

Research on Character Expression Shaping in Animation Movies

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Abstract—In the animation, the expression is the soul of the character. By shaping the character's expression, the character can be given emotion and language ability. The simple expression change of the character can drive the atmosphere of the entire scene, and enhance the personal character and psychological activities of the characters. At the same time, flexible facial expression is the most impressive part of the animated film, and the soul of the whole film. The joy, anger, sorrow, and happiness conveyed by the expressions in each excellent animation work will make people feel the same. Therefore, it is very important to shape the character expressions. This article summarizes the practical significance of expression shaping through the related theoretical knowledge of expression shaping and case analysis, and explores how to make impressive expressions.

Keywords: *animated movie, character, facial expression shaping*

I. INTRODUCTION

In animation, character expression shaping can be said to be a common language expression technique of animation. It can shape character and describe inner emotion of character, and it is an important means to convey inner emotion of character in animation. A successful animated film not only impresses the audience with its plot, but also with its impressive characters. It is not enough for the character to shape the character image and body language. Expression design can shape the whole character more intuitively. In recent years, many animation films tend to perform "reality" effect, even more than "reality", breaking many realistic principles. For example, the short film Kung Fu Panda captures the changes of the real character's expression and applies it to the animated characters, making the characters very vivid. Therefore, this paper is to carry out in-depth research on the shaping of character expression in animation and explore the possibility of the future.

II. THE DESIGN CONCEPT OF ANIMATION CHARACTER EXPRESSION AND ITS SIGNIFICANCE

A. The concept of character expression shaping

In the animation, the character image can be well created by the expression. The expression setting of the character is created by the animator by observing the four expressions of joy, anger, sadness and happiness in real life. Facial expression can directly reflect the change of a character's inner emotion. If the animation film wants to express the character's inner emotion through facial expression, it is required to carefully study the different emotional characteristics reflected by the changes of action forms of various parts of the face. The more vivid the expression is, the more the audience will be moved. Through the simple expression change of the character, the audience can realize the change of the inner emotion of the character. According to the development of different characters and plots, it can make use of the artistic characteristics of exaggeration to strengthen the animation character expression.

B. The importance and functional effect of expression shaping

1) The importance of expression shaping

In animation, character expression shaping not only affects the effect of the film, but also affects the quality of the whole film. The character can be said to be the soul of the animation. The audience will evaluate the value of the whole film through the plot and the texture of the picture. The audience will judge the good and bad characters by setting the character image, personality and facial expression. In the process of animation production, the facial expression design of the character can be said to be the focus and difficulty of the whole film. It can show the personality characteristics and psychological activities of the character, foil the scene atmosphere, promote the development of the plot, and improve the quality of the whole film. For example, in the American comedy animated film Toy Story 2 (1999),

the characters' expression is exquisitely shaped, and the tiny expression changes render the atmosphere of the whole scene, playing a very good turning role. People can realize that character expression shaping is an important part of animation production. The facial expression of a character must be designed according to the plot and personality of the character. Only through the accumulation of animator's daily life, combined with the characteristics of expression shaping and expression techniques, can an impressive character be created.

2) Functional effect of expression shaping

a) *Functional effect of personality characteristics:* In an animated film, each character is different, such as being perfect, cheerful, grumpy, intelligent, multi variant and so on. The personality characteristics of character can be not only seen from the image, but also from the body language, expression and action. For example, in 2009, the character Carl in "Up" produced by Pixar Animation Studio in the United States can be seen through his facial expressions and actions that he is a very warm and cheerful character. After his wife Ellie died, he became silent and isolated. After meeting Ronaldinho, he was impatient, brave and resourceful, and returned to the original cheerful and enthusiastic one. Several character transformations can be seen from the expression. At the same time, through the film "Up" and related theoretical knowledge, the audience can realize the rendering strength of expression shaping to the character. Through the expression shaping, the character can be further shaped, and even the audience can observe the hidden personality of the character. Each character will be given internal and external character in the production process. External character can be expressed by body language, while internal character is generally conveyed by character expression. It can be seen from Carl that when he faces the cheerful Ronaldinho, his language is very aggressive, but his guilty expression betrays him, so the design of the role expression and action has a certain shaping function on the character.

b) *Functional effects of psychological activities:* Psychology is used to describe the emotional fluctuation of a character in a certain atmosphere. There are many ways to express psychological activities, including expression. The tension of expression is easy to bring visual impact to the audience, which can make the psychological performance of the character very thorough and delicate, and then make the corresponding treatment through the expression of joy, anger, sadness, music and other changes in the five features of the character. Visually, the audience and the characters have psychological resonance. For example, the film "Frozen" produced in the United States in 2014 increase the influence of facial expression and visual effect through the changes of the character's mouth, nose, eyebrows and eyes, and the character's psychological activities are created with no chink in one's armour. The audience can also observe the character's psychological changes directly through the expression.

III. FEATURES AND EXPRESSION TECHNIQUES OF FACIAL EXPRESSION DESIGN

A. Basic features of facial expression shaping

1) *Exaggeration:* In the process of animation character performance, facial expression exaggeration will be properly handled. Through the exaggerated expression of the role, it brings strong visual impact to the audience, which is impossible for the actors in real life to do in the performance process. For example, the role of "Sausage Party", a comedy film released in the United States in 2016, has a very simple shape. The shaping of facial expression makes the whole character alive. In the whole film, it is not only a simple exaggeration of appearance, but also an exaggeration of the character's spiritual level. There is no limit to the degree and quantity of exaggeration of animation characters. It should be determined according to the needs of the plot and the imagination and creativity of the animator.

2) *Accuracy:* In the process of making animated films, people use technology to make the animated films with team work. After adjusting the action of the character, the animator uses the software to render the frame. In the process of animation production, it is usually 24 frames per second. The animator can adjust the character's expression actions repeatedly through the frames until he is satisfied. In real life, many actions are uncontrollable. However, in animation, these uncontrollable actions can not only be realized, but also be more accurate and even achieve ideal results. The animator can adjust the character's expression through the frame to reduce the action flaws, achieving the accuracy of each character's expression and action, and fully conveying the character's personal emotional changes to the audience.

3) *Virtuality:* The characters, expressions and scenes in animation can be said to be virtual and surreal. It is to virtualize objects and bring real things into animation. The characters in animation can also be called "actors" in real life. Although the performance of the whole character is fictitious, it can also achieve real effect. For example, the whole animation of Oscar winning short films "Grandma and robot" and "alarm clock" is virtual. And many of them have happened in real life. It's the animators who express the things or events in real life in the way of animation. Surrealism in animation is created by animators through their own fantasy and life experience. This requires every animator to have rich expression, imagination and creativity. Virtual and surreal animations are not replicable by actors in real life and can bring wonderful animation journey to the audience.

B. Expression techniques of facial expression design

1) *Association:* Association is the soul shaping of different characters. Through association, it is easy to grasp the difficulty of exaggeration of the character's face. The

character's facial expression processing is more delicate. Because of this, animators will use some reverie in life to create new things and present them to the audience through the observation of every detail of life. Association is created on the basis of things and images, which is unknown, but not out of nothing. There are three kinds of associative creation in the process of creating character expression: one is to create based on character image. The second is to recreate the imagination. According to a new image and new pattern, it can shape the facial expression, but maintain the original shape and characteristics of characters, animals and plants. The third is creative imagination, which is the innovation of the new image, giving the audience completely different visual effects. It can imagine the importance of association to animation expression.

2) *Personification*: Personification is a common expression of animation characters. There are many animation films to create characters by imitating real facial expressions, and to produce valuable animation instead of "actors". Imitating the behavior and actions of the characters turns the animals or inanimate things into thinking individuals. Through the language, action and expression, the characters are vividly portrayed and displayed to the audience. For example, the European animated film "Chicken Run" in 2000 uses personification to start the plot, infuses the soul into the character through simple expression, action and language, and enables the chicken to have the same thinking ability as human beings. The role clock, lamp, teapot and cup in the 1991 American film "Beauty and the Beast" were given five senses and language ability to shape new life individuals. According to the plot development, the role will have different expression changes to give the audience different plot experience. Personification can make a character speak, walk, wear clothes, even have emotions and thoughts. It's a completely new role building.

3) *Exaggeration and deformation*: The role of exaggeration and deformation is to make the characters have a sense of humor, but also the difficulty of the expression design, with a unique language expression effect. Animators create their own character expressions and actions through the unique fantasy ability and the way of induction and summary. Deformation is based on the appearance and personality of the characters in the script, making the characters' expressions more vivid and interesting through repeatedly adjustment and strengthening. In fact, every bit of life is the root of animator's exaggerated design of character expression. Combined with related art processing, it will surpass the boundary of the "real" world, easily show the character's humor, joy and freedom, and show the endless charm of the character.

In the process of facial movement, the character can emphasize the exaggeration and rhythm of the whole expression through the character contour. Therefore, exaggeration can be said to be a common way of expression in animation. The animator enlarges and extends the

expression of the character, and strengthens the contrast, so as to increase the freshness of the character.

Through infinite imagination and creativity, animators shape different life individuals with different characters, and closely combine the changes of character expression with the changes of real people's expression through abstraction and deformation. Refining and creating character expressions from life can greatly improve the artistry of characters, create powerful, wonderful and unexpected visual effects, and resonate with the audience. For example, many of the characters in the 2017 mainland Chinese film "Tea Pets" are handled in the way of personification, exaggeration and deformation, which will shape the character's personality and fully expresses the character's emotion. There are also many films, such as the Chinese films "Monkey King: Hero is Back", "Kungfood", "Boonie Bears: To the Rescue!" and so on. Through the exaggeration and deformation of the character's facial expression, it brings different visual impact to the audience.

IV. CASE ANALYSIS OF ANIMATION EXPRESSION SHAPING

A. Analysis and research on the role expression of *Kung Fu Panda*

Every character in *Kung Fu Panda* is represented by personification, especially the expression. Through the animators' classification of animal expression shaping, combined with the accumulation of daily life, the basic summary of animal expression changes is made to create different animation characters. There are many different characters in *Kung Fu Panda*, among which the expression shaping of Po is a very good example. In the whole plot, Po's expression changes very much, such as humor, inflexibility, exaggeration, etc., and each action is particularly interesting. Simple facial expression changes well shaped the character of Po, such as being cheerful, soft, confident, brave, and masculine and so on. Po's smile can show the panda's own simple and honest character, and also show its emotional changes. Through the change of Po's facial expression, the audience can intuitively experience its inner emotional changes. In the expression technique of facial expression shaping, it not only uses personification but also applies to exaggeration and deformation. The expression of Po is very rich, flexible and natural, which increases the interest of the character. After the broadcast of *Kung Fu Panda* ("Fig. 1"), *Kung Fu Panda 2* ("Fig. 2") and *Kung Fu Panda 3* ("Fig. 3") were successively released after a period of time, and the audience was deeply impressed by Po in the film.



Fig. 1. Kung Fu Panda 1.

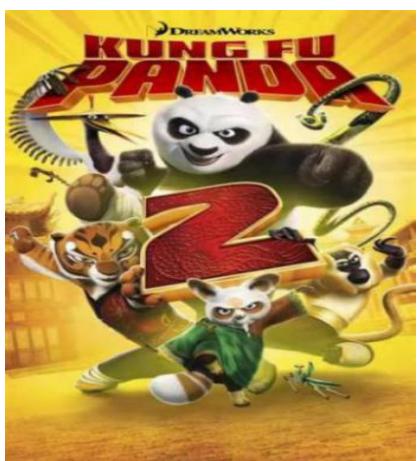


Fig. 2. Kung Fu Panda 2.



Fig. 3. Kung Fu Panda 3.

B. The application of expression shaping in Kung Fu Panda

The movie "Kung Fu Panda" captures the animal image very well. The expression of the character well shapes the inner emotional changes of the character, and it is easy to bring the audience into the whole plot, and get good reviews

from the audience through the box office. In the whole film, the depiction of each character can be said to be deeply rooted in the hearts of the audience, so that the audience can't be picky. One of the most admirable is the production of the character's expression. Through personification, exaggeration and meticulous expression changes, the character is very vivid. The creation of the character Po in the animation is very special. It is a bulky character with a strong heart, which can become a generation of heroes through their own efforts under the suspicion of others. The development of the whole plot will also make the audience feel rogue, responsibility and courage, which is part of the success of the film expression shaping.

With the improvement of technology, people's views on animation have also changed. From the pursuit of real animated characters to the transformation of the inner emotional reality of characters, the expression shaping has been highly recognized by the audience. Real expression design has become the development trend of animation. The real emotion in the animation can move the audience. Through the change of the character's expression, it can inject emotion into the character and make the character fresh, so that the animation can win the audience's love.

V. CONCLUSION

Through the whole paper, combined with case analysis on "Kung Fu Panda", it summarizes the theoretical significance of animation character expression shaping, and explores the film in practice. It shows that expression is an important part of animation short film, which is designed in combination with modern people's aesthetics. It breaks the limitation of facial expression change in reality, shapes the character's expression through the story plot, and conveys the inner emotion change of the character to the audience through the expression change. It can be seen that the role expression shaping has a certain influence on the film, which can improve the value of the whole film.

With the development of technology, animators should not only improve their technical level, but also their artistic level and creative ability. Through the combination of life experience and related theoretical knowledge, it is necessary to carry out in-depth exploration and innovation on the role expression shaping, and it should believe that there will be more different ideas to further improve the overall quality of the film. Through a deeper understanding of animation character expression shaping, it believes that expression shaping will be widely used in animation.

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