

Research Article

Abstract Creature Animation Video Design for Concentration Therapy of Children With Special Needs

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Abstract.

The design of the animated video “Abstract Creature” aims to help concentration therapy for children with special needs in learning to read. This animated learning video is designed with the concept of an abstract creature that moves dynamically and is combined with bright colors that attract children’s attention. Abstract Creature forms the syllables to be read, shows the meaning of the words formed by the syllables, and demonstrates how to read them. This animated video is divided into several chapters of BA-BI-BU-BE-BO syllables that are short in duration and filled with flowing movements. Children will be invited to focus on the movements of abstract creatures that are constantly changing with varying tempos. Mixed-method research was carried out in pre-production data collection, exploration of animation-making techniques at the production stage, and returned with mixed methods at the post-production stage. Through the interactive experience provided by the Abstract Creature animated video, this research can help increase the concentration and endurance of concentration in children with special needs for reading. With this video, it is hoped that children can develop their cognitive and motor skills and can assist in the learning process.

Keywords: Abstract Creature, children with special needs, learning media, reading, video animation

1. Introduction

The design of the animated video “Abstract Creature” aims to help concentration therapy for children with special needs in learning to read. The development of the animated video design ‘Abstract Creature’ has the main aim of supporting concentration therapy for children with special needs in the process of learning to read. By using these unique and engaging animated videos, we hope to help improve children’s focus and attention, as well as help them develop reading skills more effectively. Through this innovative approach, we strive to create a more inclusive learning environment and support the positive development of children with special needs

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The development of the animated video design 'Abstract Creature' is an effort aimed at providing concentration therapy support to children with special needs during the process of learning to read. Through this animated video, we are trying to create a learning tool that attracts the attention and motivates children with special needs to focus more on learning to read, so that they can develop their reading skills more effectively

Abstract Creature forms the syllables to be read, shows the meaning of the words formed by the syllables and demonstrates how to read them. The animated video 'Abstract Creature' is designed to help children form the syllables they will read, explore the meaning of the words formed by these syllables, and demonstrate how to read them. With this approach, children can visually and auditively understand the structure of syllables, the meaning of words, and their pronunciation better, thus helping them in the process of learning to read more effectively and interactively.

This animated video is divided into several chapters of BA-BI-BU-BE-BO syllables that are short in duration and filled with flowing movements. This animated video is broken down into several rounds that focus on the syllables BA-BI-BU-BE-BO, each round has a short duration and is full of flowing movements. By dividing the content into these chapters, we hope to provide a more structured and focused approach to learning for children. They can easily follow the changing syllables while engaging themselves in the dynamic animations, which in turn helps them understand and remember the syllables better.

Children will be invited to focus on the movements of abstract creatures that are constantly changing with varying tempos. Children will be invited to focus on changes in movement in abstract creatures which continue to change at varying tempos. In this experience, they will develop their concentration skills, follow changes in tempo, and observe dynamic changes in the character of 'Abstract Creature'. This will not only make their learning more interesting, but also help them improve their ability to process visual information quickly and accurately.

The videos are also accompanied by calming audio elements, specifically designed to help children stay focused. This audio creates an environment that supports concentration with calming sounds, thereby helping children to maintain their attention on the 'Abstract Creature' animation. With a balanced combination of visuals and audio, we strive to create a deep and satisfying learning experience for children in their learning process.

2. Research Methods

Mixed research methods were applied in various stages of this research. In the first stage, mixed methods were used in pre-production data collection. Pre-production data for animated video learning media covers various key aspects in designing this content. This includes information about the video concept, script, character development, initial storyboards, as well as the selection of visual and audio elements that will be used in the production. In addition, pre-production data also includes determining the target audience, learning objectives, and methodology that will be used to measure learning effectiveness. All this information will be an important basis in the process of developing animated videos that aim to support the learning of children with special needs in reading.

The team explored animation creation techniques at the production stage with the same approach, before returning to using mixed methods at the post-production stage. Exploration data on animation creation techniques at this production stage covers various aspects related to the implementation of the animation concept. This includes the selection of software and technical devices used, the frame-by-frame animation process or other animation techniques used, lighting, visual composition, and audio settings. Additionally, this data includes records of the testing and iteration processes carried out during the production stages to ensure the animation achieved the desired quality and learning objectives. All of this exploratory data is important in understanding how animation creation techniques are implemented in the context of learning to read for children with special needs.

Stages of 2-dimensional animation video production: *ABSTRACT CREATURE ANIMATION VIDEO DESIGN FOR CONCENTRATION THERAPY OF CHILDREN WITH SPECIAL NEEDS* are begin with Concept and Planning Stage with Goal Identification, developing Ideas, Writing Scripts, creating Storyboards. The production stage is completed with Character and Environmental Design, creating or designing the main and supporting characters that will appear in the animation, designing the background or environment that suits the story. Animation is done with the use of Computers, Voice Over, Editing and combining animation, voice over and background music in video editing software. Production ends Rendering and Output as MP4. Trials and corrections were carried out at the Bintang Cendikia Depok inclusive kindergarten with 10 ADHD subjects.

3. Result and Discussion

Through the interactive experience provided by the Abstract Creature animated video, it is hoped that it can help improve the concentration and endurance of children with special needs in reading texts. By using the interactive experience presented through the animated video 'Abstract Creature', we hope to effectively increase the concentration and endurance of children with special needs when they are involved in the process of reading text. Through engaging and entertaining animations, we strive to create a stimulating and supportive learning environment, helping children with special needs to stay focused and better engaged in learning to read. With this video, it is hoped that children can develop their cognitive and motor skills and can help in the learning process. With the presence of these videos, the hope is that children will have the opportunity to develop their cognitive abilities in a fun and interesting way. Through interaction with the animated video 'Abstract Creature', they will be introduced to the concepts of syllables and the meaning of words. This process stimulates their minds, helps them recognize sound patterns, and improves their understanding of language. All of these are important aspects in children's cognitive development.

Apart from that, this video is also designed to support children's motor development. As they engage in interactive experiences with 'Abstract Creature', they will use eye, hand and finger movements to interact with the animation. This helps in the development of their hand-eye coordination and fine motor skills, which are essential in various aspects of daily life, including writing and drawing abilities.

The main purpose of this video is to help in the children's learning process. By combining cognitive and motoric aspects, the 'Abstract Creature' animated video creates a holistic learning experience. Children will feel involved, interested and happy when learning to read, which can provide a positive boost to their motivation to continue learning. Thus, these videos are not only a learning tool, but also a source of inspiration for their overall development.

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4. Conclusion

The design of the animated video “Abstract Creature” serves a crucial purpose in assisting concentration therapy for children with special needs during their reading journey. This innovative animated learning video employs the concept of an abstract creature that possesses dynamic movements and vibrant colors, intentionally crafted to captivate and sustain the attention of young learners. Abstract Creature ingeniously forms syllables for reading, elucidates the meanings of words constructed from these syllables, and provides a visual demonstration of how to pronounce them accurately.

The video is thoughtfully structured into several chapters, each focusing on the BA-BI-BU-BE-BO syllables, ensuring short and engaging durations enriched with seamless, flowing movements. Through this interactive experience, children are encouraged to concentrate on the ever-changing motions of the abstract creature, accompanied by varying tempos that stimulate their cognitive engagement.

In the research process, a mixed-method approach was applied, encompassing data collection in the pre-production phase, exploration of animation techniques during production, and a return to mixed methods during post-production. This approach ensures a comprehensive examination of the video’s effectiveness in enhancing the concentration and attention span of children with special needs in their reading endeavors.

Ultimately, the Abstract Creature animated video aspires to be a valuable tool in aiding the cognitive and motor skill development of children. It aspires not only to support their learning process but also to inspire a sense of enjoyment and motivation, fostering a positive learning environment for these young learners.

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References

- [1] National Institute on Deafness and Other Communication Disorders. Apraxia of speech. National Institute of Health Publication; 2017. Available from: <https://www.nidcd.nih.gov/health/apraxia-speech>
- [2] American Speech - Language-Hearing Association. Childhood apraxia of speech. American Speech - Language-Hearing Association; 2007. Available from: <https://www.asha.org/policy/TR2007-00278/>
- [3] Pema WT. Childhood apraxia of speech (CAS) - Overview and teaching strategies. *Eur J Spec Needs Educ.* 2015;1(1):1–8.
- [4] Ho Q, Gadke DL, Henington C, Evans-McCleon TN, Cheryl A. Justice research in autism spectrum disorders (RASD). 2019;58.
- [5] Dugan A. Using short animated videos in speech therapy. 2018.
- [6] Hidayat MT, Rahim SS, Parumo S, A'bas NN, Sani MAM, Aziz HA. Designing a two-dimensional animation for verbal apraxia therapy for children with verbal apraxia of speech. *Ingénierie des Systèmes d'Information.* 2022;27(4):645–651.
- [7] Designing Interactive Contextual Cues for Children's Video-Stimulated Writing Niloofar Zarei, Department of Computer Science and Engineering, Texas A&M University, United States, n.zarei.3001@tamu.edu, Interaction Design and Children, Braga, Portugal, June 2022