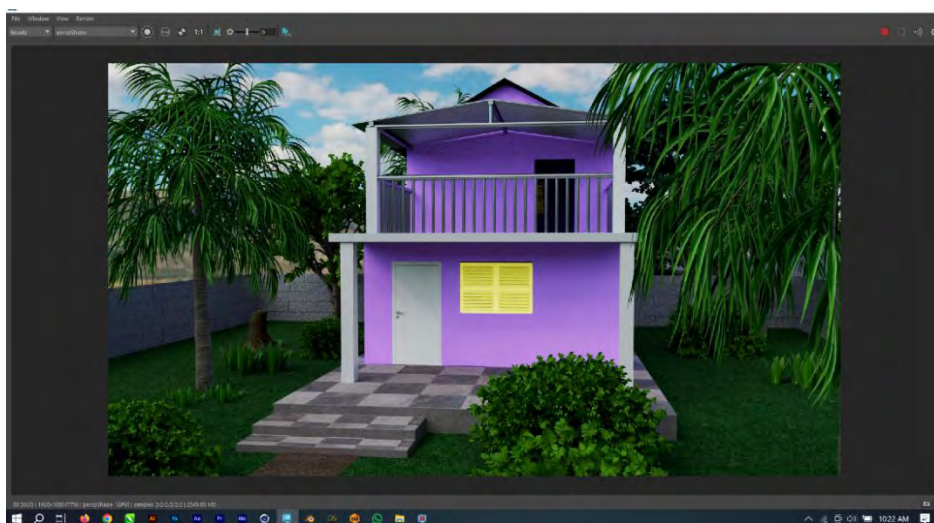
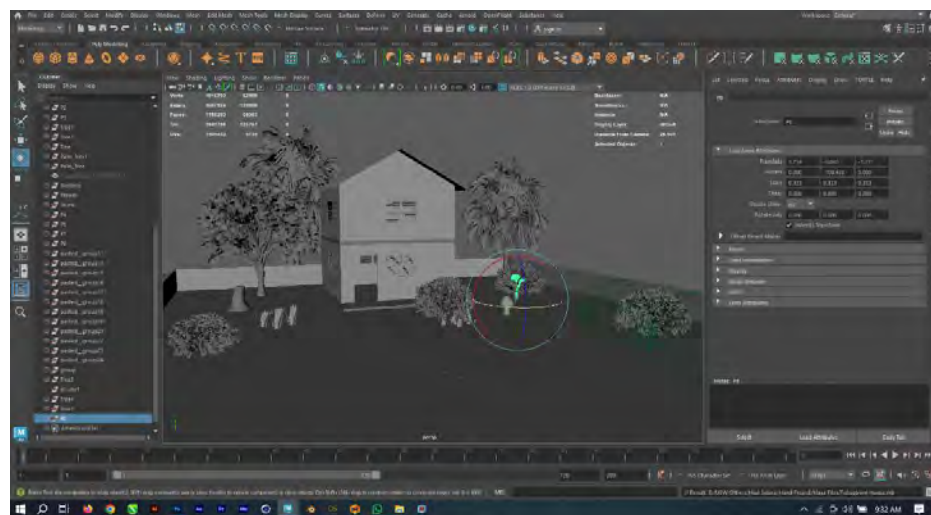
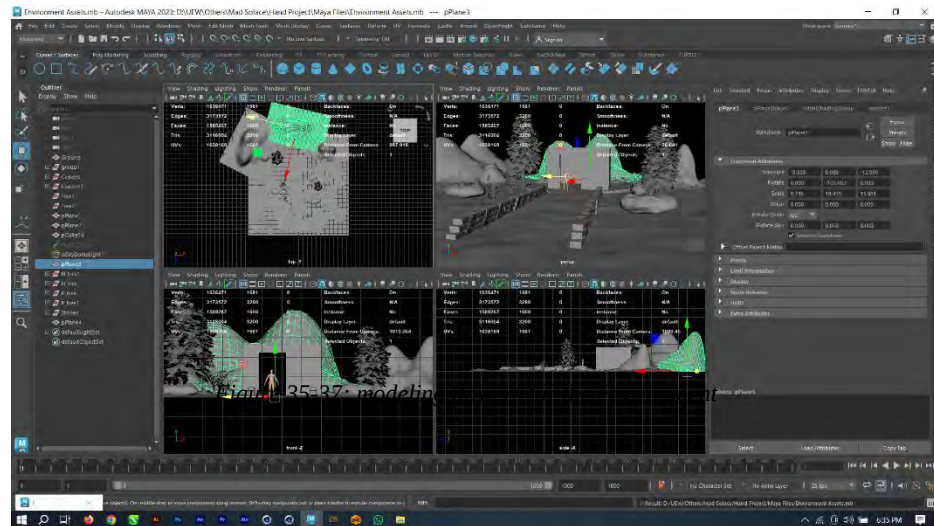
Figure 71: textured hand and drums - Source: Researcher's field work, 2024/25

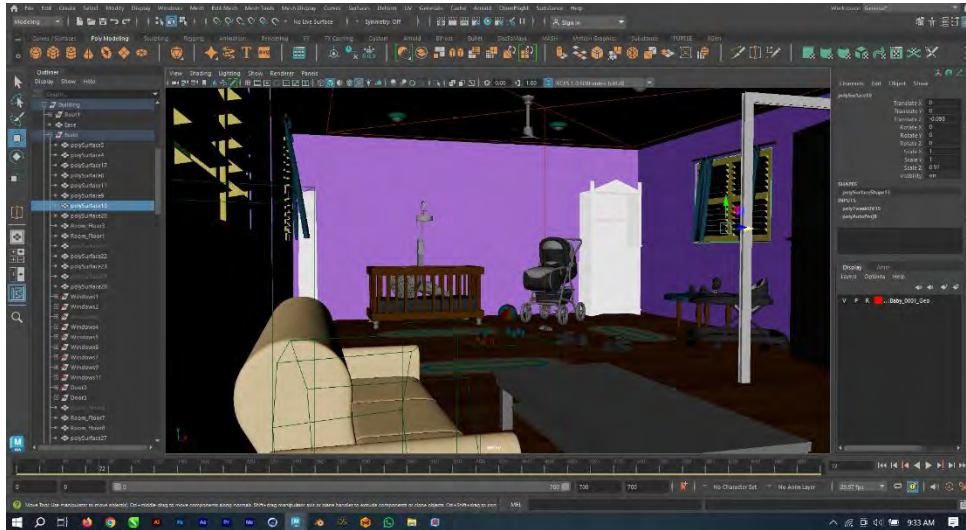


Figure 72: textured hand, drums with musical notes - Source: Researcher's field work, 2024/25

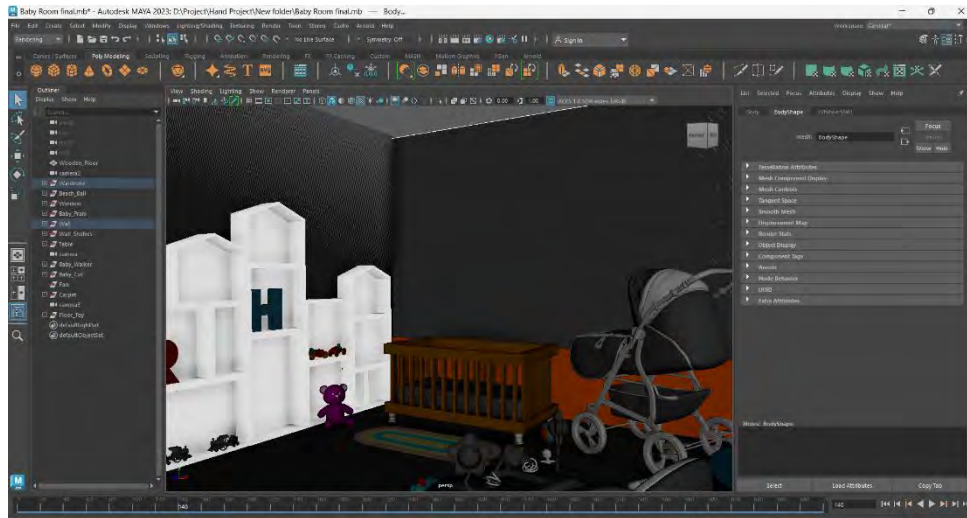
Creating the environment and props for Tutugbovi

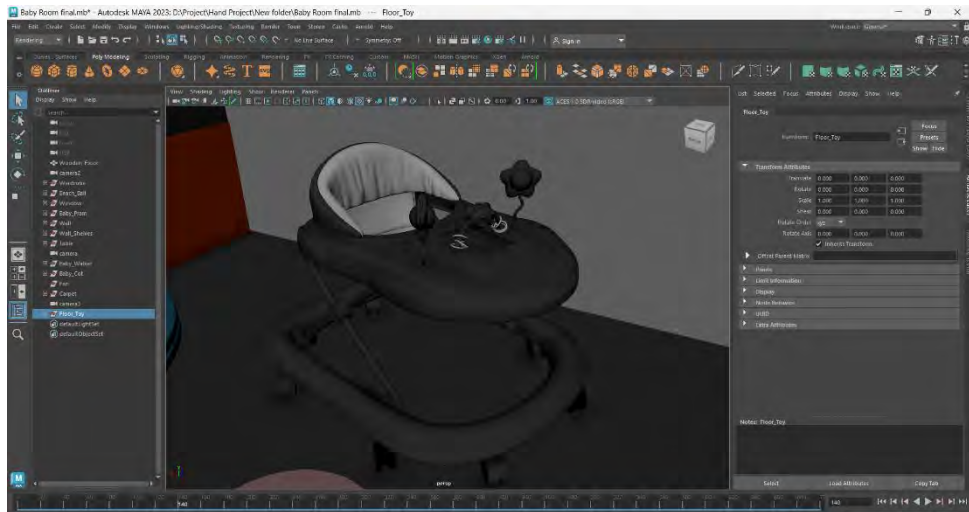




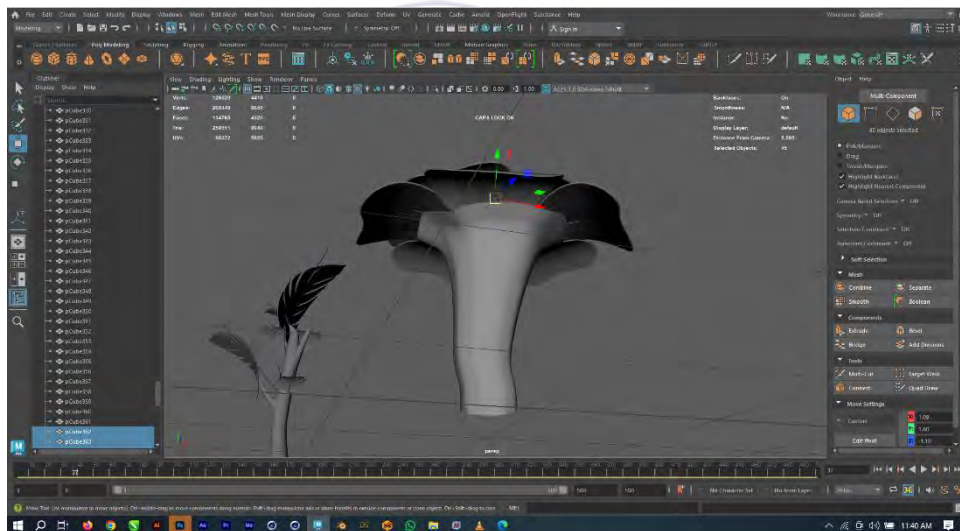


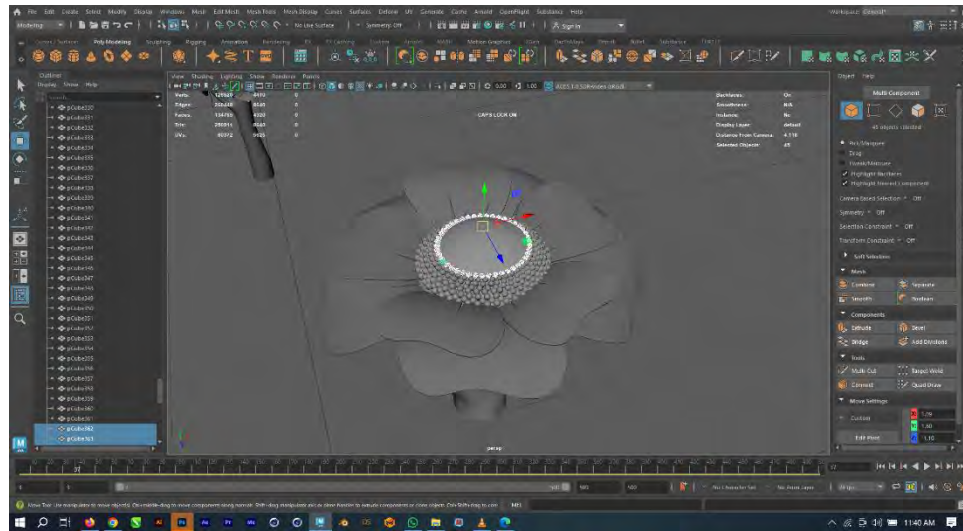
Figures 73-78: exterior and interior of the environment - Source: Researcher's field work, 2024/25





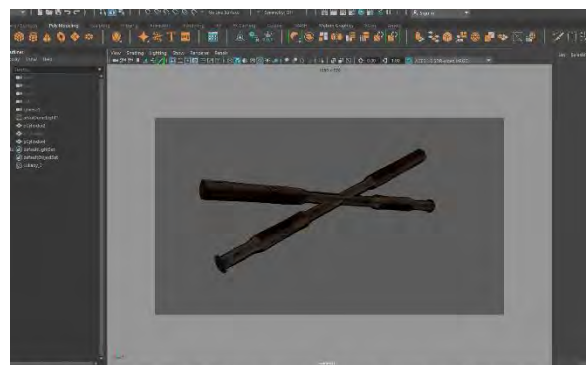
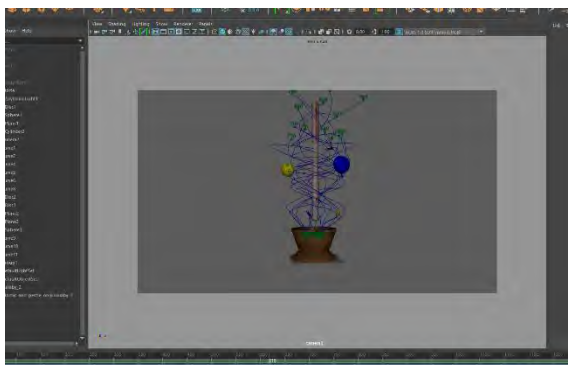
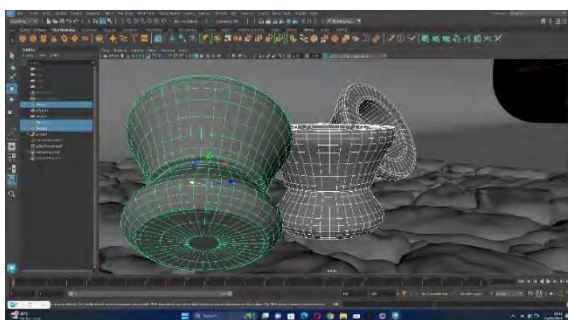
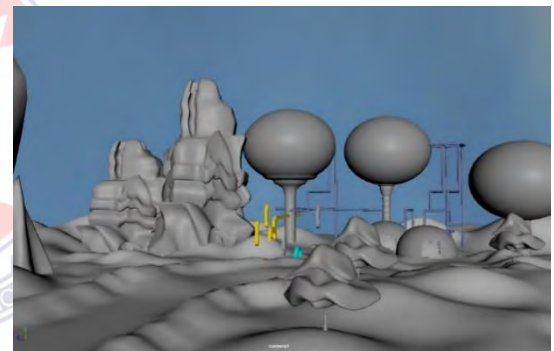
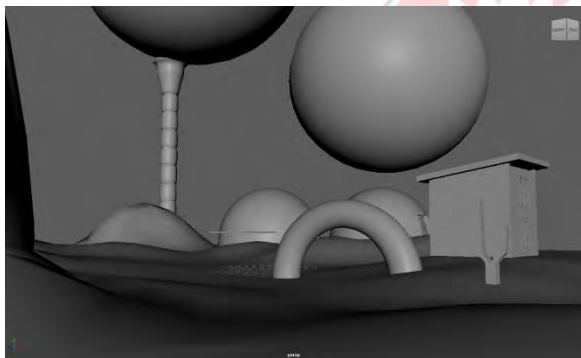
Figures 79-81: interior of the baby nursery - Source: Researcher's field work, 2024/25

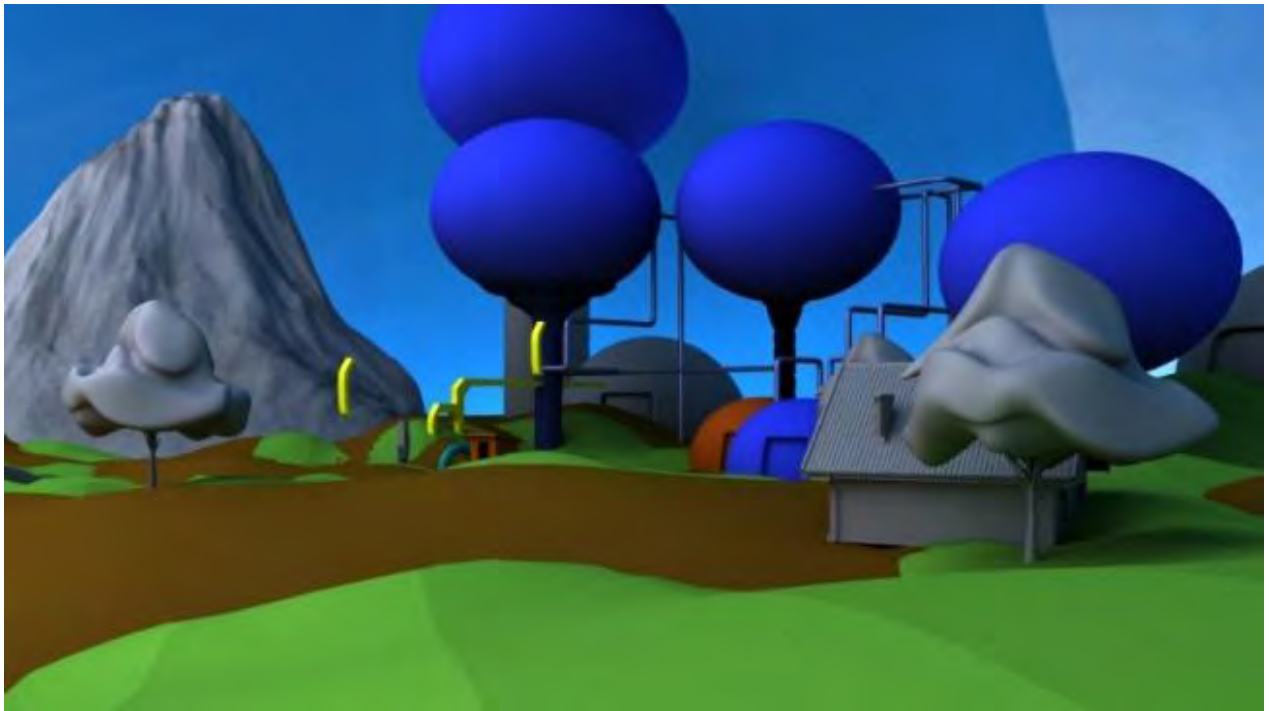
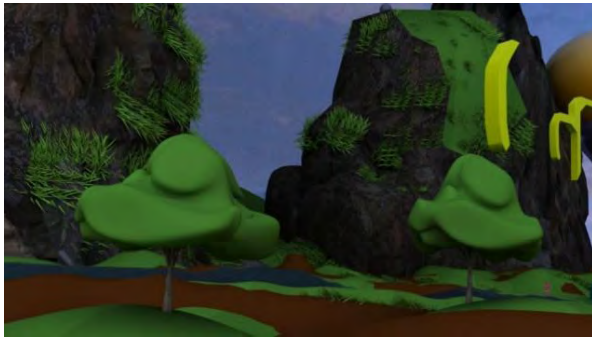




Figures 82-84: modeling flowers for the environment - Source: Researcher's field work, 2024/25

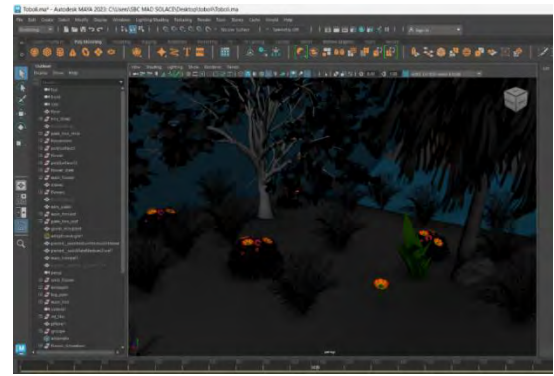
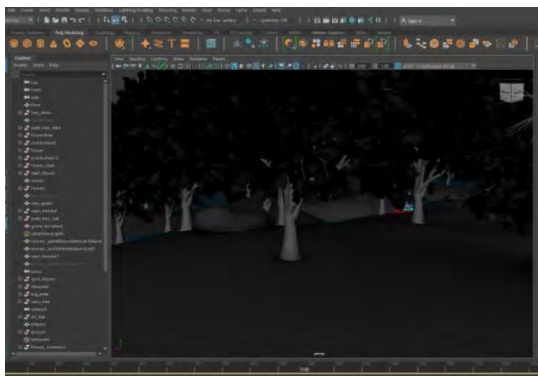
Modeling the environment and props for Kofi kple Ama

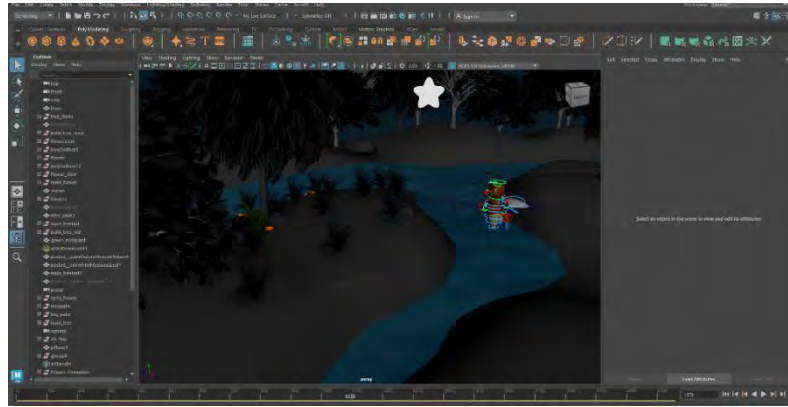




Figures 85-93: environment and props
Source: Researcher's field work, 2024/25

Modeling the environment and props for Toboli

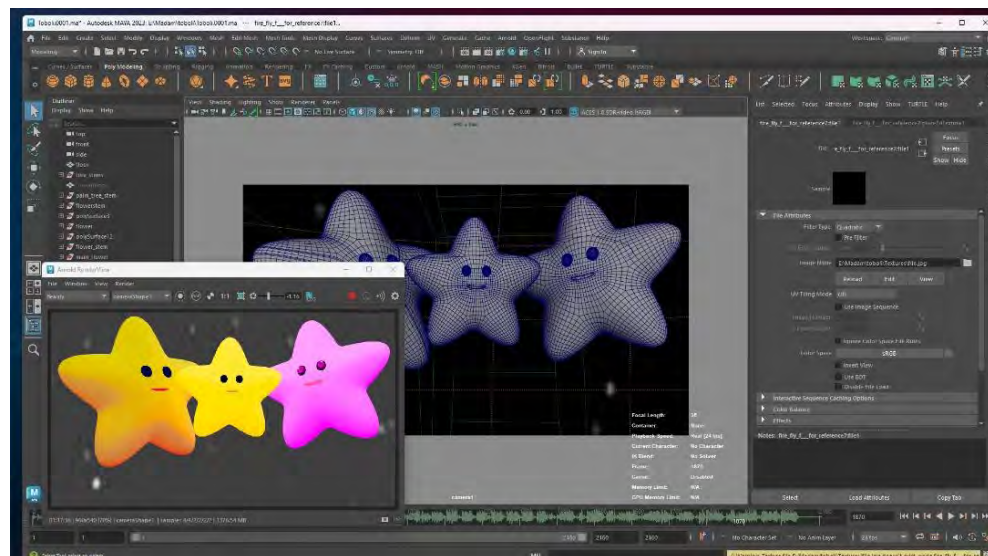




Figures 94-98: environment and props for Toboli - Source: Researcher's field work, 2024/25



Figure 99: rigged firefly for Toboli - Source: Researcher's field work, 2024/25



Figures 100-101: modeled and textured stars for Toboli - Source: Researcher's field work, 2024/25



Figure 102: baby in a cot for Toboli and Tutugborvi - Source: Researcher's field work, 2024/25

4.4 Artistic techniques and methods

Animatics

Animatics played a crucial role in the production of the animations by serving as a bridge between the script and the final animations through several key aspects. Animatics provided a rough visual representation of how the final animation will look. It therefore helped in the visualization of the storyline, pacing, and overall flow of the project before full production began. This early visualization allowed for the identification of potential narrative and visual issues. This helped in the development of strategies to address these concerns before full production (Miller, 2020). By identifying potential issues early in the process, animatics saved significant time and money. In addition, corrections were easier and cheaper to make at this stage than during full animation production. This early stage also allowed for adjustments in the storyboard and timing without additional costs (Bishop, 2019).

This further allowed for the refinement of the narrative elements, ensuring that the story was engaging and well-paced. Thus, different approaches were tested to determine which scenes and sequences worked best. This iterative process helped in tightening

the narrative, refined character actions, and ensured that the storylines resonate with the intended audience (Hart, 2018).

Consequently, the animatics served as a communication tool among team members involved in production by providing a clear and unified vision that everyone followed, ensuring that the team was aligned. This alignment was crucial because of the multiplicity of the animations which involved writing, directing, animation, sound design, and post-production resulting in a seamless result (Thomas, 2021).

Likewise, the use of animatics helped in determining the timing and rhythm of the animations. This allowed for experimentation with different timings for actions and dialogues, ensuring that the final product had the intended emotional impact (Johnson, 2017).

By including temporary audio tracks, animatics helped in planning the sound design and musical score, ensuring that these elements were well-integrated into the final animations (Smith, 2020).

Lastly, animatics provided a tangible preview that was shown to supervisors, and other reviewers for feedback and approval before proceeding to the more resource-intensive stages of production. This preview allowed my supervisors to provide input on the overall direction of the project (Lee S. , 2019).

Essentially, animatics provided a foundation that helped guide the entire production process towards a cohesive and polished final product.

Texturing

Texturing in 3D modeling is a very important process that significantly enhances the realism, visual appeal, and detail of 3D objects and environments. This is because texturing is used to create realism and visual detail. Thus, the various models were

textured to add details and some form of realism. These details included colours, patterns, and material properties such as roughness, glossiness, and transparency (Watt & Policarpo, 1998).

Additionally, the 3D models were textured to help convey a sense of context for various objects and characters in their environment. This aspect was key in the storytelling because it enhanced the narratives of the stories (Birn, 2013).

Further, textures were used to create details which efficiently reduced the bulkiness of the models which could affect the rendering time. This allowed for detailed surfaces without the heavy computational load that would result from using an equivalent polygonal detail (Möller & Haines, 2002). Consequently, textures provided a way to easily customize and vary objects without altering their geometry (Blender Foundation, 2016).

Also, some textures were combined with shaders to represent different materials accurately. Creative and realistic surfaces that respond to light in realistic ways were created by combining different types of texture maps such as diffuse, specular, normal, bump maps, etc. that enhanced the material properties and overall believability of the scenes (Pharr & Humphreys, 2010).

Hence, texturing was indispensable because it added realism, detail, and variation while optimizing performance and enhancing material representation.

The 3D environment

Creating the 3D environments for the lullabies was essential for several reasons which impact both the storytelling process and the audience's engagement. The 3D environments significantly enhanced the immersion of the stories, allowing the audience to feel as if they are part of the narrative world. The immersion was achieved

through the detailed and spatially accurate depiction of settings, which carried viewers along with the stories (Jaynes, 2019) resulting in the formation of a deeper connection with the story and its characters, leading to a more engaging and memorable experience. These memorable experiences were created through the creation of realistic 3D environments through realistic lighting, textures, and audio resulting in a more believable and compelling world (Slater, 2018). Hence, this realism enhanced the emotional impact of the stories, making it easier for the audience to suspend disbelief and become fully engrossed in the narratives.

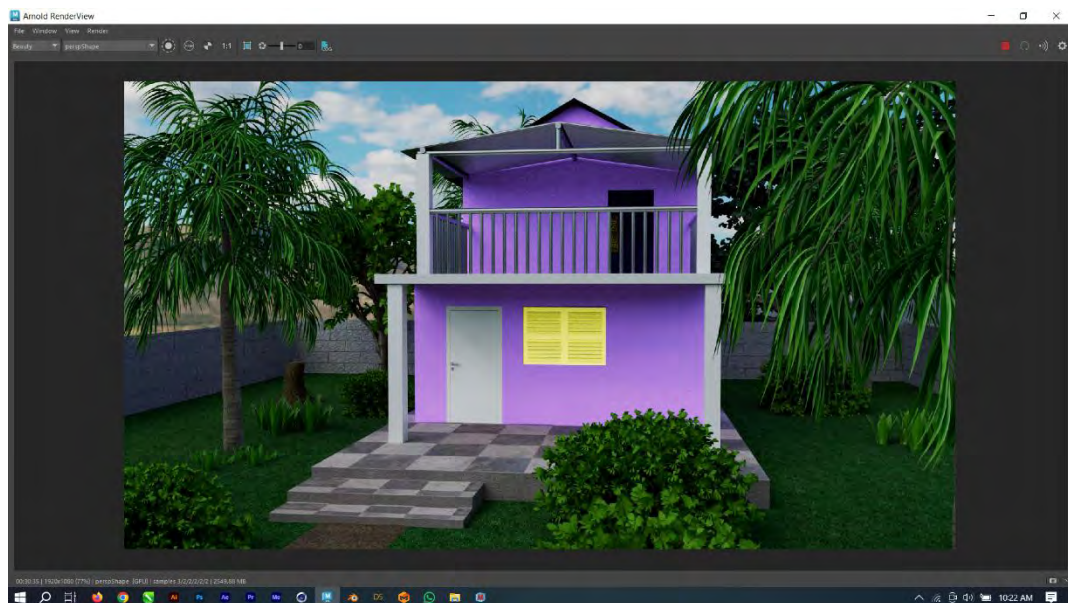


Figure 103: Textured house for Tutugborvi - Source: Researcher's field work, 2024/25

Rigging

Rigging 3D characters involves creating skeletal frameworks for characters to facilitate movement and articulation. The essentials of rigging include creating skeletons, skinning, setting up controls, and ensuring proper deformation and weight painting. The first step to rigging the characters involved constructing a hierarchy of bones that

mimicked the anatomy of the characters. Each bone acted as a pivot point for rotation and movement, enabling realistic joint articulation (Kerlow, The Art of 3D Computer Animation and Effects, 2009).

This was followed by skinning, which involved the attachment of the models (skin) to the skeleton.

Next came the setting up of controls, which served as control handles used to manipulate the characters' bones. These controls were curves that included Inverse Kinematics (IK) for limb movements and Forward Kinematics (FK) for smooth arcs and motion (Autodesk).

To ensure that the meshes deformed correctly as the skeletons moved, the joints were weight-painted. This was done to dictate how much influence a particular bone had on a vertex or joint. Thus, weight painting ensured natural and realistic deformation of characters (Parent, 2012). Blend shapes were also used to fix problematic deformations that could not be resolved through weight painting (Osipa, 2010).

These important steps ensured that the 3D characters were ready for animation with a high degree of realism and flexibility.

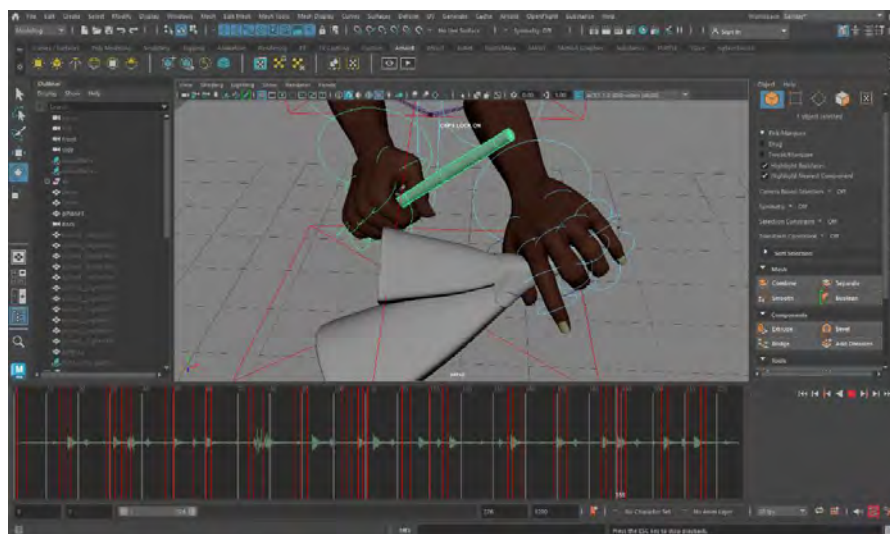


Figure 104: rigged hands with curves - Source: Researcher's field work, 2024/25

Animation

This process involved the creation of illusion of movement by rapidly displaying series of rendered images in rapid succession. The principle behind this process is rooted in the persistence of vision, where the human eye retains an image for a fraction of a second after it has disappeared, making a sequence of images appear as continuous motion (Laybourne, 1998). Animating the stories in 3D were important for several reasons; it first of all allowed for complex ideas and emotions to be conveyed in an engaging and accessible manner. It also brought to life narratives that otherwise would have been impractical to film in live action (Wells, 1998).

Further, this technique offered limitless creative possibilities, allowing for the creation of fantastical worlds and characters that captivated the target audiences (Furniss, 2008). Additionally, the animated lullabies provided the opportunity to reflect cultural values, influencing public perception, thus serving as a form of artistic expression and cultural commentary (Bendazzi, 2015).

Lastly, the animation industry is a significant economic driver, creating jobs and generating substantial revenue worldwide. Therefore, the development and creation of such animations (Ewe lullabies) highlighting traditional stories serve as encouragement for content creation which could generate employment for a range of sectors including film, television, advertising, etc. in the animation industry (Thomas & Johnston, 1981).

Dynamism

Dynamics were introduced into the stories to enhance the realism and believability of animated characters and environments. This was done by accurately simulating physical forces such as gravity, and momentum, that helped to create realistic movements and interactions. This realism helped to connect target with the animated

world on a deeper level (Lasseter, Principles of traditional animation applied to 3D computer animation, 1987) which significantly enhanced the expressiveness and emotional impact of the animations (Thomas & Johnston, 1981). The use of dynamics also added visual interest and appeal to the animations by introducing natural variations thereby making the scenes more engaging and dynamic, capturing the target's attention (Williams, 2001).

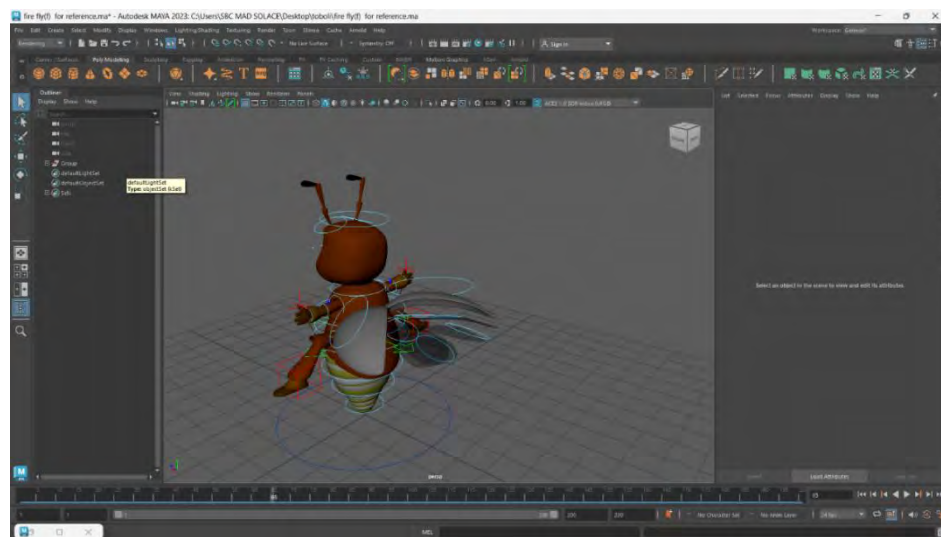


Figure 105: Firefly with curves (rigs) to help simulate dynamism
Source: Researcher's field work, 2024/25

Lighting

Lighting influences both the visual appeal and the narrative impact of an animation. Thus, Lighting was used to evoke specific emotions and set the tone of various scenes (Birn, 2013).

Also, different lighting techniques were used to enhance the realism of 3D objects, characters and environments to create shadows, reflections, and highlights, which added depth and dimension; making the animated scenes more believable and immersive (Bussel, 2012). Lighting was also used to strategically focus and direct the viewer's attention on important elements within a scene by guiding the audience's visual flow (Bussel, 2012).

Additionally, different lighting setups were used to suggest the time of day, helping to establish the setting and context of a scene (Birn, 2013).

Compositing

Compositing played a key role in shaping the final look and feel of the animations. It involved combining various elements such as characters, backgrounds, effects, and text into a unified whole.

Hence, compositing ensured that all the different elements of the animations blended seamlessly together. This integration helped to create believable and immersive visual experiences (Vazquez, Davis, & Gutierrez, 2015). It was important to keep consistent lighting to harmonize lighting and colour across all elements in the scenes. This was also important for maintaining visual coherence of the animations, making sure that everything appeared as part of the same world (Bordwell & Thompson, 2019). The compositing process also afforded the flexibility of streamlining production by allowing different elements to be worked on independently and combining them later. This modular approach increased flexibility and saved time during production (Williams, 2009). As well, the compositing process allowed for creative adjustment and fine-tuning that significantly enhanced the final output (Foster, 2016).

Certainly, compositing made it possible for the integration of several visual elements, ensuring consistency, adding special effects, increasing production efficiency, and allowed for creative refinements which helped to achieved the polished and engaging visuals in the animations.

Editing

Editing was done to enhance the overall quality and effectiveness of the final product. First and foremost, the editing helped to structure the narratives, ensuring logical and engaging flow of the stories. It also allowed for the precise timing of scenes, which was vital in maintaining the target's interest and conveying the intended emotions and messages (Williams, 2012).

The animations were properly timed with simple transitions to maintain an appropriated pace and also create a rhythm that support the story and kept the audience engaged (Thompson & Bordwell, 2010).

Essentially, the editing ensured that all elements of the animation were consistent to maintain continuity. This included character positions, lighting, and other visual elements, which helped to avoid distracting the target with inconsistencies (Selby, 2013).

Certain visual effects were also created at this stage to enhance some dramatic moments, which also helped to create a more visually appealing and impactful final product (Beck, 2004).

The various lullabies (sound) were also integrated at this stage to synchronize with the visual elements. Consequently, enhancing the overall sensory experience for the target (Blazer, 2012).

Lastly, some errors which were missed in the initial production phases were also corrected during this editing process. This ensured that the final product was polished and free of errors (Furniss, 2008).

Colour correction

The colour correction process significantly impacted the visual storytelling and overall aesthetic of the final animations. It involved adjusting the colour values of the animation frames to achieve a desired look, consistency, and finally enhanced the visual narrative. One of the main reasons for colour correction was to maintain visual consistency across the different scenes. This ensured that discrepancies were minimized, providing a seamless viewing experience. Maintaining consistency was crucial to suspend disbelief, and distraction (Schmuckler, 2009).

Further, colour correction was used for setting the mood and atmosphere of the various scenes as different colours can evoke specific emotions and reactions from the target. Thus, by carefully adjusting the colour palette, the emotional impact of the scenes were enhanced and reinforced (Block, 2008).

Additionally, technical inconsistencies, such as colour mismatches and exposure problems, were addressed, ensuring that all frames met the desired visual standards (Cousins, 2011).

Ultimately, colour correction provided the tools necessary for fine tuning the colour palette to help achieve the artistic vision. It also helped to align the various story themes, thereby creating visually coherent and appealing products (Birn, 2006). In totality, colour correction proved to be indispensable in editing for achieving visual consistency, setting the mood, emphasizing key elements, correcting technical issues, and supporting the artistic vision. These factors collectively enhanced the storytelling and aesthetic quality of the animations, making them more engaging and effective for the target audience.

Sound

The recorded lullabies (sound) were included for several reasons, most significantly to enhance the overall viewing experience of the storytelling process. Including the lullabies evoked emotions and set the tone of the animations. They also made the scenes more realistic and immersive (Holman, 2010).

The sounds also supported the stories by complementing the visual elements, while some of the sound effects emphasized actions and events, making the narrative more engaging and understandable (Chion, 1994). The sounds helped direct the target's attention to specific elements within the animation (Altman, 1992) and also made it possible to synchronize sounds with on-screen actions (known as "Mickey Mousing"), thereby making movements appear more lifelike and dynamic. These synchronizations helped to create seamless and believable experiences for the target (Kernan, 2000). Conclusively, the lullabies (sound) were vital components of the animations because they enhanced the emotional engagement, supported the narrative development, established atmosphere, directed audience focus, and added realism through synchronization.

4.5 Experimentation

This stage formed a critical component of the animation production; allowing for the exploration of new ideas, and refining of techniques, and also helped to address technical challenges that enhanced the final products. The following paragraphs take an in-depth look at how experimentation impacted various stages of animation.

The various animations started with idea development of thumbnail sketches through

creative exploration and idea refinement. These processes allowed for brainstorming, testing, and refining of ideas which contributed significantly to the storytelling, visual appeal, and emotional resonance of the final products.

The experimentation stage gave the opportunity to experiment with different visual styles leading to the adaptation of a *visual identity*; these included textures, colour palettes, and lighting effects that gave the animations a cohesive look thereby enhancing the stories. Thus, experimenting with various art styles during the pre-production phase helped select the most fitting aesthetics for the animations' tone and audience (Paik, 2007).

- *Trial and error for unique look*: this stage involved testing different design elements, such as environmental details, to see what worked best for the animations' theme and setting (Williams, 2009). For instance, the *Tutugborvi animation* went through multiple iterations of prop designs and various colour palettes to ensure the feelings were communicated to the target. Consequently, shapes, colours, and styles that matched the emotions and dynamics of the songs were created, enhancing both the lullabies and visual appeal (Paik, 2007).
- *Improving story structure*: the creative exploration process also enabled experimentation of different narrative approaches, such as pacing, conflict resolution, and character arcs, to find the best way to tell the story. This stage involved storyboards, animatics, and narrative testing with a small audience to get feedback on what elements worked well or needed improvement (Jenkins, 2008). This subsequently led to a better understanding of workflow and emotional impact of each scene, ensuring that the final products delivered a cohesive and engaging story.

- *Testing scene transitions and story flow*: scene transitions and pacing are crucial in animations because they maintain the audience's engagement and emotional investment. Thus, experimenting with different storyboard sequences and timings made it possible to refine the story flow, adjust scenes that felt too long (Stalnaker, 2021). For example, some of the scenes in *Kofi and Ama* seemed too long thus, and were edited out to achieve smooth pacing and emotional depth (Cavallaro, 2006) of the animation.
 - *Streamlining workflow and efficiency*: it was also imperative to develop efficient pipelines during the production stage. These included the modeling technique, rigging, lighting, rendering, and compositing. Each step was tested to ensure compatibility with the others which helped to streamline production (Cohen, 2018). The initial idea was to create a 2d animation however, this changed after watching a few animations for children. 3d worked better and so it was decided; 3d animation all the way.
- Polygon modeling techniques were used for the animations' 3d objects and characters. This modeling technique relies on the creation and manipulation of polygons to form the surface of 3D objects. It is highly flexible and forms the foundation for many real-time applications, such as video games and movies. Each model started with a basic shape (primitive); either a cube, sphere, or plane these polygons were then *extruded* to pull out new polygons from an existing face or edge. Vertices, edges, and faces were manipulated to create and refine the shapes.
- Subdivisions were introduced to add detail and smoothness by dividing polygons into smaller ones. To ensure the creation of high-poly, smooth models from low-poly meshes, the Catmull-Clark Subdivision was used. This allowed

for the insertion of edge loops, beveling of faces as well as cutting and extruding faces. It was, however, important to maintain a consistent topology for clean models ensuring the functionality, aesthetic quality, and performance of 3D models, especially for models going to be animated, and rendered.

This was essential because a good topology allowed models to deform naturally during rigging and animation. Also, proper topology minimizes shading artifacts and prevents artifacts like pinching or tearing because 3D rendering engines calculate surface ‘*normals*’ based on the mesh structure. Consequently, a clean topology ensured smooth and realistic shading. This made unwrapping and texturing more efficient and accurate. Because UV mapping aligns the 2D texture to the 3D surface, proper edge flow was important to prevent stretching or distortion.

Additionally, maintaining a clean topology was important to maintain low polygon counts without sacrificing the details of the various models. Since poorly structured polygons increase computational overhead and reduce performance in real-time applications during rendering.

To help in effective rigging and weight painting, edge loops and consistent quad geometry were used with a clean and good topology for the smooth influence of joints and bones.

- *Prototyping and feedback integration:* rough animation drafts were created to enable the receipt of feedback from test audiences which included three mothers with their babies. These provided valuable insights into what worked in terms of story, pacing, and character appeal. Additionally, experimenting with different drafts ensured the final productions resonated well with the target (Jenkins, 2008).

4.6 Iteration

Iteration was key in the storytelling and visual quality process as it allowed the creator of the animations to revisit scenes, sequences, and story elements to ensure cohesiveness and engagement. Through countless rounds of revisions, and storyboard adjustments, several aspects of the stories for the lullabies were refined to achieve optimal narrative and visual impact (Lasseter, 1987).

In animation, emotional moments require careful timing and character expression to resonate effectively with audiences. The iterative process allowed for experimentation with pacing and visual cues to heighten *emotional impact* (Cole, 2014).

For instance, the *visuals for Toboli* were reworked so extensively that the scene, originally a night view with pine trees, was changed into an island with a stream flowing through the land, with a family of stars reuniting at the end of the scene, significantly altering the story's emotional core.

Additionally, *audience feedback* during production can be invaluable, allowing creators and animators to make adjustments to enhance appeal and engagement. Hence, feedback from the small group of viewers was incorporated into the animations by adjusting pacing and visual style. This iterative process helped maintain audience interest and allowed for greater storytelling flexibility (Stuart, 2019).

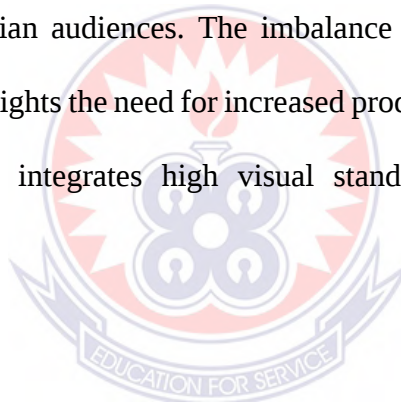
Iterating on an animated product is a multifaceted process that directly contributes to storytelling depth, visual appeal, emotional resonance, and market performance. By refining and revising, ensured the production of quality animations relevant to the evolving media landscape in Ghana.

4.7 Visual analysis of foreign animations on the Ghanaian market

A visual analysis of selected foreign animations commonly consumed by Ghanaian children revealed both high production quality and notable cultural dissonance. These animations, primarily sourced from Western and Asian markets, were observed for their visual style, character design, environmental representation, as well as cultural cues. The analysis indicated that foreign animations typically demonstrate high production values, characterized by fluid motion, dynamic camera angles, intricate shading, and expressive character animation. These features result in visually engaging content that holds the attention of young viewers for extended periods. Character movements are highly naturalistic due to frame-intensive animation. Also, facial expressions are synchronized with precise lip movement which enhance emotional clarity and viewer immersion. In terms of colour scheme and design, these animations apply sophisticated palettes and lighting effects that emphasize mood, scene transitions, and character development. These techniques, while visually stimulating, are rarely contextualized within the Ghanaian symbolic colour associations, thereby limiting cultural familiarity. A critical observation concerns the lack of localized visual elements in environmental and character designs. The settings of these foreign animations often include urban, fantastical, or futuristic environments that bear little resemblance to the socio-cultural realities of Ghanaian children. Additionally, characters are frequently depicted with Eurocentric or East Asian phenotypes, wearing clothing, using technology, and interacting in spaces that do not reflect the lived experiences of children in Ghana. This absence of local representation may subtly reinforce the notion that such foreign settings are normative or aspirational.

Moreover, the portrayal of cultural rituals, family dynamics, and social cues in foreign animations often contradicts traditional Ghanaian values. Visual cues such as body

language, gestures of respect, or modes of conflict resolution are rendered through Western cultural lenses. For example, depictions of independent child protagonists often clash with communal or family-centric ideals prevalent in Ghanaian society. Despite these limitations, foreign animations offer notable strengths in terms of visual storytelling and aesthetic appeal. Their technical precision, thematic variety, and narrative structure contribute to their popularity among Ghanaian children. However, their dominance on the market may inadvertently marginalize local visual languages and storytelling traditions, especially when local alternatives lack comparable visual sophistication. While these foreign animations present high visual quality and entertainment value, they fall short in representing culturally resonant imagery and experiences for Ghanaian audiences. The imbalance between visual excellence and cultural relevance highlights the need for increased production and promotion of locally animated content that integrates high visual standards with authentic Ghanaian contexts.



CHAPTER FIVE

PRESENTATION OF FINDINGS AND DISCUSSION

5.1 Overview

This study aimed to investigate the current state of local content in animations in Ghana and also to conduct a comprehensive study into lullabies to establish their suitability for 3D animation. This led to the production of five (5) 3D animated Ewe lullabies to help in the preservation of Ghanaian lullabies, which falls within the agenda of the National Folklore Board to produce local content for consumption by the Ghanaian populace and also sought to preserve Ghanaian heritage.

5.2 Presentation of data

This section gives an account of the presentation and discussion of data obtained during pre-studio and post-studio research. The transcribed data was paraphrased to reflect the respondents' voices. This was vital to demonstrate comprehension of source material and ensured accurate engagement with existing literature. It enhanced conceptual clarity by allowing the presentation of complex ideas in a manner consistent with the study's focus, thereby improving coherence and logical flow. Paraphrasing also supported academic integrity by preventing plagiarism while enabling the ethical integration of others' ideas with original expression. Moreover, it facilitated the synthesis of multiple sources into a unified discussion, and maintained the researcher's authorial voice, to improve readability through consistent terminology and tone. This process aimed to promote critical engagement through analysis and interpretation of the data.

Additionally, relevant images relating to the study have been included to help authenticate the data collected. The presentation of findings and discussion is done under themes and sub-themes based on the research objectives. The data is presented based on the objectives of the study under major themes. The presentation of data are as follows:

1. The current state of local content production in animation in Ghana.
2. The current state of animation and the animation industry in Ghana (animators from selected studios)
3. Evaluation of five (5) 3D animations produced for the selected Ewe lullabies.

5.2.1 The current state of production of local content in animation in Ghana.

The following paragraphs present findings on the current state of local content production in animation, drawing on insights from a representative of the National Folklore Board, which indicate that Ghana's animation industry has experienced significant growth in recent years, emerging as a vibrant sector that integrates rich cultural narratives with modern technology.

Pioneering studios such as AnimaxFYB Studios; known for high-quality animations and collaborations with international brands, 9th March Studios credited with the production of animations that appeal to both local and international audiences and Chaskele Studios who are focused on storytelling that blends Ghanaian culture with modern narratives have been instrumental in elevating the quality and reach of Ghanaian animation by producing content that resonate both locally and internationally. Though females are underrepresented in the industry, Karen-Happuch achieved a notable milestone in November 2024 with the release of "*Abrefi Kotɔ*," making her the first female animator in Ghana to produce an animated film. The film's success marked

by sold-out screenings at Accra's Silverbird Cinemas, highlights the industry's expanding appeal and the growing acceptance of animation as a mainstream medium of entertainment in Ghana.

The industry has also seen a surge in initiatives aimed at social impact and education. Organizations like Girls in Animation, Ghana empowers women by providing resources and training, thereby fostering a more inclusive environment within the animation community. Additionally, studios are leveraging animation to address societal issues, promote education, and preserve cultural heritage by reimagining traditional folklore for contemporary audiences.

Despite these advancements, the industry faces limited access to advanced technology and formal training opportunities. However, collaborations among government entities, educational institutions, and industry stakeholders are paving the way for resource sharing and talent development, essential for sustaining the industry's momentum.

Ghana's animation sector is poised for continued growth, with increasing recognition on international platforms and a commitment to storytelling that authentically reflects the nation's cultural diversity. The fusion of traditional narratives with digital innovation positions Ghana as a potential powerhouse in the global animation landscape.

Analysis of findings on the current state of animation production in Ghana

The animation industry in Ghana is at a crucial stage, showing promises of growth yet facing significant structural challenges. An analysis of the sector reveals a dynamic mix of strengths, weaknesses, and opportunities.

A. Strengths

- *Creative talent and cultural richness*

One of Ghana's strongest assets is its deep cultural heritage, which provides a wealth of storytelling opportunities. Folklore, history, and contemporary social themes create a strong foundation for unique content. Additionally, a growing pool of skilled animators; both self-taught and formally trained are pushing the boundaries of quality and creativity.

- *Rise of local studios and independent creators*

The emergence of studios such as AnimaxFYB Studios, 9th March Studios, and Chaskele Studios highlight the growing capacity for high-quality animation production. Additionally, independent animators are also making waves, using digital platforms like YouTube, TikTok, and Instagram to distribute their work.

- *Increasing audience interest*

The success of projects like *Abrefi Kotɔ* (the first animated film by a Ghanaian female animator) shows a shift in local appreciation for animated content. The acceptance of animated music videos, short films, and commercials also indicates that animation is gradually becoming a mainstream medium.

B. Weaknesses

- *High cost of production*

Animation is resource-intensive, requiring advanced software, powerful hardware, and skilled labour. Many Ghanaian studios struggle with funding, making it difficult to produce full-length films or high-quality series at a competitive level.

- *Limited training opportunities*

While Ghana has talented animators, most are self-taught due to a deficiency of specialized animation programmes in universities. Training institutions such as NAFTI (National Film and Television Institute), University of Education, Winneba (UEW), and Kwame Nkrumah University of Science and Technology (KNUST) are making efforts, however, formal education in animation remains underdeveloped.

- *Low market penetration*

Ghanaian audiences are more familiar with foreign animation than locally produced content. Also, distribution challenges and the dominance of live-action films further limit local animation's reach.

C. Opportunities

- *International recognition and collaborations*

Despite various challenges, Ghanaian animators are gaining visibility in global markets. Festivals organized by the French Embassy, competitions, and co-productions with international studios are providing funding and exposure. Animation from Africa is receiving increasing attention, creating a window for Ghanaian creators to tap into the global industry.

The interpretation of the analysis of the current state of production of local content in animation in Ghana

Ghana's animation industry is an emerging but underdeveloped sector with significant growth potential. While creativity and cultural richness serve as strong foundations,

challenges related to funding, skills development, and market penetration are slowing down progress.

Key highlights:

1. *Ghana's animation sector is at a critical turning point.*

The rise of independent creators and local studios suggests a growing interest in animation. Moreover, the success of *Abrefi Koto* signals that local audiences are starting to embrace homegrown animated content.

2. *Financial and infrastructural limitations are major roadblocks.*

Unlike established global animation hubs (e.g., Hollywood, Japan, or even South Africa), Ghana lacks significant funding, advanced training programmes, and widespread distribution channels. This consequently slows down content production and reduces industry competitiveness.

3. *The digital age presents new opportunities.*

Platforms like YouTube, Netflix, and social media are reshaping how animation is consumed and monetized. Hence, Ghanaian animators no longer need TV stations for exposure; they can build audiences online.

4. *Government and corporate investment could be game-changers.*

The industry's success will depend on whether policymakers and investors recognize animation as a viable economic sector. Therefore, given the right financial backing and infrastructural support, Ghanaian animation could compete internationally and contribute to the economy.

5. *The industry needs strategic positioning to thrive.*

Instead of competing head-on with Hollywood or Japanese anime, Ghanaian animators should lean into their cultural heritage to create distinct, and globally appealing content. Therefore, collaborations with international studios could improve funding and storytelling quality.

▪ **Government involvement in the regulation and support of the Ghanaian animation industry**

The findings indicate that the Government of Ghana plays a modest yet increasingly important role in the development, regulation, and promotion of the animation sector. Although the industry is still emerging, several governmental frameworks and initiatives demonstrate a growing commitment to its advancement.

1. Governmental support for the animation industry

The Ghanaian government has implemented a range of policies and institutional frameworks aimed at supporting the animation sector:

- **National Film Authority (NFA):** established under the Development and Classification of Film Act, 2016 (Act 935), serves as the central regulatory and promotional body for the film and animation industries. Its mandate includes fostering industry growth and ensuring content regulation.
- **Ghana Film Fund:** although not yet fully operational, this proposed fund is intended to provide financial support to local filmmakers, including those working in animation, thereby addressing one of the industry's critical constraints: access to funding.

- **Creative Arts Industry Act (2020):** the passage of this act led to the creation of the Creative Arts Agency, a body tasked with promoting the development of Ghana's creative industries, including animation. The agency is expected to spearhead initiatives that enhance the visibility and sustainability of the sector.
- **Strategic partnerships:** the government has engaged in collaborative efforts with international and regional organizations such as UNESCO and the African Animation Network. These partnerships are aimed at strengthening local capacity and talent within the animation field through training, funding, and exposure to global best practices.

2. Regulation of animation content

In addition to institutional support, the government exercises regulatory oversight over animated content to ensure it aligns with national values and legal standards:

- **Content classification and censorship:** the NFA is responsible for the classification of animated content, ensuring that it complies with Ghanaian cultural norms and ethical guidelines prior to public dissemination.
- **Broadcasting oversight:** the National Communications Authority (NCA), alongside the Ghana Broadcasting Corporation (GBC), monitors the dissemination of animated content on television, ensuring compliance with established broadcasting standards and the promotion of locally produced content.
- **Intellectual property protection:** the Copyright Act, 2005 (Act 690), provides a legal framework for the protection of creative works, including animation. The Ghana Copyright Office is responsible for the enforcement of these rights,

enabling animators to safeguard their intellectual property and seek legal redress in cases of infringement.

3. Challenges and prospects for growth

Despite notable progress, the animation industry in Ghana faces several persistent challenges. These include limited government funding, inadequate access to specialized technical training, and insufficient enforcement of intellectual property rights. Such barriers impede the sector's ability to compete globally and restrict opportunities for creative professionals.

Nonetheless, the industry holds considerable promise. Increased investment in creative arts education, coupled with government-backed initiatives such as national film festivals, grant schemes, and infrastructure development, could significantly enhance the sector's capacity. With sustained policy attention and strategic support, the animation industry in Ghana has the potential to become a vibrant component of the national creative economy.

Analysis of findings on government support and regulation of animation in Ghana

The role of government in animation is still in its developmental stage, characterized by some support mechanisms and regulations. However, the effectiveness of these efforts remains limited due to financial, structural, and enforcement challenges.

a. Strengths of government support and regulation

- *Institutional Framework*

The National Film Authority (NFA) and the Creative Arts Agency provide an important foundation for the animation industry. These institutions are tasked with promoting creative content, regulating films, and ensuring content quality. The Copyright Act (2005) also plays a crucial role in protecting animators' intellectual property and encouraging original content creation.

- *Emerging financial support*

Although not yet fully realized, initiatives like the *Ghana Film Fund* and collaborations with international organizations (e.g., UNESCO, the African Animation Network) indicates the government's growing interest in funding the industry.

- *Broadcast and Content Regulation*

The presence of film classification and censorship mechanisms ensures that animated content aligns with Ghanaian cultural values and ethical standards. The National Communications Authority (NCA) and Ghana Broadcasting Corporation (GBC) also help regulate the distribution of animation on television and digital platforms.

b. Weaknesses and challenges

- *Limited funding and investment*

Despite proposed financial initiatives, government funding remains minimal, forcing most animators to rely on private investments, grants, or crowdfunding. This limits the scale and quality of local productions.

- *Lack of technical and educational infrastructure*

Only about two or three Ghanaian universities are offering formal training in animation programmes, which creates a skills gap. Many animators are self-taught or trained abroad, increasing production costs and limiting industry growth.

- *Weak enforcement of copyright laws*

While Ghana has a legal framework for copyright protection, enforcement is weak, leading to content piracy and reduced incentives for animators to invest in high-quality productions.

- *Limited government involvement in distribution*

Regulatory bodies focus on content approval rather than active distribution support. Unlike countries with structured animation policies, Ghana lacks a strong state-supported distribution network, making it difficult for local animations to reach a wider audience.

c. Opportunities for growth

- *Policy improvements* will strengthen existing policies to ensure funding, distribution, and training to help the industry grow.
- *Public-private partnerships* such as collaborations with media houses, streaming services, and private investors can boost production and distribution.
- *The rise in digital platforms* for digital streaming and YouTube provides alternative distribution channels that require less government intervention. This helps in distributing animated content across several borders beyond Ghana.

- *Regional and international market expansion* will encourage local animators to participate in global festivals and animation markets can enhance exposure and investment.

Interpretation of the analysis of findings on government support and regulation of animation in Ghana

The inquiry indicates that while the Ghanaian government has recognized the potential of the animation industry, its support and regulation remain underdeveloped and inconsistent. There are existing structures such as the National Film Authority (NFA), Creative Arts Agency, and Copyright Act, which suggest that the government acknowledges the industry's importance. However, the effectiveness of these structures is hampered by financial limitations, weak enforcement, and a lack of industry-specific policies.

A key indicator is that the government's role in animation in Ghana is more regulatory than supportive, as it ensures content aligns with cultural values through classification and censorship. However, it does little to actively promote the growth of the industry through funding, training, or structured distribution channels. This leaves most of the burden on private investors, independent creators, and international organizations.

Additionally, the lack of technical education and training in Ghana creates a skills gap, making it difficult for animators to compete internationally. Many animators struggle with piracy, limited exposure, and poor access to production resources without proper infrastructure and funding, all the same, there are opportunities for growth. The rise of digital platforms, potential policy improvements, and international partnerships present pathways for industry expansion. Ghana's animation industry could flourish and

contribute significantly to the creative economy if the government strengthens financial support, training, copyright enforcement, and distribution strategies.

Essentially, the government needs to move beyond regulation and censorship to active investment and development of the industry. Without this shift, the animation sector may struggle to reach its full potential despite the growing global demand for African storytelling in animation.

- **Key challenges facing local content producers**

The animation industry in Ghana has been growing steadily; however, several challenges hinder its development. The findings highlighted some of the key challenges, which include:

- a. Limited funding and investment**

The production of animated content is capital-intensive, requiring funds for software, hardware, and skilled personnel. However, lack of government and private sector investment makes it difficult for animators to finance projects and produce quality works.

Additionally, many creative grants in Ghana focus on music, theatre, and live-action film, leaving animation underfunded.

- b. Lack of industry infrastructure**

There are a few professional animation studios in Ghana with a handful of freelancers. These studios and freelancers have limited access to high-end production tools, render farms, and motion capture technology, which makes it difficult to produce content that can compete globally. This is because most animation studios in Ghana rely on personal

computers rather than professional render farms, slowing production significantly. Unlike in Nigeria or South Africa, where shared creative hubs exist, Ghana lacks dedicated animation hubs where animators can collaborate and access better resources.

c. Skills gap and training

There are few formal training institutions that offer specialized courses in animation. While many animators are self-taught, leading to skill gaps in advanced animation techniques.

Most animators in Ghana are skilled in 2D animation, leading to a shortage of professionals who can create complex 3D animations or high-quality CGI effects. And even those who are talented often leave Ghana for better opportunities abroad, further weakening the local industry.

Also, Ghana lacks frequent animation workshops and mentorship programmes, unlike countries with established industries.

d. High cost of software and equipment

Professional animation software such as Maya, Toon Boom, and Adobe Animate are expensive. Thus, most of these studios and animators resort to using cracked versions of the software which come with some limitations to use plugins that facilitate the animation process. To run an animation studio effectively, high-performance computers, drawing tablets, and motion capture technology are needed which are expensive. Thus, many animators work with outdated or low-performance equipment, limiting their creative capacity.

Additionally, high import taxes on animation hardware make it costly for studios to acquire the necessary tools to facilitate production.

e. Internet and power supply issues

Reliable internet is essential for cloud-based rendering and collaboration; however, data is expensive and unstable. This makes working very stressful, and sometimes meeting deadlines tough. This also makes cloud-based rendering, file sharing, and online collaboration almost impossible because these require high-speed internet, which is often costly and unreliable in Ghana.

This is coupled with frequent power outages that disrupt production workflow and delays production. Studios often have to rely on expensive generators as backup.

Lastly, because many animators are self-taught in Ghana, they rely on online training resource. These animation tutorials and training resources require strong internet access. However, animators have limited access to these online platforms making it harder for aspiring animators to develop their skills.

f. Market and audience development

There is limited local demand for animated content, as many people prefer live-action content. Also, there is a lack of strong distribution channels and streaming platforms tailored for local animation while Ghanaian cinemas prioritize foreign content over local animated films.

Another challenge is the absence of merchandising and branding opportunities. Animations in the global markets are supported by toy sales, merchandise, and licensing deals. These opportunities are underdeveloped in Ghana.

g. Competition from foreign content

While there are limited government policies promoting local animation content, animations from Hollywood, Nollywood, and Asia dominate Ghanaian screens, making it difficult for local content to gain traction.

Consequently, international animated content dominates the Ghanaian market, making it hard for local animators to compete.

Lastly, Ghanaian animators have to work with much smaller funds, making it harder to match quality standards while international studios have multi-million-dollar budgets to support various productions.

h. Intellectual property (IP) protection

Copyright enforcement is weak, making it difficult for animators to protect their work from piracy. Many animators also fear their work will be stolen or used without permission. Likewise, many animators do not have access to lawyers who specialize in intellectual property rights; thus, unauthorized copies of animations are widely distributed, reducing potential revenue for creators.

i. Collaboration and industry recognition

The animation industry in Ghana is still fragmented, with limited collaboration between studios, government agencies, and investors. This is because animation is often not seen as a viable career path, thus the lack of support. Similarly, Ghana lacks major events that celebrate and promote local animators, unlike countries with dedicated animation film festivals.

j. Limited government support and policy

There is an absence of strong policies and incentives that promote animation as part of the creative industry yet many governments worldwide provide tax breaks or subsidies to encourage animation.

Sadly, animation which encourages creativity is not widely included in school curriculums, limiting the number of young people pursuing it as a career.

Despite these challenges, there is growing interest in Ghanaian animation, with enterprises like *AnimaxFYB Studios*, *Parables Animation*, and *Chaskele* paving the way for more local productions.

Analysis of findings on the key challenges facing the animation industry in Ghana

The animation industry in Ghana has great potential but is hindered by structural, financial, and technological challenges. The analysis of these challenges highlights some key factors limiting its growth and what can be done to overcome them.

1. Structural and economic challenges

The animation industry in Ghana suffers from weak infrastructure and financial constraints. The high cost of animation production, coupled with limited funding from both government and private investors, has led to slow growth.

While animation requires significant investment, Ghana lacks funding initiatives specifically for this sector. This discourages studios from undertaking large projects.

Basically, because the industry is still in its infancy, meaning there are few well-equipped studios, animators are forced to rely on outdated hardware and software.

Consequently, Ghana's animation industry is struggling to compete internationally without financial backing and infrastructure. Governments and private investors therefore need to recognize animation as a viable industry and provide financial support through grants, loans, and tax breaks.

2. Talent development and skill shortages

The shortage of professional animators is a major problem. While Ghana has a growing community of self-taught animators, formal training opportunities are limited because the country lacks dedicated animation schools. With those trained usually focusing on 2D animation, while 3D and VFX remain underdeveloped.

Due to the lack of incentives, and underdevelopment of the industry, skilled animators often move abroad for better opportunities, leading to a lack of high-level expertise in Ghana.

This implies that universities and technical institutions have the responsibility of introducing more animation courses, and collaborate with international animation schools to help bridge the skills gap. Because the industry cannot grow without a strong educational foundation.

3. Technological barriers

Access to professional animation tools is a major issue.

Software is expensive with high licensing costs for industry-standard software like Maya, Toon Boom, and Adobe Animate; these create a barrier for local studios.

Apart from the expensive software, animators have limited Internet access to cloud-based animation tools and online training resources. These require stable internet, which is expensive and unreliable in many parts of Ghana.

Likewise, frequent blackouts disrupt production workflows, making it difficult for studios to meet deadlines.

To overcome these challenges, Ghana needs to promote open-source animation software like Blender and invest in better internet infrastructure. Government subsidies for animation technology and renewable energy solutions such as solar-powered studios could also be beneficial.

4. Market demand and industry recognition

One of the biggest hurdles facing Ghanaian animation is the lack of a strong local market. This is because many Ghanaians are more interested in Nollywood and Hollywood movies than in Ghanaian animation.

Even when the animations are created, there are no dedicated streaming platforms for Ghanaian animations, because local cinemas rarely screen animated films.

Apart from the non-dedicated streaming platforms, the lack of merchandising, licensing, and sponsorships means that animation is yet to be recognized as a profitable industry.

Hence, Ghana needs to create a market for animation through local streaming platforms, and partnerships with TV networks. The government also needs to introduce policies that mandate the broadcasting of local animation content to grow the industry.

5. Competition from foreign content

Ghanaian animation faces tough competition from global studios that have higher budgets and better technology. These international contents are more accessible and have higher production quality, making it difficult for Ghanaian animators to attract

audiences. This notwithstanding, Ghana does not have policies promoting locally made animation unlike countries that implement quotas for local content.

Hence, the government should consider content policies that require local TV stations to broadcast a percentage of Ghanaian animated content. Also, collaborations with foreign studios could help improve quality and international reach.

6. Intellectual property (IP) and legal issues

Without strong copyright laws, many animators struggle to protect their work coupled with the fear that their work(s) could be stolen or used without credit due to the unauthorized distribution of content which reduces potential revenue streams for them. Hence, stronger copyright laws and better enforcement mechanisms are needed to protect Ghanaian animation from intellectual property theft. Creators should also be educated on licensing and copyright registration.

7. Lack of industry collaboration and government support

A fragmented industry and a lack of recognition prevent Ghanaian animation from reaching its full potential.

Distinctively, the music and film industries have unions advocating for them, animators in Ghana are still struggling to find a voice and advocate for the sector.

Besides that, the government does not provide tax incentives, grants, or training programmes specifically tailored for animators.

However, the Animators Association of Ghana, is helping to unify animators and push for better policies, though the process is slow.

Interpretation of the analysis of findings on challenges facing the animation industry in Ghana

The analysis shows that Ghana's animation industry is in its early stages with significant challenges that limit its growth. While the country has creative talent, structural, financial, and technological obstacles must be addressed for the industry to thrive.

1. An underdeveloped industry with a lot of potential

The absence of strong financial support, industry infrastructure, and government recognition conspicuously shows that animation is yet to be recognized as a major creative sector in Ghana. However, the presence of talented animators and growing interest in digital content suggest that the industry could expand if given the right support.

2. The skills gap obstacle

The lack of formal training institutions and the migration of skilled animators to other countries has created a shortage of talent. This implies that Ghana must invest in animation education and training to build a competitive workforce. This training should commence right from the basic levels of education to develop the interest of the young in this artistic industry.

3. Technology and cost barriers slow growth

There is no denying the high cost of software, unreliable internet, and frequent power outages make it difficult for animators to produce high-quality content efficiently.

This suggests that government incentives, such as reduced import taxes on animation equipment or subsidies for creative startups, could help lower these barriers. The

government could also invest in solar-powered equipment to help solve power outage issues.

4. Weak market demand, existing opportunities

The low local demand for animated content and lack of strong distribution channels indicate that the industry is struggling to find a market. However, with the rise of streaming platforms and digital entertainment, Ghanaian animation could gain more visibility if properly marketed.

5. Tough international competition

The dominance of Hollywood, Nollywood, and Asian animation suggests that Ghanaian content must improve in quality and storytelling to attract local and global audiences.

Additionally, policies that promote local content could help Ghanaian animation compete more effectively on the global market.

6. Weak intellectual property (IP) protection

The fear of piracy and lack of strong copyright enforcement discourages animators from investing in original projects.

Thus, strengthening IP laws and creating awareness about copyright protection could encourage more local production.

7. Lack of collaboration and government support

The fragmented industry structure and absence of government incentives show that animation is not yet a strategic priority.

Hence, encouraging collaboration among studios and lobbying for government support could accelerate industry growth.

- **Successful local animations that have gained popularity in Ghana or internationally**

Ghana's animation industry though in its nascent stage has experienced significant growth, producing works that have gained both local and international recognition. The findings highlighted some notable ones which include:

Asantewaa

This animation produced by Mills Media recounts the Asante Kingdom's resistance against British colonial forces, led by Nana Yaa Asantewaa I, Queen Mother of Ejisu. In November 2023, '*Asantewaa*' won the Africa Narrative Change Award at the Africa International Film Festival (AFRIFF) in Lagos, Nigeria.

Abrefi Koto

This animation was produced by Karen-Happuch, Ghana's first female animator to achieve such a feat. '*Abrefi Koto*' is set in the ancient Asante Kingdom and follows a young woman's journey challenging societal norms. The film sold out three consecutive screenings at Accra's Silverbird Cinemas in November, 2024. It has been recognized at international platforms, including the Anim'Ato Mada 2022 residency in Madagascar and the 2023 Annecy International Animation Film Festival.

Heresy

This animated series was created by Vanessa Danso. The animation delves into Ghana's rich history, covering topics like the heroics of Yaa Asantewaa and the Transatlantic Slave Trade. It was initially launched on YouTube; however, its success led to a

television premiere on TV3 in October 2024. Making it Ghana's first animated history show on mainstream media.

Mmofra

'*Mmofra*' is an educational animated series that secured a distribution deal with Amazon Prime in 2020. It showcases Ghanaian culture and stories to a global audience and was produced by AnimaxFYB Studios.

Edem

This animated short film was produced by Zenock Gyimah-Amponsah. EDEM received ten international nominations, highlighting the global appeal of Ghanaian animation.

These are a few animated projects that have received international acclamation and highlight the growing talent within Ghana's animation sector and its expanding influence on both local and international stages.

Analysis of findings on Ghana's emerging animation industry (successful local animations)

Ghana's animation industry has made significant strides in recent years, producing high-quality, culturally relevant content that has gained both local and international recognition. The highlighted works including *Asantewaa*, *Abrefi Kotɔ*, *Heresy*, *Mmofra*, and *EDEM*, reflect a growing trend of animation being used to tell historical, educational, and entertainment-based stories.

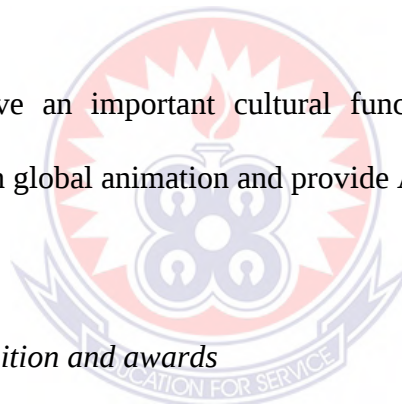
a. Historical and cultural representation

A common theme among Ghana's most popular animations is their deep connection to Ghanaian history and culture. '*Asantewaa*', '*Abrefi Kotɔ*', and '*Heresy*' all focus on significant historical events, figures, and African heritage. This trend is crucial because it allows local audiences to connect with their own stories while also introducing international viewers to Ghanaian history in an engaging way.

The story of *Asantewaa* retells the story of Nana Yaa Asantewaa, a national heroine and Queen mother of Ejisu who displayed bravery in the face of war and possible death. *Abrefi Kotɔ* highlights gender roles and societal norms in Asante history.

While *Heresy* educates audiences on key historical events like the Transatlantic Slave Trade.

These animations serve an important cultural function by challenging Western-dominated narratives in global animation and provide African perspectives on history.



b. International recognition and awards

The industry's growth is evident in the international attention these projects have received. *Asantewaa* won an award at the Africa International Film Festival, while *Abrefi Kotɔ* was showcased at the Annecy International Animation Film Festival; one of the most prestigious animation festivals in the world. Similarly, *EDEM* secured ten international nominations, proving that Ghanaian animations are capable of competing on a global scale.

These recognitions validate the quality of Ghanaian animation and also create opportunities for partnerships and funding. International exposure increases the chances of securing global distribution deals, which could further boost the industry's growth.

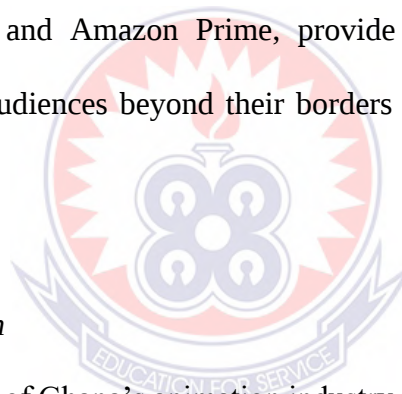
c. Expanding platforms and distribution

The success of Ghanaian animations is partly due to their ability to reach audiences through multiple platforms.

For example: *Heresy* started as a YouTube series but gained enough traction to be broadcast on TV3, a mainstream Ghanaian television channel. While *Mmofra* secured a distribution deal with Amazon Prime, allowing it to reach a global audience.

Lastly, theatrical screenings of *Abrefi Kotɔ* selling out three times show a strong demand for local animation in cinemas.

This expansion beyond traditional TV and film festivals highlights the industry's ability to adapt to changing media consumption habits. Online streaming platforms, particularly YouTube and Amazon Prime, provide Ghanaian animators with the opportunity to reach audiences beyond their borders without relying solely on local broadcasters.



d. Women in Animation

Another notable aspect of Ghana's animation industry is the increasing participation of women. Karen-Happuch, the creator of *Abrefi Kotɔ*, is Ghana's first female animator to produce a major animated film. Her success could encourage more women to enter the field, challenging the traditionally male-dominated animation industry. The rise of female animators will also ensure a wider range of stories and perspectives in Ghanaian animation.

f. Future prospects and challenges

The industry's success so far suggests a promising future, with challenges. Some main issues include:

- *Funding and infrastructure:* high-quality animation requires significant investment in technology and expertise. Without adequate funding, studios may struggle to maintain production quality.
- *Talent development:* while there is growing interest in animation, Ghana needs more specialized training programmes to develop local animators.
- *Global market penetration:* although Ghanaian animations are gaining recognition, breaking into larger international markets dominated by American, Japanese, and European studios remains a challenge.

Interpretation of the analysis of findings on popular Ghanaian animations

The analysis highlights a sector that is growing rapidly, driven by a strong cultural identity, international recognition, and increasing distribution opportunities. Several key themes emerge from this growth, pointing to both its strengths and challenges.

1. A Strategic cultural narrative

The strong emphasis on historical and cultural storytelling in Ghanaian animations reflects a deliberate effort to preserve and promote Ghanaian and African heritage. Unlike Western-dominated animations that often rely on fantasy or science fiction, Ghanaian productions are leveraging real historical events and indigenous narratives to differentiate themselves. This strategy is significant because it helps build national pride while also educating both local and international audiences about African history.

2. Global recognition signals a shift

The international success of Ghanaian animations suggests a shift in the perception of African animation. Historically, Africa has been seen as a consumer rather than a

producer of animated content. However, awards, nominations, and international film festival screenings indicate that Ghanaian animators are now being taken seriously in the global industry. This growing recognition could attract more investment and collaborations with global studios.

3. The Role of technology in expansion

The ability of Ghanaian animations to secure distribution on platforms like Amazon Prime and YouTube shows how digital technology is breaking down traditional barriers. Previously, African content struggled to get global visibility due to limited access to major film distribution networks. However, streaming platforms are now providing a direct route for Ghanaian animators to reach global audiences without relying solely on TV networks or cinemas.

4. Women are making an impact

The emergence of female animators like Karen-Happuch is a significant milestone for gender representation in Ghana's creative industry. Historically, animation has been a male-dominated field, so the success of *Abrefi Kotɔ* represents progress in breaking down gender barriers. This could inspire more women to join the industry, leading to more diverse storytelling perspectives.

5. The industry is growing but faces challenges

Despite the success, the industry is still in its early stages and faces major hurdles. Funding and infrastructure remain critical obstacles; animation requires advanced technology, skilled labour, and substantial financial investment. Without consistent funding, the quality and production speed of Ghanaian animations could be

compromised. Additionally, while global recognition is increasing, competing with established studios in the U.S., Japan, and Europe remains a challenge.

The perception of local animations by the Ghanaian audience in comparison to foreign animations

The findings indicate that local animations in Ghana are often perceived with mixed reactions compared to foreign animations. While there is a growing appreciation for Ghanaian-made animations, many audiences still favour foreign productions due to factors like quality, storytelling, and production value. Here are some key comparisons:

a. Visual and technical quality

Foreign animations from studios, such as Disney, Pixar, and Dreamworks, produce high-budget, high-quality animations with advanced CGI and smooth storytelling that easily attract audiences.

Though Ghanaian animation studios, like AnimaxFYB, Parables Animation, and Indigene BROS, have made significant progress, some local animations still struggle with smooth rendering and detailed visuals due to limited resources.

b. Storytelling and cultural relevance

Foreign animations often have engaging and universal narratives but sometimes lack direct cultural relevance for Ghanaian audiences.

On the other hand, Ghanaian animations are highly appreciated for their cultural representation, folklore, and relatable themes. Projects like *Anansi Must Die* and *Akwasi the Digital Boy* showcase indigenous stories, which resonate with Ghanaian audience.

c. Market reception

Many Ghanaian audiences still prefer foreign animations due to exposure from childhood. However, there is a growing appreciation for local content, especially among younger generations who seek African stories.

All the same, local animations face challenges in distribution and funding, making them less accessible compared to foreign productions on platforms like Netflix and Cartoon Network.

d. Voice acting and language

Foreign animations, mostly in English or other international languages, have a touch of professionalism, while the voice acting quality of local animations is sometimes inconsistent, though the inclusion of Ghanaian languages like Ewe, Twi, and Ga, makes them more relatable.

Analysis of findings on the perception of local vs. foreign animations in Ghana

The perception of local and foreign animations in Ghana is influenced by various factors, including quality, storytelling, accessibility, and cultural representation. Below is an analysis of the key aspects:

a. Quality and technical execution

- ***Comparison***

Foreign animations from studios like Disney, Pixar, and Studio Ghibli set a high bar in terms of animation quality, fluidity, and production value. These studios have access to cutting-edge technology, experienced animators, and significant budgets. In contrast,

Ghanaian animation studios operate with limited financial and technical resources, which often affects the smoothness of motion, character design, and special effects.

- ***Impact on perception***

Ghanaian audiences, especially younger ones who grew up consuming foreign animations, tend to associate high-quality animation with international productions. As a result, local animations may sometimes be dismissed as “low budget” or “amateurish” despite their cultural relevance. However, as local studios gain more experience and investment, the quality gap will gradually close.

b. Storytelling and cultural relevance

- ***Comparison***

Foreign animations often tell universal stories with wide appeal, covering themes like heroism, adventure, and family values. However, they lack the deep cultural representation that Ghanaian audiences can fully relate to. On the other hand, local animations integrate Ghanaian folklore, traditions, and everyday life, making them more relevant to the local audience. Examples include *Anansi Must Die*, which is based on the legendary Anansi the Spider, and *Akwasi the Digital Boy*, which reflects contemporary Ghanaian life.

- ***Impact on Perception***

Local animations are highly appreciated for their cultural and educational value, especially among parents and educators who see them as a way to preserve Ghanaian heritage. However, because of the strong influence of Western entertainment, younger audiences sometimes view local stories as less exciting compared to the action-packed, visually spectacular foreign animations.

c. Market reception and accessibility

- ***Comparison***

Foreign animations benefit from strong distribution networks, including TV channels like Cartoon Network, Netflix, and YouTube, which make them easily accessible. Meanwhile, Ghanaian animations struggle with funding and distribution, leading to lower visibility and limited reach.

- ***Impact on Perception***

Since foreign animations are more accessible and widely marketed, they dominate the entertainment space in Ghana. Local animations, on the other hand, require targeted promotion and alternative distribution channels to gain a foothold in the industry. Some Ghanaian studios have started leveraging social media and streaming platforms to reach a wider audience.

d. Language and voice acting

- ***Comparison***

Foreign animations are often produced in English, which makes them easily understandable for many Ghanaians. However, they lack the depth of local dialects and cultural expressions. Ghanaian animations that use Twi, Ga, or Ewe have an added cultural appeal but may face challenges in voice acting quality and standardization.

- ***Impact on perception***

While local languages make animations more relatable, the inconsistency in voice acting and sound quality can sometimes reduce their appeal. This suggests that improving dubbing techniques and voice acting could enhance the perception of Ghanaian animations.



e. Future prospects and industry growth

Despite the current preference for foreign animations, there is a rising movement towards embracing local content. The success of African animated series like *Supa Strikas* and *Mama K's Team 4* shows that with the right investment, local animations can also compete on an international level.

Interpretation of the analysis of findings on the perception of local animations by Ghanaian audiences in comparison to foreign animations

The analysis revealed a fundamental contrast between how Ghanaian audiences perceive local and foreign animations. It highlights that while local animations have strong cultural relevance, they still face challenges in quality, accessibility, and audience engagement.

a. Quality and technical execution shape audience preference

The preference for foreign animations is largely influenced by superior production quality. Since Ghanaian audiences have been exposed to high-budget foreign animations from childhood, they often compare local productions to this standard. This perception makes it difficult for local animations to gain widespread popularity unless production quality significantly improves.

b. Cultural relevance alone is not enough to drive preference

While Ghanaian animations tell stories that resonate more deeply with local audiences, cultural representation alone does not guarantee widespread acceptance. Many young viewers prioritize entertainment value over cultural significance, which is why they may still prefer foreign content.

c. Market accessibility influences popularity

Foreign animations dominate because they are more widely available through TV channels, streaming services, and cinemas. Local animations, on the other hand, struggle with distribution, making it difficult for them to reach audiences at the same scale. This suggests that improving distribution strategies could play a key role in increasing the visibility of Ghanaian animations.

d. Language and voice acting can be a double-edged sword

The use of Ghanaian languages in animation can enhance relatability, but inconsistent voice acting quality can undermine this advantage. A well-voiced local animation could become a major selling point, but without professional voice actors, it risks being seen as low quality.

Potential for industry growth and global recognition

Despite these challenges, Ghanaian animations have significant potential. The increasing global interest in African storytelling, along with the success of African animated series like *Supa Strikas* and *Mama K's Team 4*, suggests that Ghanaian studios can break into the international market with the right investment and strategic partnerships.

Incentives or funding opportunities available for Ghanaian individuals and studios looking to produce animations in Ghana

The response highlighted various incentives and funding opportunities available for individuals and studios aiming to create local animations. Some notable options are:

- *The presidential film pitch series*

The presidential film pitch series an initiative of the National Film Authority (NFA) was launched in April 2021. This initiative aims to revitalize Ghana's film industry by providing a platform for filmmakers to engage with investors and distributors. In its inaugural edition, 25 projects, including animations, were shortlisted for potential funding and support.

- *Tax rebates*

There are also tax incentives in the form of tax rebates for film productions. This incentive was introduced to give a 20% tax rebate for strategic film productions, which include animation projects. The incentive is complemented by exemptions on import duties for filmmaking equipment, aiming to attract and support local productions.

- *Grants and funding programmes*

There are various grants and funding opportunities available for local content producers, including animators. For example, *Creation Africa Ghana grants* offer two types of grants: *Co-production Grant*, which is dedicated to feature films, TV series, animations, or documentaries of 60 minutes. The other is the *Smaller Project grants* for short films (including animations) and TV series pilots.

In addition is the *Youth to the Front Fund: The Creatives* for creatives, which provides grants ranging from \$1,000 to \$20,000 for successful applicants in the creative sector.

- *International Collaborations and Opportunities*

The *French Embassy's REAnimation Programme* offers young Ghanaian animators opportunities to gain visibility, secure co-production deals, and participate in international events, thus helping to enhance their skills and networks.

- *Supportive Organizations*

The *Ghana Culture Forum (GCF)* supports grassroots projects through the Ghana Culture Funding Scheme, which includes animation initiatives. Funding sources include membership dues, government grants, and external donations.

Another such organization is *iSpace Foundation*, a technology hub offering co-working spaces, tools, and facilities for entrepreneurs and startups, including those in the animation sector. They provide various programmes and resources to support creative projects.

Collectively, these initiatives and organizations aim to foster a supportive environment for animators in Ghana by providing financial assistance, resources, and platforms to showcase their work.

Analysis of Findings on Incentives and Funding Opportunities for Animation in Ghana

The incentives and funding opportunities available for individuals and companies in Ghana's animation industry highlight the country's increasing commitment to developing its creative sector. Below is a structured analysis of these opportunities based on their impact, accessibility, and challenges.

a. Government-Led Incentives and Policies

Presidential Film Pitch Series (PFPS)

This promising initiative directly connects animators and filmmakers with investors, thus fostering collaborations and funding opportunities. However, it is very competitive, as only a limited number of projects are shortlisted for potential investment.

Yet, its sustainability is not assured, as its long-term impact on the animation industry depends on continued government commitment and investor interest.

Tax rebates and import duty exemptions

Tax exemptions and rebates encourage both local and foreign investment in the production of animation by reducing financial burdens. These tax rebates and exemptions are open to registered film and animation companies, making it an effective tool for formalized businesses.

However, their enforcement and awareness are low. Therefore, they require better dissemination of information and easier application processes to make them more accessible.

b. Grant-Based funding

Creation Africa Ghana Grants

This grant offers both large-scale and small-scale funding, covering a diverse range of projects from feature-length animations to short films and pilot episodes.

To be able to access requires a structured application process. This grant favours co-production projects and experienced animators with international partnerships.

Consequently, smaller independent animators may struggle with the application process.

Youth to the Front Fund: The Creatives

This fund provides accessible, flexible funding ranging from \$1,000 to \$20,000 ideal for early-stage or independent animators. It is open to various creative entrepreneurs, making it more inclusive for animation startups.

It, however, has limited funds available per applicant. This implies that large-scale animation projects may require additional financing sources.

c. International collaborations and industry support

French Embassy's REAnimation Programme

This programme aims to strengthen international exposure and professional development for Ghanaian animators through networking and co-production opportunities.

The programme has limited opportunities for beginners and may favour more experienced animators or those with existing international networks.

Funding is also dependent on foreign funding and collaborations, which could affect its sustainability over time.

Ghana Culture Forum (GCF) and iSpace Foundation

These institutions play a crucial role in grassroots support, mentorship, and provision of infrastructure for animation startups.

They are more inclusive, as they cater to smaller studios and individual creatives.

However, they lack substantial financial resources compared to government grants or private investments.

Highlights

Strengths of Ghana's animation funding landscape

From the analysis, it is safe to conclude that government incentives like tax rebates and the PFPS indicate growing state support. Also, the availability of multiple grant sources (local and international) provides diverse funding streams. Similarly, collaborative opportunities with foreign institutions open doors for global partnerships.

Challenges & areas for improvement

The analysis indicates that there is limited large-scale funding for high-budget animation projects. There is also lack of awareness among animators about available incentives. Likewise, there is high competition for grants, making access difficult for small players.

Interpretation of the analysis of findings on incentives or funding opportunities available for individuals and companies looking to create local animations in Ghana

The analysis revealed that Ghana is making meaningful efforts to support its animation industry; however, the sector is still in a developmental phase. While multiple funding opportunities are available, access remains a challenge for many local animators.

One of the key points is that while government-led initiatives like the Presidential Film Pitch Series and tax rebates provide an enabling environment, they primarily benefit established studios or projects with structured business models. Independent animators and startups may struggle to tap into these benefits due to bureaucratic processes and competition.

On the other hand, grant-based funding, such as *Creation Africa Ghana Grants* and the *Youth to the Front Fund*, offer flexible financial support, nonetheless, they are highly competitive and may not be sufficient for large-scale animation projects. This suggests that animators need to diversify their funding strategies, seeking partnerships, sponsorships, and alternative revenue streams.

Also, international collaborations, such as the *French Embassy's REAnimation Programme*, provide exposure and professional development. However, they also highlight Ghana's reliance on external funding and the need for stronger local investment in animation. This reliance can be a double-edged sword; while it brings in expertise and opportunities, it can also make the industry vulnerable if foreign support declines.

In totality, the animation industry in Ghana has potential but requires more awareness, streamlined access to funding, and stronger local investment to become self-sustaining. Animators should not only focus on securing grants but also formalize their businesses, engage with policymakers, and build international networks to fully capitalize on the available incentives.

Popular genres of local animations in Ghana and emerging trends

The response emphasized the dynamism of animation in Ghana as a medium for storytelling, reflecting the nation's rich cultural heritage and evolving creative landscape. Several genres have gained prominence, each contributing uniquely to the local animation scene.

- **Popular genres**

- a. *Folklore and cultural Narratives*: animations that depict traditional Ghanaian stories, such as those featuring the cunning spider Ananse, are widely cherished. These narratives serve to preserve and promote cultural heritage, making them accessible to younger generations in engaging formats. For instance, the animated series *Ananse and Friends* brings these classic tales to life, ensuring their continuity in modern times.
- b. *Satirical Cartoons*: utilizing humour and satire, Ghanaian cartoonists address societal issues, politics, and everyday life. These animations entertain and also provoke thought and encourage civic engagement. Exhibitions showcasing satirical cartoons have highlighted their role in stimulating public discourse and reflection.

- **Emerging trends**

- a. *Afrofuturism*: This genre blends African culture with futuristic elements, offering fresh perspectives on identity and innovation. In Ghana, Afrofuturism is gaining traction across various creative fields, including animation, where storytellers are crafting narratives that envision African societies in advanced technological contexts.
- b. *Integration of advanced technologies*: the adoption of Virtual Reality (VR), Augmented Reality (AR), and Artificial Intelligence (AI) is transforming animation production and consumption. These technologies enable immersive experiences and streamline animation processes, allowing for real-time rendering and interactive storytelling.
- c. *Socially relevant content*: animators are increasingly focusing on themes such as social inequality, environmental sustainability, and cultural preservation. By addressing

pressing societal issues, these animations aim to inspire positive change and reflect the industry's commitment to impactful storytelling.

- d. *Cross-media collaborations*: there is also a growing trend of integrating animation with other media forms, including music, literature, and merchandise. These collaborations expand the reach of animated content and create new avenues for storytelling and revenue generation.

Collectively, these genres and trends accentuate the vibrancy and adaptability of Ghana's animation industry, reflecting a blend of deep-rooted traditions and innovative explorations.

Analysis of findings on popular genres of local animations in Ghana and emerging trends

Ghana's animation industry is evolving, blending tradition with modern storytelling techniques. The popularity of different genres and the emergence of new trends reveal a dynamic industry that is gradually gaining recognition on both local and international fronts.

Popular genres

- *Folklore and cultural narratives*

The dominance of folklore-based animations highlights Ghana's deep cultural roots. Traditional stories like Ananse tales are being reimagined for younger audiences, preserving heritage while making it entertaining. This genre resonates well with both children and adults due to its nostalgic and educational value. However, while culturally significant, its appeal outside Ghana may be limited unless adapted with universal storytelling elements.

- *Satirical cartoons*

The use of satire in animation reflects the growing demand for socially conscious content. These animations serve as a medium for critique and social commentary, helping to shape public opinion. However, the challenge lies in balancing humour with sensitivity, as political and social satire can sometimes be controversial.

Emerging trends

- a. *Afrofuturism*

The rise of Afrofuturism in animation aligns with a global movement that reimagines African culture within futuristic contexts. This trend not only modernizes African narratives but also positions Ghanaian animation within a global conversation about Black identity and innovation which has strong potential for international appeal, especially within the diaspora.

- b. *Integration of advanced technologies (VR, AR, AI)*

The adoption of emerging technologies is a crucial step toward making Ghana's animation industry more competitive. These tools can reduce production time, improve visual quality, and create more immersive storytelling experiences. However, the high cost of these technologies may present a barrier to widespread adoption in the local industry.

- c. *Socially relevant content*

Ghanaian animators are addressing themes such as cultural dynamics, politics, inequality, and education. This shift signifies a more purpose-driven industry that seeks

to inform and inspire change. However, balancing entertainment with activism is crucial, as overly didactic content may struggle to retain audiences.

d. *Cross-media collaborations*

The integration of animation with music, literature, and merchandise creates new revenue streams and enhances storytelling. This is particularly important for sustainability, as animation production is costly. Successful cross-media strategies can also help Ghanaian animations gain broader exposure.

Interpretation of the analysis of findings on popular genres of local animations in Ghana and emerging trends

The analysis of Ghana's animation industry suggests a sector at a crossroads between tradition and innovation. The popularity of folklore-based animations indicates that Ghanaians value storytelling as a means of preserving cultural identity. However, for the industry to expand beyond national borders, it must adapt these stories to appeal to global audiences.

Satirical animations highlight a growing appetite for socially conscious content, demonstrating that animation is more than just entertainment; it is a tool for education and political discourse. Yet, the delicate nature of satire means creators must navigate potential backlash carefully.

Also, emerging trends like Afrofuturism and the integration of advanced technologies show a shift towards modern and globally relevant storytelling. Afrofuturism will allow Ghanaian animators to reimagine their heritage in futuristic contexts, potentially increasing their appeal to international markets. However, technological advancements require significant investment, which could slow down widespread adoption.

Again, the rise of socially relevant content aligns with a broader movement in media where audiences seek meaningful stories that reflect real-world issues. This shift suggests that Ghanaian animation is evolving to be more impactful, not just entertaining.

Finally, cross-media collaborations point to an industry exploring diverse revenue streams, a crucial step for sustainability. Given the high cost of animation production, integrating animation with music, literature, and merchandise could help creators generate more income and expand their reach.

Generally, Ghana's animation industry is showing signs of growth and innovation; however, its long-term success will depend on balancing cultural preservation with global market trends, securing funding for technological advancements, and ensuring that storytelling remains both authentic and commercially viable.

Role of digital platforms and streaming services in the distribution of local animations in Ghana

The response indicated that digital platforms and streaming services play a crucial role in the distribution of local animations in Ghana by providing access to wider audiences, enabling monetization, reducing distribution costs, and fostering independent content creation.

a. Wider audience reach (local and global exposure)

Platforms like YouTube, Facebook, Instagram, and TikTok allow Ghanaian animators to share their work with a broad audience beyond traditional TV.

Thus, streaming services such as Netflix, Showmax, and Wi-flix are gradually incorporating African animations, offering a platform for local content to gain international recognition.

Subsequently, social media has enabled viral sharing by allowing animations to reach audiences that traditional distribution channels could not previously cover.

b. Monetization and revenue generation

These social media platforms can be monetized for revenue generation. YouTube's Partner Programme allows creators to earn through ads, memberships, and Super Chats. Likewise, Facebook and TikTok monetization (through ad revenue, brand partnerships, and fan donations) provide alternative income streams.

Similarly, subscription-based streaming services like Showmax and Netflix offer licensing deals, creating sustainable funding sources for local animators.

Finally, local telecom-driven platforms such as MTN Shortz and AirtelTigo Video Play offer Ghanaian animations on mobile-friendly streaming services.

c. Lower distribution costs

Unlike traditional TV, which requires high licensing fees and compliance with broadcasting regulations, digital platforms allow direct-to-consumer distribution with minimal cost.

These platforms also eliminate the need for physical distribution methods such as DVDs, thus reducing overhead expenses.

Consequently, there is a reduction on the dependence on local TV stations that may prioritize foreign content over local animations.

d. Creative freedom and independent content development

Digital platforms give Ghanaian animators full control over their content, allowing them to tell authentic African stories without external interference.

Therefore, short-form animations, experimental content, and niche storytelling thrive without needing approval from traditional media houses.

Also, crowdsourcing feedback from audiences helps animators refine and improve their content.

e. Attracting investors and collaborations

Animators who are exposed on various digital platforms can attract investors, sponsors, and collaborations from international studios.

Therefore, successful online animations can be adapted into larger projects, such as TV series or films.

f. Cultural representation and storytelling

Digital platforms empower Ghanaian animators to preserve and share local culture, folklore, and languages. Thus, creators can infuse their unique storytelling styles without restrictions from mainstream international studios.

In essence, the rise of African-centred animation, such as those inspired by Anansi stories or Ghanaian history, could benefit from these platforms.

Analysis of findings on the role of digital platforms and streaming services in distributing local animations in Ghana

Digital platforms and streaming services have transformed the animation industry in Ghana by providing visibility, monetization opportunities, and creative freedom.

However, challenges such as competition, funding constraints, and internet accessibility still hinder widespread success. Below is an analysis of their impact.

a. Increased audience reach: a double-edged sword

Advantages

Digital platforms such as YouTube, Facebook, and TikTok break down geographical barriers, allowing Ghanaian animators to reach both local and global audiences without needing traditional media gatekeepers.

Likewise streaming services like Netflix and Showmax help legitimize Ghanaian animation by placing it alongside international content, increasing its credibility.

Challenges

While platforms provide global exposure, they also increase competition with high-budget international productions from countries with more established animation industries.

Also, limited internet penetration and high data costs in Ghana restrict access for local audiences, potentially reducing the effectiveness of online distribution.

Analysis

While global exposure is beneficial, Ghanaian animators need strong digital marketing strategies to gain visibility amidst intense competition.

Additionally, partnerships with telecom providers for subsidized data packages could help increase accessibility and local engagement.

b. Monetization: avenues with struggles

Advantages

Platforms like YouTube, Facebook, and TikTok offer direct monetization through adverts, memberships, and sponsorships, by providing alternative revenue streams for animators. With subscription-based platforms such as Showmax and Netflix also provide licensing deals, which can offer a stable source of income. While local initiatives such as MTN Shortz and Wi-flix also present monetization opportunities specifically designed for African content.

Challenges

As a matter of fact, revenue from digital platforms is often inconsistent; advert revenue is dependent on viewership numbers and engagement, which may be difficult for emerging animators to achieve.

This, coupled with the lack of investment in Ghana's animation sector, makes it difficult to create high-quality animations that can compete on international platforms.

This notwithstanding, piracy and unauthorized sharing also reduce the potential earnings of animators.

Analysis

Animators should explore diverse monetization models, including crowdfunding, brand sponsorships, and merchandise sales, to supplement ad revenue.

Also, securing government or private-sector investment in the animation industry could improve monetization potential thus strengthening local platforms.

c. Lower distribution costs: a clear advantage

Advantages

Digital platforms eliminate the need for expensive licensing fees required by traditional TV broadcasters.

Therefore, animators can directly distribute content online without needing physical distribution, thereby reducing production costs.

Consequently, self-publishing is encouraged to allow for more creative independence, giving animators control over content distribution.

Challenges

Without strategic marketing and audience-building efforts, content may remain undiscovered despite being freely available.

Also, algorithm biases on major platforms often prioritize Western content over local African animations, making discoverability difficult.

Analysis

To maximize reach, Ghanaian animators need to leverage influencer collaborations, targeted social media ads, and strategic partnerships with established digital networks.

d. Creative freedom and cultural representation: a major win

Advantages

Online platforms often remove creative restrictions imposed by traditional media, allowing animators to explore unique African storytelling, folklore, and indigenous languages.

Hence, animators can engage directly with audiences to receive feedback and refine their storytelling.

Subsequently, there is less pressure to conform to Western animation styles, allowing for cultural authenticity.

Challenges

The lack of financial resources and technical expertise sometimes leads to lower production quality, making it harder for Ghanaian animations to compete with well-funded international projects.

However, though global platforms offer more exposure, they do not necessarily prioritize African narratives unless they already have a strong audience demand.

Analysis

Collaborating with African storytellers, historians, and linguists can help create compelling, high-quality local narratives.

Additionally, animators should engage in co-productions with African and international studios to boost production quality and financial backing.

e. Attracting investors and scaling the industry

Advantages

Undoubtedly, successful online animations can attract sponsorships, partnerships, and potential investors looking for the next big African animation.

Also, crowdfunding campaigns can become more viable when animation projects gain traction online. As in the case of international success stories like South Africa's

“*Kizazi Moto*” or Nigeria’s “*Iwájú*” that have proven that African animation has global potential.

Challenges

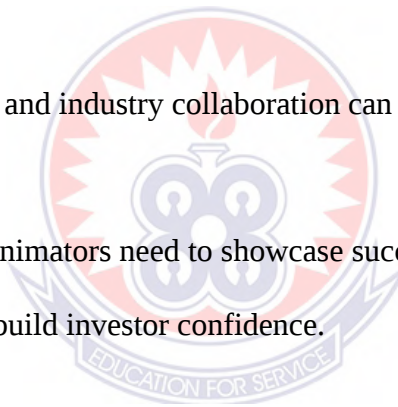
One big challenge is the skepticism of many investors about the profitability of the animation industry in Ghana. This uncertainty makes investors cautious about putting their investments in the animation industry because returns are not assured.

Further, the high cost of animation production, software, hardware, and skilled labour, makes it difficult for small creators to scale.

Analysis

Government incentives and industry collaboration can attract more investment into the animation sector.

In addition, Ghanaian animators need to showcase success stories, viewership metrics, and market demand to build investor confidence.



f. The Future of digital animation distribution in Ghana

To ensure the growth and development of the animation industry in Ghana, local streaming platforms should be strengthened and expanded to provide homegrown alternatives to international platforms.

Additionally, better internet infrastructure and affordable data plans should be developed as they are key to unlocking local viewership.

Also, more collaborations between animators and game developers, musicians, and filmmakers should be encouraged to help expand the reach of Ghanaian animation.

Interpretation of the analysis of findings on the role of digital platforms and streaming services in the distribution of local animations in Ghana

Digital platforms and streaming services are both an opportunity and a challenge for the Ghanaian animation industry. On one hand, they provide local animators with a cost-effective, global-reaching, and creatively liberating way to distribute their content. On the other hand, they also bring stiff competition, monetization struggles, and accessibility barriers that need to be addressed for the industry to thrive.

Key points to consider

a. Digital platforms break traditional media barriers

Unlike TV networks that often favour foreign content, platforms like YouTube and Showmax give Ghanaian animators a direct line to their audiences.

However, visibility is not automatic; animators need strong digital marketing to stand out.

b. Monetization is possible, but not always stable

Creators can earn through advert revenue, licensing deals, and crowdfunding.

However, low local internet penetration and high data costs mean that many potential viewers in Ghana may struggle to access content online, thus reducing revenue opportunities.

c. Cultural representation is strong, but financial backing is weak

Digital platforms allow Ghanaian animators to preserve and promote local stories, folklore, and languages.

Yet, the high cost of animation production and lack of investment make it difficult to produce content at a globally competitive level.

d. Investors are watching, but proof of success is needed

An animation can attract investors, partnerships, and international collaborations if it performs well online.

Therefore, Ghana's animation sector needs to build a strong case for investment, to show proof of profitability and audience demand.

e. The future depends on industry collaboration and innovation

Undoubtedly, strengthening local streaming platforms, reducing internet costs, and building industry partnerships will help the sector grow.

Therefore, animators should diversify revenue streams instead of relying solely on ad revenue.

Digital platforms have democratized animation distribution in Ghana, allowing for greater creative expression and direct audience access. However, for the industry to be sustainable and globally competitive, Ghanaian animators need better financial support, strategic marketing, and improved digital infrastructure. The industry has huge potential, but unlocking it will require a mix of innovation, investment, and policy support.

How animators and producers in Ghana address issues of cultural representation in their work, as well as regulations guiding them

The response shows that animators and producers in Ghana are increasingly addressing issues of cultural representation by incorporating traditional folklore, languages, symbols, and themes into their work while balancing modern storytelling techniques. They strive to represent Ghanaian and broader African cultures authentically, avoiding stereotypes and misrepresentations.

How Ghanaian animators and producers address cultural representation

a. Incorporating local folklore and traditions

Most Ghanaian animations draw inspiration from rich oral traditions, mythology, and folklore, such as the Ananse stories.

This ensures that cultural heritage is preserved and passed down to younger generations in an engaging way.



b. *Language and dialect representation*

Some animation studios and filmmakers use indigenous languages like Twi, Ga, Ewe, and Dagbani in their productions, making content more relatable to local audiences. English is often used for broader appeal, but there is a growing effort to include subtitles or dubbing in local languages.

c. *Character and aesthetic authenticity*

Animators create characters that reflect the diverse ethnic backgrounds in Ghana, showcasing traditional clothing, hairstyles, and settings that resonate with Ghanaian

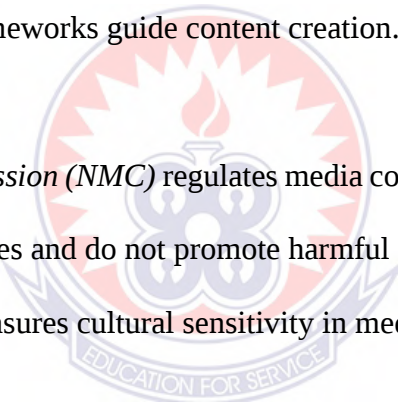
audiences. This counter Westernized beauty standards that often dominate global animation.

d. *Storytelling with a social and educational focus*

Many productions focus on themes such as history, patriotism, morality, and African unity, ensuring that cultural representation extends beyond visuals to meaningful narratives.

Regulations and guidelines

Ghana does not have strict, animation-specific regulations on cultural representation, but various general frameworks guide content creation.

- 
- a. *National Media Commission (NMC)* regulates media content, ensuring that productions align with national values and do not promote harmful stereotypes.

The commission also ensures cultural sensitivity in media, including animation.

- b. *Ghana National Film Authority (NFA)* oversees the film and animation industry, ensuring that local content meets ethical and cultural standards by providing guidance on storytelling that aligns with Ghanaian heritage.
- c. *Copyright and Intellectual Property Laws* protects Ghanaian cultural expressions from exploitation. These laws also encourage animators to create original work while respecting traditional symbols and folklore.

- d. *Ghana Culture Policy (2004)* promotes the preservation and promotion of Ghanaian culture in all media forms. Hence the policy encourages content creators to develop productions that reflect Ghana's cultural identity.

Challenges and opportunities

While there is a strong push for authentic cultural representation, challenges such as funding limitations, lack of advanced animation infrastructure, and competition from Western media persist. However, with the rise of local animation studios like AnimaxFYB, Mills Media, and Parables Animation Studios, the industry is evolving to produce more culturally relevant content.

Analysis of findings on cultural representation in Ghanaian animation and film

Ghanaian animators and producers are making significant strides in addressing cultural representation by integrating local traditions, languages, and aesthetics into their work. However, their efforts are influenced by various factors, including industry constraints, regulatory frameworks, and audience reception. Below is a thorough analysis of the key aspects discussed:

a. Cultural authenticity vs. global appeal

Ghanaian animators often balance authenticity with global appeal. While local audiences appreciate content that reflects their cultural identity, animation studios also consider international markets. This sometimes leads to a hybrid storytelling approach, blending Ghanaian traditions with universal themes that resonate globally. Consequently, Ghana's cultural visibility is enhanced on the global stage. However,

animators and local content creators risk diluting cultural aspects to fit international standards.

b. The role of language in cultural identity

The inclusion of local languages in animation is a powerful tool for cultural preservation. However, the challenge is that Ghana has over 70 languages, and targeting a specific linguistic group might limit the reach of a production. While English provides wider accessibility, it may not fully capture the cultural nuances expressed in indigenous dialects.

Thus, the inclusion of local dialects promotes linguistic diversity and cultural pride.

It, however, limits accessibility for non-native speakers unless translations or dubbing are provided.

c. Thematic representation and social influence

Ghanaian animations often focus on folklore, moral teachings, and historical narratives. This helps reinforce national identity and educates younger generations about their heritage. However, there is room for more diverse storytelling, including contemporary Ghanaian experiences, sci-fi interpretations of African futures, and alternative cultural narratives beyond folklore.

In essence, folkloric stories for animation contribute to cultural education and moral development. However, over-reliance on folklore may limit the exploration of modern themes.

d. Industry regulations and their Impact

Although bodies like the National Media Commission (NMC) and the National Film Authority (NFA) provide general oversight, Ghana lacks specific policies tailored to animation. The Ghana Culture Policy (2004) encourages cultural representation, but enforcement remains weak. The absence of strong policies sometimes allows Western influences to dominate local media.

Thus, while these regulatory bodies encourage cultural authenticity in media, the enforcement of the policies is weak, coupled with a lack of direct animation industry policies.

e. Funding and infrastructure constraints

The animation industry in Ghana faces financial and technological limitations. Unlike Hollywood or Japan's anime industry, local studios struggle with access to advanced software, training, and funding. Many animators rely on grants, personal investments, or international collaborations, which may sometimes influence creative direction.

Though local studios are becoming innovative in overcoming financial constraints by using 2D animation or mobile-friendly formats for productions, they still have financial limitations that hinder large-scale productions and global competitiveness.

f. The future of Ghanaian animation

Despite challenges, there is growing interest in Ghanaian animation. Initiatives by AnimaxFYB, Mills Media, and Parables Animation Studios are making significant progress, showcasing African culture through digital storytelling. Increased government support, collaborations with African streaming platforms, and investment in animation education could further strengthen the industry.

Interpretation of the analysis of findings on cultural representations in Ghanaian animations and regulations

Ghana's animation industry is evolving but faces structural challenges that must be addressed for sustainable growth. The industry's potential lies in its ability to authentically represent Ghanaian culture while remaining competitive in the global market.

Key highlights from the analysis:

a. Cultural Representation is a strength, with the need for expansion

Ghanaian animators have successfully incorporated folklore, traditions, and indigenous languages, in animations to help preserve cultural heritage.

However, over-reliance on folklore could limit storytelling diversity. Therefore, expanding into genres like Afrofuturism, sci-fi, and modern African narratives can make Ghanaian animation more dynamic.

b. Lack of specific regulations leaves the industry vulnerable

While the National Media Commission (NMC) and National Film Authority (NFA) provide general oversight, there are no strict policies tailored to animation.

This creates a risk where Western influence could overshadow authentic Ghanaian storytelling, and may cause local animators to struggle with copyright issues.

c. Financial constraints are a major obstacle

Ghanaian animators face limited funding and lack tax incentives for the creative industries unlike Hollywood or Japan's anime industry,

Consequently, it is difficult to produce high-quality animations that can compete internationally due to the lack of strong financial backing.

d. Education and training must be prioritized

A shortage of specialized animation schools means that many animators are self-taught or rely on online tutorials.

Thus, the government and private institutions need to invest in structured animation courses, workshops, and mentorship programmes to build a skilled workforce to feed the demand of the growing industry.

e. Limited distribution affects industry growth

Many Ghanaian animations do not reach a broad audience because there are few platforms dedicated to local animated content.

Therefore, strengthening partnerships with Netflix Africa, Showmax, and mobile streaming services could improve visibility and increase revenue.

Also, the Ghanaian animation industry has strong cultural foundations but lacks the necessary financial, regulatory, and educational support to compete globally.

Addressing these gaps through policy reforms, funding initiatives, industry training, and better distribution strategies will ensure that Ghanaian animation thrives both locally and internationally.

Prospects and future directions for the development of local animation in Ghana

The response shows the animation industry in Ghana is on a steady rise, and with the right support, has the potential to become a major contributor to the country's creative economy. The future of animation in Ghana is shaped by several key trends and opportunities. Below is an exploration of the prospects and future directions for local animation.

a. Increased local and international recognition

Ghanaian animation is gaining traction both locally and internationally. Studios like AnimaxFYB, Indigene BROS, and Parables Animation Studios have already established a presence in the industry. Successful projects like "*Zaraman*," "*Tutu: The Untold Story of a Kingdom*," and "*Anansi Must Die*" have showcased Ghanaian storytelling on the global stage.

Also, participation in international festivals like Annecy International Animation Festival and African film festivals is boosting exposure for local animator.

In addition, collaborations with global streaming services like Netflix, Showmax, and Disney+ can further enhance the reach of Ghanaian animation.

b. Growth of streaming platforms and digital media

Traditional TV stations in Ghana have limited slots for animated content, but digital platforms are changing the game. YouTube, Netflix, Amazon Prime, and Showmax provide alternative distribution channels where animators can monetize their work.

Thus, platforms like YouTube and TikTok allow independent animators to reach audiences without relying on expensive distribution networks.

Additionally, mobile video consumption is increasing, therefore creating a demand for short-form animated content.

c. Government and institutional support

Although the Ghanaian animation industry has largely been private-sector driven, the government is gradually showing interest in supporting creative industries. With institutions like the National Film Authority (NFA) working on policies to promote local productions, the Ministry of Tourism, Arts, and Culture has also identified the

animation industry as a key component of the creative economy with the aim of developing funding schemes specifically for animation projects.

d. Increased investment and funding

Funding has been a major challenge for Ghanaian animation studios, but there is growing interest from private investors and international funding bodies.

Lately, NGOs and organizations like UNICEF and UNESCO are commissioning educational and social awareness animations to help Ghanaian studios to develop.

Similarly, some studios have successfully raised funds through crowdfunding platforms such as Kickstarter to help in their productions.

e. Education and training opportunities

Ghana has limited institutions offering formal training in animation; however, efforts are being made to bridge the gap. Institutions like NAFTI (National Film and Television Institute), University of Education, Winneba (UEW), KNUST, and Radford University College have introduced animation courses to help in the training of skills for the animation and creative industry.

Further, private training centers and workshops from animation associations are also providing hands-on learning for talents in the animation industry.

f. Collaboration with African and international studios

The African animation industry is growing, and Ghana has the potential to become a key player by learning from countries like Nigeria, South Africa, and Kenya who have well-established animation industries, through collaborations to boost Ghana's industry.

g. Expanding the scope of content

Animation in Ghana is still largely focused on entertainment; however, it has other untapped uses which include educational animations which can be used in schools to teach subjects like science, math, and history. Similarly, animations can be used for health and social campaigns to create awareness about health and social issues.

h. The rise of gaming and interactive media

The gaming industry is booming in Africa, and Ghanaian animators can contribute by developing characters and storylines for local games. Studios like Twin Drums are already exploring this space with mobile games inspired by African mythology.

Further, Augmented Reality (AR) and Virtual Reality (VR) are opening new opportunities for animated storytelling, which can be explored.

i. Use of indigenous stories and cultural heritage

Ghana has a rich folklore and history that has not been fully explored in animation. Stories of Anansi the Spider, Yaa Asantewaa, and Kwaku Bonsam can make engaging animated films. This is because international audiences are increasingly becoming interested in authentic African stories.

j. Advancements in technology and software accessibility

Advancements in animation technology are making it easier and cheaper to produce high-quality animations.

Moreover, open-source and affordable animation tools like Blender and Toon Boom Harmony are reducing production costs.

Additionally, cloud-based software is allowing animators to collaborate remotely with international teams.

Analysis of findings on the prospects and future directions for the animation industry

The animation industry in Ghana is undergoing a phase of progressive transformation, characterized by increasing recognition, evolving market opportunities, and expanding institutional support. As a dynamic facet of the creative economy, Ghanaian animation holds significant potential to emerge as a globally competitive sector, contingent on sustained investment, strategic policy frameworks, and talent development. Below is an analysis of key prospects and future directions shaping the local animation landscape in Ghana.

a. Increasing local and international recognition

Ghanaian animation is steadily gaining prominence both within the country and on the international stage. Animation studios such as AnimaxFYB, Indigene BROS, and Parables Animation Studios are at the forefront of this movement, producing culturally resonant works such as *Zaraman*, *Tutu: The Untold Story of a Kingdom*, and *Anansi Must Die*. These projects showcase the depth of Ghanaian storytelling traditions and underscore local animators' growing capacity to deliver high-quality content. International exposure through film festivals such as the Annecy International Animation Festival and other African cinema showcases has further enhanced visibility. Moreover, collaborations with global streaming platforms, including Netflix,

Showmax, and Disney+, present broader dissemination and commercially viable opportunities.

a. Digital media and streaming platforms as catalysts

The rise of digital distribution channels has transformed the landscape for content creators. Traditional Ghanaian television networks offer limited slots for animated programming; however, the proliferation of online platforms such as YouTube, TikTok, and subscription-based services (e.g., Netflix, Amazon Prime) has democratized content distribution. These platforms enable independent animators to reach diverse audiences while bypassing conventional gatekeeping structures. Additionally, the increasing consumption of mobile video content in Ghana suggests a fertile market for short-form and serialized animations tailored for mobile-first users.

c. Emerging government and institutional support

Although historically driven by the private sector, the Ghanaian animation industry is starting to receive incremental governmental support. The National Film Authority (NFA) and the Ministry of Tourism, Arts and Culture are developing policy interventions aimed at nurturing the creative industries. These include the creation of funding schemes tailored for animation projects and initiatives to enhance the regulatory framework. Such institutional engagement is essential for creating a more enabling environment for animators, particularly regarding financing, intellectual property protection, and capacity building.

d. Prospects for investment and funding

Access to sustainable financing remains a critical barrier for most animation studios. Nonetheless, there is a growing interest from both domestic and international investors. Non-governmental organizations and development agencies such as UNICEF and UNESCO have commissioned animation content for educational and social awareness campaigns, indirectly supporting the industry's growth. Furthermore, the success of crowdfunding campaigns on platforms like Kickstarter demonstrates the viability of alternative financing models, particularly for culturally relevant or socially impactful projects.

e. Expansion of education and training infrastructure

Capacity building remains a key challenge due to the limited availability of formal training programmes. However, institutions such as the National Film and Television Institute (NAFTI), the University of Education, Winneba (UEW), Kwame Nkrumah University of Science and Technology (KNUST), and Radford University College have introduced animation-related courses. These academic programmes are complemented by private sector-led workshops and initiatives spearheaded by professional associations. This expansion is crucial for cultivating a skilled workforce that can meet the technical and creative demands of the industry.

f. Intra-African and global collaborations

Cross-border collaborations with established African animation markets, particularly Nigeria, South Africa, and Kenya will offer a strategic pathway for knowledge transfer, co-productions, and joint ventures. These partnerships can help Ghanaian studios scale operations, gain access to wider markets, and adopt best practices in production and

distribution. International collaborations will further facilitate the localization of global content and the globalization of local narratives.

g. Diversification of animation content

While entertainment remains the dominant use of animation in Ghana, there is a significant opportunity to diversify content. Educational animations can serve as pedagogical tools in teaching science, mathematics, and creative art. Similarly, animations can be instrumental in public health and social awareness campaigns, especially in contexts where visual storytelling can enhance comprehension and retention of complex messages.

h. Integration with the gaming and interactive media sector

The rise of the African gaming industry presents new frontiers for Ghanaian animators. Studios can contribute to the development of culturally grounded video games by creating characters, narratives, and immersive environments. Projects such as those developed by Twin Drums highlight the potential of integrating African mythology into interactive media. Additionally, the growing accessibility of technologies such as Augmented Reality (AR) and Virtual Reality (VR) opens avenues for experiential storytelling and cross-platform content innovation.

i. Leveraging indigenous stories and cultural heritage

Ghana's rich oral traditions and historical narratives remain underexplored in animated form. Stories such as those of Anansi the Spider, Yaa Asantewaa, and Kwaku Bonsam represent unique cultural assets that can be translated into compelling visual narratives.

As global audiences demonstrate an increasing interest in authentic African stories, a timely opportunity is presented for Ghanaian animators to assert cultural ownership and creative agency through the medium of animation.

j. Technological advancements and accessibility of software

Technological innovations are reducing barriers to entry in animation production. The availability of open-source software such as Blender and cost-effective commercial tools such as Toon Boom Harmony enables animators to produce high-quality content with limited resources. Cloud-based collaboration platforms further facilitate remote teamwork, enhancing efficiency and broadening opportunities for international co-productions.

Interpretation of the analysis of findings on the prospects and future directions for the animation industry

The animation industry in Ghana reveals a sector with immense potential but facing significant structural challenges. The main highlights from the discussion indicate that while there is a growing global interest in African animation, Ghana must take strategic action to capitalize on this opportunity.

a. A promising industry with expanding opportunities

The animation industry in Ghana is still in its early stages, but it is growing steadily. The presence of local studios and increasing international recognition suggests that Ghanaian animation has the potential to thrive. Streaming platforms and digital media are opening new avenues for content creators, eliminating the traditional barriers

imposed by TV networks. This digital transformation is critical in making animation more accessible and commercially viable.

b. Challenges that need to be addressed

Despite its potential, Ghanaian animation faces major obstacles, such as limited funding, lack of training facilities, and high production costs. The government is starting to show interest, yet institutional support is still weak compared to other African countries like South Africa and Nigeria.

c. The role of local storytelling and culture

One of the most valuable assets for Ghanaian animation is its rich cultural heritage and folklore. There is a global demand for authentic African storytelling, and Ghana has numerous untapped narratives that could be adapted into animation.

d. The importance of regional and international collaboration

To grow quickly, Ghanaian animation studios should collaborate with other African and international studios. This can boost production quality, attract funding, and create learning opportunities. Ghana has yet to establish itself as a regional animation hub, however, partnerships with countries like Nigeria, Kenya, and South Africa could accelerate progress.

e. A shift towards diversified animation applications

Currently, most Ghanaian animation is focused on entertainment, but other areas like education, advertising, and gaming offer untapped opportunities. NGOs, corporations, and educational institutions are potential clients for animation services, which could provide more sustainable income for studios.

5.2.2 The current state of animation and the animation industry in Ghana (animators from selected studios)

Responses from industry professionals suggest that the current state of animation and the production of locally generated animated content in Ghana has improved significantly compared to five years ago. There is a discernible increase in interest and enthusiasm surrounding the sector, with clear indicators of potential growth and expansion soon. Respondents also highlighted the emergence of new animation studios, which has raised optimism about the industry's ability to attain international standards. Their responses also indicated that the Ghanaian animation industry appears to be at a pivotal stage of development. While still in its formative years, it is experiencing notable growth. Industry stakeholders have expressed confidence in the availability of local talent, creative expertise, and culturally rich narratives that could position Ghana as a significant player in the global animation landscape. However, the industry continues to face several challenges, including:

- *Funding*: difficulty in attracting sufficient investment for large-scale animation projects.
- *Infrastructure*: the need for well-equipped and sustainable animation studios and production facilities.
- *Distribution channels*: limited access to local and international animated content markets.

Despite these constraints, there is growing optimism about the future of Ghanaian animation. Local studios are increasingly producing animated commercials, short films, and episodic content. Given its vibrant cultural heritage and storytelling potential, Ghana is well-positioned to emerge as a leading animation hub in Africa.

Analysis of findings on the current state of the animation industry – animators’ opinion

The qualitative responses from animators reflect a cautiously optimistic outlook for the Ghanaian animation industry. The consensus that the sector has improved over the past five years suggests a trajectory of steady growth and transformation. This progress is attributed, in part, to the increasing visibility of local animated content and the establishment of new animation studios. These developments point toward a maturing creative industry that is beginning to position itself within the broader framework of global animation.

Also, the mention of new studios emerging is particularly significant, as it indicates not only an expansion of production capacity but also the diversification of creative voices and business models. This trend suggests an ecosystem that is gradually becoming more conducive to both artistic experimentation and commercial viability.

However, the analysis also highlights persistent structural challenges that hinder accelerated growth. Chief among these are limited funding, inadequate infrastructure, and insufficient distribution channels. These issues are emblematic of broader systemic constraints facing many creative industries in developing economies, where access to capital and markets remains a critical bottleneck. The lack of robust distribution platforms, in particular, limits the global reach of Ghanaian animation, thereby constraining the industry's potential for cross-border collaboration and monetization.

Nonetheless, the industry's resilience is evident in the growing number of locally produced animated works, ranging from commercials to short films and series, which serve both as proof of concept and as a demonstration of creative capacity. The emphasis on leveraging Ghana's rich cultural heritage in storytelling further

distinguishes its animation outputs and presents a unique value proposition for international audiences seeking diverse and authentic narratives.

While the Ghanaian animation industry remains in a developmental phase, the combination of creative potential, emerging entrepreneurial ventures, and increasing local interest provides a strong foundation for future growth. Targeted policy interventions, increased investment, and the development of strategic distribution partnerships are crucial in enabling the industry to compete on a global scale.

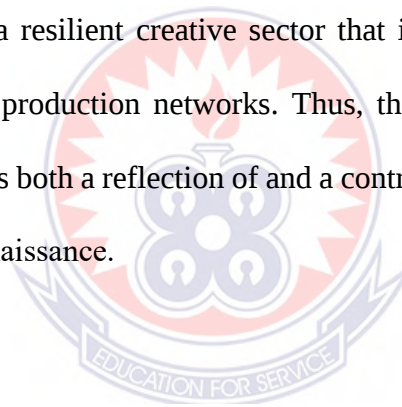
Interpretation of analysis of findings on the current state of the animation industry – animators' opinion

The Ghanaian animation industry is entering a phase of meaningful transformation characterized by both promise and precarity. The industry's current momentum evidenced by the emergence of new studios and increased local production can be interpreted as a response to broader shifts in media consumption patterns, digital accessibility, and cultural self-representation within Ghana and across the African continent. These developments point to a growing recognition of animation not only as an artistic medium but also as a viable economic and cultural enterprise.

The respondents' reflections indicate that animation in Ghana is increasingly being perceived as a strategic vehicle for storytelling, capable of conveying local identities and heritage to domestic and international audiences. This aligns with global trends in the creative economy, where cultural specificity and authenticity are becoming valuable commodities in an oversaturated media landscape. The industry's emphasis on indigenous narratives positions it well within this niche, potentially offering a competitive edge in the global animation market.

However, the persistent challenges cited, particularly regarding funding, infrastructure, and distribution, reflect a structural lag between creative ambition and systemic support. This gap highlights a recurring dilemma in cultural industries within developing economies: the presence of rich creative potential is often counterbalanced by institutional and logistical inadequacies. Without deliberate interventions, such as targeted government support, industry-academic collaboration, and foreign partnerships; the growth observed may plateau or become unsustainable.

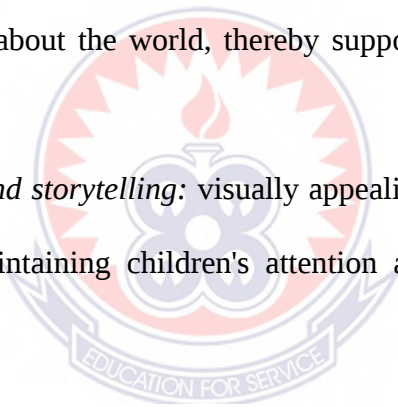
Moreover, the interpretive framing of the industry as being at a "crossroads" suggests a pivotal moment where strategic decisions and investments could significantly influence its trajectory. The optimism expressed by industry actors, despite the challenges, illustrates a resilient creative sector that is actively negotiating its place within global cultural production networks. Thus, the Ghanaian animation industry should be understood as both a reflection of and a contributor to the evolving dynamics of Africa's creative renaissance.



Key factors that make animated shows or movies suitable for children in terms of content and age-appropriateness.

The responses emphasized the importance of recognizing that age-appropriate content is subjective, varying according to individual developmental differences and cultural contexts. Therefore, active parental guidance and open communication between caregivers and children are crucial in facilitating a positive and enriching viewing experience. The following were recommended as key factors to consider for suitable content for children:

- *Developmentally appropriate themes:* content should align with the cognitive and emotional developmental stages of the child, ensuring that themes are comprehensible and relatable for the intended age group.
- *Positive messaging:* media should promote constructive values such as kindness, empathy, and resilience, which contribute to the child's social and emotional development.
- *Portrayal of violence and conflict:* depictions of violence and conflict must be approached with care and sensitivity, avoiding any form of glorification or normalization of aggressive behaviour.
- *Educational value:* children's media should encourage intellectual engagement and stimulate curiosity about the world, thereby supporting informal learning across various domains.
- *Engaging visuals and storytelling:* visually appealing and narratively rich content is essential for maintaining children's attention and fostering imagination and creativity.



The responses stressed that content for children should avoid excessive violence or frightening imagery, include relatable and morally positive characters, present engaging and imaginative storytelling, and incorporate educational themes that are most beneficial for young audiences.

Analysis of findings on key considerations in evaluating age-appropriate children's media content

The responses underscore a critical insight in contemporary media discourse: the concept of age-appropriateness is not fixed but rather highly subjective. This

subjectivity is influenced by a variety of factors, including individual differences in cognitive and emotional development as well as broader cultural norms and expectations. Such variability necessitates a distinct approach to content evaluation, where the role of parents and caregivers becomes paramount. Active parental engagement and open channels of communication with children are therefore, identified as foundational for ensuring a media experience that is both positive and developmentally enriching.

Several core themes emerged as essential criteria in determining suitable content for children. First, *developmentally appropriate themes* were highlighted as fundamental. These themes must resonate with the child's current stage of cognitive and emotional growth, thereby enhancing comprehension and emotional resonance.

Second, the emphasis on *positive messaging* reflects a broader educational and psychosocial imperative: children's media should serve as a vehicle for the promotion of prosocial values. Attributes such as kindness, empathy, and resilience are not only socially desirable but also play a significant role in shaping children's interpersonal skills and emotional regulation.

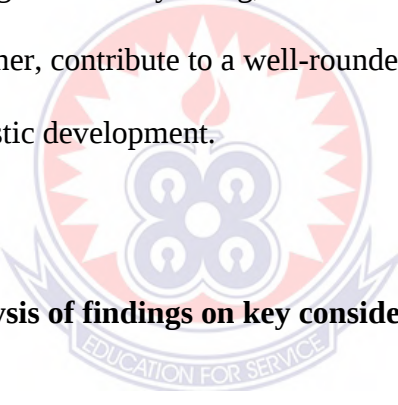
The *portrayal of violence and conflict* was another area identified for careful consideration. The responses advocate for a sensitive and responsible depiction of such elements, with an explicit rejection of any form of glorification. This aligns with existing literature that links repeated exposure to normalized violence in media with potential desensitization or increased aggression in young viewers.

The criterion of *educational value* speaks to the dual role that media can play; not only as a source of entertainment but also as an informal learning tool. When content fosters

curiosity and cognitive engagement, it has the potential to contribute meaningfully to a child's intellectual development.

Finally, *engaging visuals and storytelling* were noted as key to capturing children's attention and imagination. Aesthetically stimulating visuals and compelling narratives not only enhance enjoyment but also aid in information retention and emotional connection to the content.

In summary, the findings affirm the importance of a multidimensional approach to assessing children's media. Effective content should ideally minimize exposure to distressing imagery or excessive violence while foregrounding relatable and morally positive characters, imaginative storytelling, and meaningful educational components. These factors, put together, contribute to a well-rounded media experience that supports children's holistic development.

The logo of the University of Education, Winneba, is a circular emblem. It features a central sun-like symbol with rays, surrounded by a wreath. Below the wreath, the text 'EDUCATION FOR SERVICE' is inscribed. The entire logo is rendered in a light purple/pink color.

Interpretation of analysis of findings on key considerations in children's media content evaluation

The responses provided a comprehensive framework for evaluating age-appropriate children's media, emphasizing that the determination of what constitutes suitable content is inherently subjective. This subjectivity arises from variations in individual developmental stages, as well as cultural and societal influences that shape children's understanding and expectations of media. Consequently, there is no universal standard for what is considered appropriate; rather, it requires a personalized approach, underscoring the significance of parental involvement in the media selection process. The role of caregivers, particularly through active guidance and open communication,

is thus positioned as critical in ensuring that children are exposed to content that is both developmentally appropriate and enriching.

The recommendations that emerged from the responses highlight several key elements essential to the creation of suitable children's media. *Developmentally appropriate themes* serve as the foundation for this evaluation. Themes must be cognitively and emotionally accessible to children, reflecting their current developmental stage. This ensures that content is not only understandable but also emotionally resonant, thereby facilitating deeper engagement and learning.

Equally important is the presence of *positive messaging* within media content. The emphasis on values such as kindness, empathy, and resilience accentuates the significant role that media can play in the socialization process. These values contribute to the development of prosocial behaviour and emotional regulation, aligning with educational and psychological theories that emphasize the importance of media as a tool for shaping social and emotional competencies in children.

The careful *portrayal of violence and conflict* is another critical aspect. The responses suggest that depictions of violence should be handled with sensitivity, with particular attention given to avoiding the glorification of aggression. This aligns with research on the negative impact of violent media on children, which has been linked to increased aggression, desensitization, and distorted perceptions of social norms. By advocating for responsible portrayals, the responses highlight a key protective factor in mitigating potential harmful effects.

Additionally, the inclusion of *educational value* further broadens the scope of children's media, positioning it not only as a source of entertainment but also as an instrument for intellectual development. Content that stimulates curiosity and encourages learning supports cognitive growth and provides opportunities for informal education. This

perspective echoes the constructivist view of learning, which asserts that children actively construct knowledge through engagement with their environment, including media.

Lastly, the importance of engaging visuals and storytelling is emphasized as a necessary component of children's media. Visual appeal and compelling narratives are not merely entertaining; they play a crucial role in capturing and sustaining children's attention. This engagement is essential for facilitating learning and fostering creativity, as children are more likely to internalize the messages of content when they are emotionally and intellectually invested.

Consequently, the interpretation of the responses points to a holistic approach to children's media evaluation. Age-appropriate content should be carefully crafted to align with developmental needs, promote positive values, minimize harmful portrayals, support intellectual curiosity, and captivate children's attention through engaging storytelling. This comprehensive framework ensures that media serves as a constructive and enriching tool for children's growth, fostering their cognitive and socio-emotional development.

How exposure to animated content influences a child's cognitive development and creativity

The findings suggest that animation holds considerable potential to support children's cognitive development and creative abilities through various mechanisms. Participants emphasized animations to stimulate imagination and encourage critical thinking by presenting engaging narratives and problem-solving scenarios that promote active cognitive engagement. Additionally, exposure to diverse dialogues and storytelling

techniques within animated content was perceived as beneficial for enhancing language acquisition and expanding children's vocabulary.

Furthermore, the responses revealed that animations may contribute to social and emotional learning by depicting complex emotional experiences, thereby fostering empathy and facilitating the understanding of interpersonal relationships. The artistic dimensions of animation, such as distinctive visual styles, character design, and imaginative world-building, were also recognized as important factors in cultivating creativity and strengthening visual-spatial reasoning.

However, the importance of moderation in the use of animation was consistently emphasized. Respondents expressed concern that excessive screen time may have detrimental effects on child development. As such, they advocated for a balanced approach that integrates animated media with real-world interactions and other educational or recreational activities. When used appropriately, the visual and narrative richness of animation was seen as a powerful tool to inspire curiosity, enhance problem-solving abilities, and nurture a sustained interest in learning.

Analysis of findings on how exposure to animated content influences a child's cognitive development and creativity

The responses emphasize the multifaceted role that animation can play in fostering cognitive, linguistic, social, and creative development in children. From a developmental psychology perspective, the capacity of animated media to present complex narratives and problem-solving scenarios emphasizes the role of social and cultural tools in cognitive growth. Animation, as a cultural artifact, offers children symbolic representations and mediated experiences that encourage higher-order thinking, imagination, and reflection.

Also, language development is another key area where animation demonstrates educational potential. Animated programmes often employ diverse linguistic structures and vocabulary-rich dialogue, which can support language acquisition, especially in early childhood when exposure to varied linguistic input is critical. This finding aligns with research suggesting that multimedia learning environments can facilitate verbal development when content is age-appropriate and cognitively engaging.

In the domain of socio-emotional development, the ability of animated characters to convey complex emotions and relational dynamics offers children opportunities for emotional identification, empathy, and moral reasoning. This is consistent with Bandura's social learning theory, which posits that observational learning from media sources can influence behaviour and emotional understanding.

Creatively, the visual richness and imaginative elements inherent in animations were found to support the development of visual-spatial skills and creative thinking. Exposure to fantastical settings, novel character designs, and unconventional storytelling methods can stimulate divergent thinking, a key component of creativity. These findings resonate with theories of aesthetic education, which emphasize the role of the arts in expanding children's cognitive and perceptual capacities.

Nevertheless, the responses also emphasized the importance of moderation, echoing existing literature on the adverse effects of excessive screen time. Concerns were raised about the potential for overstimulation, reduced physical activity, and diminished face-to-face social interactions. This highlights the need for a balanced media diet that incorporates animated content as one component of a broader, holistic approach to child development.

In conclusion, while animation presents significant opportunities for educational and developmental enrichment, its benefits are most effectively realized when integrated thoughtfully within a diversified set of learning experiences. The analysis supports a nuanced view: animation is not inherently beneficial or harmful but operates within a complex interplay of content quality, context of use, and individual developmental needs.

Interpretation of the analysis of findings on how exposure to animated content influences a child's cognitive development and creativity

The results suggest that animation holds substantial potential to contribute to various aspects of children's cognitive, linguistic, social, and creative development. It is evident from the responses that animation serves as a dynamic medium that engages children in a range of cognitive processes, including imagination, critical thinking, language acquisition, and emotional understanding.

From a cognitive development standpoint, animation can be seen as an effective tool for fostering higher-order thinking skills. The engaging narratives and problem-solving scenarios present in animated content appear to stimulate active cognitive participation, a process that is essential for the development of critical thinking skills. The interactive nature of animation provides a virtual space for children to explore complex concepts and make connections that might not be as readily available through traditional forms of media.

Linguistically, the exposure to diverse dialogue and storytelling techniques inherent in animation plays a crucial role in expanding children's vocabulary and enhancing language development. Animated content often introduces children to a variety of linguistic structures, word choices, and narrative forms, contributing to the acquisition

of both verbal skills and comprehension. This interpretation reflects the understanding that language development thrives in rich, contextually diverse environments, which animation can provide through its varied linguistic input.

In terms of socio-emotional development, animation's portrayal of complex emotions and interpersonal relationships offers children a valuable opportunity for emotional learning. By observing characters navigate social situations, children are provided with a model for understanding empathy, conflict resolution, and emotional regulation. This aligns with social learning theory, suggesting that children learn emotional responses and social behaviours by observing and internalizing the experiences of animated characters. Thus, animation can function as a mirror for emotional experiences and a tool for teaching empathy and social intelligence.

Creatively, animation's distinctive visual styles and imaginative storytelling have the potential to stimulate divergent thinking and bolster visual-spatial skills. The richness of animated worlds encourages children to engage in abstract thinking and envision novel possibilities, which are key aspects of creativity.

However, while the potential benefits of animation are clear, the responses indicate that a cautious approach is necessary; excessive screen time could potentially undermine the positive effects of animation by limiting physical activity and real-world social interactions. Overstimulation from screen-based media can also impair attention span and executive functioning in children. Therefore, a balanced approach where animation is integrated within a broader array of developmental activities is essential for ensuring healthy child development.

Hence, animation can be a powerful tool for cognitive and creative development, provided it is used thoughtfully and in moderation. The benefits of animation are most pronounced when it is combined with other forms of learning and real-world

experiences. Thus, animation should not be viewed as a panacea for childhood education but rather as one component within a multifaceted approach to fostering well-rounded developmental growth.

The most popular and influential animated series or movies for children in recent years

The data gathered from participant responses identified *Cocomelon*, *Paw Patrol*, *Peppa Pig*, *PJ Masks*, *Bluey*, and *The Boss Baby* as the most widely recognized animated television series among children in Ghana. Similarly, animated feature films such as *Coco*, *Spider-Man* and its sequels, *Zootopia*, *Barbie*, *Moana*, *Luca*, *Sing*, and *Encanto* were noted for their significant popularity and audience engagement within the Ghanaian context.

Respondents attributed the widespread appeal of these productions to their diverse character representations, vibrant visual aesthetics, compelling storylines, and the promotion of socially constructive and morally instructive themes. These elements collectively contribute to their capacity to captivate young audiences and foster enduring emotional and cognitive resonance.

Nonetheless, it is important to note that none of these productions are of Ghanaian origin. Consequently, respondents expressed concern regarding the predominance of foreign media content in the entertainment landscape accessible to Ghanaian children. This situation potentially facilitates the assimilation of non-indigenous cultural norms and values, raising important questions about cultural representation, identity development, and the long-term implications of media exposure on the sociocultural orientation of Ghanaian youth.

Analysis of findings on the most popular and influential animated series or movies for children in recent years.

The predominance of foreign animated media content among Ghanaian children emphasizes a critical gap in the local creative industry's ability to produce culturally relevant and engaging content for young audiences. The high recognition and popularity of non-Ghanaian animated series and films reflect not only the global reach of Western media conglomerates but also the absence of competitive local alternatives that resonate with the lived experiences and cultural heritage of Ghanaian children. While these foreign productions are commendable for their pedagogical value and aesthetic appeal, their ubiquity introduces a subtle but significant process of cultural socialization in which foreign values, lifestyles, and social norms are normalized. This cultural infiltration can contribute to identity dissonance, especially among vulnerable audiences who may gradually devalue their indigenous cultural symbols, languages, and worldviews in favour of more dominant external influences. The findings thus point to the urgent need for intentional investment in local animation and storytelling industries to produce content that reflects and reinforces Ghanaian cultural narratives. Such efforts would not only promote cultural preservation and identity formation but also contribute to the diversification of global media content by amplifying underrepresented voices.

Interpretation of the analysis of findings on the most popular and influential animated series or movies for children in recent years.

The findings suggest that Ghanaian children's media consumption is heavily influenced by global animated content, predominantly from Western sources. This pattern reflects a broader trend of cultural globalization, wherein local audiences increasingly engage

with foreign media due to its widespread availability, high production quality, and strategic global marketing. The enthusiastic reception of series such as *Cocomelon*, *Paw Patrol*, and *Peppa Pig*, as well as films like *Moana*, *Encanto*, and *Spider-Man*, illustrates the extent to which international media products dominate the children's entertainment space in Ghana.

Thus, respondents' views reveal an underlying concern about the implications of this trend for cultural identity. While these foreign media products are lauded for their educational and entertainment value, their pervasive presence may inadvertently contribute to a diminishing appreciation for Ghanaian cultural narratives among the younger generation. The lack of locally produced animated content that reflects indigenous values, languages, and traditions suggests a missed opportunity to use media as a tool for cultural transmission and identity formation.

Therefore, the responses can be construed as a call for the development of a more robust local media ecosystem that not only entertains but also educates and socialises children within their cultural framework. This would involve strategic support for the Ghanaian animation industry, content creators, and educational policymakers to ensure that children's media consumption includes narratives that affirm their cultural identity and heritage.

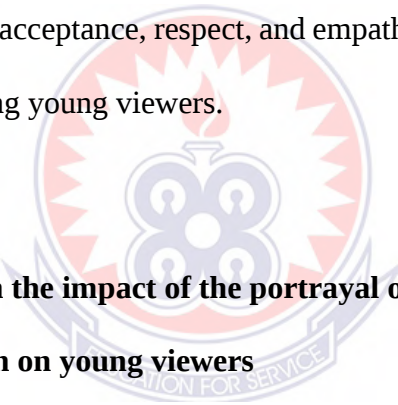
The impact of the portrayal of gender roles and diversity in children's animation on young viewers

The findings indicate that young audiences are particularly vulnerable and are significantly shaped by the media they engage with. As such, the depiction of gender roles and diversity in animated content holds considerable influence over their developing perceptions and attitudes.

Responses highlighted several key themes, including:

- *Positive representations* in animation were perceived as instrumental in challenging entrenched stereotypes, promoting inclusivity, and normalising a broad spectrum of identities and lived experiences.
- *Stereotypical portrayals*, on the other hand, were noted to reinforce harmful social biases and restrict children's understanding of diversity and social roles.

Moreover, the inclusion of characters from diverse ethnic, cultural, and socio-economic backgrounds, as well as those with varied abilities and personality traits, was identified as a valuable educational tool. Such representations were seen to cultivate essential social values, including acceptance, respect, and empathy, thereby contributing to more inclusive attitudes among young viewers.



Analysis of findings on the impact of the portrayal of gender roles and diversity in children's animation on young viewers

The responses highlight the influential role of animated media in the social and cognitive development of young audiences. This influence is particularly evident in the way children internalize and interpret representations of gender roles and diversity. The data suggest that media content serves not merely as entertainment but as a formative socializing agent that shapes children's worldviews, self-concepts, and interpersonal attitudes.

Positive representations in animation, such as the depiction of diverse identities in empowering, non-stereotypical ways, emerged as significant in promoting progressive social values. These portrayals contribute to the normalization of marginalized identities and foster an environment of inclusivity. By challenging traditional gender

norms and showcasing a wide range of cultural, physical, and personality traits, such representations help dismantle monolithic narratives and offer children more expansive and affirming models of identity.

In contrast, the recurrence of stereotypical portrayals was noted as a source of concern. These depictions tend to reinforce existing social hierarchies and biases, thereby limiting children's understanding of the complexities of identity and social interaction. Stereotypes, when left unchallenged, may contribute to the internalization of prejudice and hinder the development of critical thinking regarding issues of equity and representation.

Furthermore, the consistent emphasis on diverse characters across ethnicity, ability, and personality highlights the pedagogical potential of animation. These characters were perceived as not only reflecting the realities of a pluralistic society but also as teaching tools that promote values such as empathy, mutual respect, and cultural competence. The inclusion of such diversity is therefore not merely a matter of representation, but a necessary component of responsible and socially conscious media production aimed at fostering holistic child development.

In sum, the responses reveal that animated media wields significant influence over young viewers' attitudes toward gender and diversity. This underscores the imperative for content creators, educators, and policymakers to prioritize inclusive and accurate representations in children's programming as a means of supporting more equitable and empathetic future generations.

Interpretation of analysis of findings on the impact of the portrayal of gender roles and diversity in children's animation on young viewers

The findings can be interpreted as a clear indication of the formative power of animated media in shaping the social consciousness of young audiences. The data reflect a strong correlation between the nature of media representations and the development of children's perceptions regarding gender roles, identity, and diversity. This suggests that children do not passively consume media; rather, they actively engage with and internalize the messages conveyed through animated content.

Positive portrayals in animation are interpreted as offering alternative narratives to traditional, often exclusionary, depictions of gender and cultural identity. These representations serve as a medium through which children are exposed to the diversity inherent in real-world societies. As such, they play a constructive role in the development of inclusive attitudes, promoting empathy, and reinforcing the value of individual differences.

Conversely, the prevalence of stereotypical portrayals can be interpreted as a mechanism through which dominant social ideologies are reproduced. These representations may inadvertently validate and perpetuate narrow conceptions of gender and cultural norms, thereby restricting children's capacity to appreciate and understand differences. When media continually reinforces such limited portrayals, it risks entrenching discriminatory beliefs and social hierarchies from an early age.

The emphasis placed by respondents on the importance of diverse characters further supports the interpretation that representation is not a superficial or secondary aspect of animated media, but a central element with profound developmental implications. The inclusion of characters from varied backgrounds and with distinct abilities and traits

was viewed not only as reflective of societal diversity but as essential in cultivating moral and ethical reasoning in children.

Therefore, the interpretation of these findings points to the critical role of animated media in either reinforcing or challenging social norms. This stresses the ethical responsibility of media producers to ensure that children's content reflects and promotes values of equity, inclusion, and respect for diversity.

Effect of educational animated programmes on children's learning and problem-solving skills

The responses indicate that animated educational programmes strategically employ visual elements, narrative structures, character engagement, and musical components to create an enjoyable and effective learning experience for young children. These multimodal features contribute do not only to sustain attention and engagement but also help in the construction of foundational knowledge.

Participants pointed out several ways in which educational animation serves as a potent medium for enhancing children's cognitive and problem-solving abilities:

- *Visual representations* were noted for their ability to simplify and clarify complex concepts, thereby increasing accessibility and comprehension.
- *Interactive components*, such as songs, questions, and call-and-response segments, were seen to promote active participation and reinforce learning through engagement.
- *Connections to real-life experiences* help children contextualize information, making abstract ideas more relatable and meaningful.

Programmes such as *CoComelon* and *Peppa Pig* were frequently cited as exemplars of this approach, effectively blending entertainment with pedagogical intent. By integrating educational content into familiar and entertaining formats, such programmes were perceived to nurture a positive attitude toward learning and contribute to early cognitive and social development.

Analysis of findings on the effect of educational animated programmes on children's learning and problem-solving skills

The findings emphasize the effectiveness of animated educational programmes as pedagogical tools within early childhood learning environments. The use of animation to integrate entertainment with educational objectives reflects a multimodal approach that aligns with contemporary theories of learning, particularly those emphasizing visual literacy, engagement, and experiential understanding.

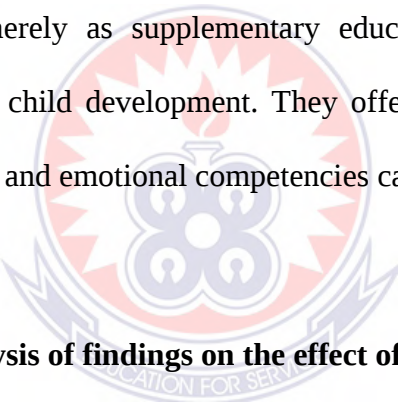
The integration of *visual explanations* in educational animation supports dual coding theory, which posits that information is more effectively processed and retained when presented through both verbal and visual channels. By transforming abstract or complex content into easily digestible visual narratives, animated programmes facilitate cognitive accessibility and enhance conceptual understanding among young learners.

Additionally, the presence of *interactive elements*, such as songs, direct questions, and repetitive structures, aligns with constructivist approaches to learning, which emphasize active engagement and learner participation. These elements do not only sustain children's attention but also encourage them to take an active role in their learning process, fostering the development of problem-solving and critical thinking skills.

Furthermore, the responses highlight the value of *real-world connections* in making content relatable and meaningful. When educational messages are grounded in familiar, everyday experiences, children are more likely to transfer what they learn into real-life contexts, thereby enhancing the practical application of knowledge.

Notably, programmes such as *CoComelon* and *Peppa Pig* were frequently cited as successful examples of educational animation that combine cognitive development with emotional and social learning. Their widespread appeal and accessibility suggest that such content plays a significant role in cultivating positive attitudes toward learning during early childhood.

Overall, the analysis reveals that animated educational programmes, when thoughtfully designed, serve not merely as supplementary educational tools but as essential components of holistic child development. They offer a powerful medium through which cognitive, social, and emotional competencies can be simultaneously nurtured.



Interpretation of analysis of findings on the effect of educational animated programmes on children's learning and problem-solving skills

The responses provide valuable insight into the multifaceted role that animated educational programmes play in early childhood development. The findings suggest that such programmes are not only a source of entertainment but also serve as critical tools for cognitive, emotional, and social growth. By integrating elements such as visual representations, interactive engagement, and real-world connections, these programmes facilitate a holistic approach to learning that resonates with young audiences.

The emphasis on *visual explanations* reflects the centrality of multimodal learning, which, as supported by cognitive theories, enhances children's ability to process and retain new information. The visual and auditory stimuli in animated programmes thus

work synergistically to simplify complex concepts, making them accessible to children at various developmental stages. This indicates that animated content has the potential to bridge the gap between abstract knowledge and practical understanding, facilitating the acquisition of foundational academic concepts engagingly.

The inclusion of *interactive elements* further reinforces the idea that learning is an active, participatory process. By inviting children to engage directly with the content, these programmes encourage an experiential form of learning that not only aids retention but also fosters critical thinking and problem-solving skills. This suggests that the role of animation extends beyond passive consumption, positioning children as active participants in their educational journeys.

Moreover, the focus on *real-world connections* within animated content underscores the importance of making learning relevant and meaningful. By relating educational content to children's daily lives and experiences, these programmes promote the transfer of knowledge, allowing children to apply what they have learned in tangible, everyday contexts. This interpretation aligns with educational theories that emphasize contextual learning, where knowledge acquisition is tied to real-life situations to enhance its applicability and retention.

Hence, the interpretation of these findings suggests that animated educational programmes are a powerful and effective means of fostering early childhood learning. They not only entertain but also nurture key cognitive and social skills, reinforcing the notion that educational media, when designed with pedagogical intent, can serve as vital instruments in the development of young minds.

The role of animation in addressing social and emotional development in children

The responses suggest that animations serve a pivotal function in fostering social and emotional development in children. Specifically, animations facilitate:

- *Exploration of emotions* through characters that experience and express a variety of emotions, animations provide children with a framework to understand and identify their feelings.
- *Development of social skills* by depicting healthy relationships and positive social interactions, animations offer valuable insights into social behaviour and communication.
- *Fostering empathy and resilience* by presenting scenarios that involve challenges and conflicts enables children to engage with the concepts of empathy and resilience, promoting emotional growth.

Additionally, animations create a conducive environment for children to engage with complex and sensitive topics, thereby supporting the development of emotional intelligence.

Analysis of findings on the role of animation in addressing social and emotional development in children

The analysis of the responses highlights the significant role of animations in enhancing the social and emotional development of children. This form of media provides a dynamic and engaging platform for children to explore complex emotional and social concepts, which can be instrumental in shaping their cognitive and emotional growth.

Exploration of emotions: one of the key aspects highlighted is the ability of animations to facilitate the exploration of emotions. By presenting characters that experience a wide range of emotions, animations serve as a tool for emotional identification and regulation. This aligns with research that suggests media exposure, particularly animations, can aid in emotional socialization by helping children recognize and label their feelings. Representation of various emotional states allows children to empathize with characters, fostering emotional awareness and self-regulation skills.

Development of social skills: furthermore, animations play a crucial role in the development of social skills. Through the portrayal of healthy relationships and positive social interactions, animated content provides children with models of appropriate behaviour in social contexts. This is particularly significant in the context of children's social learning, where observational learning, as posited by social cognitive theory, is essential in acquiring social competencies. The reinforcement of prosocial behaviours and the depiction of conflict resolution in animations contribute to the cultivation of positive social interactions among children.

Fostering empathy and resilience: the ability of animations to address themes of resilience and empathy is also notable. By presenting characters in challenging situations or moral dilemmas, animations create opportunities for children to develop empathy by considering perspectives different from their own. Moreover, these portrayals offer a framework for understanding resilience; how characters cope with adversity and grow stronger.

Creating a safe space for difficult topics: finally, animations are uniquely positioned to provide a safe space for children to engage with difficult or sensitive topics. This is particularly important in the context of emotional intelligence development, as it allows children to explore complex issues such as loss, fear, or anger in a non-threatening

environment. Animated narratives often simplify complex emotional experiences, making them more accessible to younger audiences while encouraging reflection and emotional processing.

In conclusion, animations represent a valuable medium for promoting social and emotional development in children. By facilitating emotional exploration, enhancing social skills, fostering empathy and resilience, and providing a platform for engaging with difficult topics, animations support the holistic development of children's emotional intelligence. These findings highlight the potential of animated media as an effective tool for emotional and social learning, with implications for both educational and therapeutic settings.

Interpretation of analysis of findings on the role of animation in addressing social and emotional development in children

The responses suggest that animations function as a significant tool in the social and emotional development of children. The findings indicate that this form of media offers unique opportunities for children to engage with, comprehend, and process complex emotional and social experiences. The portrayal of emotions, social interactions, and resilience in animated content provides a framework for children to navigate their feelings and behaviours in real-life contexts.

Exploration of emotions: the presence of characters expressing a wide range of emotions in animations allows children to observe and relate to these emotional experiences. This can be interpreted as a critical aspect of emotional learning, where children not only recognize their own emotions but also understand the emotional states of others. By interacting with animated characters, children gain insight into emotional

expression and regulation, which can influence their ability to manage and articulate their feelings in various situations.

Social skills development: the depiction of positive social interactions and healthy relationships in animations can be interpreted as a model for children's social behaviour. By observing how characters navigate social dynamics, such as cooperation, conflict resolution, and empathy, children may internalize these behaviours and apply them in their social environments. This reinforces the notion that animations serve as a form of social learning, providing children with tools to develop interpersonal skills crucial for their growth and social integration.

Empathy and resilience: the presentation of characters in emotionally challenging or conflict-driven situations offers children opportunities to cultivate empathy and resilience. Through these narratives, children are encouraged to consider the perspectives of others and understand the emotional impact of various experiences. The challenges faced by animated characters serve as a medium through which children can explore their coping strategies, providing a model for resilience. In this way, animations function as a mechanism for promoting emotional endurance and understanding, preparing children to better handle challenges.

Safe exploration of difficult topics: one of the most significant interpretations is that animations provide a safe, controlled environment for children to explore complex or difficult topics, such as loss, fear, or moral dilemmas. This feature is particularly valuable in emotional development, as it enables children to confront and process difficult emotions in a non-threatening context. By navigating such themes in the fictional world of animation, children can gain a deeper understanding of their emotional responses and develop a greater capacity for emotional intelligence.

The findings summarily emphasize the multidimensional role of animations in children's emotional and social development. Animations serve as a medium of entertainment and also as a powerful tool for emotional education, fostering emotional intelligence, social skills, and resilience. The results suggest that incorporating animations into educational or therapeutic practices may significantly enhance children's ability to navigate and understand their emotions, ultimately supporting their overall development.

Children interacting with animated content across different platforms

The results indicate that children are increasingly exposed to a diverse array of media content disseminated across multiple platforms, some of which may pose potential risks in the absence of adequate supervision. Accordingly, the provision of appropriate guidance is imperative to facilitate safe and constructive media engagement.

The data further reveal that children interact with animated content via a range of platforms, each characterized by distinct modalities of engagement.

- *Television*: functions as a conventional medium, predominantly supporting passive viewing experiences.
- *Streaming services*: enable on-demand access to content, promoting autonomy and self-regulated viewing practices.
- *Mobile devices*: enhance portability and interactivity, particularly through games and applications that facilitate more immersive user experiences.

Each of these technological platforms offers specific affordances and challenges that influence children's patterns of media consumption. In light of this, parental involvement encompassing active mediation, supervision, and open dialogue is

essential in cultivating responsible and secure media practices across these varied digital environments.

Analysis of findings on children interacting with animated content across different platforms

The findings accentuate the increasingly complex media landscape in which children operate, marked by the proliferation of digital platforms and the diversification of content delivery mechanisms. This multiplicity of access points not only enhances the ubiquity of animated content but also introduces differentiated modes of interaction that can shape children's cognitive, emotional, and social development in varied ways.

Television, as a traditional medium, fosters passive consumption, which may limit interactivity but can also provide structured and regulated exposure, especially when programming adheres to educational or age-appropriate standards. In contrast, streaming services support personalized and self-paced viewing, empowering children with greater autonomy over content selection. While this autonomy may foster independence and digital literacy, it also raises concerns regarding exposure to inappropriate content without sufficient filtering or parental oversight.

Mobile devices, perhaps the most dynamic of the platforms, integrate animation with interactive elements such as games and applications. This mode of engagement introduces heightened levels of sensory stimulation and user agency, which may have both beneficial and adverse implications. On one hand, interactive content can promote problem-solving skills and engagement; on the other, it may contribute to increased screen time, reduced attention spans, and heightened susceptibility to persuasive or commercial content.

The differentiated affordances of these platforms necessitate a distinct understanding of the interplay between technology and child development. Parents play a critical role as mediators that can either mitigate or exacerbate potential risks. Active mediation strategies including co-viewing, setting content boundaries, and fostering open communication are essential for helping children navigate digital environments in a safe, informed, and developmentally appropriate manner.

In totality, the data illuminate the need for continued research and policy development focused on media literacy, digital well-being, and the design of child-centred content and technological frameworks that prioritize safety, inclusivity, and developmental alignment.

Interpretation of analysis of findings on children interacting with animated content across different platforms

The data suggest a paradigm shift in the way children consume animated content, moving from traditionally passive forms of media engagement toward more active, autonomous, and interactive experiences. This transition reflects broader societal trends in media convergence and digital mobility, wherein children are not only recipients of content but also increasingly active participants in shaping their own media environments.

Television, once the primary conduit for children's media exposure, now functions as only one component of a diversified media ecology. Its largely passive nature offers a controlled and often more easily monitored experience. However, the rise of streaming services and mobile applications has transformed the media landscape by granting children unprecedented control over what, when, and how they consume content. These changes introduce both opportunities for enhanced learning and creativity and risks

related to unsupervised exposure, content saturation, and potential developmental concerns.

Moreover, mobile devices, with their portability and interactive capabilities, represent a significant departure from linear media consumption. They introduce complex layers of interactivity that may blur the lines between entertainment, education, and commercialization. Such immersive experiences may accelerate digital fluency, yet simultaneously demand more sophisticated parental mediation strategies to safeguard children's wellbeing.

The interpretation of these findings suggests that the affordances of each platform cannot be viewed in isolation but must be understood within the broader context of children's developmental needs, family dynamics, and socio-cultural influences. In particular, the pivotal role of parental involvement emerges as a consistent theme across all platforms. Parents are not just gatekeepers but also co-constructors of media experiences, whose active engagement can help ensure that children's media consumption remains enriched and safe.

This therefore necessitates the interdisciplinary approach in understanding digital childhoods; drawing on developmental psychology, media studies, and educational theory to inform policy, pedagogy, and design practices that align with children's rights and developmental paths.

Ethical considerations and challenges associated with advertising and merchandising related to children's animation

The findings suggest that children constitute a highly vulnerable demographic, necessitating the implementation of protective measures against manipulative advertising practices that exploit their cognitive immaturity and inherent trust in

familiar characters. For instance, merchandise such as toys and games associated with animated programs should undergo rigorous evaluation to ensure age-appropriate content and to prevent the reinforcement of harmful stereotypes or the promotion of unhealthy behaviours. Advertising strategies must be carefully designed to shield young audiences from exposure to inappropriate or potentially damaging messages.

Analysis of findings on ethical considerations and challenges associated with advertising and merchandising related to children's animation

The findings accentuate the critical need to recognize children as a particularly susceptible segment of the media-consuming public. Due to their limited cognitive development and reliance on heuristic cues such as trust in familiar characters' children are less capable of critically evaluating the persuasive intent behind animations for advertising. This cognitive vulnerability makes them prime targets for marketing strategies that may bypass rational scrutiny and instead appeal to emotional or associative mechanisms.

The association of commercial products, such as toys and games, with animated programmes introduces additional layers of complexity. These products often capitalize on children's attachment to fictional characters, hence reinforcing consumer behaviour that may not align with developmental needs or ethical advertising standards. If left unregulated, such marketing practices risk normalizing stereotypes or fostering consumption patterns linked to unhealthy behaviours.

Consequently, the necessity for rigorous content vetting and policy interventions becomes apparent. Safeguards should ensure that all media-linked merchandise marketed to children is developmentally appropriate and free from content that could perpetuate social harm. Moreover, advertising frameworks must be constructed

explicitly to protect young audiences, emphasizing transparency, ethical messaging, and educational value. The broader implication is that regulatory bodies, educators, and media producers share a collective responsibility to uphold standards that prioritize children's well-being over commercial interests.

Interpretation of analysis of findings on ethical considerations and challenges associated with advertising and merchandising related to children's animation

The findings reflect a growing concern within media and communication studies regarding the ethical implications of child-directed advertising. This interpretation suggests that the intersection of children's developmental limitations and the persuasive nature of marketing content creates a potentially exploitative dynamic. Children's cognitive immaturity, particularly their underdeveloped ability to discern persuasive intent, renders them uniquely impressionable. As such, they are more likely to accept advertising messages at face value, especially when these messages are delivered through trusted and familiar characters.

Furthermore, the linkage of consumer products with popular animated content intensifies the persuasive impact, blurring the boundaries between entertainment and marketing. This strategy not only amplifies the appeal of the products but also embeds consumerist values within the context of children's everyday play and imagination. Such practices raise critical ethical and developmental questions, particularly when the content reinforces problematic norms or promotes behaviours detrimental to children's physical or psychological well-being.

This supports the argument for a multi-faceted approach to regulation and content oversight. It underscores the need for industry accountability, the role of policy frameworks in safeguarding children's interests, and the importance of incorporating

developmental psychology insights into advertising standards. Ultimately, this perspective advocates for a media environment that is not only commercially responsible but also aligned with the broader goal of supporting healthy child development.

The influence of cultural and regional differences on the popularity and content of children's animation

The responses underscored the significant influence of cultural references and values embedded in animated narratives on their relatability and appeal to children. The frequent adaptation of indigenous folklore, such as Ananse stories, into animated formats fosters a sense of cultural familiarity and identity among young viewers. Language also emerged as a crucial factor in enhancing accessibility and engagement. Animated content that is dubbed or originally produced in local languages, as opposed to relying solely on subtitles, enables children to grasp cultural and linguistic nuances more effectively, thereby deepening their connection to the material.

Furthermore, cultural and religious differences were found to play a pivotal role in shaping both the popularity and thematic content of children's animation. These influences operate through a complex interplay between parental preferences and broader societal norms. Parents often serve as cultural gatekeepers, curating content that aligns with their values and perceptions of age-appropriate material. This selective engagement may be reflected in a preference for narratives that uphold traditional gender roles or reinforce religious teachings. Conversely, animated content that portrays same-sex relationships or challenges established belief systems may encounter resistance, particularly in regions where cultural or religious conservatism is prevalent.

Analysis of findings on the influence of cultural and regional differences on the popularity and content of children's animation

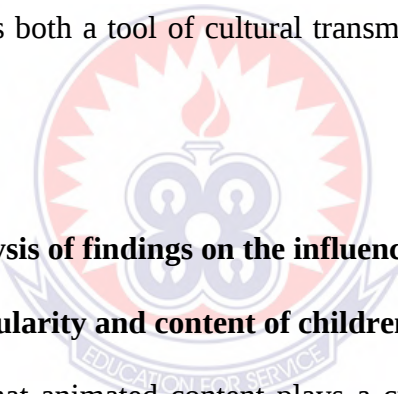
The findings from the responses reveal a nuanced relationship between cultural representation in animated content and its appeal to young audiences. One of the most striking observations is the importance of cultural references, specifically indigenous folklore, in enhancing the relatability of animated stories. The frequent adaptation of local folktales, such as the Ananse stories, not only familiarizes children with their cultural heritage but also cultivates a sense of belonging and identity. This phenomenon suggests that when children engage with content rooted in their traditions, animation becomes a more effective tool for both entertainment and cultural education.

Furthermore, the role of language in children's animation cannot be understated. The preference for locally produced or dubbed content, as opposed to relying on subtitles, facilitates a deeper understanding of cultural contexts and linguistic subtleties. This points to the broader significance of language in fostering engagement, as children can connect with the material more intimately when it is delivered in their native tongue. The interplay between language and cultural relevance is central to making animated content more accessible and enjoyable, particularly for younger audiences who may have limited literacy skills or are still developing language comprehension.

Thus, there is emphatic influence of broader socio-cultural and religious norms on the consumption and creation of children's animation. Parents, acting as gatekeepers of cultural and moral values, play a critical role in shaping the content their children are exposed to. Their selection of animated material often reflects a desire to reinforce values that align with familial, religious, or cultural expectations. This selective consumption emphasizes the tension between societal traditions and evolving narratives in children's media. For instance, animated content that challenges

established belief systems, such as depictions of same-sex relationships, may face resistance in conservative environments, revealing the extent to which cultural and religious conservatism shapes the acceptance and popularity of certain themes in animation.

This complex dynamic points to the ongoing negotiation between tradition and progress within the realm of children's media. The balancing act between cultural preservation and the introduction of new, potentially controversial ideas creates a tense landscape for both content creators and consumers. The resistance to progressive narratives in certain regions indicates the power of cultural and religious ideologies in governing what is deemed appropriate for children. This is particularly relevant in understanding the role of animation as both a tool of cultural transmission and a site of ideological contestation.



Interpretation of analysis of findings on the influence of cultural and regional differences on the popularity and content of children's animation

The findings suggest that animated content plays a crucial role in bridging cultural identities and reinforcing values, particularly through the incorporation of local folklore. The adaptation of culturally specific stories, such as Ananse tales, serves not only as a medium of entertainment but also as a tool for cultural transmission, helping children internalize and relate to their heritage. This aligns with the broader notion that media content, particularly animation, serves as a cultural artifact that reflects and perpetuates societal norms, ideals, and traditions. Thus, the frequent use of local folklore in children's animation is not merely a creative choice but also a pedagogical strategy aimed at fostering a deeper connection between the young audience and their cultural roots.

Moreover, the linguistic choices in animated content are pivotal in shaping the child's experience. By offering animated shows in local languages, rather than relying on subtitles or foreign language dubs, content creators ensure that children can engage with the material on a more accessible and meaningful level. This approach enhances the child's cognitive and emotional connection to the content, as they are not only exposed to culturally relevant stories but can also understand and appreciate the nuances of the language in which they are presented. Therefore, language as a medium that transcends mere communication as a cultural vessel reinforces the importance of linguistic inclusion in children's media.

The intersection of cultural, religious, and social norms further complicates the landscape of children's animation, as parents act as gatekeepers, selecting content that aligns with their moral and cultural values. This selective engagement emphasizes the role of parental influence in shaping children's media consumption. In societies where traditional values hold significant sway, this parental control can act as a filter, steering children toward content that reflects conventional gender roles, religious teachings, and cultural norms. Consequently, the content that challenges or subverts these norms, such as depictions of same-sex relationships or critical views on established religious beliefs, may encounter resistance. This resistance reflects the ongoing negotiation between traditional cultural beliefs and the evolving landscape of children's media, which increasingly includes diverse narratives and progressive themes.

It is clear from the findings that children's animation exists within a complex web of cultural, linguistic, and social dynamics. The content's appeal is not merely about entertainment; it is deeply embedded in a broader cultural context that shapes how children understand themselves, their culture, and the world around them. The tension between traditional values and progressive narratives in animation highlights a key area

of contention in the media's role in socialization, pointing to the significant influence of both local cultural traditions and broader global trends in shaping children's media experiences.

Technologies and techniques currently shaping the future of animation for children

The responses highlighted a range of emerging technologies and techniques that are significantly influencing the future of children's animation in Ghana. Among these are Virtual Reality (VR), Augmented Reality (AR), Artificial Intelligence (AI), 3D Printing, and the implementation of personalization and adaptive storytelling, all contributing to the creation of unique and immersive viewing experiences.

Furthermore, the findings emphasized the potential of these technologies to enhance engagement, foster personalization, and support educational outcomes in children's animation. These advancements are poised to accommodate diverse cultural contexts and learning preferences, thereby contributing to a more inclusive and promising future for children's media and entertainment.

Analysis of findings on technologies and techniques currently shaping the future of animation for children

The integration of emerging technologies such as Virtual Reality (VR), Augmented Reality (AR), Artificial Intelligence (AI), 3D printing, and adaptive storytelling into children's animation reflects a broader trend toward innovation in educational and entertainment media. These technologies are not only transforming the production and

consumption of animated content but also redefining the relationship between the viewer and the narrative.

Similarly, virtual and augmented realities offer immersive environments that could enhance cognitive and emotional engagement, enabling children to interact with content in ways that traditional 2D media cannot facilitate. Similarly, the inclusion of AI enables dynamic personalization, allowing animations to adapt to individual user preferences, learning styles, and developmental needs. This degree of customization supports differentiated learning and promotes a more inclusive media landscape that acknowledges the diverse backgrounds and experiences of young audiences.

Also, the role of 3D printing in animation, while less directly related to content consumption, presents opportunities for tangible engagement, where characters and story elements can be physically manifested, fostering deeper connection and interactive learning experiences. Moreover, adaptive storytelling powered by AI and machine learning can evolve narratives in real-time based on user input, further personalizing the viewing experience and promoting active participation.

Collectively, these technological advancements signal a paradigm shift in children's animation, moving from passive viewing to interactive and learner-centred experiences. This evolution holds significant pedagogical implications, as it enables the alignment of entertainment with educational goals, promoting holistic development while respecting cultural and cognitive diversity. Consequently, the fusion of technology with creative storytelling thus enhances viewer engagement and also serves as a powerful tool for inclusive and transformative education through animation.

Interpretation of analysis of findings on technologies and techniques currently shaping the future of animation for children

The findings suggest that the convergence of advanced technologies and creative practices in children's animation represents more than a shift in production methods; it reflects a deeper transformation in how children engage with media. The integration of Virtual Reality (VR), Augmented Reality (AR), Artificial Intelligence (AI), 3D printing, and adaptive storytelling is indicative of a growing emphasis on interactivity, personalization, and inclusivity within the media landscape.

This evolution can be interpreted as a response to the increasing demand for content that not only entertains but also educates and reflects the diverse identities of its audience. The personalized nature of AI-driven and adaptive storytelling mechanisms points to a future in which children's media is tailored to individual needs, fostering cognitive and emotional development. Such personalization may also contribute to more equitable access to meaningful content by addressing variations in cultural context, language, and learning styles.

Moreover, the immersive capacities of VR and AR can be viewed as redefining the boundaries of narrative space, allowing children to become active participants in the story world. This shift from passive reception to interactive engagement aligns with contemporary educational theories that emphasize experiential and constructivist learning. The role of 3D printing, while more peripheral, further supports this trend by offering a tactile dimension to otherwise digital experiences, potentially enhancing creativity and reinforcing learning through physical interaction.

Hence, the responses can be construed as signalling a transformative moment in children's animation; one where technological innovation is leveraged to foster richer, more inclusive, and developmentally beneficial viewing experiences. This emphasizes

the potential of technology not merely as a tool of production, but as a catalyst for reshaping the pedagogical and cultural functions of children's media.

Notable animation studios or production companies based in Ghana and some of their productions

Several animation studios in Ghana have garnered recognition for their unique contributions to the industry, as highlighted by respondents in this study. Parables Animation Studios is noted for its vibrant cartoons and educational content, while Poka Studios has established a niche in the production of music videos. Indigene BROS is distinguished by its focus on historical narratives, such as the animated biopic *Azumah*, which explores the life of the renowned boxer Azumah Nelson. Animax FYB has produced a range of animated commercials and children's content, including *Mmofra*, which is currently available on Disney+. Mills Media, the creators of the epic animation *Asantewaa*, made history as the first Ghanaian animation studio to premiere a film at Silverbird Cinemas, achieving full occupancy across all four cinema halls during its screening.

KHPH Studios, the first female-led animation studio in Ghana, is also making significant strides in the industry. The studio focuses on educational content for children and storytelling that promotes Ghanaian culture. Their upcoming short film, *Abrefi Koto*, was among the top eight projects selected globally in 2023 by the MIFA (International Animated Film Market), Annecy Festival, and the Kickstarter support programme, and was the only project selected from West Africa.

Hence, it is safe to conclude that Ghana is home to numerous animation studios with considerable potential. With adequate support and investment, these studios could scale their operations and amplify their impact on both local and international platforms.

Analysis of findings on notable animation studios or production companies based in Ghana and some of their productions

The emergence and growth of animation studios in Ghana, as highlighted in the data, reflect a burgeoning creative industry characterized by innovation, cultural expression, and increasing global engagement. The diversity of focus among the studios underscores a dynamic and multi-dimensional animation landscape. For instance, the work of Parables Animation Studios and KHPH Studios in educational animation demonstrates a conscious effort to use animation as a pedagogical tool, aligning with broader trends in global media where animation serves both entertainment and instructional functions.

Moreover, studios like Indigene BROS and Mills Media reveal a strategic engagement with historical and cultural narratives. Through projects such as *Azumah* and *Asantewaa*, these studios contribute to the preservation and dissemination of Ghanaian heritage. This indicates a shift towards culturally rooted storytelling, which serves as a form of artistic expression and also as a medium for reinforcing national identity and fostering cultural pride.

The achievements of Mills Media and KHPH Studios, particularly the former's successful screening at Silverbird Cinemas and the latter's international recognition by MIFA and the Annecy Festival illustrate the growing capacity of local studios to compete on global platforms. These milestones signal a gradual but significant

integration of Ghanaian animation into the international media landscape, highlighting the potential for cultural export and soft power projection.

However, despite these successes, the analysis also points to systemic challenges facing the industry. The recurrent theme of the need for "support and push" suggests that infrastructural limitations, funding constraints, and lack of institutional backing continue to hinder the scalability and sustainability of animation production in Ghana. Without strategic investments in talent development, technology, and distribution channels, the growth of the sector may remain uneven and constrained.

In conclusion, the data reveals a promising yet under-resourced sector with immense potential for both cultural and economic contributions. Targeted policy support, investment in creative infrastructure, and international collaboration are essential to unlocking the full potential of Ghana's animation industry

Interpretation of analysis of findings on notable Ghanaian animators or animators' associations making significant contributions to the animation industry

The activities of *Girls in Animation* and the revival of the *Animators Association of Ghana* can be construed as indicators of a transformative moment within Ghana's animation industry. The concerted efforts to empower young women through targeted training and experiential opportunities suggest a growing recognition of the need to dismantle systemic gender barriers in creative fields. This shift reflects a broader socio-cultural reconfiguration in which female creatives are being positioned not merely as participants but as key stakeholders in the future of digital media production.

Furthermore, the reactivation of the *Animators Association of Ghana* may be viewed as an attempt to re-establish institutional frameworks that can support industry cohesion

and development. When analysed together, these initiatives reflect a dual movement: one that is grassroots and gender-focused, and another that is structural and professional in orientation. The convergence of these efforts signifies a progressive reimagining of the animation sector in Ghana; one that prioritizes inclusivity, skills development, and organizational resilience.

This therefore emphasizes the significance of these emerging dynamics, as part of a broader paradigm shift in the cultural and creative industries in Ghana. It points to the potential for these changes to foster a more equitable, diverse, and sustainable animation ecosystem.

Government initiatives or policies aimed at promoting and supporting the animation industry in Ghana

The responses identified the National Film Authority as the sole regulatory body providing support to the animation industry. The Authority has expressed a commitment to engaging collaboratively with all relevant stakeholders to strategically position Ghana on the global stage as a forward-looking nation. This includes a dedicated effort to promote and facilitate the production of high-quality animated content that meets international standards and appeals to global audiences.

Analysis of findings on government initiatives or policies aimed at promoting and supporting the animation industry in Ghana

The identification of the National Film Authority (NFA) as the sole institutional body supporting the animation industry in Ghana highlights a centralized governance structure within the sector. This centralized model suggests both opportunities and

challenges for the development of the industry. On one hand, the NFA's strategic commitment to stakeholder collaboration indicates a recognition of the importance of multi-actor engagement in fostering a vibrant creative ecosystem. By positioning itself as a facilitator of high-quality productions, the NFA aims to align Ghana's animation industry with global standards, thereby enhancing its competitiveness and visibility on the international stage.

Moreover, the emphasis on promoting Ghana as a "forward-looking" nation reflects an aspirational narrative tied to cultural diplomacy and national branding through creative outputs. The framing of animation as a vehicle for national progress and global engagement highlights the sector's potential to contribute not only to economic growth but also to soft power. However, the reliance on a single governing body may also present risks, such as bureaucratic bottlenecks or limited agility in responding to industry-specific needs. Therefore, while the NFA's role is pivotal, the long-term success of the sector may depend on the extent to which inclusive policies and diverse institutional collaborations are cultivated.

Interpretation of analysis of findings on government initiatives or policies aimed at promoting and supporting the animation industry in Ghana

The analysis highlights the pivotal role of the National Film Authority (NFA) in shaping the trajectory of Ghana's animation industry. As the only recognized regulatory body, the NFA's involvement signifies a top-down institutional approach to industry development. Its stated commitment to collaboration with stakeholders suggests an inclusive governance strategy aimed at harnessing diverse expertise and resources across the value chain. This can be interpreted as a deliberate effort to foster a cohesive and sustainable animation ecosystem.

Furthermore, the Authority's ambition to position Ghana as a progressive and globally competitive nation through animation reflects a broader policy orientation that integrates cultural production with national development goals. The articulation of high-quality content as a strategic objective signals an awareness of international market demands and a desire to meet global standards. This interpretation situates the NFA's role not merely as administrative, but as visionary; seeking to leverage animation as a tool for economic advancement, cultural representation, and international recognition.

Reception of Ghanaian animated content by local audience and international market

The responses suggest a growing interest in Ghanaian animation, reflecting a broader enthusiasm for African content globally. Increasingly, institutions are providing support to animators from the Global South, aiming to amplify their narratives and distribute their work to international audiences. Both local and global markets demonstrate a strong appetite for African storytelling, as evidenced by the positive reception of animations such as *Kiriku*, *Asantewaa* by Mills Media, and Disney's *Kizazi Moto: Generation Fire*. These productions highlight the richness, dynamism, and narrative appeal of African stories. However, a significant barrier remains: the insufficient funding available for the production and expansion of such content.

Analysis of findings on reception of Ghanaian animated content by local audience and international market

The increasing global interest in Ghanaian and broader African animation reflects a significant shift in the cultural dynamics of media consumption. This development can

be interpreted as part of a growing recognition of the value and uniqueness of narratives emerging from the Global South. The support from both local and international institutions indicates a strategic investment in cultural production, one that seeks to diversify the global media landscape by incorporating historically underrepresented voices.

The international success of animations such as *Azumah*, *Asantewaa*, and *Mmofra* accentuates the potential of Ghanaian content to resonate with a wide audience. These works are celebrated not only for their entertainment value but also for their cultural authenticity, narrative complexity, and creative innovation. Their reception illustrates a demand for fresh perspectives that challenge dominant storytelling paradigms often rooted in Western contexts.

Nevertheless, there are persistent structural challenge: limited financial resources. Despite the proven appeal of African animations, the production capacity remains constrained by inadequate funding. This gap highlights the need for more sustained investment, policy support, and industry infrastructure to enable Ghanaian creators to scale their work and participate more equitably in the global animation industry. Addressing these challenges is crucial for fostering a more inclusive media ecosystem that truly reflects the diversity of global experiences and imaginations.

Interpretation of analysis of findings on the reception of Ghanaian animated content by local audience and international market

The analysis highlights the evolving landscape of global media, where African animation, particularly from Ghana is increasingly recognized as a significant contributor to transnational storytelling. This shift suggests a reconfiguration of cultural

hierarchies, wherein the Global South is no longer positioned solely as a consumer of media but is emerging as a vital producer of original and compelling content.

The reception of animations such as *Azumah*, *Asantewaa*, and *Mmofra* may be interpreted as evidence of a growing cosmopolitan audience that values cultural plurality and seeks narratives that diverge from conventional Euro-American perspectives. These productions act as cultural artifacts that communicate localized experiences while simultaneously engaging global audiences through universal themes and innovative storytelling techniques.

However, the persistent funding constraints reflect the broader systemic inequalities that continue to hinder creative industries in the Global South. This disparity reveals a disconnect between cultural appreciation and structural support, suggesting that while Ghanaian and African narratives are gaining visibility, the mechanisms to sustainably produce and distribute them remain underdeveloped. As such, the interpretation points to a critical need for policy interventions, capacity building, and equitable partnerships that can empower Ghanaian and African animators to thrive within the global media economy.

Types of animations produced by studios in Ghana

The findings suggest that Ghanaian animation studios are exploring a combination of both 2D and 3D animation styles, with 2D animation appearing to be more predominant, potentially due to resource limitations. Although stop-motion animation remains relatively uncommon, it is gradually gaining traction within the industry.

Analysis of findings on types of animations produced by studios in Ghana

The exploration of both 2D and 3D animation techniques by Ghanaian animation studios reflects a dynamic and evolving creative landscape. The predominance of 2D animation, as indicated by the responses, may be attributed to its comparatively lower production costs and reduced technological demands, making it more accessible for studios operating under financial and infrastructural constraints. This suggests that economic and logistical factors play a significant role in shaping stylistic choices within the local animation industry.

Conversely, while 3D animation is being explored, its adoption may be limited by the higher technical proficiency and resource investment it requires. Nonetheless, its presence indicates a growing ambition among studios to diversify their production capabilities and align with global animation trends.

Stop-motion animation, though currently occupying a niche position within the Ghanaian context, appears to be experiencing a gradual increase in interest and experimentation. This trend may point to a desire among animators to differentiate their work and explore alternative forms of storytelling. The slow but steady adoption of stop-motion could also reflect a broader openness to artistic innovation, despite the technique's relatively high labour intensity and material requirements.

Overall, the diversity of animation styles under development emphasizes both the creative potential and the material limitations faced by Ghanaian animation studios. This duality suggests a field in transition; balancing artistic aspiration with pragmatic decision-making while laying the groundwork for a more varied and mature animation industry.

Interpretation of analysis of findings on types of animations produced by studios in Ghana

The data highlights a distinct relationship between creative expression and structural limitations within Ghana's animation industry. The predominance of 2D animation can be interpreted as a strategic response to economic constraints, whereby studios prioritize techniques that are less resource-intensive yet still capable of delivering compelling narratives. This pragmatism highlights the adaptive strategies employed by local creatives in navigating the infrastructural and financial challenges endemic to the region.

Simultaneously, the exploration of 3D animation reflects a forward-looking orientation among Ghanaian animators, suggesting an aspiration to engage with global industry standards and expand the technical scope of their work. This indicates a dual trajectory in the industry; one that balances accessibility with innovation.

The emerging interest in stop-motion animation, while currently marginal, may signal an incipient diversification in artistic practice. Its gradual uptake could be interpreted as evidence of a maturing creative sector that is willing to experiment with less conventional forms of animation, despite the medium's intensive labour and production demands.

Hence, these stylistic preferences reveal more than aesthetic choices; they point to an industry shaped by a complex interplay of ambition, resource availability, and cultural context. The observed trends suggest that Ghanaian animation is not only evolving in response to internal constraints but is also positioning itself within a broader, globally connected creative economy.

Notable Ghanaian animators or animators' associations making significant contributions to the animation industry

The findings indicate that *Girls in Animation*, a non-governmental organization (NGO) based in Ghana, is actively working to cultivate interest in animation among women. The organization aims to enhance gender inclusivity within the animation industry by providing young female animators with training, work experience, and a variety of other supportive initiatives designed to address the existing gender gap. Additionally, the *Animators Association of Ghana*, which has experienced a period of inactivity in recent years, is currently undergoing a gradual process of revitalization.

Analysis of findings on notable Ghanaian animators or animators' associations making significant contributions to the animation industry

The emergence of organizations such as *Girls in Animation* represents a significant development in addressing gender disparities within Ghana's animation industry. By offering targeted support in the form of training programmes, mentorship, and professional development opportunities, the NGO is playing a pivotal role in enhancing female participation in a traditionally male-dominated sector. This aligns with broader global efforts aimed at promoting gender equity in creative industries, where structural barriers have historically limited women's access and progression.

The organization's focus on capacity building empowers young female animators by contributing to the diversification of narratives and perspectives within the industry. Such interventions are essential for creating a more inclusive creative economy that reflects the experiences and talents of all demographic groups.

Concurrently, the gradual revival of the *Animators Association of Ghana* suggests a renewed interest in formalizing and strengthening the animation sector in the country.

Although the association has been largely inactive, its reactivation could serve as a platform for collaboration, standard-setting, and advocacy for both male and female practitioners. If strategically aligned with the goals of initiatives like *Girls in Animation*, the association could play a complementary role in institutionalizing gender-inclusive policies and supporting sustainable industry growth.

Together, these developments indicate a shifting landscape in Ghana's animation ecosystem; one that holds promise for greater inclusivity, professionalization, and cultural representation in the digital creative space.

Interpretation of analysis of findings on notable animation studios or production companies based in Ghana and some of their productions

The findings highlight a significant, albeit evolving, animation ecosystem in Ghana that is rooted in local cultural narratives while increasingly oriented toward global engagement. The variety of thematic focuses from educational content and music videos to historical and biographical storytelling reflects the versatility of Ghanaian animators in responding to both domestic and international demands. This thematic diversity can be seen as a strategic response to the socio-cultural and economic contexts in which these studios operate, where content creation is not only an artistic endeavour but also a means of addressing societal needs such as education, heritage preservation, and cultural representation.

The prominent role of gender in the sector, exemplified by KHPH Studios as the first female-led animation studio in Ghana, also speaks to shifting dynamics within the creative industries. This development reflects broader global discourses around inclusion, gender equity, and the empowerment of marginalized voices within media production. The international recognition of *Abrefi Koto* indicates a growing

receptiveness to African stories and storytellers on the global stage, further reinforcing the notion that local content, when executed with quality and cultural authenticity, holds considerable international appeal.

Moreover, the successful commercial screenings and streaming partnerships achieved by studios like Mills Media and Animax FYB suggest an increasing legitimacy of Ghanaian animation within both formal entertainment markets and digital content ecosystems. This signals not only improved production capabilities but also evolving consumption patterns among Ghanaian and diasporic audiences, who are seeking culturally resonant content.

Nonetheless, the recurring appeal for greater support highlights a structural fragility within the sector. It reveals persistent challenges such as limited funding, inadequate infrastructure, and insufficient policy support, which constrain the ability of studios to scale and sustain production. This tension between creative excellence and structural limitation is emblematic of many creative economies in the Global South, where innovation often outpaces institutional support.

These developments are evidence that Ghana's animation industry is at a pivotal juncture. With appropriate interventions such as targeted funding, policy frameworks, and transnational collaboration, the sector holds the potential to become a significant contributor to both national development and Africa's global creative footprint.

Training and educational opportunities available for aspiring animators in Ghana

Responses reveal that only a limited number of institutions currently offer animation-related programmes in Ghana, notably the National Film and Television Institute

(NAFTI), the University of Education, Winneba (UEW), the Kwame Nkrumah University of Science and Technology (KNUST), as well as a few private institutions. Additionally, initiatives such as *Girls in Animation* provide training opportunities for members of their community. Nevertheless, the existing capacity falls short of meeting the growing demand for such programmes. Supplementary training is occasionally provided by non-profit and private organizations, including the Embassy of France in Ghana and Radiance Girl Africa, among others.

Furthermore, online resources and workshops are increasingly emerging as alternative avenues for skills development in this field.

Analysis of findings on training and educational opportunities available for aspiring animators in Ghana

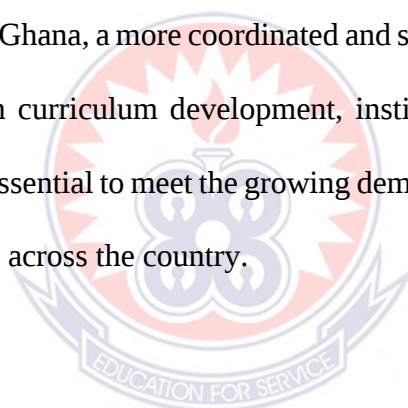
The data highlights a significant gap between the demand for animation-related education and the availability of structured programmes within formal institutions in Ghana. While established institutions such as NAFTI, UEW, and KNUST offer some level of training in animation, the number of such programmes remains limited. This scarcity is further compounded by the fact that only a few private institutions have incorporated animation into their curricula, thereby restricting access to a broader population of aspiring animators.

The role of alternative providers, such as *Girls in Animation*, non-profit organizations, and foreign cultural institutions such as the Embassy of France in Ghana, is therefore instrumental in addressing this gap. These organizations contribute to skill development and also play a critical role in creating inclusive and community-based learning environments, particularly for underrepresented groups such as young women.

However, the intermittent nature of such programmes raises concerns about consistency, scalability, and long-term impact.

Moreover, the emergence of online resources and workshops points to a growing trend in self-directed and flexible learning models. This development may represent a partial solution to the current supply-demand imbalance, offering learners increased autonomy and access to global knowledge networks. Nonetheless, challenges related to digital literacy, internet accessibility, and the accreditation of online training persist, potentially limiting the effectiveness of these resources for some segments of the population.

While efforts from both formal and informal sectors contribute to the development of animation education in Ghana, a more coordinated and sustainable approach is required. Strategic investment in curriculum development, institutional capacity-building, and policy support will be essential to meet the growing demand and ensure equitable access to high-quality training across the country.



Interpretation of analysis of findings on training and educational opportunities available for aspiring animators in Ghana

The findings highlight a systemic limitation within Ghana's educational and professional training infrastructure as it pertains to the animation industry. The concentration of animation-related programmes within a few public and private institutions suggests a nascent stage of development in this sector. This limited institutional engagement may reflect broader structural challenges, such as insufficient policy prioritization, limited resource allocation, and a lack of specialized faculty or curriculum frameworks tailored to digital media and animation.

The active participation of non-traditional actors such as community-based initiatives (e.g., Girls in Animation) and international organizations suggests that there is both latent demand and grassroots momentum for animation training. These actors often fill critical gaps left by formal education systems, particularly in targeting marginalized groups and promoting gender inclusion. Their involvement illustrates the potential of hybrid models that combine formal, informal, and international partnerships to expand access to animation education.

The increasing reliance on online learning platforms and workshops signals a shift in how skills acquisition is being approached in the digital age. This may indicate a growing recognition of non-traditional credentials and the decentralization of knowledge production. However, it also raises questions about quality assurance, certification, and inclusivity, particularly for learners without reliable access to digital infrastructure.

While there are promising developments in the animation education ecosystem in Ghana, these remain fragmented and insufficiently integrated into a coherent national strategy. To fully realize the potential of the sector, there is a need for deliberate, multi-stakeholder collaboration aimed at expanding programme offerings, standardizing training quality, and ensuring broad-based access across socio-economic and geographic divides.

Comparing the animation scene in Ghana to other countries in Africa and the global animation industry

The findings indicate that Ghana's animation industry is in its nascent stages and remains relatively limited in scope. Nevertheless, there is considerable potential for

growth, particularly in light of the increasing interest in animation across the African continent.

Compared to more mature animation industries in countries such as South Africa and Nigeria, Ghana's sector is still developing. However, its rapid progress, distinctive cultural narratives, and emerging support from governmental bodies and other institutions suggest that it is well-positioned to advance significantly soon.

Analysis of findings on comparing the animation scene in Ghana to other countries in Africa and the global animation industry

Ghana's animation industry is still in its formative stages, with substantial potential for expansion. While the industry is still developing and relatively modest in scale, the growing interest in animation across the African continent presents significant opportunities for its future growth. This aligns with broader trends where other African nations, such as South Africa and Nigeria, have established more mature animation industries. In comparison, Ghana's sector is still considered emergent, but it is evolving rapidly, marked by an increasing output of culturally distinct works.

The relative youth of Ghana's animation industry does not imply stagnation; rather, it signifies a period of foundational development characterized by rapid growth and a distinctive cultural identity. This dynamic could potentially foster innovation and originality, which are crucial for establishing a unique place within the global animation industry. Additionally, the support from governmental and institutional bodies provides a critical foundation for growth, signalling a favourable environment for the industry to gain momentum.

While Ghana's animation sector currently lags behind its more established counterparts in South Africa and Nigeria, the trajectory of its development is promising. The

increasing recognition of the sector's cultural and economic significance, coupled with the nurturing of industry talent and infrastructure, suggests that Ghana's animation industry will likely reach a competitive level in the foreseeable future. This highlights the importance of continued investment and strategic support to sustain and amplify the industry's growth, positioning Ghana as a significant player in the regional and global animation landscape.

The responses suggest that emerging digital technologies, expanded funding opportunities, enhanced skills training, international collaborations, and the increasing demand for locally produced content are likely to serve as key drivers of growth in this sector in the future. Furthermore, with an expanding talent pool, government support, and growing international interest, Ghana's animation industry is well-positioned for continued expansion. Collaborative efforts with other African nations and global studios present significant potential for further growth and innovation.



Interpretation of analysis of findings on comparing the animation scene in Ghana to other countries in Africa and the global animation industry

Ghana's animation industry is still in its early stages, with significant potential for growth, though the relatively small scale of the industry can be seen as a characteristic of emerging markets, where initial development stages often involve foundational establishment before scaling up. However, the increasing interest in animation within Africa presents an opportunity for Ghana to leverage this growing regional demand. This positioning hints at a broader trend of the rising cultural and economic importance of animation across the continent.

When compared to more developed animation industries in countries like South Africa and Nigeria, Ghana's animation scene may appear underdeveloped. However, this

comparison should be interpreted as indicative of the developmental phase rather than an inherent limitation. The rapid progress observed within Ghana's animation industry suggests a high level of adaptability and innovation, which can be nurtured by Ghana's rich cultural heritage and emerging institutional support. These factors contribute to a unique opportunity for the industry to establish a distinct identity that could resonate within both regional and global markets.

The support from governmental and other organizations is pivotal in this regard. The alignment of institutional support with the sector's developmental needs can facilitate infrastructure growth, talent development, and international collaboration, ultimately enabling the industry to catch up with its regional counterparts. The combination of cultural distinctiveness, increasing support, and rapid development suggests that Ghana's animation industry is on a trajectory that could see it become a significant player within the broader African and global animation landscapes.

Thus, the interpretation suggests that the future of Ghana's animation industry is contingent on continued investment, strategic support, and the cultivation of unique cultural narratives that will enhance its competitiveness. The current stage of the industry, while nascent, offers an exciting opportunity for growth and innovation, setting the stage for the emergence of a vibrant and competitive animation sector soon.

Prospects and future trends for animation in Ghana, including potential for collaborations and growth

The responses suggest that emerging digital technologies, expanded funding opportunities, enhanced skills training, international collaborations, and the increasing demand for locally produced content are likely to serve as key drivers of growth in this sector in the future. Furthermore, with an expanding talent pool, government support,

and growing international interest, Ghana's animation industry is well-positioned for continued expansion. Also, collaborative efforts with other African nations and global studios present significant potential for further growth and innovation.

Analysis of findings on prospects and future trends for animation in Ghana, including potential for collaborations and growth

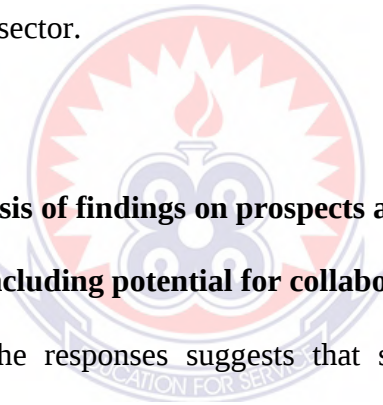
The responses highlight several critical factors that are poised to influence the future growth of Ghana's animation industry. Emerging digital technologies are a prominent factor, as they offer new tools and capabilities that can enhance the production quality and efficiency of animation content. These technologies, combined with increased funding sources, create a conducive environment for the industry to thrive, offering both the financial resources and the technical infrastructure necessary for innovation and growth.

In addition, the emphasis on skills training indicates a strategic focus on human capital development, which is essential for building a sustainable and competitive animation industry. As the talent pool grows, so does the industry's capacity to produce high-quality content that can meet local and international demands. The increasing demand for locally produced content further supports the sector's potential for growth, providing both market incentives and a cultural foundation for animation that resonates with local audiences while also appealing to global markets.

Furthermore, the role of international collaborations emerges as a significant factor in driving growth. The expansion of partnerships with other African nations and global animation studios holds substantial promise for innovation, as cross-border collaborations can facilitate knowledge exchange, resource sharing, and co-production

opportunities. These partnerships can also provide access to international markets, increasing the visibility and competitiveness of Ghanaian animation on the global stage. Government support is important for a favourable policy environment in fostering industry growth. Policy interventions that encourage investment, facilitate international partnerships, and provide incentives for local content creation are crucial for sustaining momentum in the animation sector.

Thus, the interplay of technological advancements, financial investment, skills development, international cooperation, and supportive government policies positions Ghana's animation industry for significant expansion. These factors collectively create a dynamic and evolving ecosystem that holds the potential for both regional and global impact in the animation sector.



Interpretation of analysis of findings on prospects and future trends for animation in Ghana, including potential for collaborations and growth

The interpretation of the responses suggests that several interrelated factors are converging to shape the future trajectory of Ghana's animation industry. The increasing availability of digital technologies enhances the technical capabilities of local animators and also democratizes access to tools that were once the preserve of large, international studios. This technological shift is pivotal in enabling local creators to compete on a global scale, offering new avenues for content production and distribution.

Moreover, the growing presence of diverse funding sources signals a critical shift in the financial landscape, which is essential for fostering innovation and expanding the industry. These financial resources, coupled with structured skills training programmes, contribute to a robust talent pipeline, ensuring that the industry has the human capital necessary to support its growth. The emphasis on skills development highlights the

importance of education and capacity building in cultivating a workforce capable of meeting domestic and international demands for high-quality animation.

Further, the increasing demand for local content further amplifies the growth potential, indicating a shift towards a more localized media production landscape. This demand, which reflects both cultural and commercial interests, underscores the relevance of animation as a tool for cultural expression, identity formation, and economic development within Ghana and beyond. As the market for local content expands, the animation industry stands to benefit from both internal demand and external opportunities for export.

International collaborations are another key factor, as they provide access to knowledge, technology, and resources that can propel the industry toward greater innovation and global competitiveness. These partnerships not only open new markets but also foster cross-cultural exchanges that enhance the creative potential of the sector. By collaborating with other African nations and global studios, Ghana can position itself as a significant player in the global animation industry.

Finally, the role of government support in this context cannot be overstated. Policy interventions that provide incentives for the creation and distribution of local content, as well as those that encourage international partnerships, are critical in creating a conducive environment for sustained industry growth. Government support, therefore, acts as a catalyst for the sector's development, providing the necessary infrastructure and policy frameworks to facilitate its expansion.

Consequently, Ghana's animation industry is positioned at a pivotal moment, with a combination of technological advancements, financial investments, human capital development, international collaborations, and government support creating a fertile

environment for growth. These factors, collectively, offer a promising outlook for the future of the sector, both within Ghana and on the international stage.

5.2.3 Testing animations with selected mothers and their babies: responses from mothers

- **Content and educational value**

How the animations promote early learning concepts like colours, shapes, traditional objects and sounds.

The findings suggest that animations play a critical role in early childhood education by supporting the learning of foundational concepts such as colours, shapes, familiar objects, and sounds. This was achieved through the combination of visual, auditory, and narrative features, which align with young children's cognitive abilities for information processing and retention. The animations utilized both visual and verbal modalities, incorporating vivid colours and well-defined shapes that helped the children to form strong mental associations. Consequently, the integration of these visual elements with corresponding verbal cues enhanced recognition and recall.

Moreover, the animations promoted active engagement through movement and narrative structure. This aligns with Mayer's (2001) cognitive theory of multimedia learning, which posits that information presented in dynamic and contextually rich formats enhances understanding and memory. By featuring animated characters and familiar cultural objects, the animations provided contextual grounding for the lullabies, making them more accessible and meaningful for the young viewers (learners).

In addition, the inclusion of traditional objects and culturally relevant lullabies within the animations supported cognitive growth and socio-cultural development. Familiar

sounds and imagery helped to bridge the home and educational environments, fostering cultural identity while enhancing auditory discrimination. Repetition of core sounds, terms, and concepts within the animated sequences further supported the development of phonemic awareness and early vocabulary.

In all, the animations functioned as an effective pedagogical medium by combining sensory engagement with cognitive support. Their ability to present abstract ideas in a concrete and interactive format made them particularly effective for early childhood learning, especially in reinforcing educational and cultural foundations.

Analysis of findings on content and educational value of the animations produced

How the animations promote early learning concepts like colours, shapes, traditional objects and sounds.

This study presents a theoretically informed and pedagogically significant interpretation of data collected on the animation of Ewe lullabies in early childhood education. The findings position the animation of the lullabies as an effective multimodal tool that supports cognitive development and cultural engagement. This aligns with established research in educational psychology and early learning. Thus, the analysis is anchored in Mayer's (2001) *Cognitive Theory of Multimedia Learning*, which posits that learning is enhanced when information is presented through multiple channels: visual, auditory, and contextual. Animations that combine verbal narration, vivid visual elements, and dynamic storytelling create developmentally appropriate learning environments for young children. This multimodal approach corresponds with the way young learners process and retain information.

The discussion highlights the value of dual-modality input; specifically, the visual and verbal pairing of lullabies with pictures in fostering recognition and recall. Also, the use of vivid colours and clearly defined shapes enhanced perceptual clarity, while the alignment of these visuals with corresponding verbal cues support the formation of strong mental associations.

Additionally, the incorporation of traditional objects and culturally embedded lullabies in the animations reflect the socio-cultural dimensions of learning. Such content not only enriched the educational experience but also promoted cultural identity and familiarity, particularly since they were drawn from the learners' immediate environments. The animations had culturally relevant content that helped bridge the gap between home and school, supporting both cognitive and emotional development, and further demonstrating the link between animation features and early literacy development, particularly in fostering phonemic awareness and vocabulary growth. The repetition of sounds and terms within the animated sequences support auditory discernment and aligns with research on the development of early phonological skills. This extends the pedagogical utility of animations beyond conceptual understanding to include critical aspects of language acquisition.

Hence, the findings provide a compelling rationale for the integration of animations in early childhood education. By combining cognitive theory, socio-cultural relevance, and practical learning outcomes, the animations emerged as a powerful tool for developmental support. This was possible through the animation's capacity to make abstract concepts concrete and relatable, thus positioning them as effective media for fostering foundational skills in both educational and cultural domains.

Interpretation of analysis of findings on content & educational value

- *Interpretation of findings on content and educational value of the animations produced*

The findings of this study accentuate the pedagogical value of animations as effective tools for early childhood learning. The data reveal that animations support the acquisition of foundational concepts such as colours, shapes, sounds, and culturally embedded content by appealing to young learners' cognitive strengths and developmental needs.

Anchored in Mayer's (2001) *Cognitive Theory of Multimedia Learning*, the results suggest that children benefit from educational experiences that present information through multiple modalities. Thus, the combination of visual, auditory, and narrative elements in the animations aligned with this principle by offering content in formats that enhanced attention, comprehension, and memory retention.

Moreover, the study highlights the importance of visual-verbal integration in fostering recognition and recall. The consistent pairing of vivid imagery with spoken language enables children to form strong mental associations, reinforcing early concept development. These findings resonate with established principles in early childhood education, which emphasize the importance of concrete, sensory-rich experiences in building foundational knowledge.

Another important clarification centred on the role of cultural relevance. The integration of traditional objects and lullabies within the animations served as an educational function as well as a socio-cultural one. By presenting familiar content, the animations help bridge the home and school environments, supporting children's sense of identity and belonging. This aligns with Vygotskian theory, which emphasizes the role of cultural tools and social context in the learning process.

Additionally, the findings point to the potential of animations to support early literacy development. The structured repetition of key sounds and vocabulary within the animated sequences contributes to phonemic awareness and vocabulary acquisition, both of which are essential precursors to reading. This suggests that animations can be effectively used not just for conceptual teaching but also for strengthening language and literacy skills.

Summarily, the interpretation of the findings affirms that animations, when thoughtfully designed, can play a multifaceted role in early childhood education. They provide cognitive stimulation, cultural grounding, and linguistic development, making them a valuable asset in the early learning environment.

Findings on the use of visual and audio elements in the animations produced

Engaging, not overly stimulating colours

The responses indicated that the choice of colours played a significant role in capturing the attention and maintaining a comfortable, engaging atmosphere. While bright colours were used to attract young audiences, certain hues were more effectively used to create a balanced and pleasant viewing experience without overwhelming the senses of the young viewers.

Soft blues and greens

The use of blue and green which are commonly associated with calmness and nature, promoted a sense of tranquillity and balance in the animations. The colours were vibrant enough to capture attention, yet not so intense to induce overstimulation. These colours also provided a strong contrast to warmer hues, enhancing visual appeal while

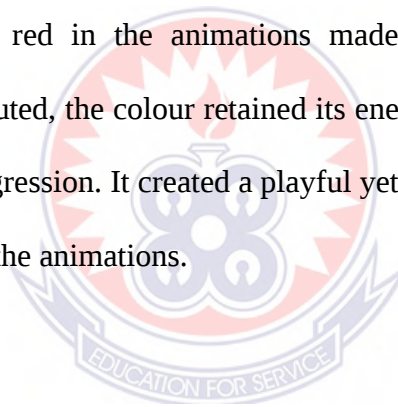
maintaining a relaxed environment. Thus, these colours worked well for the animations, especially in scenes that required attention without increasing arousal.

Shades of yellow and orange

The warm yellow and orange colours were inviting by naturally evoking feelings of warmth, and energy. The soft shade of these colours offered cheerful and playful aesthetics to the animations, making them suitable for the animations considering the target.

The reds

The muted shades of red in the animations made the scenes friendly and less stimulating. Though muted, the colour retained its energetic appeal without creating a sense of urgency or aggression. It created a playful yet vibrant atmosphere to maintain calm, environments in the animations.



Soft purple

The soft purples used in the animations were effective in maintaining a serene yet visually stimulating environment for children's animations, by appealing to both boys and girls while still evoking a sense of wonder.

Warm earthy tones

The warm earthy colours evoked feelings of safety and warmth, which was important for young children who may be particularly sensitive to overly bright or sharp hues. Additionally, the earthy tones served as a backdrop for more intense colours, helping to balance the overall colour scheme of the animations.

Essentially, the careful selection of colours ensured that the animations remained engaging without becoming overly stimulating. The soft hues of blue, green, yellow, orange, red, purple, and earthy tones provided a vibrant yet soothing environment that captured attention and fostered engagement.

Analysis on the use of visual elements in the animations produced

The selection and application of colours in children's animations play a pivotal role in both capturing the audience's attention and establishing a visually comfortable, engaging environment. Colour, as a powerful visual stimulus, significantly influences emotional responses and helps shape the overall atmosphere of an animated work. This analysis explores the function of colour choices within the animations produced, particularly how they balanced visual stimulation with sensory comfort, ultimately supporting the narrative and enhancing viewer engagement.

While bright, vibrant colours are commonly used to attract young viewers, the data suggests that particular hues and tonal variations were more effective in sustaining a balanced and pleasurable viewing experience without inducing sensory overload.

The colours were inherently linked to emotional and psychological responses, with each hue or colour combination eliciting specific affective reactions. This was particularly pertinent in the animations, where the primary goal is to maintain the viewer's attention without provoking discomfort or overstimulation. Thus, the findings indicate that the careful and deliberate use of colour in the examined animations was instrumental in directing the viewer's attention to significant elements within the various scenes while ensuring that engagement was sustained without overwhelming the senses.

Bright, high-saturation colours such as yellow and red were employed to highlight key objects and characters, thereby serving as focal points within the composition. For

instance, in the animation *Toboli*, a bright yellow star was strategically placed to guide the viewer's gaze to the intended focal point, drawing attention in a manner that was both natural and unobtrusive. By using such vibrant colours sparingly and strategically, the animations ensured that the viewer's focus remained on the most salient elements of the scene without the risk of sensory overstimulation.

However, the effectiveness of colour in the animations was not solely dependent on intensity but also on spatial arrangement within the visual composition. Thus, visual balance was created through the strategic juxtaposition of vibrant, attention-grabbing colours with more subdued tones. These combinations not only sustain visual interest but also prevent viewers from becoming overwhelmed. By integrating bright colours with softer hues, the animations achieved dynamic yet harmonious environments, maintaining engagement while minimizing the potential for sensory fatigue.

Consequently, the thoughtful selection and application of colour in the animations was a crucial factor in creating visually engaging and emotionally comfortable viewing experiences. While vibrant colours are effective in attracting attention, their strategic use in conjunction with more subdued tones ensured that the animations remained accessible without inducing overstimulation. By understanding the psychological effects of colour and purposefully employing them, the animations helped craft experiences that captivated the young audience and simultaneously supporting their emotional and cognitive development. Therefore, the integration of colour served as a fundamental aspect of enhancing the effectiveness and appeal of the animated contents, underscoring their importance in the broader context of animation design and children's media production.

Interpretation of analysis of findings on the use of visual elements in the animations produced

- *Engaging, not overly stimulating colours*

The interpretation accentuates the crucial role of colour selection in the animations, emphasizing its impact on both emotional engagement and sensory comfort. While vibrant colours are often used to attract the attention of young viewers, it is the thoughtful use of specific hues and their strategic application that truly shapes one's viewing experience. The primary objective in producing animations for children is to capture and sustain attention without overwhelming the viewer, especially given the heightened sensitivity of young audiences to visual stimuli.

Furthermore, the analysis suggests that colours are not only a tool for visual engagement but also have deep emotional and psychological associations that influence how children perceive and interact with the content. By using colours like yellow and red to draw attention to key elements and create focal points, the animations guided the viewer's focus to important aspects of scenes, ensuring that engagement remained high. However, it was not just the intensity of the colours that mattered; it was the careful balance between bright, vibrant tones and more muted, calming hues that prevented overstimulation. This balanced approach created a dynamic yet comfortable viewing environment, allowing the animations to maintain their visual appeal without exhausting the viewer.

In essence, the effective use of colour was not merely about making an animation visually striking but also about maintaining a sensory experience that was both stimulating and soothing. The combination of emotional and visual strategies ensured that the animations engaged young viewers while supporting their emotional

development and cognitive focus. This thoughtful integration of colour thus played a central role in enhancing the overall effectiveness and appeal of animated contents.

Impact of the lullabies on the animations

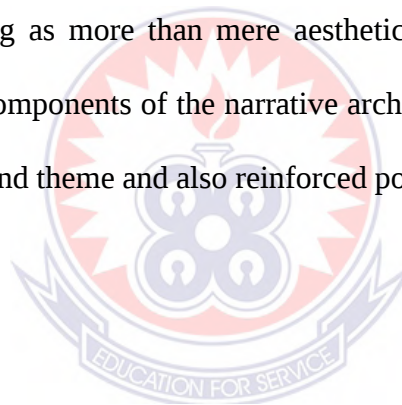
The responses revealed that the soft, melodic, and pleasant lullabies played a pivotal role in shaping the emotional and sensory experience within the animated works. Traditionally associated with soothing and calming effects, the lullabies, integrated into animations, significantly enhanced the narrative structure, visual elements, and overall viewer engagement.

Within the animations, the lullabies functioned as a mechanism for establishing an emotionally safe environment, by promoting relaxation and comfort. The soft, rhythmic qualities of the lullabies effectively modulated the emotional tone of various scenes, often signalling moments of tenderness, serenity, and emotional intimacy. For young audiences, who are still in the formative stages of cognitive and emotional development, the presence of the lullabies contributed to anchoring their emotional responses to characters and plot developments. The gentle melodic structures served as auditory cues, guiding emotional interpretation and reinforcing central themes such as love, protection, and comfort.

Moreover, the lullabies' repetitive and structurally simple nature supported early learning and memory consolidation, thereby functioning as cognitive reinforcement tools. Through the repetition of musical motifs, key narrative elements were emphasized, facilitating both retention and thematic continuity. Importantly, the soft tonal quality of these musical elements ensured that emotional cues remained subtle and non-intrusive, cultivating a sense of predictability and familiarity.

The lullabies also played a complementary role in relation to the visual aspects of the animations, contributing to the creation of a harmonious atmosphere aligned with the intended affective tone. For example, in the animation *Kofi Agbledela*, the lullaby is paired with visuals depicting leaves transforming into carousel objects, ultimately lulling a baby to sleep as the carousel rotates. In such instance, the integration of the soothing melody with slow-paced, serene imagery served to calm the viewer and facilitated a tranquil viewing experience. Hence, the alignment between audio and visual elements enhanced the cohesion of the overall narrative, positioning the lullaby as both a storytelling device and an emotional anchor.

Besides, the gentle and melodic nature of the lullabies facilitated transitions between emotional states, acting as more than mere aesthetic embellishments. Instead, they emerged as essential components of the narrative architecture, guiding young viewers through shifts in tone and theme and also reinforced positive associations with rest and sleep.



Analysis of findings on impact of the lullabies on the animations

The findings underscore the significant role of the soft, melodic, and pleasant lullabies played in enhancing the emotional, cognitive, and aesthetic dimensions of the animated content. Drawing on their traditional association with comfort and security, the lullabies maintained continued relevance in this modern audiovisual storytelling.

From a developmental psychology standpoint, lullabies promote emotional regulation and establish a sense of safety. Therefore, the soft, rhythmic nature of the lullabies supported the viewers' ability to navigate emotional experiences, serving as a non-verbal cue to interpret tone and intention; an especially important function given young children's limited capacity for abstract language comprehension.

Additionally, the repetitive and structurally simple nature of the lullabies performed a dual role by cognitively facilitating memory consolidation and learning through patterns and narratively, reinforcing story continuity and thematic coherence. These functions align with Mayer's (2001) cognitive theory of multimedia learning, which posits that optimal learning occurs when visual and auditory inputs are harmoniously aligned. Thus, for the young viewers, the lullabies acted as both memory aids and emotional signposts, by gently guiding their attention and reinforcing understanding. The example of *Kofi Agbledele* provides a concrete example of how lullabies interact with visual storytelling. The animation synchronizes soft melodies with serene imagery; leaves transforming into carousel objects, to soothe the viewer and encourage a tranquil state. This example illustrates music's capacity to regulate not only the pacing of a narrative but also the emotional atmosphere of a scene (Lemus, 2017). In these contexts, the lullabies were more than just accessories; they became a vital component of the storytelling architecture, helping to structure emotional and thematic transitions. Additionally, the lullabies in the animated media aimed to promote positive behavioural associations, particularly with sleep and rest routines. As such, the lullabies served as a bridge between mediated experience and real-life behaviour, by nurturing habits and emotional competencies essential to healthy childhood development.

Interpretation of analysis of findings on the impact of the lullabies on the animations

The findings and subsequent analysis highlight distinct yet the powerful influence that soft, melodic lullabies exert within the animations produced. Their impact on the animations extends beyond aesthetic enhancement; they serve as active agents in shaping the viewer's emotional and cognitive engagement with the media. This suggests

the lullabies are critical narrative and developmental tool and not merely as background or decorative sounds.

The interplay between the lullabies and the visual storytelling demonstrates a sophisticated form of multisensory alignment that speaks directly to the needs and capacities of early childhood audiences. As the analysis revealed, the lullabies offered structure, predictability, and comfort; key elements in supporting the cognitive and emotional regulation of the young viewers. Consequently, the integration of such musical forms reinforced the idea that media content tailored to children is not only for entertainment but also to nurture, guide, and model emotional responses.

Furthermore, the functions of the lullabies as transitional and anchoring elements within the narratives revealed a deeper pedagogical potential within children's media. The broader implication is that children's media; when carefully crafted, can support early learning, emotional intelligence, and behavioural development in meaningful ways. Lullabies, in this context, are not passive cultural relics but dynamic tools capable of influencing mood, memory, and behaviour.

Findings on engagement and interactivity of the animations produced

The responses indicated the animations were meticulously designed to engage young children while avoiding overstimulation. The implementation of high-contrast colours and simplified, uncluttered visual elements facilitated positive responses from toddlers, enhancing their capacity to focus on and interpret the content. Additionally, the animations employed slow, smooth, and predictable pacing, which supported effective motion tracking by the viewers. Repetitive auditory elements were also incorporated to promote familiarity with specific words and objects. Moreover, scene transitions were

gradual and carefully moderated, ensuring a calm and coherent viewing experience without sensory overload.

Additionally, the repetition of sounds and words in the animations encouraged children to participate and anticipate what would happen next in a scene. Listening to the sounds and words repeatedly gave them the confidence to join in, which built familiarity and supported language acquisition.

Analysis of findings on engagement and interactivity of the animations produced

The findings highlight how the animation design reflects a developmentally informed approach to early childhood media, incorporating elements that align with established principles in cognitive and perceptual psychology. The deliberate use of high-contrast colours and simplified, uncluttered visuals served to optimize visual salience while minimizing extraneous cognitive load, thereby supporting toddlers' attentional engagement and perceptual clarity.

Moreover, the animations' smooth, and predictable pacing facilitated motion tracking and object continuity, which are crucial for developing visual attention and early cognitive mapping. Also, the inclusion of repetitive auditory elements further enhanced the educational potential of the animations. Repetition as a well-documented mechanism in early language acquisition, supports the consolidation of phonological patterns and strengthens associations between words and referents. This auditory design element contributed to reinforcing linguistic and conceptual knowledge.

Additionally, the use of gradual scene transitions and the avoidance of overstimulation reflect a careful modulation of sensory input. Such considerations essentially helped to prevent cognitive and emotional dysregulation, which could occur when stimuli exceed

a child's processing capacity. By ensuring a calm and coherent viewing experience, the animation design promotes sustained attention and cognitive engagement without overwhelming the viewer.

Likewise, the responses emphasized the significant role of repetition of sounds and words within the animations in fostering active participation by anticipating upcoming events within a scene, thereby enhancing their engagement with the narrative structure. This predictability contributed to a sense of control and involvement, which is particularly important in early childhood media experiences.

Moreover, the repeated exposure to specific sounds and words appeared to boost the children's confidence in joining in vocally or physically. This familiarity with linguistic patterns not only encouraged spontaneous participation but also served as a foundational mechanism for language acquisition.

Interpretation of analysis of findings on engagement and interactivity of the animations produced

The findings suggest that the animations' design is not merely aesthetically driven but grounded in a developmentally sensitive framework that reflects the current understanding of cognitive and perceptual development during early childhood. Each design choice ranging from visual contrast and simplification to auditory repetition and pacing appears to be intentionally aligned with empirical insights into how young children perceive, process, and learn from multimedia stimuli.

Also, the strategic use of high-contrast and uncluttered visuals may be interpreted as a response to the perceptual limitations and attentional capacities typical of toddlers. By enhancing visual salience and reducing unnecessary cognitive demands, such design

promotes more focused engagement, thereby supporting both perceptual processing and information retention. This approach aligns with literature emphasizing the importance of reducing cognitive overload in early learners to facilitate meaningful interaction with educational content.

Likewise, the consistent pacing and smooth transitions observed in the animations can be viewed as mechanisms for scaffolding toddlers' developing attentional and cognitive systems. These temporal structures not only aid in perceptual tracking but may also foster a sense of predictability and security, which is foundational for effective learning at this developmental stage. Such predictability potentially supports early cognitive mapping and the formation of cause-and-effect relationships, which are central to cognitive development.

Additionally, the repeated use of auditory cues, particularly with language, reinforced the understanding that early language learning is heavily reliant on repetition and multimodal reinforcement. By repeatedly exposing children to the same words and sounds in a consistent context, the animations promote phonological awareness and lexical acquisition, contributing to early literacy development.

Furthermore, the avoidance of overstimulation through gradual scene transitions and moderated sensory input reflects a sophisticated awareness of young children's limited tolerance for high-intensity stimuli. This aspect of the design acknowledged the risk of cognitive and emotional dysregulation when overstimulation occurs and support a calm learning environment conducive to sustained attention and affective stability.

Collectively, the interpretation of these findings supports the conclusion that the animation embodies a synthesis of developmental theory and practical media design. It serves as an example of how evidence-based principles can inform the creation of

digital content that is both engaging and pedagogically effective for early childhood audiences.

Moreover, the findings based on the repetition of sound and words can be interpreted to suggest that repetition within animated content functions as a cognitive and linguistic support for young viewers. Furthermore, the familiarity developed through repeated exposure may aid in internalizing linguistic forms, thus supporting early language development. In this context, repetition served both as a motivational tool for interaction and as a mechanism for enhancing language acquisition.

Findings on safety and ethical considerations for the animations produced

The responses indicated the animations addressed ethical and safety considerations by ensuring that the contents were developmentally appropriate, culturally sensitive, and devoid of manipulative or exploitative elements. Particular care was taken to avoid the inclusion of subliminal messaging, thereby maintaining transparency and fostering trustworthiness in the animations intended for infants.

To mitigate the risk of sensory overstimulation, respondents acknowledged the incorporation of soft colour palettes, gradual transitions, and minimal on-screen motion in the visual design. Likewise, they also acknowledged the carefully structured auditory elements that support the calming sensory environment, the soothing tempos, gentle instrumentation, and moderate volume levels that could lead to auditory distress. These design choices they stressed reflect adherence to best practices in early childhood media production and emphasized a commitment to the well-being of the infant audience.

Analysis of findings on safety and ethical considerations for the animations produced

The responses reveal a deliberate and conscientious effort by the animator (researcher) to address ethical and safety considerations in the design and production of the infant-targeted animations. Central to the development process was the priority placed on ensuring that the content was developmentally appropriate. This was critical given the cognitive and emotional vulnerability of infants, who are highly sensitive to stimuli during early developmental stages. By prioritizing content that is culturally sensitive and free from manipulative or exploitative elements, the researcher sought to foster an environment of positive reinforcement rather than one that may inadvertently introduce harmful messages or stereotypes. The exclusion of subliminal messaging further supports the ethical integrity of the animations, positioning them as transparent and trustworthy resources for both infants and caregivers.

Moreover, the incorporation of sensory modulation strategies specifically through visual and auditory elements was another prominent feature in addressing safety concerns. The use of soft colour palettes, gradual transitions, and minimal screen movement was strategically designed to mitigate the risks of sensory overload, which could otherwise contribute to discomfort or stress in young viewers. These choices are aligned with developmental psychology principles that advocate for a controlled and soothing media environment to promote secure attachment and emotional regulation.

Additionally, the careful structuring of auditory elements, including soothing tempos, gentle instrumentation, and moderate volume levels, highlights a targeted approach to auditory safety. This strategy is consistent with existing literature on infant media, which underscores the importance of auditory calmness in preventing overstimulation, a known contributor to distress and irritability in infants. By designing both visual and

auditory components to be soothing and non-invasive, the animations not only avoid negative sensory experiences but also support the infant's developmental needs for safe, comforting engagement with media.

These design choices reflect a broader adherence to best practices in early childhood media production, which prioritize the well-being of the infant audience. The emphasis on developmental appropriateness, sensory safety, and cultural sensitivity speaks to an awareness of the unique needs of infants in media consumption. Furthermore, these strategies exemplify a commitment to creating media that is not only safe and ethical but also conducive to positive developmental outcomes. As such, the animations can be understood as aligning with the guiding principles of infant media production, which advocate for content that nurtures both cognitive and emotional development within a safe, supportive environment.

Interpretation of analysis of findings on safety and ethical considerations for the animations produced

The responses provide a clear indication that the animations were intentionally designed to align with ethical and safety standards aimed at promoting the well-being of the infant audience. From an interpretive perspective, the emphasis on developmentally appropriate content suggests a recognition of the importance of tailoring media to the cognitive and emotional capabilities of young children. By ensuring that the content was culturally sensitive and free from manipulative or exploitative elements, the researcher implicitly acknowledged the moral responsibility to protect infants from harmful or biased representations that could affect their social and psychological development.

The decision to exclude subliminal messaging further reflects an ethical commitment to transparency and respect for the infant audience, reinforcing the idea that trustworthiness is a key component of media intended for vulnerable populations. This deliberate omission suggests an effort to create a media experience grounded in honesty, free from any covert influences that could alter the child's natural development or learning processes.

Additionally, the sensory design choices, including the use of soft colour palettes, gradual transitions, and minimal on-screen motion, can be construed as a direct response to the developmental need for moderation in sensory input. Infants are particularly susceptible to overstimulation, and the visual design elements served to create a calming, non-intrusive environment. This indicates a clear understanding of how excessive sensory stimulation can lead to distress or irritability in young children, thus prioritizing a safe and conducive atmosphere for infant engagement.

Similarly, the structuring of auditory elements characterized by soothing tempos, gentle instrumentation, and moderate volume can be taken as a purposeful effort to maintain auditory safety. Research in early childhood development emphasizes the importance of auditory calmness in fostering a secure emotional state, and these design choices reflect an alignment with best practices that prioritize the prevention of auditory overstimulation.

Hence, the design decisions demonstrate a conscientious approach to creating media that supports both the ethical and developmental needs of infants. The deliberate consideration of visual and auditory safety, alongside the commitment to culturally sensitive and non-manipulative content, emphasizes the researcher's focus on fostering a nurturing, secure, and enriching environment for the infant audience. These choices reflect a broader commitment to the responsibility of media producers to contribute

positively to the cognitive and emotional development of the youngest members of society.

Findings on cultural and diversity considerations

The responses revealed that the animations prominently showcased the rich cultural heritage of the Ewe people of Ghana, incorporating traditional elements such as drums, the gong, and the mortar and pestle. Additionally, the soundtrack featured popular traditional Ewe lullabies, which not only fostered active participation through sing-along engagement but also facilitated the acquisition of the Ewe language. The respondents emphasized that the visual portrayal of the characters, along with the garden, river, and both the interior and exterior design of the nursery, were carefully crafted to reflect authentic modern Ghanaian settings, thus enhancing cultural relatability. Moreover, the use of vibrant and warm colours, inspired by traditional Ghanaian colour schemes, contributed significantly to the visual appeal of the scenes, thereby grounding the animation in the distinctive aesthetic of Ghanaian cultural traditions.

Additionally, the findings suggested that the animations featured characters that were relatable and free from negative portrayals. The language utilized in the content was deemed appropriate, avoiding any derogatory terms or expressions. Furthermore, the animations incorporated culturally relevant elements, notably Ewe lullabies, which contributed to the promotion of local cultural practices and traditions.

Analysis on the findings on cultural and diversity considerations

An analysis of the integration of Ewe cultural elements in the animations reveals a deliberate and thoughtful effort to preserve and promote the cultural heritage of the Ewe

people of Ghana. The incorporation of traditional instruments, such as drums, the gong, and the mortar and pestle, serves not only as a means of aesthetic enrichment but also as a medium through which cultural practices and customs are communicated to the audience. These elements, deeply embedded in the Ewe community's daily life, are utilized to provide an authentic representation of the culture, thus fostering a sense of cultural identity and continuity among viewers.

Furthermore, the use of traditional Ewe lullabies as the soundtrack highlights the critical role of music in Ewe cultural expression. Lullabies, traditionally used to soothe infants and impart moral lessons, are particularly significant as they serve both functional and educational purposes within the animation. The inclusion of these songs facilitates linguistic acquisition by exposing young audiences to the Ewe language, thereby enhancing cultural and linguistic preservation. The sing-along aspect of the lullabies also encourages active engagement, which is a key strategy in early childhood education, particularly in the development of language skills.

Visually, the settings including the characters, the garden with the river, and the nursery's interior and exterior are meticulously designed to reflect modern Ghanaian life while retaining cultural authenticity. This juxtaposition of traditional and contemporary elements ensured that the animation resonate with a wide range of audiences, including both those familiar with the Ewe culture and those from different cultural backgrounds. The aesthetic choices within the nursery, as well as the surrounding environment, are carefully selected to evoke a sense of familiarity and comfort, reinforcing the viewer's connection to the Ghanaian cultural context.

Similarly, the deliberate use of vibrant and warm colours, inspired by traditional Ghanaian colour schemes, is another crucial aspect of the animation's design. Colour plays a central role in Ghanaian culture, where it is often associated with specific

meanings and emotions. By incorporating these colours, the animations not only add to visual appeal but also reinforces the cultural context in which the narratives unfold. The use of colour thus serves as a visual cue that grounds the animation in the cultural aesthetics of Ghana, promoting an enriched understanding of the cultural traditions represented.

Also, several key aspects contribute to the cultural and pedagogical value of the animations. First, the inclusion of relatable characters devoid of negative portrayals is significant in terms of fostering positive developmental outcomes for young audiences. By avoiding stereotypical or harmful representations, the content ensures that children are exposed to diverse and multi-dimensional characters that reflect the complexity of real-world identities. This approach supports the development of healthy self-esteem and empathy, as children are encouraged to identify with characters who embody positive traits.

Moreover, the use of language in the animations was noted as being culturally appropriate and non-derogatory. This aspect was crucial in ensuring that the linguistic choices made in the content respect the dignity of all communities and avoid reinforcing harmful societal biases. The careful selection of language contributes to creating a safe and respectful space for children to learn and engage with the content, while also fostering a sense of cultural pride and belonging.

Moreover, the incorporation of culturally specific elements, such as Ewe lullabies, further enriches the content. This inclusion did not only enhance the authenticity of the animations but also promote the preservation and transmission of local traditions to younger generations. Lullabies, as part of Ghanaian cultural heritage, play a vital role in early childhood development by fostering emotional bonding and linguistic development. By integrating such elements, the animations served as a medium of

entertainment as well as a tool for cultural education and the reinforcement of social values within the context of Ghanaian society.

Hence, the animations employed a multi-dimensional approach to cultural representation, integrating traditional Ewe elements with modern visual and auditory techniques. Through its thoughtful incorporation of music, visual settings, and cultural symbols, the animations educate young audiences about the Ewe culture and also strengthen their connection to Ghanaian heritage.

Interpretation of the analysis of the findings on cultural and diversity considerations

The integration of Ewe cultural elements in the animation reflects a deliberate and distinct effort to preserve and promote the cultural heritage of the Ewe people of Ghana. The use of traditional instruments, such as drums, the gong, and the mortar and pestle, serves as a significant vehicle for transmitting cultural knowledge. These instruments are deeply embedded in the everyday practices of the Ewe community, and their inclusion in the animation enriches the aesthetic quality and also provides an authentic representation of the culture. This integration functions as a mechanism for cultural transmission, enabling the audience- particularly younger viewers- to engage with and internalize cultural practices, thereby fostering a sense of cultural identity and continuity. Such an approach highlights the potential of animation to act as a repository for cultural traditions, transmitting knowledge across generations in an accessible and engaging manner.

Moreover, the incorporation of traditional Ewe lullabies further emphasizes the importance of music within the cultural expression of the Ewe people. Lullabies serve as soothing instruments for infants and also carry moral lessons as well as cultural

teachings. These lullabies in the animations, are effectively utilized as both educational tools and vehicles for linguistic acquisition. Thus, the lullabies offer young audiences the opportunity to familiarize themselves with the language, contributing to the preservation of the Ewe language in a modern media format. Besides, the sing-along feature of the lullabies promotes active engagement, an essential strategy in early childhood education that enhances cognitive and linguistic development. This deliberate focus on language acquisition and cultural transmission highlights the educational potential of media for young audiences, particularly in the context of preserving indigenous languages and fostering cultural awareness.

Visually, the design of the animation's settings such as the characters, garden, river, and interior and exterior of the nursery successfully balances traditional cultural elements with representations of modern Ghanaian life. This blend of traditional and contemporary visuals ensured that the animations are culturally authentic while remaining relatable to a broad audience. By grounding the characters and their environments in a context that reflects modern Ghanaian society, the animations provide familiar settings that resonate with viewers from both local and global perspectives. The careful selection of these visual elements foster a sense of comfort and connection, reinforcing the animations' role in bridging cultural gaps and enhancing the viewer's connection to the Ghanaian cultural context.

Additionally, the animation's use of vibrant and warm colours drawn from traditional Ghanaian colour schemes adds a layer of cultural depth to the visual experience. In many African cultures, colours carry symbolic meanings that are deeply intertwined with social, spiritual, and emotional realms. In the case of Ghana, the use of specific colours can evoke feelings of joy, celebration, and community. Incorporating these colours into the animation, not only enhanced the visual appeal but also ground the

narrative within a cultural framework that is both meaningful and resonant. This strategic use of colour served as an additional layer of cultural encoding, reinforcing the animations' ties to Ghanaian cultural traditions and providing visual cues that connect viewers to the broader cultural landscape.

Further, the animations effectively embody key principles of culturally sensitive and child-friendly media. The portrayal of characters that are relatable and free from negativity can be seen as a deliberate strategy to avoid reinforcing harmful stereotypes. The absence of negative portrayals further indicates a conscious effort to create a safe and supportive viewing environment, which is essential for fostering emotional and social growth in young audiences.

Also, the careful selection of language, deemed appropriate and non-derogatory, reflects a deeper commitment to linguistic inclusivity and respect for diverse cultural identities. By ensuring that language does not perpetuate harmful biases or reinforce negative societal norms, the animations are actively contributing to the development of a more inclusive media landscape. This consideration is particularly significant in Ghana, where spoken language carries deep cultural and social implications. The use of respectful and culturally appropriate language thus plays a crucial role in fostering a sense of belonging and dignity for viewers from various communities.

Thus, the animations employ a multifaceted approach to cultural representation by integrating traditional Ewe cultural elements with modern visual and auditory techniques. Through the thoughtful incorporation of lullabies, visual settings, and cultural symbols, the animations serve as both educational tools and cultural artifacts. They educate young viewers about Ewe culture and also strengthen their connection to Ghanaian heritage, fostering a sense of identity and belonging. This approach highlights the potential of animation as a powerful medium for cultural preservation, emphasizing

the significance of culturally relevant media in the development of young audiences. By presenting traditional culture in an engaging and accessible format, the animations contribute to the ongoing process of cultural transmission and preservation in an increasingly globalized world.

5.2.4 Observation of animations

This section details the outcomes of observations conducted on babies who watched the animated Ewe lullabies. The primary objective was to investigate how the 3D animated Ewe lullabies influenced the babies' multimodal responses. Prior research indicates that babies process dynamic and static scenes differently; for instance, younger children may maintain prolonged visual attention on static faces but subsequently avert their gaze as a cognitive respite from processing complex motion (Frank, Vul, & Johnson, 2009; Hunnius, 2011). Additionally, the ability to process emotional cues, particularly through facial and bodily expressions, undergoes significant maturation between 4 and 8 months of age (Leppänen & Nelson, 2009; Grossmann & Johnson, 2007).

A growing body of work also examines babies' responses to audiovisual media, highlighting that early exposure can influence attentional patterns and emotional regulation (Barr, 2010; Courage & Howe, 2010). By systematically documenting the babies' real-time reactions to these animated stimuli, the study contributes to the understanding of both developmental trajectories and methodological considerations surrounding early media exposure (Linebarger & Vaala, 2010).

Participants and Context

Three infants aged between 12 and 20 months participated in this study. Each child was seated securely on their mother's or caregiver's lap within a familiar setting to minimize

external stress. The animated lullabies were displayed on a screen positioned at the infants' eye level to optimize visual engagement.

Observation Protocol

The framework used is grounded in developmental models of attentional control and emotional regulation in infancy (Posner & Rothbart, 2007) on attention systems, and Richards (2010) on infant attention and arousal. These perspectives view attention in infancy as a regulatory system that enables infants to orient to stimuli, sustain engagement, and disengage adaptively. Sustained attention reflects coordinated behavioural and physiological regulation, whereas disengagement and shifts in affect signal changes in arousal and processing demands. Collectively, these models support the use of observable behaviours as indicators of underlying attentional control and emotional regulation in late infancy.

A structured behavioural coding scheme was used to document responses every 20 seconds across four domains:

- Facial expressions: such as smiles, frowns, signs of surprise, or confusion (Camras et al., 1998).
- Attention span: indicated by sustained gaze versus gaze aversion (Ruff & Rothbart, 1996).
- Body movements: including rocking, clapping, reaching, or positional shifts.
- Emotional vocalizations, such as babbling, giggling, or laughing.

All sessions were video recorded to facilitate detailed post-hoc analysis and to establish inter-rater reliability (Bakeman & Gottman, 1997).

Results

Table 6: observation log - Source: Researcher's Field work, 2024/2025

An excerpt from the observation log is provided below:

Time	Facial Expression	Attention	Body Movement	Emotional Response	Notes
00:00–00:20	Wide eyes, slight smile	Engaged	Leaned forward, clapped	Giggled softly	Initial interest
00:20–00:40	Neutral	Brief gaze drift	Hugged mother	Quiet	Sustained engagement
00:40–01:00	Frown, slight pout	Looked to the caregiver	Leg kicked restlessly	Soft whimper	Possible displeasure/sleepiness
01:20–02:00	Smile returned	Sustained gaze	Head resting on the mother	Quiet	Drowsiness or sleep onset

The babies demonstrated clear multimodal synchrony, with periods of heightened attention frequently aligning with positive facial expressions and vocalizations. Phases of disengagement were typically accompanied by negative facial affect and orientation toward the caregiver, suggesting short cognitive or emotional breaks (Posner & Rothbart, 2007; Richards, 2010).

Discussion and Analysis

The observations revealed discernible patterns of synchrony across facial expressions, attention, body movements, and emotional vocalizations, underscoring the complex interplay between affective and attentional processes in early development.

- *Engagement with dynamic stimuli*

Consistent with prior findings by Frank et al. (2009) and Hunnius (2011), the babies demonstrated an initial heightened attentional response to the dynamic animated

scenes, as evidenced by sustained gaze, forward-leaning postures, and positive facial affect (e.g., wide eyes, slight smiles). These behaviours suggest that new, visually rich stimuli are particularly effective at capturing and maintaining infant attention in the short term. This aligns with models of infant attention that highlight novelty preference and the role of visual complexity in sustaining engagement (Ruff & Rothbart, 1996).

- *Emotional synchrony and regulatory breaks*

The data also revealed instances of disengagement, marked by gaze aversion, frowns, and orientation toward the caregiver, which often occurred after periods of intense attentional focus. Such patterns are in line with theories suggesting that infants employ brief attentional and affective “breaks” as a form of cognitive or emotional regulation when faced with complex or overstimulating stimuli (Richards, 2010; Posner & Rothbart, 2007). Notably, the return of smiles and relaxed postures later in the observation sequence indicates effective self-regulation, possibly facilitated by the comforting presence of the caregiver (Courage & Howe, 2010).

- *Bodily expressions as indicators of affective engagement*

Body movements such as clapping and leaning forward appeared temporally linked with positive affect and vocalizations. These multimodal expressions support Grossmann and Johnson’s (2007) view that emotional responses in infancy are not restricted to facial channels but involve coordinated bodily and vocal components. The babies’ tendency to hug or lean against the caregiver during moments of reduced engagement suggests the use of proximal physical contact as an additional regulatory strategy, corroborating research on caregiver scaffolding in emotional regulation (Leppänen & Nelson, 2009).

- *Cultural and developmental implications*

By employing culturally specific Ewe lullabies, this study contributes to a growing body of work advocating for the importance of contextually relevant media in early development (Linebarger & Vaala, 2010). Exposure to culturally meaningful content may support early socio-cultural learning by embedding familiar rhythms, tones, and possibly linguistic patterns that resonate within the child's ecological environment. Although this study was limited in scale, the findings suggest that culturally grounded animation can elicit rich multimodal responses, opening avenues for future research on how localized media might support both emotional and cultural development in early childhood.

Interpretation of the data

The observational data collected from the three babies during exposure to the animated Ewe lullabies offer valuable insights into how young children process and respond to dynamic, culturally embedded audiovisual content. The systematic coding of facial expressions, attention, body movements, and emotional vocalizations reveals a sequence of engagement and regulation that aligns with established models of early cognitive and affective processing.

- *Initial heightened engagement*

In the first 20 seconds of the viewing session (00:00–00:20), all three infants exhibited behaviours characteristic of high attentional and emotional engagement. This included wide-eyed expressions, slight smiles, forward-leaning postures, clapping, and soft giggles. Such synchrony across multiple modalities indicates an immediate orienting response to novel or interesting stimuli, consistent with Frank et al.'s (2009) findings

on babies' heightened sensitivity to dynamic scenes, as well as Ruff and Rothbart's (1996) descriptions of sustained attention under novel conditions. The giggles and smiles suggest that the stimuli were not only engaging but also affectively positive.

- *Brief regulatory shifts*

Between 00:20–00:40, the infants displayed a subtle shift: facial expressions turned neutral, gaze briefly drifted, and there was an observable tendency to seek physical contact by hugging the mother/caregiver. Although attention largely remained engaged, these short regulatory pauses may represent the infants' attempt to balance cognitive load, supporting Richards' (2010) argument that infants interleave periods of focused attention with short disengagements to manage processing demands.

- *Signs of overstimulation or fatigue*

The observations from 00:40–01:00, including frowning, slight pouting, restless leg movements, and soft whimpers, suggest the onset of possible displeasure, overstimulation, or emerging fatigue. The infants' orientation toward the mother/caregiver during this phase indicates a reliance on social referencing to interpret or cope with the experience (Grossmann & Johnson, 2007). This behaviour supports the notion that mothers/caregivers play a critical regulatory role, serving as a secure base when babies encounter ambiguous or mildly distressing stimuli (Leppänen & Nelson, 2009).

- *Return to comfort and drowsiness*

By 01:20–02:00, the data showed a re-emergence of smiles alongside sustained gaze, with the babies resting their heads on the caregiver. The quiet demeanor and body posture suggest a transition toward sleep. This phase illustrates how babies cycle

through states of alertness and disengagement, with emotional regulation effectively supported by the caregiver's presence; a dynamic highlighted by Courage and Howe (2010) in discussions of media exposure's impact on infant state regulation.

- *Multimodal synchrony*

Across the observation period, the co-occurrence of positive facial expressions, vocalizations, and body movements with sustained visual attention underscores the integrated nature of infant response systems. These patterns reflect the development of multimodal synchrony in infancy, where attentional and affective systems operate in concert to process complex stimuli (Hunnius, 2011; Posner & Rothbart, 2007).

- *Cultural resonance*

While the sample size precludes definitive conclusions, the overall engagement observed suggests that culturally specific animated lullabies may be particularly effective in capturing babies' attention and eliciting positive affect. This aligns with theories that culturally familiar rhythms and visuals can promote early socio-cultural learning and comfort (Linebarger & Vaala, 2010), highlighting the importance of contextually relevant media content in early childhood.

5.3 Collaborations and Interactions

Collaboration in animation: a multi-disciplinary approach

Animation is a highly collaborative field that brings together various professionals to create a cohesive visual story. Animators work with directors, writers, designers, sound engineers, and other specialists to ensure that the final product aligns with the project's creative vision and technical requirements.

The writing stage

Animators and writers work closely together to ensure that an animated production's story, dialogue, and visual elements align cohesively. This collaboration happens throughout different stages of production and involves constant feedback and adjustments. In the case of this production, the researcher was the writer and the supervisors served as consultants for the production.

1. Pre-Production: Developing the Story and Characters

Before the start of the animations, the scripts were developed including, scene descriptions, and character actions. Because animations serve as a visual storytelling medium, I ensured that the scripts translated effectively into movement and imagery (Thomas & Johnston, 1981). Key aspects of the collaboration included:

- Visualizing Action – the writing described movements and actions in the script, which were refined during the animation stage to enhance the storytelling through motion.
- Storyboarding – the researcher, being the animator worked with the storyboard artist to create visual sequences based on the script (Williams, 2009).

2. Production: Refining Dialogue and Action

During production, the scripts were adjusted where necessary. This phase focused on:

- Improvisation and Rewrites – to make scenes more visually engaging, for better impact (Selby, 2013).

3. Post-Production: Final Adjustments

In the final stage, the researcher, being the writer in collaboration with other animators, ensured that the finished animation aligned with the script's intent.

Collaboration with storyboard artists

The storyboard artist ensured that the visual storytelling, pacing, and composition of the animations were well-structured and engaging. This was essential in translating the script into dynamic, visually compelling sequences.

a. Pre-production: planning and storyboarding

The storyboard artist created rough visual representations of scenes, outlining key actions, camera angles, and character movements. The researcher collaborated with the storyboard artist to:

- *Understand character movement and staging* by defining how characters moved within the scenes, helping the animators to visualize motion and flow (Williams, 2009).
- *Refine action sequences* by providing input on feasibility and adjustments to ensure smooth animation (Beiman, 2010).
- *Determine shot composition* to help establish framing and perspective, which was refined during production (Thomas & Johnston, 1981).

b. Production: translating storyboards into animation

The final storyboards were used as blueprints to create motion. These enabled animators to:

- *Adjust key poses* ensuring that character expressions and gestures from the storyboard were fluid and readable in motion.
- *Modify timing and transitions* of some storyboarded actions that needed timing adjustments to fit the animation style and pacing.

- *Resolve technical challenges:* the storyboard artist was provided with feedback on storyboarded sequences that were difficult to animate; alternatives were suggested (Kerlow, 2004).

A team of four (4) was put together to help model the various scenes of the concepts based on the selected lullabies. However, the researcher took up sixty percent (60%) of the modeling work.

c. Post-Production: Refinements and Revisions

During post-production, the storyboard artist and animators revisited certain scenes to adjust the storytelling clarity. The process included:

- *Reworking storyboard panels* by redrawing some panels for better clarity.

d. Communication and collaboration tools

To streamline collaboration, the animators and storyboard artist used:

- *Adobe Animate* for sketching and visual sequencing of ideas.
- *ShotGrid* for feedback and workflow tracking.
- *Review sessions and animatics* were used to refine timing and storytelling before animation production began.

Collaboration with voice actor (singer)

This collaboration ensured that performances were synchronized, emotions were accurately conveyed, and the final animations felt natural and engaging. This process involved multiple stages, including pre-production, production, and post-production.

a. Pre-production

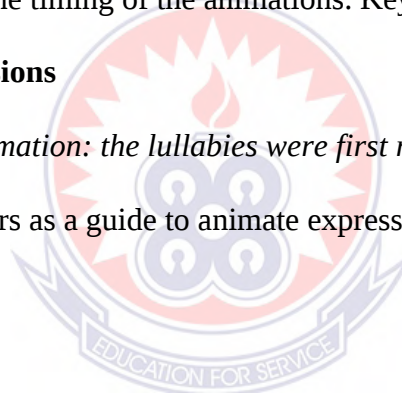
Before recording began, the researcher and the voice actor had discussions to establish the emotions, and mannerisms required for the animations. This stage involved:

- *Concept development meetings:* the researcher and voice actor discussed the various lullabies, concepts, motivations, and traits that aligned voice performance with various scenes (Beiman, 2010).

a. Production: recording

During production, the researcher and voice actor collaborated to ensure the pacing for the lullabies matched the timing of the animations. Key interactions included:

- **Recording sessions**
 - o *Pre-animation:* the lullabies were first recorded and used by the animators as a guide to animate expressions (Thomas & Johnston, 1981).



c. Post-Production: Final Adjustments and Syncing

Once the animations were completed, the recorded lullabies were adjusted and synced to match the pacing and timing of each scene.

d. Tools and Communication Methods

To facilitate collaboration, animators and voice actors use:

- Recording software used was Fruity Loop for voice recording and editing.

Collaboration with editor

The collaboration between the researcher (animator) and editor was important, ensuring that the final animated products were polished, well-paced, and visually coherent. We worked closely throughout the production process to refine the timing, transitions, and overall narrative flow of the animations. This collaboration involved several key stages:

a. Pre-production: planning and storyboarding

Collaboration with the editor began during the storyboarding phase. Storyboards were arranged into an animatic; a rough sequence of images that represents the flow of the animation. The editor helped assemble these images into a preliminary cut, adjusting the timing and pacing to see how scenes transitioned from one to another (Williams, 2009).

b. Production: refining animation sequences

During production, rough animation sequences were delivered to the editor, who inserted them into the timeline. The editor analyzed the flow of movement and provided feedback on these aspects:

- *Pacing*: too fast or slow movements of the animations
- *Continuity*: smooth scene transitions of the animations
- **Narrative coherence** – checked to ensure the animations aligned with the stories' emotional beats (Selby, 2013).

The editor communicated suggestions for corrections to the researcher to modify keyframes, adjust timing, and improve character movements.

c. Post-Production: Final Edits and Effects

Once the animations were completed, the editor finalized the cut by:

- *Trimming* unwanted scenes and extending scenes to improve storytelling.
- *Added visual effects*, such as insect sounds, colour correction, and grading.
- *Syncing animations with audio*, by ensuring the sound effects aligned with the visuals (Kerlow, 2004).

d. Collaborative tools and workflow

Adobe Premiere Pro was used to edit and refine scenes.

5.4 Challenges and problem-solving

Production of the animations for the lullabies certainly came with numerous challenges that are outlined in the following paragraphs. All the same, these challenges presented an opportunity to discover and learn new things that were very relevant to my growth as an animator.

The first challenge to overcome was developing and selecting *Age-Appropriate Content* for the target. This was important to consider because children especially young children (babies) have different levels of comprehension and emotional sensitivity, thus complex themes and storylines needed to be adjusted accordingly to ensure the contents were suitable for the target age group, by balancing entertainment with moral and educational messages.

Also, because children have shorter attention spans than adults, the pacing, visual appeal, and storyline needed to be captivating. Thus, vibrant colours were used for the models with simple yet familiar characters to help hold their attention.

Though the main aim of the animations was to teach cultural values and social skills, it was important to strike the right balance between making it fun while still being educational which was a bit tricky. To help strike this balance, various views were

solicited from mothers, as well as observation of existing animations to ensure the needed balance was achieved.

Besides, the animations avoided stereotypes by using characters and visuals that were culture-appropriate to enhance experiences positively. The animations were also devoid of violence, offensive language, and themes that could lead to censorship or complaints. The views of parents were also taken into consideration since they are often gatekeepers to what children watch. This was very important for the study because the approval of the animations by the parents in terms of appropriateness of cultural value certainly impacted the viewership and success of the project.

To maintain high-quality rendered animation required significant time and resources which was operated under a tight budget and limited time. Maintaining production quality while keeping costs manageable was a big challenge.

Rendering challenges

Rendering is one of the most computationally demanding parts of animation, particularly for 3D animation.

Challenges included:

High render times for detailed textures, reflections, lighting effects, and shading were extended beyond the completion of the project. This was to ensure consistent frame rates so the animations look smooth on various devices and not jumpy.

Another technical challenge was ensuring files, models, and animations worked seamlessly across different software. To resolve this, universal file formats like FBX, OBJ, or OpenEXR were used to ensure compatibility.

Rigging was also a major challenge to overcome; poorly rigged characters gave the animations unnatural or stiff movements as children's animation requires exaggerated, fluid movements.

To resolve this, Autodesk's auto-rigging tool was used to speed up the process.

However, all five animations could not be rendered due to computational and power outage challenges within the stipulated time.

5.5 Integration with Theoretical Framework

▪ *Integrating Cultural Preservation Theory into Children's Animation*

Cultural Preservation Theory emphasizes the importance of maintaining cultural heritage, traditions, and values while adapting to modern changes (Hufford, 1994). This theory was integrated into the animations to effectively educate young audiences about their cultural roots in an engaging and accessible manner. This was achieved through storytelling, character development, visual representation, language, music, and interactive learning elements.

a. Storytelling rooted in culture

One of the most effective ways to preserve culture is through storytelling, as oral traditions have historically been a key method of passing down knowledge (Zipes, 2006). By basing the animations' narrative on folklore, children can learn about the Ewe cultural traditions engagingly. Thus, the various lullabies used for the animations draw inspiration from Ghanaian folklore, bringing ancestral knowledge into a modern animated format (Teves, Smith, & Raheja, 2017).

b. Engaging and relatable characters

Characters play a crucial role in fostering cultural identity in children (Nodelman & Reimer, 2003). The characters in the stories are relatable and found in the Ghanaian context. This mirrors the role of identifiable characters in indigenous storytelling, making it easy for the children to relate (Archibald, 2008).

c. Visual and artistic representation

The animations' artistic style incorporated traditional objects, and colours associated with the culture represented. Studies show that visual aesthetics significantly impact cultural identity reinforcement in media (Napier, 2000). For example, Mills Studio's films *Asantewaa* used traditional Ashanti aesthetics and regional folklore, making the cultural storytelling unique and recognizable (McCarthy, 1999).

d. Language and music elements

Language plays a critical role in cultural preservation (Fishman, 1991). Including native words alongside subtitles promotes language learning for young audiences. Furthermore, traditional music and instruments were integrated into the lullabies and animations to enhance authenticity. Research suggests that exposure to indigenous music in childhood fosters cultural pride and appreciation (Campbell, 2004).

e. Themes of cultural identity and adaptation

A common challenge for modern children is balancing cultural heritage with contemporary influences. An animated show can explore intergenerational knowledge transfer, diaspora identity, or the blending of cultural traditions. Thus, the animated

lullabies successfully used bilingual and bicultural storytelling to engage diverse audiences while promoting cultural awareness (Moran, 2016).

In addition, the on-screen text can be disabled using the control functions provided by the media player.

Conclusion

By integrating Cultural Preservation Theory into the animations, will help to cultivate a deeper understanding and appreciation of cultural heritage among young audiences. Through storytelling, culturally rich visuals, music, and interactive learning, the animated contents can act as an engaging and educational bridge between generations.

Integrating cognitive load theory into the animated lullabies

Cognitive Load Theory (CLT), developed by Sweller (1988), explains how the human brain processes information and suggests instructional strategies to optimize learning by managing cognitive load. CLT divides cognitive load into three types: intrinsic load, related to task complexity; extraneous load, which arises from poor instructional design; and germane load, which enhances learning through meaningful processing (Sweller, 2010). When designing animations for children, it is essential to balance these loads to ensure effective learning.

Minimizing extraneous load

Extraneous cognitive load refers to unnecessary mental effort caused by inefficient instructional design (Chandler & Sweller, 1991). This theory was integrated into the animations taking into consideration the following.

- *Simplified visuals and clear narration:* Research suggests that reducing unnecessary details and distractions helps learners focus on key content (Mayer & Moreno, 2003). Consequently, clear and engaging visuals that directly align with the narrations were used in the animations instead of complex graphics.
- *No split attention:* According to the split-attention principle, placing text and images separately increases cognitive load (Sweller, Ayres, & Kalyuga, 2011). Given this, synchronized subtitles with corresponding visuals were used to help children process information more effectively.
- *Reducing background noise:* Mayer and Moreno (2003) found that excessive background music or sound effects can interfere with verbal processing. Therefore, minimal sound directly relevant to the animations was used.

Optimizing intrinsic load

Intrinsic cognitive load is determined by the complexity of the subject matter (Sweller, 2010). To manage this in the animations:

- *Chunking information:* the contents of the animations were broken down into smaller, digestible segments which align with segmenting theory, to improve information retention (Mayer, 2005).
- *Step-by-step animations:* this was achieved by gradually introducing concepts instead of presenting everything at once, allowing children to build understanding progressively (Paas, Renkl, & Sweller, 2003).
- *Scaffolding learning:* According to Vygotsky's Zone of Proximal Development (ZPD), children learn better with guided support before moving to independent

understanding (Vygotsky, 1978). Thus, simple concepts were used for the animations.

Enhancing germane load

Germane cognitive load refers to the mental effort devoted to meaningful learning (Sweller, Ayres, & Kalyug, 2011). To enhance this:

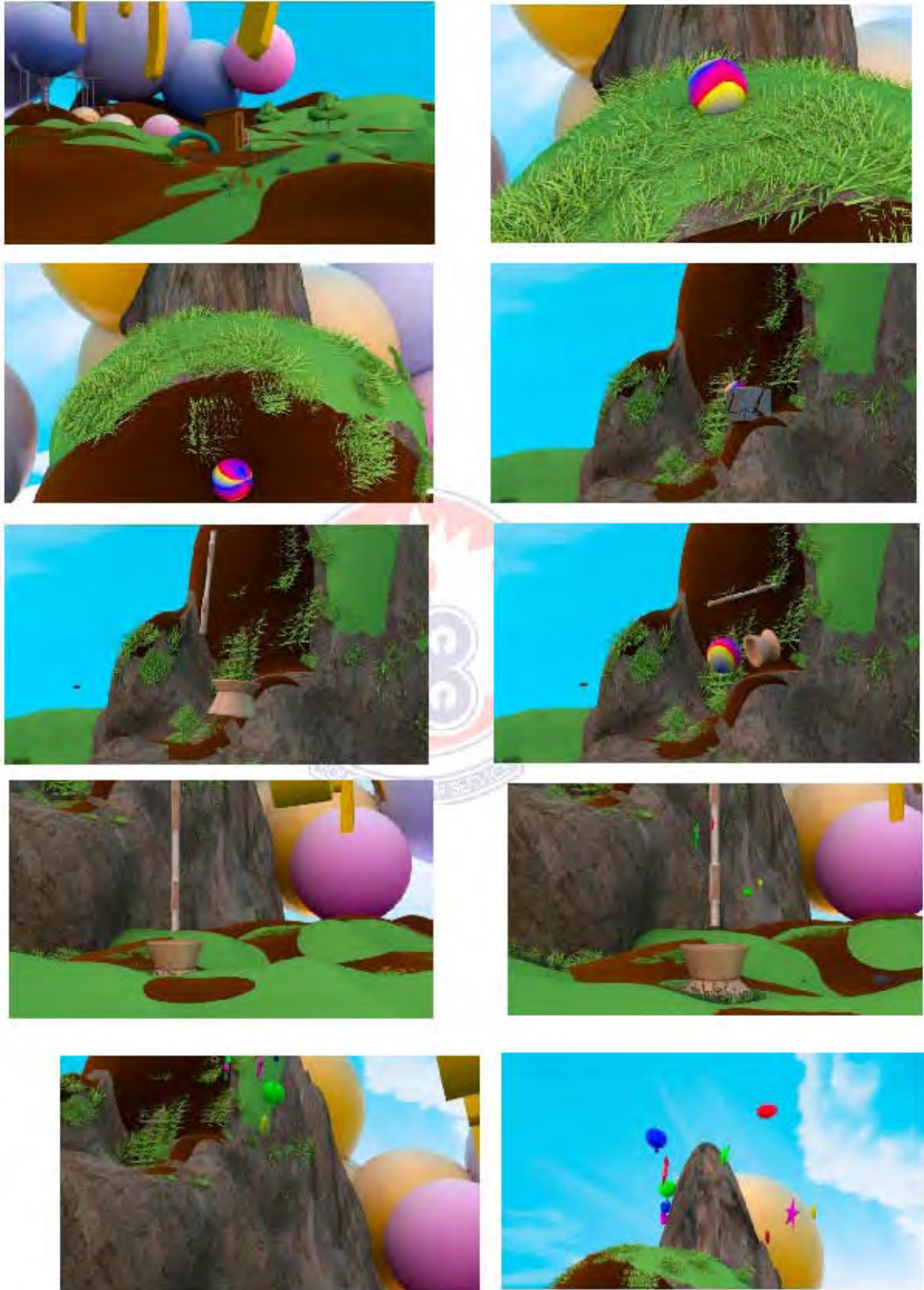
- *Storytelling approach*: research shows that embedding information in narratives helps children connect with concepts and enhances recall (Alexander, Schallert, & Reynolds, 2012). Therefore, in one of the concepts, the character for the animation is a star rising from a flower into the night sky to meet two other stars; they then fly away into the sky.
- *Dual-coding theory*: according to Paivio (1990), using both verbal and visual information improves memory. Therefore, the animations combined explanatory images with narration to help reinforce learning.

Conclusion

Applying the Cognitive Load Theory to the animations ensured that learning was effective, engaging, and developmentally appropriate. By minimizing extraneous load, optimizing intrinsic load, and enhancing germane load, the animations were designed to maximize understanding and retention.

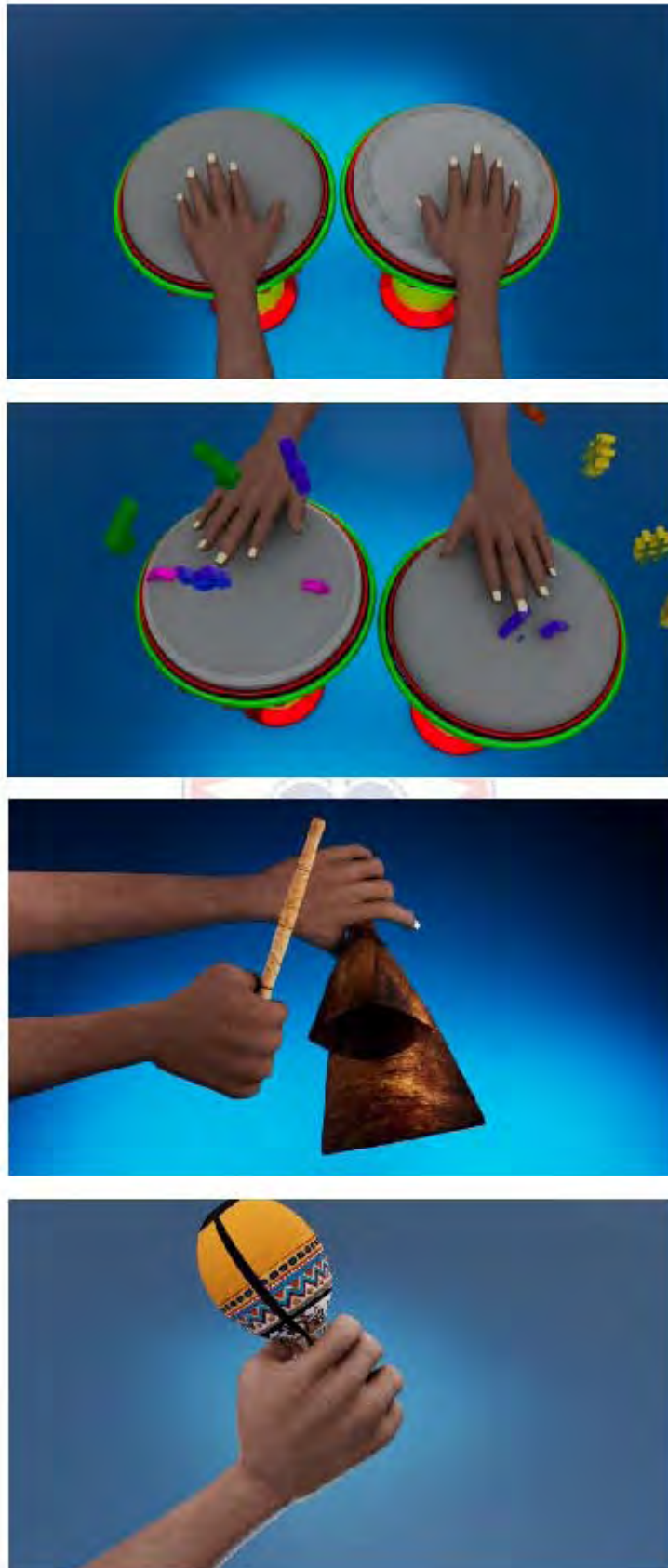
5.6 Presentation of Artistic Outcomes and Output

Renderings from Kofi kple Ama



Figures 106 – 115: Renderings from Kofi kple Ama
Source: Researcher's field work, 2024/25

Renderings from Papa kple Mama



Figures 116 – 120: Renderings from Papa and Mama
Source: Researcher's field work, 2024/25

Renderings from Toboli



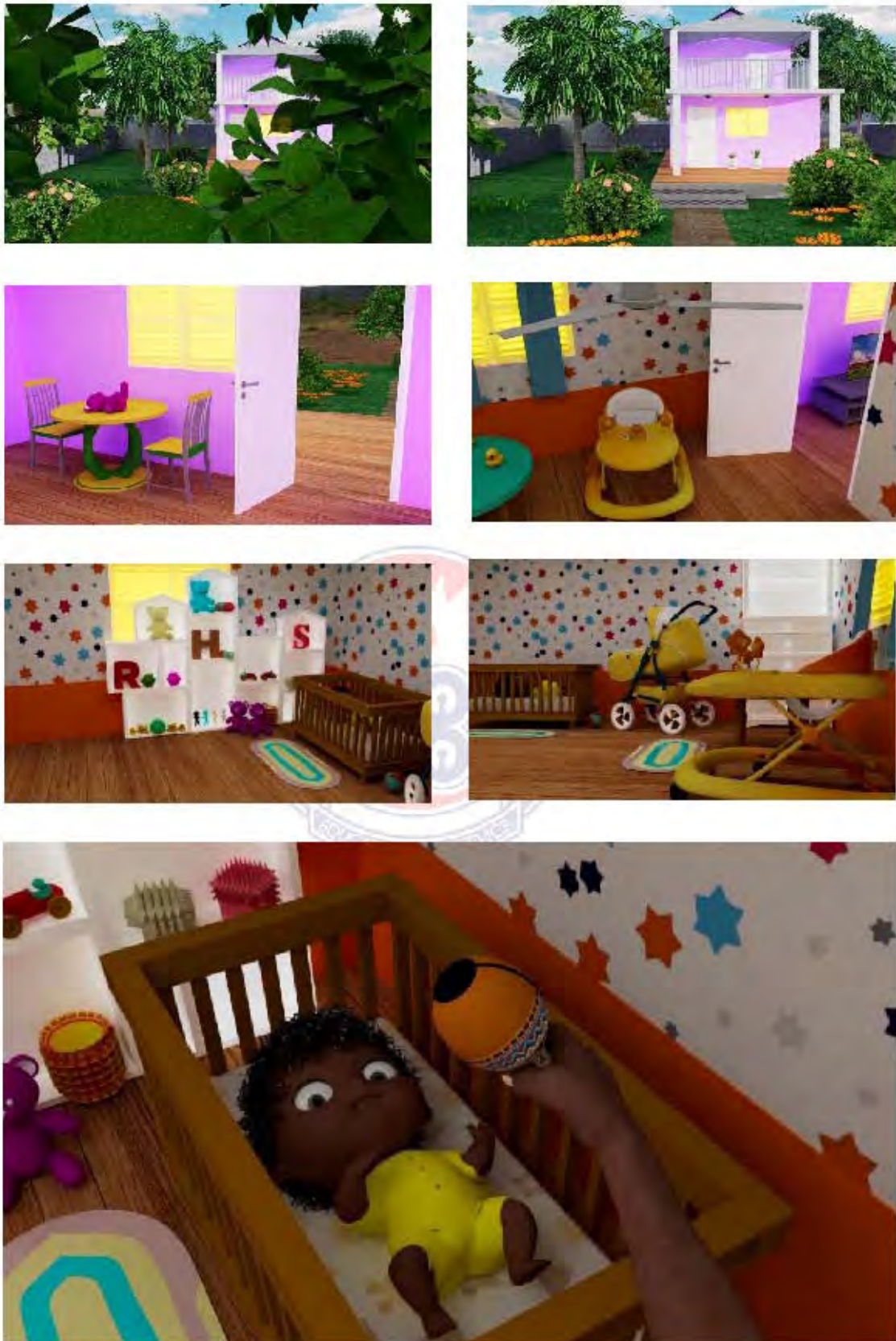
Figures 121 – 127: Renderings from Toboli
Source: Researcher's field work, 2024/25

Renderings from Kofi agbledela



Figures 128 – 134: Renderings from Kofi Agbledela
Source: Researcher's field work, 2024/25

Renderings from Tutugborvi



Figures 135 – 141: Renderings from Tutugborvi
Source: Researcher's field work, 2024/25

5.7 Appreciation

Celebrating Traditional Ghanaian Animation for Children

The animated Ewe lullabies serve as a vibrant and culturally rich form of storytelling that reflects the country's heritage, values, and artistic creativity. Over the years, Ghanaian animators have drawn inspiration from folklore, proverbs, and indigenous storytelling techniques to create engaging and educational content for young audiences. These animations embrace Ghanaian cultural aesthetics, themes, and storytelling tradition, rather than merely being the technical aspects of frame-by-frame animation. This is in appreciation of the beauty, significance, and impact of traditional Ghanaian animation in the lives of children.

Preserving cultural heritage through animation

Traditional Ghanaian animation serves as a bridge between generations; passing down folklore, customs, and moral teachings in a visually engaging way. Many animated stories are inspired by Ananse tales, which are deeply rooted in Ghanaian oral tradition. Ananse, the clever spider, is a beloved folklore character known for his wit and wisdom. By adapting these stories into animation, Ghanaian animators preserve these oral traditions for future generations while making them more accessible and enjoyable for children in contemporary society.

Similarly, the animated Ewe lullabies incorporate symbols, patterns, and traditional music, providing children with a sense of identity and belonging. The use of the Ewe local language, in these animations further reinforces cultural pride and ensures that children connect with their native heritage engagingly. Unlike foreign animations that may not reflect Ghanaian realities, these animations provide authentic representations of custom and value.

Moral and educational significance

The animated Ewe lullabies are not merely about entertainment; they are tools for education and entertainment. The animations emphasize important life lessons, such as love, hard work, respect, perseverance, and empathy. These values are embedded in the narratives, allowing children to learn through engaging storytelling rather than direct instruction.

Also, the use of storytelling to teach these subjects ensures that children retain knowledge in a memorable and enjoyable way. This is particularly important in Ghanaian society, where oral storytelling has long been a primary means of educating the young.

Additionally, the animations support language development in children. Since these animations are produced in the local Ewe language, young viewers are exposed to proper pronunciation, cultural expressions, and vocabulary in their mother tongue. This exposure strengthens linguistic proficiency and reinforces the importance of native languages, which are sometimes overshadowed by dominant foreign languages in media and education.

Visual and artistic appeal

One of the key features of the animations is their distinct visual style. Unlike Western animations that often follow consistent aesthetics, these animations incorporate indigenous artistic techniques, bold colours, and intricate patterns to reflect the artistic heritage.

Music and sound also played a crucial role in the animations. Folk songs and indigenous instruments were used to create immersive experiences for young viewers.

Consequently, the fusion of sound and imagery enhanced storytelling, making the animations not only visually stimulating but also rhythmically engaging.

Impact on Ghanaian children

The animations will help shape the cultural identity and worldview of Ewe children. In a media landscape dominated by foreign content, these animations will provide a sense of familiarity and representation.

Furthermore, the animations will encourage creativity and imagination. This, in turn, will foster the growth of the local animation industry, paving the way for future generations of animators and storytellers. Therefore, exposure to these culturally relevant animations will enhance social cohesion and understanding.

Challenges and the way forward

Despite the immense value of traditional Ghanaian animation, the industry faces several challenges, including limited funding, inadequate technical resources, and competition from foreign animations. However, there is great potential for growth with increased investment and collaboration between animators, educators, and cultural institutions. Initiatives such as government support for creative industries, animation training programs, and partnerships with television networks and streaming platforms can help traditional Ghanaian animation thrive.

With the rise of digital platforms, animators now have more opportunities to showcase their work to wider audiences. Social media, YouTube, and local streaming services provide avenues for Ghanaian animations to reach not only children in Ghana but also those in the diaspora who seek connections to their cultural roots.

Additionally, fostering mentorship programmes for young animators can help develop new talent and keep the industry alive. Experienced professionals can guide emerging artists and storytellers, ensuring that the rich tradition of Ghanaian animation continues to evolve while maintaining its cultural essence.

Conclusion

Traditional Ghanaian animation for children is a valuable cultural asset that combines entertainment, education, and heritage preservation. Through compelling storytelling, vibrant visuals, and meaningful moral lessons, these animations enrich the lives of young viewers and instill in them a deep appreciation for their culture.

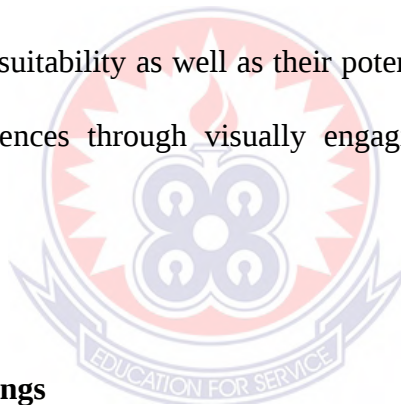
As the industry continues to evolve, efforts must be made to support and promote Ghanaian animation, ensuring that it remains a source of inspiration and identity for generations to come. By embracing technology, fostering creative talent, and investing in storytelling, Ghana can solidify its place in the global animation industry while staying true to its cultural roots. Traditional animation is more than just a medium for children's entertainment; it is a powerful tool for cultural preservation, national pride, and the creative empowerment of the next generation.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

This chapter provides a comprehensive overview of the current state of the animation industry in Ghana, highlighting key developments, emerging trends, and the potential for future growth. It examines the evolving landscape of local animation, including the challenges animators face, opportunities for innovation, and the role of cultural content in shaping the industry. In addition, the chapter explores the potential of traditional Ghanaian lullabies as a rich source of content for 3D animation and evaluates their thematic and aesthetic suitability as well as their potential to resonate with both local and international audiences through visually engaging and culturally meaningful animated works.



6.2 Summary of Findings

The Current State of Animation in Ghana – objective one (1)

The animation industry in Ghana has experienced significant growth over the past decade, transforming into a vibrant and increasingly influential component of the country's creative economy. This growth has been largely driven by pioneering studios such as AnimaxFYB Studios, renowned for their high-quality productions and international collaborations; 9th March Studios, which produces content that appeals to both domestic and global audiences; and Chaskele Studios, whose work fuses traditional Ghanaian storytelling with modern narrative techniques. As well as Karen-Happuch, the first Ghanaian female animator to produce a full-length animated film.

These studios have played a critical role in elevating the standards and global reach of Ghanaian animation.

Beyond commercial achievements, the sector has become a platform for social engagement and educational innovation. Initiatives such as Girls in Animation Ghana are addressing gender disparities by equipping women with the skills and resources necessary to enter and thrive in the field. Concurrently, animation is being utilized as a medium for civic education, cultural preservation, and the reimagining of folklore, thus contributing to national identity formation and intergenerational knowledge transfer.

Despite its progress, the industry continues to face structural constraints, including inadequate access to advanced animation technologies, limited funding, and a shortage of formal training institutions. However, multi-sectoral collaborations involving government agencies, academic institutions, and private sector stakeholders are beginning to address these gaps through targeted investments in capacity building and infrastructure development.

While the Ghanaian animation industry remains in its formative stages, it holds considerable potential for sustained growth. The intersection of cultural authenticity, technological innovation, and institutional support positions Ghana as a potential leader in animation within the African continent and beyond. Continued investment in talent development, infrastructure, and inclusive practices is critical in ensuring the industry's long-term viability and global competitiveness.

Suitability of lullabies for animations – objective two (2)

Also, the rich potential of traditional Ghanaian lullabies could serve as a foundational source for 3D animated content, focusing on assessing their thematic depth and aesthetic qualities. Ghanaian lullabies are culturally significant oral traditions that

encapsulate themes such as maternal love, protection, moral instruction, social values, and human connection with nature. These universal and emotionally resonant themes provide a strong narrative foundation adaptable to the visual storytelling capabilities of modern 3D animation.

Additionally, the poetic simplicity and symbolic richness inherent in these lullabies offer unique opportunities for creative visual representation. By drawing upon traditional Ghanaian artistic elements such as Agama symbols, Adinkra symbols, Kente textiles, and indigenous motifs, animated works can achieve a distinctive aesthetic that honours cultural authenticity while appealing to contemporary audiences. This fusion of traditional motifs and advanced animation techniques can result in visually compelling narratives simultaneously rooted in Ghanaian heritage and accessible to global viewers.

Furthermore, the dual potential of such animations to engage diverse audiences locally, reinforces cultural identity, linguistic heritage, and intergenerational knowledge transfer and internationally, by providing exposure to African cultural narratives within the global media landscape, contributing to greater cultural diversity and inclusion. The adaptation of Ghanaian lullabies into animation will also support the preservation of intangible cultural heritage, fostering interdisciplinary collaboration between animators, musicians, and cultural historians.

Future of animated lullabies based on objectives three, four and five

The adaptation of Ghanaian oral traditions into animated media serves as a vital mechanism for preserving and revitalizing intangible cultural heritage while making ancestral knowledge accessible to younger generations through contemporary digital forms. Such efforts also expand the narrative scope of the global animation industry by

incorporating African perspectives and aesthetics, thereby addressing persistent gaps in representation.

These creative processes are inherently interdisciplinary, requiring collaboration among specialists in animation, cultural history, linguistics, music, and education to ensure both cultural authenticity and technical quality. Through such partnerships, the integrity of traditional knowledge can be maintained while achieving high production standards.

Traditional Ghanaian lullabies, in particular, constitute a largely untapped resource for innovative storytelling. When combined with the technological affordances of 3D animation, their universal themes and distinctive aesthetics can produce works that are both culturally grounded and internationally resonant, ultimately supporting cultural preservation while fostering more diverse and inclusive global media narratives.

In Summary, traditional Ghanaian lullabies represent a valuable and underexplored resource for innovative content creation in the animation industry. Their thematic universality and rich aesthetic traditions position them well to contribute meaningfully to both local cultural sustainability and the diversification of global animated storytelling.

6.2 Conclusions

The Current State of Animation in Ghana – objective one (1)

The animation industry in Ghana, though in its budding stage, demonstrates remarkable potential for further development. With the increasing integration of traditional Ghanaian narratives into digital animation, the sector is successfully bridging cultural heritage with modern technology, producing content that appeal to local and

international audiences. Also, the achievements of pioneering animators, such as Karen-Happuch, and the growth of organizations empowering women in animation, signal a broader shift towards inclusivity and diversification within the field. However, for the industry to fully realize its potential, significant investments in technological infrastructure, formal education, and creative talent are required. By addressing these challenges, Ghana has the opportunity to become a global leader in animation, showcasing its unique cultural stories to the world.

The Ghanaian animation industry is positioned at a critical juncture, where it faces both considerable challenges and exciting opportunities. While the sector has made impressive strides in blending culture and technology, limited access to advanced tools, insufficient formal training, and a lack of robust industry infrastructure remain persistent obstacles. However, the industry's trajectory is promising, as collaborative efforts among government, educational institutions, and private stakeholders have begun to mitigate these challenges. With continued support and investment, the sector has the potential to evolve into a thriving creative industry, providing a platform for both economic growth and cultural expression on the global stage. To ensure long-term success, fostering talent, improving technological access, and prioritizing inclusive development are essential.

Ghana's animation industry offers more than just economic growth; it serves as a vehicle for cultural expression, social impact, and educational innovation. Through the adaptation of traditional Ghanaian stories into animated formats, the industry is preserving and revitalizing national heritage for modern audiences. Furthermore, initiatives aimed at empowering underrepresented groups, such as women in animation, contribute to a more inclusive and diverse industry landscape. While challenges such as technology gaps and limited training opportunities remain, the increasing interest in

animation as a medium for social change and cultural dialogue presents a compelling case for further investment and development. The future of Ghanaian animation holds significant promise, particularly as it continues to serve as both a cultural and economic catalyst.

Suitability of lullabies for animation – objective two (2)

Lullabies are far from being simple songs for soothing infants; they are deeply embedded repositories of cultural wisdom, emotional depth, and aesthetic value. They encapsulate a wide range of universal themes such as maternal love, care, protection, moral guidance, communal values, and reverence for nature which are not only emotionally compelling but also inherently suited to narrative storytelling within animated formats.

The poetic structure and symbolic economy of Ghanaian lullabies provide fertile ground for imaginative visual translation. Their rhythm, metaphorical language, and recurring motifs align with the expressive capacities of modern animation technologies, offering opportunities to visually interpret intangible cultural elements in ways that remain authentic while reaching new audiences. Furthermore, the incorporation of indigenous artistic elements and traditional visual motifs into 3D animation fosters a stylistic distinctiveness that situates these narratives firmly within their cultural origin while enhancing their global appeal.

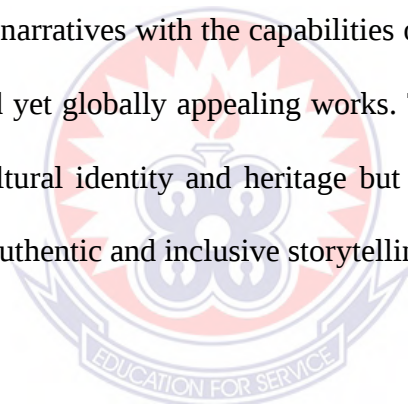
Future of animated lullabies based on objectives three, four and five

Importantly, the transformation of these oral traditions into animated media will contribute to the preservation and revitalization of Ghana's intangible cultural heritage. It affirms the role of digital technologies as tools for cultural sustainability, enabling

younger generations to connect with ancestral knowledge in engaging, contemporary forms. Simultaneously, such adaptation will offer the international animation industry an opportunity to diversify its narrative canon by including African perspectives and aesthetics, thereby addressing long-standing gaps in global media representation.

Also, the interdisciplinary nature of such creative endeavors will necessitate collaborations among animators, cultural historians, linguists, musicians, and educators. These partnerships can ensure both the fidelity of cultural transmission and the technical excellence of animated productions.

Traditional Ghanaian lullabies represent a rich, underutilized resource with significant potential to transform storytelling. By blending the universal themes and aesthetic traditions of these oral narratives with the capabilities of 3D animation, animators can create culturally rooted yet globally appealing works. This combination will not only help preserve local cultural identity and heritage but also contribute to diversifying global media through authentic and inclusive storytelling.



6.3 Recommendations

- ***Recommendations based on the current state of local content in animations in Ghana – Objective one (1)***

Based on these conclusions, the study recommends that the government and private stakeholders must address the lack of access to advanced animation technologies which is a major obstacle for Ghana's animation industry by investing in the development and deployment of modern animation technologies. This includes providing high-quality animation software, digital tools, motion capture systems, and animation workstations to local studios. By creating dedicated animation hubs or technology parks equipped with the latest digital production tools can foster collaboration, giving animators access

to essential resources for producing world-class content. Additionally, developing platforms for digital cross-border collaboration can help overcome resource shortages and expand animators' access to global networks.

Moreover, the government should offer subsidies or tax breaks to animation studios that invest in upgrading their technological infrastructure. The benefits of this investment would be manifold, by improving the technical quality of Ghanaian animations and also enhance the international competitiveness of the sector, by positioning the country as a leader in African animation.

It is important to note that a well-trained and highly skilled workforce is fundamental to the sustained growth of the animation industry. However, there is a significant lack of formal educational institutions that provide specialized training in animation and related digital arts fields in Ghana. To remedy this, universities and technical institutes should introduce and expand degree programmes, diplomas, and certifications in animation, 3D modeling, visual effects, and storytelling. These programmes could be developed in collaboration with international animation schools to ensure that the curricula reflect the latest trends and techniques in the global industry.

In addition to degree programmes, it is recommended that short-term training workshops, boot camps, and masterclasses be organized, particularly for young people eager to enter the animation field. These initiatives can equip aspiring animators with practical skills and hands-on experience.

Furthermore, partnerships with international institutions should be encouraged to facilitate exchange programmes, allowing Ghanaian animators to study abroad, learn from global experts, and return with new knowledge and skills that could further enhance the local industry.

Essentially, the success of women in animation, as demonstrated by Karen-Happuch's groundbreaking achievement, highlights the potential for gender inclusivity in the sector. However, the animation industry remains a predominantly male-dominated field. To encourage greater female participation, it is necessary to expand initiatives like *Girls in Animation, Ghana*, which provide mentorship, resources, and career guidance for young women interested in animation. Such programmes must focus on creating a supportive and empowering environment, offering female animators networking opportunities, internships, and scholarships to ensure their entry and success within the industry.

Also, public awareness campaigns that challenge gender stereotypes and highlight the contributions of women in animation must be encouraged because they play a key role in motivating young women to pursue animation as a career. Additionally, a more diverse workforce must be fostered to include people from various backgrounds, including those from underserved regions or marginalized communities, ensuring that the industry is inclusive and reflective of the country's diversity.

For the animation industry to thrive, it is vital for the government to adopt and implement policies that specifically support the sector. This is achievable by establishing financial incentives such as tax credits for animation studios, subsidies for animation projects, and grants for research and development to stimulate further growth. By offering financial support, the government would ease the financial burden on startups and encourage more investments in creative content production.

Furthermore, the government should create a national animation fund to support both new and established animators in their projects, particularly those focused on preserving cultural heritage or producing educational content. These funding initiatives should prioritize projects that have the potential for international distribution, which

would increase the visibility of Ghana's animation sector globally. Additionally, the government together with stakeholders should have policies that strengthen intellectual property laws and offer protections for animators' creations to help safeguard their work, by providing both financial security and the incentive to create.

Recommendations based on the comprehensive study into lullabies to establish their suitability for 3D animation

The fusion of traditional Ghanaian storytelling with modern animation techniques offers a unique opportunity to promote local content and preserve cultural heritage. The animation industry is encouraged to focus on developing narratives that reflect the richness and diversity of Ghana's cultural heritage, folklore, and traditions. These stories, when adapted into animation, can appeal to both local audiences and international viewers, creating a deeper appreciation for Ghana's cultural identity.

Hence, promoting local content through both domestic and international platforms will also boost the country's soft power by showcasing its cultural uniqueness. Consequently, government initiatives such as film festivals or animated film markets could provide opportunities for local animators to showcase their work. Additionally, collaboration with international distributors or streaming services could help local animations gain global visibility and attract international audiences.

In an increasingly globalized world, networking and collaboration are essential for the success of any creative industry. Ghanaian animation studios should actively participate in international animation festivals, markets, and conferences to showcase their work and build relationships with global industry leaders. These platforms provide valuable exposure, promote collaboration, and offer learning opportunities that can elevate the standards of local content.

Furthermore, collaborative projects between local animators and international studios can result in the exchange of ideas and techniques must be encouraged to elevate the quality of production. These partnerships open up new markets and audiences for Ghanaian animations, by facilitating the export of local creative works to a global audience.

To build a sustainable and thriving animation industry, a comprehensive ecosystem that integrates multiple stakeholders is needed. This includes animators, educators, government agencies, investors, and cultural institutions. The National Folklore Board in collaboration with associations dedicated to animation must coordinate efforts across various stakeholders, set industry standards, and promote the sector both locally and internationally.

These organizations must also advocate for the creation of policies that support the industry, help secure funding for projects, and provide a platform for industry professionals to share ideas and collaborate. Furthermore, a strategic focus on talent retention; offering career development opportunities, and fostering an environment conducive to long-term career growth will ensure the industry's sustainability.

For the animation industry to gain mainstream acceptance in Ghana, it is crucial to engage the public through educational programmes, screenings, and interactive experiences. Animation should be integrated into schools and universities as a means of educating the public about the potential of digital storytelling. Organizing animation festivals, exhibitions, and live demonstrations can generate public interest and spark creativity among young people, inspiring the next generation of animators.

In addition, animation should be used to tell educational stories about pressing social issues such as health, the environment, and cultural preservation to increase its impact and relevance in everyday life. Public outreach and engagement will help build a larger

local audience for animation and will also create a greater appreciation of animation as an art form that goes beyond entertainment.

Recommendations based on objectives three, four and five for future animated lullabies

Based on the findings from the selection and adaptation of the Ewe lullabies for animation, the following recommendations are offered for future projects that aim to integrate traditional music into visual storytelling:

1. *Expand cultural representation:* future animations should further explore and incorporate a wider range of traditional Ghanaian music and lullabies from diverse cultural groups. By so doing, the animations will showcase a broader spectrum of Ghanaian heritage, enhancing global understanding and appreciation of Ghana's rich cultural diversity.
2. *Maintain a balance between simplicity and complexity:* while simplicity in the melodies and visuals is important for young audiences, future adaptations by animators should benefit from introducing subtle layers of complexity that provide additional depth for older children or adults without compromising the soothing nature of the lullabies. This would ensure that the animation remains engaging across a wider age range.
3. *Strengthen emotional resonance across cultures:* while the universal themes of love, comfort, and safety in the lullabies resonate well with global audiences, future animations by animators and stakeholders in the sector should explore how to integrate additional cultural elements that reflect the specific traditions and values of other target communities. This would enhance the authenticity and emotional depth of animations while promoting cross-cultural empathy.

4. *Focus on high-quality audio-visual synchronization:* to ensure the highest quality of animation, future projects by animators and stakeholders in the sector should focus on even tighter synchronization between the lullabies' rhythm, melody, and visual transitions. This will deepen the emotional impact of the lullabies, reinforcing the connection between music and visuals and further immersing viewers in the animated experience.
5. *Promote family-centered viewing experiences:* given that both children and parents are key to the lullaby experience, it is recommended that future animations by creatives in the sector continue to cater to this dual audience. By integrating elements that appeal to both children and parents, whether through shared themes, visual aesthetics, or subtle emotional layers, animations can create a more inclusive and impactful viewing experience for the entire family.
6. *Explore cross-media opportunities:* animation is a versatile medium, thus, future adaptations by animators and creatives should explore cross-media formats, such as interactive apps, digital books, or online platforms, to further expand the reach of Ewe lullabies and lullabies in other languages. These formats would allow for deeper engagement with audiences and provide opportunities for educational purposes in both formal and informal settings.

These recommendations are suggested to enhance the effectiveness of using indigenous lullabies in animation, ensuring that both cultural preservation and modern audience needs are met. Future animation projects can draw upon these insights to continue exploring the rich potential of blending Ghanaian music, culture, and animation in innovative and impactful ways.

6.4 Reflections

Introduction

The studio-based research into the production of animations allowed for a systematic exploration of both the artistic and technical aspects of creating animated content. In the context of the animations for the Ewe lullabies, the process presented a unique opportunity to bridge traditional storytelling techniques with modern animation technology. The process also presented the opportunity to delve deeply into an aspect of Ghana's rich cultural heritage, including folklore, language, and visual art, ensuring that the resulting animation is both authentic and engaging for children.

This account therefore looks into the studio-based research production, the integration of traditional elements in modern animation, and the practical challenges and creative opportunities that emerged from such an approach. It highlights key reflections on the process of producing animations for the Ewe lullabies, focusing on the studio environment and research practices that drove the production.

The Importance of Studio-Based Research in Animation Production

Studio-based research refers to a comprehensive process that involves the systematic study of relevant topics, cultural references, and technical considerations in the development of animated content. For the animated Ewe lullabies, the research process served multiple purposes including:

- *Cultural research*: understanding the Ewe lullabies was essential for creating authentic animations that resonate with the intended audiences.
- *Creative exploration*: the studio-based research approach helped in the experimentation of different styles, techniques, and storytelling methods that best represent the Ewe culture and engage young viewers.

- *Technical research*: the development of the animations required knowledge of the latest technologies, tools, and software. Therefore, research into the most effective animation techniques was essential for producing high-quality content that is visually appealing and technically sound.

Again, this approach also helped to blend cultural relevance with creative innovation, ensuring that the final product respects Ewe (Ghanaian) traditions while remaining accessible and entertaining for children.

Stages of studio-based research production in the animated Ewe lullabies

The production process of the animated Ewe lullabies involved several stages that benefit from focused research and creative development. These stages are broken down into the following:

1. Concept development and cultural research

The first step in the production process was the development of a concept, rooted in cultural and educational objectives. The research phase for the concept development involved the exploration of Ewe lullabies that are suitable for a young audience. Identified themes had to align with the values and lessons that are important to Ghanaian Ewe culture.

Key elements of the cultural research included:

- *Folklore*: research into traditional Ewe lullabies provided foundational material for the narratives, ensuring the inclusion of local folklore that speaks to universal themes such as respect, love, and care.

- *Traditional symbols and art:* understanding the symbolism of colours, patterns, and characters in Ghanaian visual art helped animators infuse authenticity into the design of characters, settings, and objects.
- *Language and dialogue:* language research was crucial in ensuring that the dialogue is appropriate for children, reflecting the richness of Ewe dialect while also being accessible to the target audience.

2. Design and Pre-production

Once the concepts were finalized, the research phase shifted to design and pre-production. This stage involved translating the research findings into visual elements such as character designs, backgrounds, and animation styles. The design process incorporated elements of traditional art, including geometric shapes, bright colours, and symbolic designs commonly seen in everyday life in Ghana.

Key tasks during design and pre-production included:

- *Character design:* drawing inspiration from traditional and modern Ghanaian motifs to help create characters that reflect the local culture.
- *Environmental design:* the setting of the animation, such as landscape and baby nursery, was researched to accurately represent the modern Ghanaian environment.
- *Storyboard development:* storyboards were created to outline the sequence of events, which was crucial for the visual flow of the animations.

3. Animation Production and Technological Research

Animation production requires both artistic and technical skills. This stage of production delved into settling on the appropriate animation software, techniques, and tools that were key to creating high-quality animations.

Technological research focused on:

- *Software selection*: identifying the best animation software for the production and ensuring the selected software could support the production of visually rich, culturally specific content.
- *Techniques for visual effects*: researched using 3D elements to bring the visuals to life while maintaining authenticity.
- *Sound design*: sound research was vital to the creation of an immersive experience for children. The use of traditional Ewe lullabies, instruments, and voice acting enhanced the storytelling experience.

4. Post-production and research into audience reception

The final stage of production involved editing, sound design, and the integration of visual effects. After the completion of the animations, research focused on audience reception and feedback. It was important to test the animation with the target audience to gauge their response to the content. This included a survey, to understand which aspects of the animations were most engaging or culturally impactful.

Post-production research included:

- *Cultural sensitivity testing* which ensured that the contents did not inadvertently misrepresent or misinterpret cultural values and traditions.

- *Educational effectiveness* to ascertain whether the animations effectively impart the intended educational and moral lessons to the children who watch them.

Challenges in the production of animation for the selected Ewe lullabies

1. Resource limitations

This studio-based research faced challenges such as limited access to state-of-the-art animation tools and software. The high costs of these tools, combined with limited technical infrastructure, delayed production time.

2. Balancing cultural authenticity and global appeal

While the goal was to create culturally authentic content, there was the challenge of balancing local storytelling with global appeal. The researcher therefore had to navigate the tension between preserving Ghanaian culture and making the content engaging for a global audience that may not be familiar with Ewe customs or traditions.

This studio-based research production of 3D animated Ewe lullabies was an exciting, yet challenging, undertaking that required careful attention to cultural authenticity, educational value, and technical proficiency. The research process of producing the animations provided opportunities for exploring and preserving the Ewe people's rich cultural heritage while creating engaging content for children.

Suggestions for further studies

The production of animated three-dimensional (3D) lullabies for infants requires a multidisciplinary framework grounded in developmental science, audiovisual design, and paediatric health guidance. Essential areas of inquiry include infant sleep

physiology, early cognitive development, and visual perception, all of which influence how young children process sensory stimuli and transition to sleep. Research on the psychoacoustic properties of lullaby music such as tempo, repetition, and harmonic simplicity is equally important, given its central role in emotional regulation and soothing.

Design considerations must therefore account for infants' preferences for simple forms, gentle motion, and non-stimulating visual environments, alongside character features that evoke familiarity and comfort. Because such content is delivered via screen-based media, adherence to health recommendations from authorities such as the World Health Organization is imperative, particularly regarding screen exposure, sleep disruption, and caregiver involvement.

Furthermore, effective synchronization of audio and visual elements is necessary to support infants' emerging cross-modal perception and to avoid overstimulation. Cultural relevance, safety considerations, and ethical responsibility including appropriate sound levels and avoidance of harmful visual patterns must also be incorporated. The development of animated 3D lullabies for infants should be informed by an integrated, evidence-based approach to ensure that the resulting media is soothing, developmentally appropriate, and supportive of infant well-being.

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APPENDICES

APPENDIX A

CONSENT FOR PARTICIPATION IN RESEARCH (Animation studio)

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES

GRADUATE RESEARCH

RESEARCHER: SOLACE EMEFA ADZEI

I volunteer to participate in a research project conducted by *Solace Emefa Adzei* from University of Education, Winneba. I understand that the project is designed to gather information about the state of the animation industry in Ghana and the production of local content for the Ghanaian populace.

My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.

I understand my participation involves answering interview questions based on the objectives of the research which will last within an hour and a half.

I understand that the researcher will not identify me by name in any reports using information obtained from this research, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

My contribution shall be true and original in all respects to the best of my knowledge and shall not contain anything defamatory to bring the researcher or University of Education, Winneba into disrepute.

I agree University of Education, Winneba may retain information about me and my contribution on file for administrative purposes.

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CONSENT FOR PARTICIPATION IN RESEARCH (Animation studio)

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES

GRADUATE RESEARCH

RESEARCHER: SOLACE EMEFA ADZEI

I volunteer to participate in a research project conducted by *Solace Emefa Adzei* from the University of Education, Winneba. I understand that the project is designed to gather information about the state of the animation industry in Ghana and the production of local content for the Ghanaian populace.

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SIGNED: DATE:November 15, 2023...

APPENDIX B

CONSENT FOR PARTICIPATION IN RESEARCH (Mothers with babies)

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES

GRADUATE RESEARCH

RESEARCHER: SOLACE EMEFA ADZEI

I volunteer to participate in a research project conducted by *Solace Emeфа Adzei* from University of Education, Winneba. I understand that the project is designed to gather information about babies' reaction while they watch five animated Ewe lullabies.

My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.

I understand my participation involves answering interview questions based on the five animated Ewe lullabies which will last within an hour.

I understand that the researcher will not identify me by name in any reports using information obtained from this research, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

My contribution shall be true and original in all respects to the best of my knowledge and shall not contain anything defamatory to bring the researcher or University of Education, Winneba into disrepute.

I agree University of Education, Winneba may retain information about me and my contribution on file for administrative purposes.

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CONSENT FOR PARTICIPATION IN RESEARCH (Mothers with babies)

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES

GRADUATE RESEARCH

RESEARCHER: SOLACE EMEFA ADZEI

I volunteer to participate in a research project conducted by *Solace Emeffa Adzei* from University of Education, Winneba. I understand that the project is designed to gather information about babies' reaction while they watch five animated Ewe lullabies.

My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.

I understand my participation involves answering interview questions based on the five animated Ewe lullabies which will last within an hour.

I understand that the researcher will not identify me by name in any reports using information obtained from this research, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

My contribution shall be true and original in all respects to the best of my knowledge and shall not contain anything defamatory to bring the researcher or University of Education, Winneba into disrepute.

I agree University of Education, Winneba may retain information about me and my contribution on file for administrative purposes.

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CONSENT FOR PARTICIPATION IN RESEARCH (Mothers with babies)

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES

GRADUATE RESEARCH

RESEARCHER: SOLACE EMEFA ADZEI

I volunteer to participate in a research project conducted by Solace Emefa Adzei from University of Education, Winneba. I understand that the project is designed to gather Information about babies' reaction while they watch five animated Ewe lullabies.

My participation In this project is voluntary. I understand that I Will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.

I understand my participation involves answering interview questions based on the five animated Ewe lullabies which will last within an hour.

I understand that the researcher will not identify me by name in any reports using information obtained from this research, and that my confidentiality as a participant in tl study will remain secure. Subsequent uses of records and data will be subject to standar data use policies which protect the anonymity of individuals and institutions.

My contribution shall be true and original in all respects to the best of my knowledge an shall not contain anything defamatory to bring the researcher or University of Education Winneba into disrepute.

I agree University of Education, Winneba may retain information about me and my contribution on file for administrative purposes.

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DATE* 22nd February, 2025

APPENDIX C

CONSENT FOR PARTICIPATION IN RESEARCH (Folklore board)

A REPERTOIRE OF 3D ANIMATED EWE LULLABIES

GRADUATE RESEARCH

RESEARCHER: SOLACE EMEFA ADZEI

I volunteer to participate in a research project conducted by *Solace Emeфа Adzei* from University of Education, Winneba. I understand that the project is designed to gather information about folklore in Ghana, its preservation and the production of local content for the Ghanaian populace.

My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.

I understand my participation involves answering interview questions based on the objectives of the research which will last within an hour and a half.

I understand that the researcher will not identify me by name in any reports using information obtained from this research, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

My contribution shall be true and original in all respects to the best of my knowledge and shall not contain anything defamatory to bring the researcher or University of Education, Winneba into disrepute.

I agree University of Education, Winneba may retain information about me and my contribution on file for administrative purposes.

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DATE: 27th March, 2025

APPENDIX D

INTERVIEW GUIDE FOR REPRESENTATIVE OF THE NATIONAL FOLKLORE BOARD

1. What is the current state of local animation production in Ghana?
2. How does the government support or regulate the production and distribution of local content in Ghana?
3. What are the key challenges facing animators in Ghana?
4. Which examples of successful animations have gained popularity in Ghana or internationally?
5. How is local animation perceived by the Ghanaian audience in comparison to foreign animation?
6. What genres of animations are most popular in Ghana, and are there emerging trends? Kindly elaborate on your answer.
7. What incentives or funding opportunities are available for individuals and companies looking to create animations in Ghana?
8. What role do digital platforms and streaming services play in the distribution of local animation in Ghana?
9. How do animators and producers in Ghana address issues of cultural representation in their work? Kindly explain if the Folklore Board has any regulations the need to adhere to.
10. What are the prospects and future directions for the development of local animation in Ghana?

APPENDIX E

STUDIO RESEARCH

INTERVIEW GUIDE ANIMATORS FOR THE ANIMATION STUDIOS

Part 1

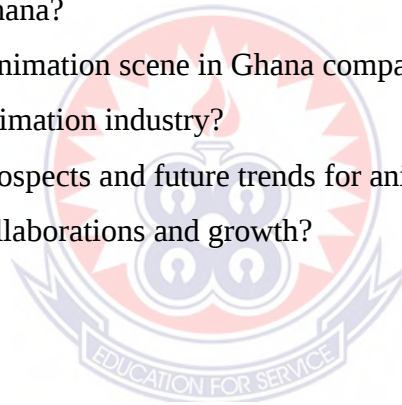
1. What is the current state of animation and local animated content in Ghana?
2. What are the key factors that make an animated show or movie suitable for children in terms of content and age-appropriateness?
3. How does exposure to animated content influence a child's cognitive development and creativity?
4. What are the most popular and influential animated series or movies for children in recent years?
5. What impact does the portrayal of gender roles and diversity in children's animation have on young viewers?
6. How do educational animated programmes affect children's learning and problem-solving skills?
7. What is the role of animation in addressing social and emotional development in children?
8. What is your opinion on how children interact with animated content across different platforms, such as television, streaming services, and mobile devices?
9. What are the ethical considerations and challenges associated with advertising and merchandising related to children's animation?
10. How do cultural and regional differences influence the popularity and content of children's animation?
11. What technologies and techniques are currently shaping the future of animation for children?

Current state of animation in Ghana

Part 2

1. What is the overall growth and development of the animation industry in Ghana in recent years?

2. Are there any notable animation studios or production companies based in Ghana? If so, what kind of work are they producing?
3. What are the primary challenges that animators and animation studios face in Ghana, such as funding, talent, or distribution?
4. Are there any government initiatives or policies aimed at promoting and supporting the animation industry in Ghana?
5. How does the local audience and international market respond to Ghanaian animation content?
6. Can you provide insights into the type of animation being produced, including traditional 2D animation, 3D animation, or stop-motion?
7. Are there any notable Ghanaian animators or animators' associations that have made significant contributions to the industry?
8. What training and educational opportunities are available for aspiring animators in Ghana?
9. How does the animation scene in Ghana compare to other countries in Africa or the global animation industry?
10. What are the prospects and future trends for animation in Ghana, including potential for collaborations and growth?



APPENDIX F

POST-STUDIO RESEARCH

INTERVIEW GUIDE - ANIMATIONS FOR THE MOTHERS/CAREGIVERS

1. Content & Educational Value

- Is the animation age-appropriate (0-3 years)?
- How do the animations promote early learning concepts like colours, shapes, traditional objects and sounds?
- Which traditional themes and messages are simple, clear, and suitable for the target?

2. Visual & Audio Elements

- Which colours are bright and engaging but not overly stimulating? Kindly explain and give reasons for your answer.
- How do the songs (soft, melodic, and pleasant) impact the animation? Kindly explain and give reasons for your answer.

3. Engagement & Interactivity

- Do the animations hold the baby's attention without overstimulating them? Kindly explain and give reasons for your answer.
- Which elements encourage simple participation (clapping, repeating sounds, etc.)?

4. Safety & Ethical Considerations

- Are there any frightening or distressing scenes? Kindly explain and give reasons for your answer.

5. Cultural & Diversity Considerations

- How do the animations feature diverse characters and environments related to the Ghanaian setting? Kindly explain and give reasons for your answer.
- How are the animations free from stereotypes?

Thank you for your time

Component	Description
Purpose of Observation	To gain first-hand insights into existing animated lullabies and to observe infant viewers' responses during post-studio evaluation.
Research Phases	Conducted during both pre-studio (animation analysis) and post-studio (audience reaction) stages.
Type of Observation	Non-participant, structured observation using an observation guide based on the study's conceptual framework.
Subjects Observed	a) Existing local animated lullabies. b) Babies/infants viewing the animations.
Focus Areas	- Cultural content and gaps in existing lullabies - Babies' non-verbal responses (facial expressions, eye contact, attention span, etc.)
Data Collection Tools	Field notes and structured observation sheets; real-time documentation of behaviours and reactions.
Role of Conceptual Framework	Informed what was observed and how data were interpreted; guided the observation protocol to maintain consistency and focus.
Ethical Considerations	Parental/guardian consent was obtained; child-friendly environment ensured minimal discomfort and privacy protection.
Data Credibility	Rich, naturalistic data were obtained with minimal interference; observation findings were triangulated with other data sources.
Contribution to Research	Provided context-specific insights into animation reception, complemented other methods, and informed animation development and refinement stages.