

Research on the Development of Short video of Wenzhou Dialect Culture in the New Media Era

-- A case study of Tik tok

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Abstract

Wenzhou dialect is facing the crisis of gradual extinction. This paper discusses how to use Tik tok to develop and inherit Wenzhou dialect as a cultural resource in the era of new media. In this paper, by collecting the data of popular short videos related to Wenzhou dialect on Tik tok, the data model of communication power is established according to the influential factors of communication power, and the communication power value of short videos of Wenzhou dialect is calculated. Then, the common characteristics of short videos with high communication power are explored through the feature classification model of short videos. Finally, it provides strategies and methods for the development of Wenzhou dialect culture on Tik tok.

Keywords

Wenzhou dialect, Tik tok, short video.

1. Introduction

With an estimated 6,000 languages spoken in the world, 90 percent of them are expected to die by the end of the 21st century, the New York Post reported. UNESCO has issued similar warnings about the disappearance of some languages. According to the statistics of UNESCO, China has a total of more than 130 languages, making it one of the countries with the richest language resources in the world^[1]. Dialect is a regional variation of language and a component of folkloric language. However, the total number of Chinese dialects is rapidly decreasing, and the population who speak dialects is also decreasing day by day. And the bigger the city is, the greater the impact on dialects is, many dialects in China tend to be endangered to varying degrees. In 2017, the General Office of the CPC Central Committee and The General Office of the State Council issued Opinions on Implementing the Project of Inheriting and Developing Excellent Traditional Chinese Culture, which clearly pointed out the need to "protect and inherit dialect culture" ^[2].

1.1. Overview of Wenzhou dialect

Wenzhou dialect is a kind of Nanwu language spoken by the citizens of Wenzhou, a coastal city in southeast China. It is a dialect that maintains many ancient characteristics of Chinese and has been called "the living fossil of Chinese language". Wenzhou dialect is clear and clear, rich in morphemes, full of beauty, and retains the intonation, cadence and well-arranged, in addition, it also retains the four tones and eight tones of ancient Chinese, very singing characteristics. As the language form of Wenzhou regional culture, Wenzhou dialect breeds Wenzhou humanistic spirit and inherits regional culture and local characteristics. Because of its complex and changeable, difficult to learn and difficult to understand, it is called the first of the ten most difficult dialects in China. Also let the Chinese people issued such as "not afraid of the sky is not afraid of the earth, afraid of Wenzhou people speak Wenzhou dialect" such exclamation. Now Wenzhou dialect is facing a crisis of gradual extinction. According to Ye Shuming et al. 's survey

on the popularity of Wenzhou dialect in 2019, only 33.05% of Wenzhou people can speak Wenzhou dialect.

1.2. Development and research status of short dialect videos under the background of new media

Under the background of new media, the vigorous development of short video has brought a brand new development channel to dialect culture. The academic researches on "short dialect video" mainly focus on the reasons for the emergence of short dialect video, the influence of short dialect video and the effect of short dialect video on the transmission of dialect. For example, Zhou Yifan (2020) points out that the reason for the development of dialect short video is that short video platforms seek differentiated development and users' needs change in a heterogeneous way. Zhao Qianbei (2019) believes that short dialect videos expose the national audience to dialects of different regions in a lively and interesting way. At present, there are few researches on short dialect videos abroad, but the theories and methods of foreign linguistics and classical communication can be used to study the development of Chinese dialects. In 2006, Jeff Howe, an American journalist, put forward the concept of "crowdsourcing" for the development of dialect culture under the new media.

1.3. Development status of Wenzhou dialect short video on Tik tok

Currently, short videos of Wenzhou dialect on Tik tok are mainly combined with short videos of entertainment, life, funny and teaching. According to a huge amount of arithmetic data, from February 2019 to February 2023, the search trend of keywords "Wenzhou Language" and "Wenzhou dialect" on Tik tok has an obvious exponential growth trend (Fig.1), indicating that users' expectation of watching such short videos on Tik tok has increased greatly.

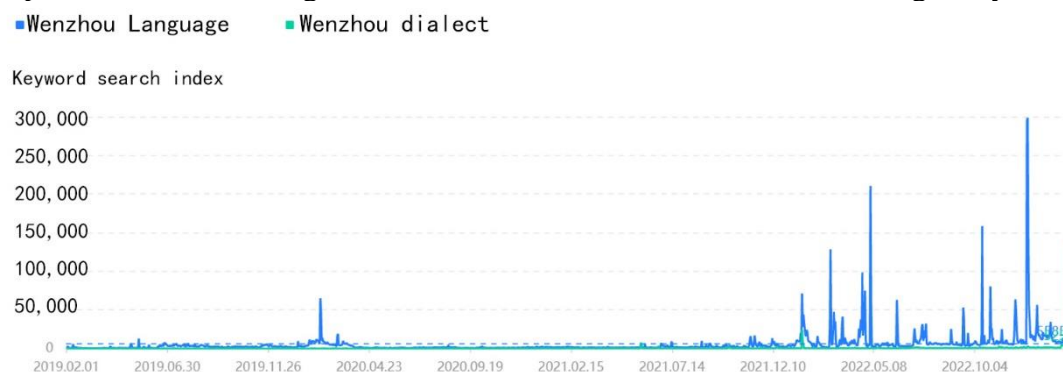


Fig.1 search index of keywords "Wenzhou language" and "Wenzhou dialect" from 2019.2 to 2023.2 on Tik tok by Oceanengine.com

Oceanengine.com divides the comprehensive index of short video on Tik tok into three dimensions:

- (1) Content score: It is obtained by weighted summation of the number of articles/videos of keywords and related content to measure the basic sound volume of the keywords on Tik tok.
- (2) Communiication score: obtained by the reading volume of articles and videos of keywords and related content, to measure the propagation volume of the keywords on Tik tok. The spread is not equal to the actual number of reads/plays.
- (3) Search score: weighted by the search volume of keywords and related content and other data, to measure the search performance of the keyword on Tik tok.

Fig.2 shows the comprehensive index interpretation of the keywords "Wenzhou language" and "Wenzhou dialect" on Tik tok provided by Oceanengine.com. It can be seen from this that the basic sound volume of short videos of Wenzhou dialect is very low and has a certain amount of sound propagation, but it is far from the demand of users.

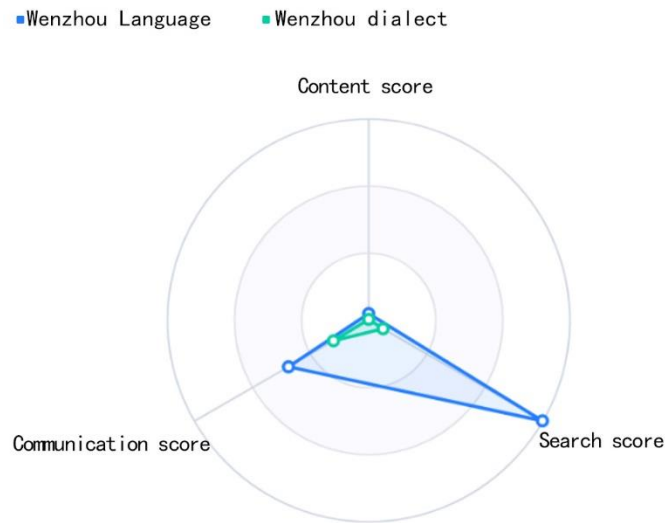


Fig.2. Interpretation of composite index

By February 2023, the topic of "Wenzhou language" had been viewed 1.1 billion times, and the topic of "Wenzhou dialect" had been viewed 500 million times on Tik tok, as shown in Table 1.

Table 1 Data table of short videos of Wenzhou dialect related topics played on Tik tok until February 2023

topic	Topic index	Number of submissions	Number of likes	Play volume
Wenzhou language	9199616	3.4w	1550.8w	110681.2w
Wenzhou dialect	3869834	1.4w	597.1w	50334.8w
Wenzhou language loose talk	424101	1967	78.9w	5176.0w
Wenzhou dialect stories	279000	389	30.5w	3805.0w
People in Wenzhou speak Wenzhou language	284064	1465	68.6w	3686.0w
Wenzhou dialect folk art	106299	654	27.5w	1766.6w
Learn Wenzhou language	89125	869	22.5w	1046.8w
Learn Wenzhou dialect	89125	869	22.5w	1046.8w

1.4. Research Significance

The research of this paper is conducive to exploring how Wenzhou dialect can be inherited and developed by short video in the new media era. The research results can expand the popularity of Wenzhou dialect, promote the inheritance and development of Wenzhou dialect culture, enhance the cultural identity of Wenzhou people, and then drive the local political, economic and social development. In addition, the research of this paper is also conducive to exploring the common value of dialect transmission under the background of new media, and the theories and analytical methods formed thus can provide reference and thinking for the development of other local dialects and even local culture in China.

2. Research contents and methods

The main research object of this paper is all kinds of short videos related to Wenzhou dialect on the popular short video platform ——Tik tok. Through analysis, the author puts forward the strategy of using short video to develop Wenzhou dialect culture, and finally promotes the inheritance and development of Wenzhou dialect culture.

In this study, the propagation power data model is established according to the factors influencing the propagation power to evaluate the propagation power of short video. The data of popular short videos related to Tik tok Wenzhou dialect were collected to calculate their propagation power, and the top 100 short videos with high propagation power were selected. The feature classification model of Wenzhou dialect short video was established, the title text was collected and analyzed, and the feature data set of short video was obtained by combining manual coding to explore the common features of short video with high propagation power. In order to find out the deficiencies in the communication of short video content of Wenzhou dialect on Tik tok and provide path strategies for the development of short video of Wenzhou dialect culture. The research focus of this paper is the analysis of the communication power of Wenzhou dialect short video on Tik tok and the study of the common characteristics of high communication power short video. The difficulty is to determine the appropriate data model.

3. Data acquisition of popular short videos of Wenzhou dialect on Tik tok

In this paper, PRPA method is used to collect data on Tik tok, that is, Python+PRA is used to capture data from Tik tok.

RPA (Robotic process automation) is a business process automation technology based on software robot and artificial intelligence (AI). Rpa provides another way to automate the manual operation of the end user by imitating the manual operation of the end user on the computer. Fig.3 and 4 are the flow charts of acquiring the link of short video on Tik tok and the flow charts of acquiring the information and comment information of short video on Tik tok respectively. A total of 163,322 comments from 189 videos were obtained, including information as shown in Table 2.

Table 2 Short video acquisition information list

Short video acquisition information list											
Number of Comments	Number of likes	Number of favorite	duration	Number of likes	author	title	Website address	Comment user name	Comment likes	Comment content	Comment time

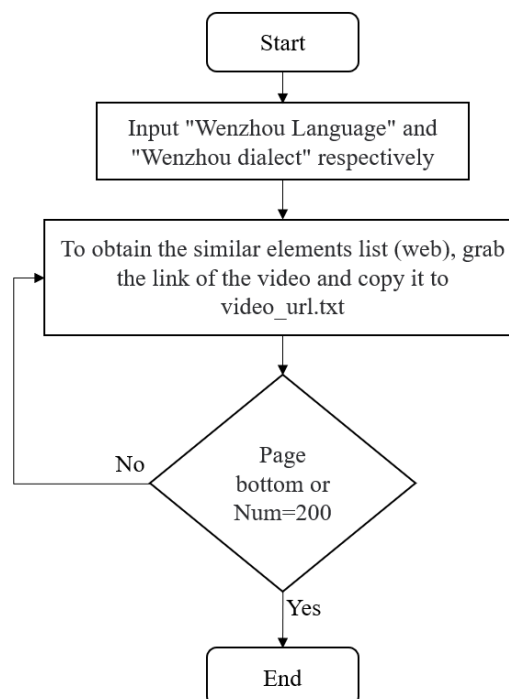


Fig.3 Flowchart of obtaining link of Short video on Tik tok

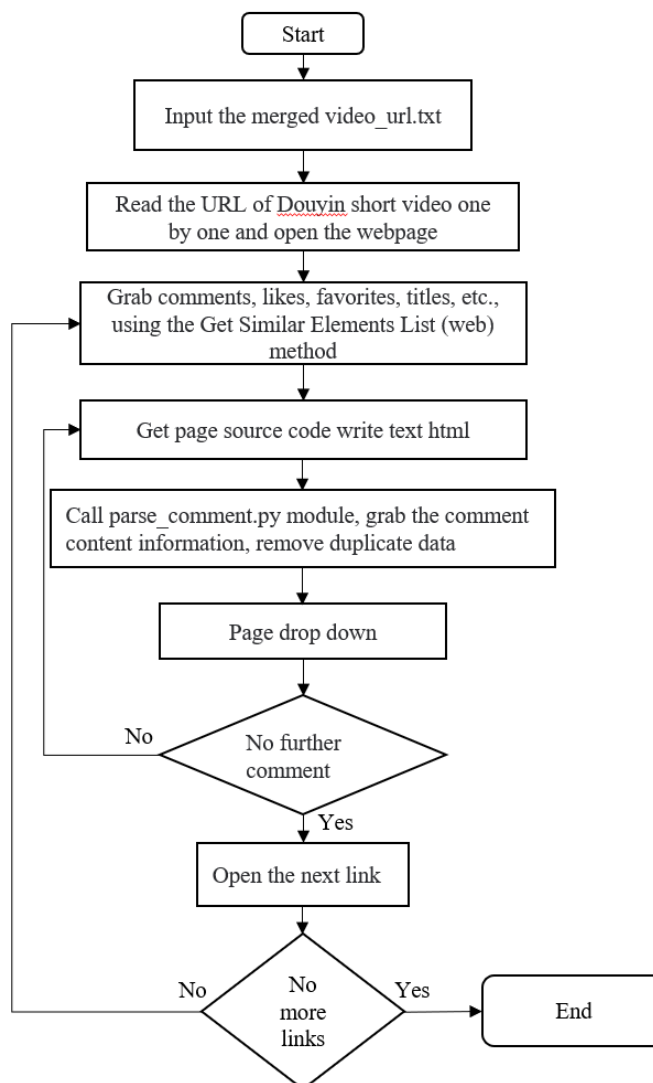


Fig.4 Flowchart of obtaining short video and comment information on Tik tok

4. Text data preprocessing

Data preprocessing includes processing blank or random comment data, processing irrelevant comments, removing punctuation, excess white space, and removing stops. After processing the remaining 127621 valid comment data and 189 title text data. Word segmentation and word frequency calculation are conducted on the processed comment text data and title text data, and title cloud pictures and user comments of the short video about "Wenzhou Dialect" and "Wenzhou language" on Tik tok are obtained respectively, as shown in Fig.5 and Fig.6.



Fig.5 Word cloud map of title



Fig.6 Word cloud map of comments

5. Analysis of propagation power data model

5.1. Establishment of propagation force data model

In 1961, Steiner and Ravitch put forward the ladder model of communication effect, believing that behavior is dominated by cognition and emotional attitude. From cognition to attitude to action, it is a process of accumulation, deepening and expansion of effect^[3]. The user interaction of Tik tok is mainly reflected in users' likes, comments and favorites on short videos, which directly reflect the transmission ability of short videos. on Tik tok, the number of "likes" of a short video reflects the user's liking for the video, and the interaction of comments is related to the algorithm recommendation mechanism of Tik tok. The more comments, the higher exposure can be obtained, and the number of favorites reflects the user's recognition of the value of the video. Therefore, this paper takes the number of likes, comments and favorites as the indicators to quantify the communication power of short popular science videos. In this paper, entropy weight method is used to assign weight value to each index, and the data model of propagation force W_0 is established:

$$W_0 = b_1 \ln(X_1 + 1) + b_2 \ln(X_2 + 1) + b_3 \ln(X_3 + 1),$$

X1, X2 and X3 are the number of likes, comments and favorites of the short video, and b1, b2 and b3 are the weight values.

5.2. Calculation of propagation force data

Using Python+PRA program, we obtained the likes, comments and favorites of 189 short videos of "Wenzhou Dialect" and "Wenzhou language" on Tik tok. The entropy weight method was used to assign weights in Python program, and the corresponding weights were 20.4%, 52.2% and 27.4%, respectively. Based on the propagation power W_0 formula, the propagation power values of all short videos are calculated, sorted by size, and the top 100 propagation power short videos are selected as high propagation power short videos for further research.

5.3. Data Coding

After the quantitative analysis of the communication power of Wenzhou dialect short video on Tik tok, the common characteristics of high communication power short video are analyzed. On the basis of reading a lot of literature and browsing a lot of related short videos, the preliminary statistics and modification of the samples were carried out, and finally the classification system and coding scheme were determined. The main coding content is divided into three categories: communication subject, presentation form and communication content. Indicators such as the transmission content and presentation form of short videos are manually coded by coders (Table 3).

6. Analysis of transmission characteristics of short video on Tik tok

6.1. Main Analysis of the dissemination of "Wenzhou Dialect" short video on Tik tok

The 100 short video samples collected were produced by 57 bloggers. Among these bloggers, 33.89% are authenticated accounts, of which individual yellow V authentication accounts for 15.79%,

Table 3 Content coding table of short video on Tik tok

classification	Level 1 coding	Level 2 coding
Subject of communication	1 Account Type	1= popular science; 2= entertainment; 3= other
	2Account Authentication	1= personal yellow V certification; 2= enterprise blue V certification; 3= organization blue V certification; 4= other
	3 Subject domain	1= comprehensive; 2= funny; 3= Art; 4= Life; 5= psychological; 6= Teaching; 7= Finance and economics; 8= advertising; 9= parenting; 10= legal; 11= Career
	4 Interaction in the comment section	1= Yes; 2= none
	5.Participation forms of bloggers	1= on camera; 2= dubbing; 3= none
Presentation mode	6 Video Types	1= live shot; 2= melodrama; 3= graphic video; 4= animation; 5= Narrated by real people
	7 picture ratio	1 = 9:16; 2 = 16:9; 3= other
	8Check whether subtitles are available	1= Yes; 2= none
Communication content	9 Prompt mode	1= cover; 2= fixed subtitles; 3= none
	10 Number of title labels	1= more than 2; 2=1 or 2; 3= none
	11 Title Strategy	1= suspense strategy; 2= warning strategy; 3= Get to the point; 4= Interactive strategy; 5= general strategy; 6= comprehensive strategy
	12 Content Type	1= popular science; 2= funny; 3= Folk art; 4= life; 5= teaching; 6= news; 7= parenting; 8= food; 9= shopping; 10= psychological; 11= history; 12= nature; 13= technology; 14= culture and art; 15= society; 16= environment; 17= entertainer

enterprise blue V authentication accounts for 7.89%, organization blue V authentication accounts for 9.21%, and ordinary users account for 67.11%, accounting for the vast majority. It can be seen that the communication ability of short video is not closely related to whether the user is authenticated or not, and ordinary users can also obtain higher communication effect by Posting high-quality short video content. 86.84 bloggers chose to go abroad, 13.16% chose dubbing, and comment interaction reached 100%. Therefore, it can be seen that the subject of communication has a high participation, which is conducive to the formation of the continuity and unity of the content and form of the short video. The personal image, personal charm and

characteristics of the blogger will give additional points to the communication effect. In addition, entertainment accounts for 39.47%, followed by life and teaching. It can be seen that more interesting short videos of Wenzhou dialect will be more conducive to its dissemination.

6.2. Analysis on presentation forms of short video communication of "Wenzhou Dialect" on Tik tok

As can be seen from the statistical results of presentation mode, 50% of the videos are live-action shooting, 23.68% are episodics, 13.16% are narrated by real people, and 7.89% are animated. 92.11% of short videos adopt vertical 9:16 ratio, and 98.68% of short videos have subtitles. It can be seen that short videos with real people are more popular, and short videos with plots and stories are more attractive to users and have better communication effect than those narrated by real people with a single camera. In addition, as the human in the picture becomes the absolute subject, the words and actions of the blogger will be amplified in a single and claustrophobic scene, making people feel one-to-one communication, which is also a good video type. Although animation accounts for a relatively small number, but can use simplified, exaggerated, personification and other methods for language visualization, is also an essential form.

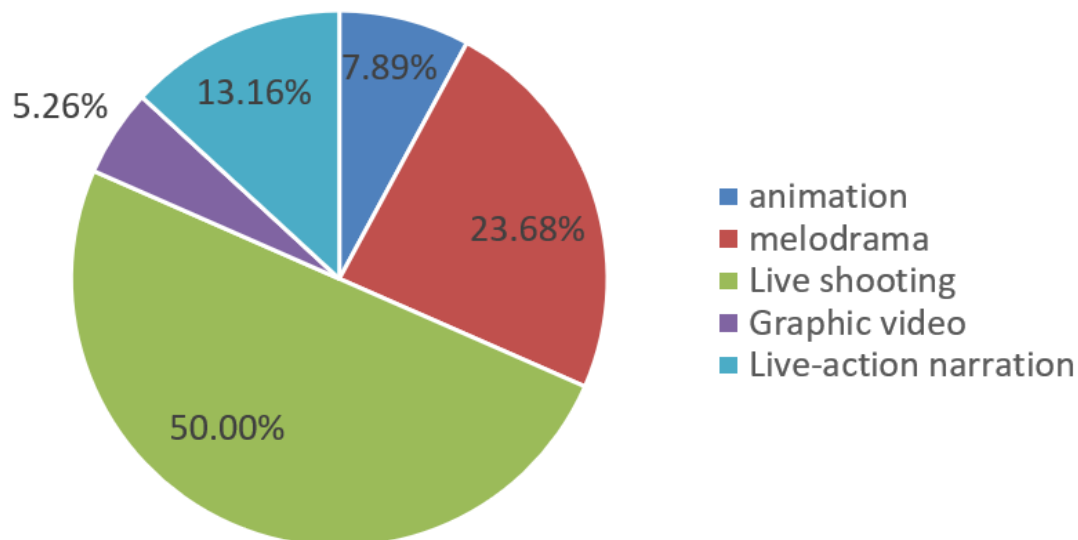


Fig.7 Pie chart of video type distribution

6.3. Analysis on characteristics of short video transmission of Wenzhou Dialect on Tik tok

Table 4 shows the data of the top 10 short videos of "Wenzhou dialect" on Tik tok.

Table 4 Top 10 short videos of "Wenzhou Dialect" in terms of communication power

ranki ng	title	Comment count	Number likes	of	Quantity of collectio n	duration	Content type
1	vsWenzhou language: Which is the most difficult dialect in China? ! # popularizing science # dialect # increasing knowledge	59000	1090000		37000	01:14	Popular science
2	Wenzhou dialect version must read to learn! # Indelible Handsome Man's Guide to Behavior	71000	846000		2671	00:23	funny
3	# Wenzhou Dialect # Wenzhou Yongjia big guys can start to quarrel these days, and the quarrel will be too obvious on 13th @DOU+ little assistant @Tik tok little assistant	24000	600000		1473	00:13	funny
4	8 sets powder nose wide nose wipe # # wenzhou wenzhou o tang	26000	291000		20000	00:38	funny

5	Couples from different places can play hahaha # Love # dialect @DOU+ Little helper	16000	326000	1639	01:12	life
6	13 sets say I am the flower dog egg play is good! I spend Chinese New Year in Zhejiang	22000	219000	1727	00:58	funny
7	Wenzhou dialect is so much superior to Japanese # funny chat record # Wenzhou dialect # Home has children @Tik tok little Assistant	34000	95000	2250	00:37	funny
8	I will let you go because you are so cute! # Teen Date # Tiktok Star	2151	153000	3796	00:29	Star variety show
9	Wenzhou dialect was used as a transmission code during World War II and is known by foreigners as "Devil's Whisper" # China # Laowai # dialect # Wenzhou Dialect	16000	119000	753	01:02	society
10	Why can't we understand each other in # Zhejiang People Together # chat? Zhejiang dialect # Prim Biao dialect # Wenzhou dialect	30000	77000	4255	01:12	society

According to the statistics, 61.84% of short video titles have one or two hashtags, and 27.63% of short video titles have more than two hashtags. It can be proved that adding hashtags can bring higher traffic. Among the content of short videos, 39.47% are related to local life in Wenzhou, and 32.89% are funny videos related to Wenzhou dialect (see Fig.8). The jokes generally focus on the differences between Wenzhou dialect and other dialects, and the understanding of the new and old generations on Wenzhou dialect. Videos teaching Wenzhou dialect only accounted for 11.84%, and star variety shows accounted for 7.89%. Video content related to entertainment variety shows mostly focused on stars in the entertainment circle who were born or from Wenzhou.

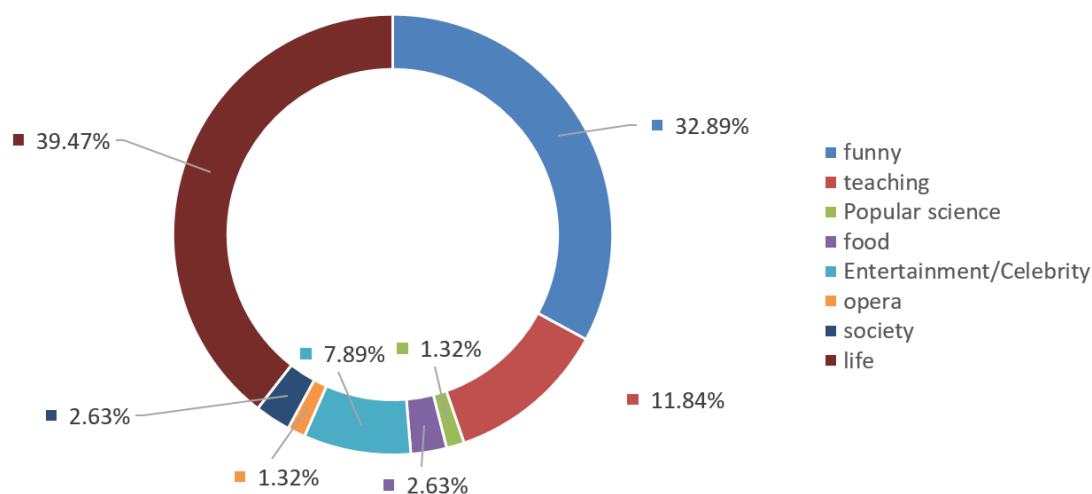


Fig.8 Video content distribution ring diagram

7. Conclusion

As an emerging mobile social media, short video platforms such as Tik tok have gradually shown their advantages in science communication. Their interestingness, integration and interactivity help to expand the breadth, depth and participation of science communication. Wenzhou dialect can make use of the communication advantages of short video, such as fast speed, large amount of information and strong interaction, give full play to its advantages of popularization and popular communication, avoid its local city and limitations, find new forms of communication, expand the publicity scale and scope of Wenzhou dialect, and make use of the interesting and interactive advantages of these emerging media to achieve cross-regional communication. To overcome the problems of regionalism and limitation in dialect transmission and attract more audiences.

However, in the context of the wild growth of short videos, due to the low production threshold of short videos, the quality of short popular science videos is not uniform, and the traffic orientation of Tik tok platform also makes some popular science accounts keen to carry popular videos, lack of creativity and verification, and content homogenization tendency. In addition, although Wenzhou dialect short videos have gained more and more attention on Tik tok in the past two years, the production is still not enough, the number of videos is not large, and the number of high-quality videos is even less. In addition, most of the short videos of Wenzhou dialect are transmitted by adults and the elderly who can speak Wenzhou dialect, while the teenagers who can't speak Wenzhou dialect are rarely exposed to them.

In order to help Wenzhou dialect develop effectively with short video in the new media era, the following suggestions are summarized on the basis of the above research.

(1) Establishment of an official Tik tok account: Relevant government departments shall organize and establish a professional operation team to formulate a standardized push process. A full-time and part-time operation team is formed to realize the division of labor mechanism of planning, shooting, editing, publishing and fan operation. Scholars in the industry and personnel from functional departments are hired as consultants to build a push process integrating content production, review and output.

(2) Multi-angle innovation of short video communication content: Establish vertical matrix accounts from the local characteristics of Wenzhou, such as food, industry, culture and other perspectives, constantly study innovative content and methods, keep abreast of social hot topics, advance with The Times, and attract the attention of all age groups in Wenzhou, especially young people.

(3) Build Wenzhou dialect spokespersons: We can cooperate with Wenzhou traditional radio station to build local Wenzhou dialect hosts into Wenzhou dialect masters. In addition, the joint accounts of Tik tok bloggers mainly focus on Wenzhou dialect and local culture and customs of Wenzhou, so as to strengthen the influence of Wenzhou dialect masters.

(4) Carry out live broadcast activities of Wenzhou dialect on Tik tok: The government can carry out live broadcast teaching activities of Wenzhou dialect on Tik tok on a regular basis, interact with Tik tok users in diversified and entertaining ways, and promote Wenzhou dialect. In addition, Wenzhou dialect will be integrated into the live sales scene of Wenzhou local specialties, so that more people can hear Wenzhou dialect.

Generally speaking, the support of policies, the drive of scholars, the publicity of media and the participation of the public are important guarantees for the protection of dialect resources. In the era of new media, dialect protection and inheritance can be developed in a faster and more convenient way.

Acknowledgments

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References

- [1] Cao Zhiyun. The value of discovering language treasures [N]. Guangming Day, 2021-5-3 (05)
- [2] Haiyan L. Research on Language Resource Protection in the environment of New Media Communication -- A case study of wechat public account "Yubao"[J]. Public Communication of Science & Technology, 2021 (19) : 169-171.
- [3] Zhang Bo, LI Zhujun. A review of the Research effect of microblog information transmission [J]. Modern Information, 2017(1) : 166-172.
- [4] Xinyi J,Guoyan W. Research on the Communication Capacity of Science Popularization Short Videos on Tik Tok[J]. Studies on Science Popularization,2021-1(01):15-23,96

- [5] Bowei L. Analysis on the communication power of short video social platforms -- taking "Tik tok" APP as an example[J]. Media,2018(19):53-54.
- [6] Xinyi J; Guoyan W. Research on the Communication Capacity of Science Popularization Short Videos on Tik Tok[J]. Studies on Science Popularization,2021(01):15-23.
- [7] Zhizhen H, Ziting G. Application of Short Video in Chinese Excellent Traditional Culture Communication -- Take Tik tok APP as an example[J]. Media Forum,2020(02):107-108.
- [8] Huijun Y. Application of New Media in Linguistic Cultural Inheritance[J]. Applied Linguistics, 2017(02):19-26.
- [9] Jianing T, Suweng Z, Yingming C, Yingying M. Cultural carrier and inheritance of Wenzhou dialect[J]. Sinogram Culture, 2019(22):8-9.
- [10] Jiabin S, Sitong W. Inheritance and development of Kangba dialect culture in the new media era[J]. Sinogram Culture,2021(12):24-25.
- [11] Chunhua Z. Propagation Power: Definition and Analysis of a Concept [J]. Search,2011(11):76-77.
- [12] Lin Y. Analysis on the Communication Power of Mass Media [J]. Media,2006(9):20-21.
- [13] Shaoqiang L. Construction Dimensions and Realization Path of Media Official Micro Communication Power [J]. Media,2016,0(7):47-50.