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The Status of Language and Writing Informatization in Ethnic Minority Living Area in Western Liaoning: Taking Fuxin Mongolian Autonomous County as an Example

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Abstract: Fosi Town, Fumeng County, Fuxin City, Liaoning Province, is an area inhabited by Mongolian people. The phenomenon of Mongolian-Chinese bilingualism enriches the diversity of regional culture. Language, as a bridge of communication, is not only a medium of daily communication, but also an important carrier of cultural inheritance and development. Liaoning Province, located in the key node of the national 'One Belt, One Road' strategic layout, is of inestimable value in promoting regional economic development and deepening international cooperation. In such a context, for a multi-ethnic settlement like Fosi Town, how to protect, pass on and improve the level of Mongolian language informatisation in the process of modernisation has become an urgent problem to be solved. The research method mainly includes questionnaire investigation and field investigation. The questionnaire investigation covered residents of different ages, occupational backgrounds and social status, aiming at grasping the overall trend of local language use at the macro level, while the field investigation, through interviews and observations, provided an in-depth understanding of the actual use of Mongolian and Chinese bilingualism in the daily life of the residents, as well as the cultural motivations behind it. The results of the survey show that the frequency and scope of the use of the Mongolian language in Fosi Town have shown a clear downward trend in recent years. Influenced by language regulations, examination policies, language concepts, and language environment, the informatisation construction of the Mongolian language and writing is still not a small obstacle.

Keywords: Mongolian Language and Writing; Fosi Town; Informatization; Linguistic Surveys; Language Reservation; Causes of the Current Situation

1. Introduction

1.1 Origin and Significance of the Survey

The 18 key provinces in the "One Belt, One Road" strategy include Heilongjiang, Jilin, and Liaoning, which are key to connecting Northeast Asia's economy and trade, as well as key nodes for strategic deployment. The Northeast region has frequent exchanges with neighboring countries, such as Russia and Mongolia, and language is an important tool for connecting people from different countries, as well as the key to realizing people-to-people communication. Therefore, it becomes particularly important to investigate the language protection and informatization construction in minority areas, which helps to implement the minority language protection policy, promote the protection and inheritance of language and culture, and maintain linguistic harmony and national unity. Minority languages are not only an important communication tool in the daily production and life of minority compatriots, but also a bond of national emotions and a valuable resource of the country [1]. Minority languages perfectly interpret their own regional, ethnic, cultural and uniqueness. [2] Different languages can coexist harmoniously in a society, complement each other and benefit from each other, neither excluding each other nor conflicting. Different languages are used in their respective places, in a coordinated and orderly manner, each doing its part in harmony and developing in harmony. [3] There is research on language harmony is still a weak

link in the linguistic research at home and abroad. [4] Taking Fosi Town of Mongolian Autonomous County in Fuxin City as an example, through interviews and questionnaires, it is found that there are problems in the protection, inheritance and informatization of minority languages in the local area, which need to be solved as soon as possible.

1.2 Basic Situations

1.2.1 Basic situation of Fosi town

Fosi Town, belonging to Fuxin Mongolian Autonomous County of Liaoning Province, is located in the southwest of Fuxin Mongolian Autonomous County, 20 kilometers away from the downtown of Fuxin, belonging to the hilly area of western Liaoning Province. It is adjacent to the town of Yimantu in the south, borders the town of Wangfu in the north, borders the town of Dongliang in the east, and is connected to the townships of Spidershan and Qijiazi in the west [5] .The name of the town of Fosha originated from the local Ruiying Temple, Ruiying Temple was built in the Qing dynasty during the Kangxi period, the Mongolian language called it “Gegen Sumo”, the Chinese translation for the Buddha Lama Temple, the name of the village was obtained from the temple, the history of the Lamaism center [6]. The total area of the jurisdiction is 118.53 square kilometers [7]. According to the local government staff of Fosi Township, there are 10 administrative villages in the township, 9 of which are purely Mongolian villages, and there are about 12,000 or so Mongolians permanently residing there, accounting for about 86% of the total population of the township.

1.2.2 The basic situation of the respondents

This survey issued 35 questionnaires, and 35 valid questionnaires were returned. Based on the principle of objectivity and accuracy of the survey data results, the gender, age and education of the respondents were distributed relatively evenly.

2. Analysis of the Current Situation of Language Informatization

2.1 Language Use in Social Media

The survey results show that all respondents frequently use cell phones to access the Internet, reflecting the popularity of smartphones in China. However, only 22 people have used voice assistant or voice search function, and 13 people have not, probably because these functions are relatively new and complicated to operate. 30 people think that voice assistant can enhance the convenience and intelligence of cell phone use, but 5 people don't want it to appear because the existing technology is difficult to recognize the Mongolian language and prone to errors, which makes it inconvenient to use.

When asked about the main uses of their cell phones, most people still use their cell phones mainly for “receiving calls” (30 people), “sending and receiving social software messages (such as WeChat, etc.) (26 people)”, “sending and receiving text messages” (24 people) and “sending and receiving text messages” (24 people), and “sending and receiving text messages” (24 people). "Sending and receiving social software messages (e.g. WeChat) (26 people), sending and receiving text messages (24 people) and browsing short videos (24 people) are also important uses of their cell phones.

Among the cell phone language choices, 27 people preferred Chinese, 3 people chose Mongolian, and 5 people used Chinese-Mongolian bilingualism. Respondents indicated that the Mongolian language takes up space when displayed vertically on a cell phone, which interferes with reading, so most of them preferred to use Chinese or Chinese-Mongolian bilingualism to take into account the needs of the Mongolian language and to facilitate reading at the same time.

When asked about “the software you often browse for short videos”, most people chose the more popular short video software ‘Shutter’ (28 people) and “Shake” (23 people). Compared with “Shake”, the video content of “Shutter” is closer to rural life and more appealing to the elderly. In third place is “WeChat Video” (13 people), which has emerged in the past two years. As ‘WeChat’ is now a more mainstream social software, “WeChat Video” also makes it easier for users to browse short videos. Since WeChat is now a more mainstream social software, “WeChat Video” also makes it easier for users to browse short videos, so “WeChat Video” has also become an important choice for people to browse short videos. In fourth place was “web video” (8 people). With the rise of the short

video industry, more and more web pages have added a short video window on top of their original functions, so that the first thing that appears when a user opens the web page is a short video, but it is not convenient enough to use, and thus is not widely used. The rest of the short video platforms such as B Station (4 people), Xiaohongshu (4 people), QQ Watch/Small World (4 people) are used by a part of the young group and are not universal. The number of people who "do not browse short videos" is 0, which indicates that the Internet has become very popular in this area, and people get information from the Internet, and have realized a more intelligent standard of living.

When asked "your browsing preference in short video software", most people tend to choose "recording rural life" (25 people) and "food creation" (23 people), which also attracts a considerable portion of the elderly to browse short videos. This is also the main reason for attracting a considerable portion of the elderly to browse short videos. The choices of "shopping recommendation" (21 people) and "cultural learning" (21 people) ranked third, with the rise of the short-video industry, there are more types of short-videos, and people have more choices. With the smallest percentage of people choosing "Other" (6), people are still more likely to browse the more dominant themes in current short videos.

In response to the question "Have you ever viewed/pushed short videos in Mongolian", 25 people chose 'Yes', while the remaining 10 chose "No", which indicates that local short video filmmakers are willing to use their own language to make short videos and that big data can provide more accurate push services. This shows that local video filmmakers are willing to use their own language to make short videos, and also shows that big data can provide push services more accurately. There are 30 people who want to receive videos in the Mongolian language, and 5 people who do not want to receive videos in the Mongolian language, because a small portion of the interviewees do not understand the Mongolian language as well as the Chinese language, and therefore have difficulty in watching videos in the Mongolian language.

2.2 Informatization Level of the Mongolian Language

When asked "the input method you commonly use for the Mongolian language", 8 respondents chose "Mengkeli Input Method", 2 chose "Aoyun Input Method", 1 chose "Aoyun Input Method", and 1 chose "Aoyun Input Method". Eight of the respondents chose "Mengkeli Input Method", two chose "Aoyun Input Method", one chose "Delihai Input Method", and twenty-four used input methods other than these three (all of which are Chinese input methods). According to the respondents, there is no particularly convenient input method for the Mongolian language because the Mongolian language needs to be typed vertically from top to bottom, and some cell phones not only do not support vertical rows but also do not support displaying the Mongolian language, so some people choose not to use the Mongolian input method but use the Chinese input method directly.

The majority (80%) of the respondents said, "The language you use to leave messages/comments in the comment section of short videos", "The language you use to send QQ/WeChat messages", and "The language preference you use to make online purchases using Taobao and other software is "Most people (80% or more) prefer to use Mandarin Chinese, because some cell phones and software do not support Mongolian, including most short video software, you can not enter Mongolian in the comments section, and when Mongolian appears, you need to play the phone across the screen and the text display is incomplete, which is not convenient to use and affects the user experience, so when using software, few people use Therefore, few people use the software to post comments or messages in Mongolian, and few people set up shopping software in Mongolian. A small number of people (less than 12%) chose to use the software in different situations. When asked about the reasons, they said that if the other party can read and understand the Mongolian language or the other party is also using the Mongolian language, they will use the Mongolian language to communicate, which will make both parties feel friendly, and if the other party doesn't understand the Mongolian language, they can only use the Chinese language to communicate.

When asked, "What language do you commonly use to browse news websites or software?", except for 13 people who "don't

watch news", 20 people commonly use Chinese to browse news, and only 2 people commonly use Mongolian to browse news. Through the previous questionnaire, we know that due to the current technical problems, some cell phones or software displaying news in Mongolian may have incomplete statements and inaccurate translations, so the vast majority of people browse the news in Chinese and seldom use the Mongolian language.

When asked "Have you received any education/training on the informatization of minority languages and scripts?", 18 respondents have received such education/training, while 17 respondents have not received such education/training. Some respondents have been educated on the informatization of the Mongolian language at school, while others have received training on the informatization of the Mongolian language at their workplace. This shows that local education/training on informatization of the Mongolian language needs to be strengthened. Courses on informatization of the Mongolian language can be set up in schools, and the relevant units can also organize training for their employees to learn and study the Mongolian language and script, which will be conducive to the promotion of the preservation and inheritance of the Mongolian language and the improvement of informatization of the language and script of the areas where ethnic minorities live in concentrated areas, and to the realization of cross-border language and script communication as soon as possible. This will be conducive to promoting the protection and inheritance of the Mongolian language, improving the construction of language and writing informatization in minority areas, realizing cross-border language and writing communication as soon as possible, and building a language and writing bridge for the "Belt and Road".

When asked "What other informatization tools or applications have you used for minority languages and scripts" (see Figure 9), the input method/typing tool was used by the largest number of people, with 13 people. Translation software came next with 9 people. Other options such as voice recognition software, social media platforms, educational apps and work apps were also used by some people, but relatively few. Overall, when respondents use other minority language and script informatization tools or applications, they mainly focus on two areas: input method and translation. From the overall data, the higher usage rate of tools in these two areas indicates that there is a greater demand for these two areas in the informatization of minority languages and scripts, and there are more related tools and applications. This also shows the diversity of informatization tools or applications for minority languages and scripts, and there are more fields and functions to be explored and utilized.

When asked "What problems do you think exist in the process of informatization of minority languages and scripts" (see Figure 10), most of the respondents thought that "the promotion is not strong enough and the penetration rate is low" (22 respondents), which indicates that in the process of informatization of minority languages and scripts, the promotion is not strong enough and the penetration rate is low. The majority of the respondents thought that "the promotion is not strong enough and the penetration rate is low" (22 respondents), indicating that the promotion is the most important problem in the process of informatization. Twelve people think that there is the problem of "limited technology level, which makes it difficult to meet the demand", and 11 people think that there is the problem of "the lack of products and services for ethnic minorities", which indicates that besides solving the problem of the promotion of ethnic minority languages and scripts, the technical level and the special products and services are not enough to satisfy the demand. This shows that in addition to solving the problem of promotion of minority languages and scripts, the level of technology and special products and services are also two important problems that need to be solved in the process of building the informatization of Mongolian languages and scripts. Six people also thought that there was a problem of "insufficient user training and technical support". According to one of the interviewees, the biggest problem he faced in the process of informatization of the Mongolian language is that it is very difficult to convert spoken Mongolian into Chinese with the same meaning when communicating, and the Mongolian language has its own dialects, and there is also a difference between the eastern and central Mongolian languages and the western Mongolian language, and there

is also a dialectal differentiation in each flag, so it is necessary to collect the dialects of different regions, and then to be able to convert them into standard Mongolian with one click and then translate them into Chinese, which will greatly improve the accuracy of Chinese-Mongolian mutual translation. greatly improve the accuracy and efficiency of Chinese-Mongolian translation. Overall, in the process of minority language and writing informatization, it is necessary to take corresponding measures for different problems, improve the technical level, strengthen the promotion, and provide better user training and technical support in order to meet the needs of minority language and writing informatization.

When asked "What functions or services would you like to see added to the informatization of ethnic minority languages and scripts" (see Figure 11), the function that attracted the most attention was "text recognition and conversion" (23 respondents), and since people still use social software for daily social interaction, two of them said that the Mongolian language was the most popular. As people generally still use social software to carry out daily social interaction, the two speakers are more willing to use the Mongolian language to communicate, but there are very few Mongolian input software on the market, and the function of recognizing and converting the words in the Mongolian language is not perfect and precise enough, so the "text recognition and conversion" is particularly important in the construction of informationization of the Mongolian language and writing. For "translation function" (13 people), "online education resources" (12 people), "language recognition and synthesis" (11 people), "electronic books and magazines" (11 people), and "online education resources" (12 people), "language recognition and synthesis" (11 people). Newspapers and magazines" (10 people) also have certain needs, so in strengthening the informatization construction of the Mongolian language, priority should be given to these functions which are in high demand. In conclusion, in the informationization of the Mongolian language, it is necessary to improve the accuracy of Mongolian language recognition and Chinese-Mongolian translation, expand online education resources so that more people can learn and master the Mongolian language, and at the same time, publish Mongolian and Chinese-Mongolian electronic books and newspapers and magazines, so as to make use of electronic publications as an effective tool for dissemination. Measures should be taken to enhance the vitality of languages, including in the areas of language education and media use.[8]

2.3 Analysis of the Causes of the Current State of Informatization

2.3.1 The proportion of people using the Mongolian language has declined

Because of the gradual decline in the number of speakers of the language, and the development of some software related to the Mongolian language and script has a smaller audience, so the development of informatization of the Mongolian language and script has been slow.

The decline in the number of speakers of the Mongolian language is mainly due to four reasons: firstly, the policy of promoting Putonghua aims to unify languages and promote national unity and national development, but it has also led to many people forgetting their own languages. The state has a significant role in influencing the use of minority languages, and more favorable measures should be taken to promote local education in the national lingua franca. [9] Secondly, the reduction of Mongolian language teaching in the education system and the change of the college entrance examination policy have led to a decrease in the number of learners of the language. Third, the influence of the language environment and the increased use of Chinese in the family and community have reduced the opportunity to use the Mongolian language. Finally, changes in language concepts, with Mandarin becoming the mainstream, have led to the belief that learning the Mongolian language is not a necessity, thus neglecting the learning of the language.

2.3.2 Difficulties in informatization construction

According to linguistic ecology, the development of the times can have a significant impact on the use of language.[10] When it comes to informatization construction, the most important thing is the development and use of cell phone software. The reasons leading to the low level of informatization in

Fumeng County are threefold: first, the reasons of cell phones and software itself. Part of the cell phones do not support the display of Mongolian language due to technical reasons, even if there are Mongolian-Chinese translation software and Mongolian input software, but the cell phone does not support it will not be able to display. Some translation software cannot accurately express the speaker's intention when translating from Chinese to Mongolian, so the utilization rate is low. Second, the operation is complicated. Some software is cumbersome to use, which is unfriendly to the middle-aged and old-aged groups, especially the elderly, which makes the software not universal in use. Third, the publicity of some software is insufficient. Some software can only be downloaded and used in specific web pages, and most of them cannot be searched and downloaded in cell phone application malls, which makes it very difficult to find such software and leads to low popularity and downloads of the software.

3. Summary

Based on the feild investigation in Fosi Township, Fuxin City Mongolian Autonomous County, combined with information from multiple interviews, the following conclusions were drawn. First, the majority of Mongolian residents in Fosi Township speak Mongolian as their mother tongue, with Mongolian as the main language in the family and Mandarin Chinese as the main language in school and society. Secondly, the intergenerational inheritance has been interrupted, and most of the people who are very familiar with the Mongolian language are the local middle-aged and old-aged groups. Since the education and language environment they received when they were young were all in the Mongolian language, and the local education and classes have been canceled in the Mongolian language in recent years, many young people don't know how to speak or recognize the Mongolian language. Thirdly, the level of informatization of the local Mongolian language and writing is low, many people do not know and cannot use software such as Mongolian input method and Mongolian-Chinese translation, and more people want to watch short videos and listen to songs in Mongolian, but they cannot do so because their cell phones or software do not support the display of the Mongolian language. Fourth, the local Mongolian language is gradually declining. During the interviews, a number of interviewees said that the population of local speakers of the Mongolian language is gradually aging, and young people are unwilling to take the initiative to learn the language, so there is a gap in the age of speakers of the language, which is leading to the gradual decline of the local Mongolian language.

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