
Utilizing Internet Analysis Technology to Conduct Data Analysis of Student Attitude Survey

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Abstract

Language attitude is people's understanding and evaluation of languages, which has an important effect on language learning. Based upon investigation into 605 Tibetan college students from 5 colleges in Tibet areas, and combined with network data, this paper mainly analyzes their attitude towards Tibetan, Chinese and English from four dimensions: recognizing, instrumental, integrative and transferring attitude. This paper also discusses the relationship between students' language attitude and their gender and grade. This study utilizes internet analysis technology to analyze data obtained from a student attitude survey. The survey was conducted to examine the attitudes of students towards a particular educational program. The study includes a description of the survey instrument and the method used to collect data. The data collected was analyzed using various statistical techniques, including frequency analysis and correlation analysis. The findings reveal important insights into student attitudes towards the program and highlight areas of improvement for the program. The use of internet analysis technology proved to be an efficient and effective method of data analysis in this study. The study contributes to the growing body of knowledge on data analysis in educational research and provides useful information for educators and policymakers.

Keywords: Trilingualism; Language Attitude; Tibetan College Students; Big Data; Tibet Areas

1. Introduction

Language attitude is the common concern of sociolinguistics and psycholinguistics. Mentalism and behaviorism view of language believes that "language attitude is a very complex social and psychological phenomenon. It is not only an organic combination composed of cognitive emotions, behavioral tendencies and other factors, but also a whole that is difficult to separate completely. Different factors often have me in you and you in me, and there is an inextricable connection between each other [1]". "The actual needs, feelings, and interests of the language person are also important factors that affect the language attitude [2]". The sociolinguistics view of language attitude holds that "language attitude refers to the value and behavioral tendency of an individual towards a certain language or dialect [3]." At the same time, it is pointed out that language attitude is a manifestation of social attitude, and social development, cultural background, age, gender, closeness of social groups, language insecurity, etc. will affect the change of language attitude [4].

There are many research results on language attitudes. Yang Yu investigated and studied the language attitudes of Yunnan ethnic minority college students under the trilingual background of Min, Chinese, and English, and found that they hold positive attitudes towards Min, Chinese, and English. In comparison, Chinese has the highest degree of identity, followed by native languages, and English has the lowest degree of identity [5]. Xue Fen investigated the

language attitudes of domestic English learners towards English as a lingua franca (ELF) and found that English users have a positive attitude towards ELF [6]. Wu Xie's research on the language attitude of Yi nationality college students shows that: Yi nationality college students maintain consistent attitudes towards the three languages: usefulness, language sentiment evaluation and development expectations of the three languages of Yi, Mandarin and English. Among the three language attitudes, Mandarin has the highest proportion, followed by Yi language, and English has the lowest evaluation [7]. Among the existing research results, there is very little research on the Tibetan-Chinese-English trilingual attitudes of Tibetan college students in Tibet. For Tibetan college students in Tibet, Tibetan (mother tongue) is the basic language for community communication and daily life; Chinese, as the national language, is very necessary to master Chinese; as a part of the school curriculum system, English is also used as a global lingua franca. The learning and mastery of English is also a requirement for future development. Investigation and research on Tibetan college students' attitudes towards Tibetan-Chinese-English trilingualism can provide insight into their language learning tendencies.

This study defines trilingual attitudes as the learners' recognition of their own language resources and their education and use. It specifically covers the following four aspects of language psychology: identification trilingual motivation, instrumental trilingual motivation, convergent trilingual motivation and transfer trilingual motivation. Taking 605 Tibetan college students from 5 colleges and universities in the Tibet Autonomous Region as a sample, this study investigated the attitudes of Tibetan college students towards Tibetan, Chinese and English in the context of school education. And on this basis, analyze the relationship between the sample students' social characteristics such as gender and school level differences and their trilingual attitudes.

2. Research Methods

2.1. Research Object

As per the research design, this study utilized a stratified sampling method to investigate the trilingual attitudes of Tibetan college students towards Tibetan-Chinese-English. The researchers selected the freshman and third grades from five different colleges and universities in Tibet. In total, 605 student responses were collected and considered valid. The sample comprised 292 male students, which accounted for 48.26% of the total number of samples, and 313 female students, which accounted for 51.74% of the total samples. Regarding the grade distribution, there were 338 freshmen, making up 55.87% of the total sample, and 267 juniors, accounting for 44.13% of the total sample. The sample students were between 15-24 years old, with an average age of $M=19.61$ ($SD=1.356$) years old, as displayed in Figure 1. These findings provide a comprehensive representation of the attitudes of Tibetan college students towards trilingualism, while also ensuring that the sample is representative of the population by using a stratified sampling method.

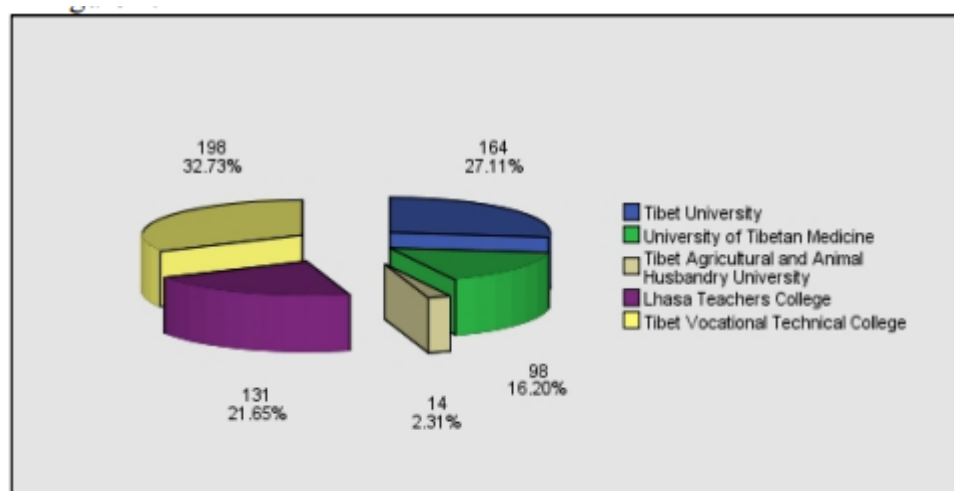


Fig. 1. Distribution of sample students schools

2.2. Research Instrument

This research utilized a questionnaire called the "Questionnaire for Students of Trilingual Attitudes in Tibet," which was compiled by Liu's research team [8]. The original questionnaire was modified slightly to suit the research objects, and after continuous correction and improvement, it was transformed into the "Tibetan College Students' Tibetan-Chinese-English Trilingual Attitude Questionnaire." The questionnaire was divided into two parts: the first part collected personal information of the sample students, including their school, grade, gender, age, ethnicity, fluent language, and first language used at birth. The second part was a Likert five-level scale consisting of 22 questions, which assessed the trilingual attitudes of the sample students from four dimensions: recognizing trilingual attitude, instrumental trilingual attitude, integrative trilingual attitude, and transferring trilingual attitude. To conduct the questionnaire survey, modern network tools were utilized. Each item in the five-level scale had five options, with 1 representing "completely inconsistent," 2 representing "not quite consistent," 3 representing "not very clear," 4 representing "basically consistent," and 5 representing "completely consistent." A higher score indicated a higher level of recognition for the item. The questionnaire's reliability test showed that its Cronbach's α coefficient was 0.836, indicating a high level of internal consistency and reliability. In the factor analysis, the KMO value was 0.882, indicating that the questionnaire was effective. To analyze the results, the data collected from the questionnaire were entered into the SPSS 20.0 database, and descriptive statistics and independent sample T tests were performed.

3. Data Analysis

3.1. Trilingual Attitudes of Sample Students

3.1.1. Recognizing trilingual attitude

This study focuses on the trilingual attitude of Tibetan college students in Tibet, specifically their recognition of the importance of using three languages: Tibetan, Chinese, and English, and the implementation of trilingual education. The trilingual attitude refers to a general tendency among students to value the use of all three languages [11-13]. In order to assess this attitude, the researchers developed a set of four-dimensional questions that explore different language use scenarios in the context of globalization [14]. These questions address the options of maintaining only Tibetan, only Chinese, only English, or using all three languages in a trilingual manner. The goal of this study is to gain a deeper understanding of how Tibetan college students perceive the use of these languages and their attitudes towards trilingual education.

Table 1. Descriptive statistics of the recognizing trilingual attitudes of sample students

Dimension	Question number	N	Minimum	Maximum	Mean	Std. Deviation
Tibetan monolingual maintenance	B6	605	1	5	2.34	1.143
	B11	605	1	5	1.87	1.234
Chinese monolingual maintenance	B5	605	1	5	3.57	1.165
English monolingual maintenance	B20	605	1	5	2.58	1.156
Tibetan-Chinese-English trilingual maintenance	B1	605	1	5	4.17	1.050
	B9	605	1	5	3.74	1.129
	B10	605	1	5	2.00	1.178
	Valid N (listwise)	605				

Table 1 presents the survey results for item B6 and B11 among Tibetan college students in Tibet. The respondents' average score for item B6 is 2.34, indicating a negative attitude towards learning Tibetan as the only language. This suggests that most Tibetan college students in Tibet recognize the importance of learning multiple languages for their language learning needs. Similarly, the average score for item B11 is 1.87, indicating that Tibetan college students highly value their mother tongue (Tibetan) and do not believe that it is less important in modern society. This highlights the importance of language and culture in maintaining national traditions. Therefore, the study suggests that Tibetan college students not only learn their native language for communication purposes, but also to preserve their traditional culture [15].

Regarding the sample group of students, when it comes to their identification with Chinese as a monolingual language, their average response to item B5 was 3.57. This indicates that they have a positive attitude towards the practical benefits of speaking Chinese and are willing to use the language in their interactions with people around them. On the other hand, the results of the survey on English monolingual maintenance show that the sample students' average response to item B20 was 2.58, which is lower than the mean value of 3 in the Likert five-level scale. This suggests that the students do not agree with the statement that it doesn't matter if they learn English or not, and they have realized the importance and necessity of learning English. They hold a high degree of recognition for the value of English learning, which is not only required by the school curriculum but also determined by the status of English as a global lingua franca.

Furthermore, the survey on the students' attitudes towards trilingual education revealed that the sample students had a higher attitude towards the necessity of learning Tibetan, Chinese, and English (item B1) with an average of 4.17, which is significantly higher than their attitudes towards maintaining Tibetan, Chinese, or English as monolingual languages. When it comes to the use of Tibetan-Chinese-English on campus, the students have a positive attitude towards it, as shown by their average response of 3.74 to item B9. However, the level of agreement is relatively low. Finally, the students' average response to item B10, "Learning Tibetan, Chinese, and English is a waste of time. I think learning one is enough," was 2.00. This suggests that the sample students maintain a high degree of identification with Tibetan-Chinese-English trilingual education and recognize the importance of learning all three languages rather than just one.

3.1.2 Instrumental trilingual attitude

The concept of an "instrumental trilingual attitude" has been introduced to explain the role of trilingual motivation in language learning. This refers to how students perceive and value the practical benefits of learning Tibetan, Chinese, and English. Two questions in the questionnaire were designed to assess students' instrumental trilingual attitudes: "Being able to speak Tibetan, Chinese, and English can lead to a prosperous life" and "Learning Chinese and English well can lead to good job opportunities". The data analysis of the questionnaire responses revealed that students held a positive attitude towards these two statements. Specifically, the mean scores for item B3 "Being able to speak Tibetan, Chinese, and English can lead to a prosperous life" and B16 "Learning Chinese and English well can lead to good job opportunities" were 3.51 and 3.45 respectively. These results suggest that students have a clear recognition of the practical benefits of learning Tibetan, Chinese, and English and view them as important for achieving their goals in life.

In summary, the concept of an instrumental trilingual attitude captures the practical motivations of students towards trilingual learning. The findings of this study suggest that students value the instrumental functions of Tibetan, Chinese, and English and recognize their importance in achieving their personal and professional goals.

3.1.3 Integrative trilingual attitude

The aim of language learners is to learn a language in order to establish a closer connection with the people around them and become an integral part of the community that speaks that particular language [16]. The questionnaire used to assess the students' attitudes towards trilingual integration consisted of two questions: "Learning Tibetan is very important for me to communicate with people around me" and "People who know both Tibetan and Chinese and English are smart". The results of the survey indicate that the students who participated in the study, on average, responded positively to both questions, with an average answer of 3.99 for item B14 ("Learning Tibetan is important for me to communicate with people around me") and 3.45 for item B22 ("People who know both Tibetan and Chinese

and English are smart"). These results suggest that the students had a supportive attitude towards trilingualism and believed that learning Tibetan was crucial to communicating with the people in their community.

The importance of being bilingual or multilingual is supported by internet big data, which demonstrates that individuals with multiple language skills have an advantage over those who only speak one language in all aspects of life [17]. This implies that the Tibetan college students in Tibet who participated in the survey exhibited a positive attitude towards the integrative function of trilingual learning, as demonstrated in Table 2. In summary, the students' desire to learn Tibetan indicates their eagerness to integrate into the local community and establish strong relationships with its members.

Table 2. Descriptive statistics of instrumental, integrative, and transferring trilingual attitudes

Dimension	Question number	N	Minimum	Maximum	Mean	Std. Deviation
Instrumental trilingual attitude	B3	605	1	5	3.51	1.145
	B16	605	1	5	3.45	1.019
Integrative trilingual attitude	B14	605	1	5	3.99	1.032
	B22	605	1	5	3.45	1.024
Transferring trilingual attitude	B8	605	1	5	2.39	1.116
	B12	605	1	5	2.61	1.173
	B17	605	1	5	3.82	1.054
	B18	605	1	5	2.81	1.116
	B21	605	1	5	4.18	.972
	Valid N (listwise)	605				

3.1.4 Transferring trilingual attitude

The main focus of the investigation is to explore the attitude of sample students towards Tibetan-Chinese-English trilingual education, from the perspective of language learning, as well as their awareness and attitude towards language transfer phenomenon that may occur during the learning process. The questionnaire used in the investigation included five questions to assess the students' trilingual attitudes, which are related to learning Tibetan, Chinese, and English languages [18-20]. These questions aimed to explore whether learning these languages would cause confusion or difficulty, whether it is necessary to master all three languages, and the potential benefits of learning three languages for academic success. The investigation found that the average values of the students' responses to item B8 and B12, which reflect their attitude towards the difficulty of learning three languages and learning science courses in Tibetan, were relatively low, indicating that Tibetan college students in Tibetan areas did not find learning three languages to be confusing or a hindrance to their academic progress. However, the mean values of the responses to item B17 and B21 were relatively high, indicating that students felt that learning three languages is necessary and would be of great benefit to their studies. The response to item B18 suggested that learning three languages simultaneously may pose some academic pressure, but overall, the students showed a supportive attitude towards trilingual education.

From a language learning perspective, Tibetan college students in Tibet displayed a positive attitude towards trilingual education and expressed a strong desire to learn and master the three languages of Tibetan, Chinese, and

English. Despite the potential challenges, students believe that mastering all three languages is crucial for their academic success, which reflects the importance of language education in their culture.

3.2. The Social Characteristics and Trilingual Attitudes of the Sample Students

3.2.1. Gender and trilingual attitude of sample students

Gender is a significant factor that influences language use and communication, and this study examines how it affects attitudes towards trilingualism [21]. The research findings presented in Table 3 indicate that there are significant gender differences in recognizing trilingual attitudes. The results of the independent sample t-test analysis demonstrate that the variances of the two sets of samples (male and female) are of different quality. This means that the trilingual attitudes of male and female students are not the same. The data in the "variance unequal" column show that the t-value is 3.023, and the p-value is .003, which indicates that the difference between male and female students in recognizing trilingual attitudes is significant. This suggests that boys have a higher identity trilingual attitude (Mean=2.9755) than girls (Mean=2.8183). In summary, the study highlights the importance of gender as a social variable that influences attitudes towards trilingualism. The findings reveal that boys and girls have different attitudes towards trilingualism, with boys having a more positive attitude than girls. This research can contribute to a better understanding of language attitudes and help educators develop effective strategies to promote trilingualism in educational settings.

Table 3. Analysis of gender differences in trilingual attitudes among sample students

	Gender	N	Mean	Std. Deviation	F	Sig	t	df	Sig. (2-tailed)
Recognizing trilingual attitude	male	292	2.9755	.70193	12.871	.000	3.023	558.139	.003
	female	313	2.8183	.56382					
Instrumental trilingual attitude	male	292	3.5257	.89107	.080	.777	1.365	603	.173
	female	313	3.4297	.83772					
Integrative trilingual attitude	male	292	3.7603	.83155	.002	.961	1.145	603	.253
	female	313	3.6821	.84565					
Transferring trilingual attitude	male	292	3.2014	.69953	7.873	.005	1.415	560.745	.158
	female	313	3.1278	.56729					

The passage discusses the results of statistical tests aimed at assessing gender differences in attitudes towards trilingualism. The tests were conducted separately for three different types of trilingual attitudes: instrumental, integrative, and transferring. For instrumental and integrative trilingual attitudes, the results showed that there were no significant gender differences. Specifically, the F values of the Levene tests for equal variances did not reach significant levels, indicating that the variances of the two groups of samples (male and female students) were homogeneous. Moreover, the t-tests conducted using the data in the "equal variance" column did not reach significant levels, suggesting that gender did not significantly affect students' attitudes towards instrumental and integrative trilingualism.

However, for transferring trilingual attitudes, the F value of the Levene test for equal variances did reach a significant level, indicating that the variances of the two groups of samples were not homogeneous. Despite this, the t-test using the data in the "variance unequal" column did not reach a significant level, indicating that there were no significant gender differences in students' transferring trilingual attitudes. Overall, the statistical tests suggest that gender does not significantly affect students' instrumental and integrative trilingual attitudes, and that there are no significant gender differences in transferring trilingual attitudes, despite the variance differences observed in the latter case.

3.2.2. Sample students' grades and trilingual attitudes

The results of an independent sample t-test analysis were conducted to examine the differences in trilingual attitudes among students with different grades. The analysis showed that there were no significant differences in recognizing trilingual attitudes, instrumental trilingual attitudes, integrative trilingual attitudes, and transferring trilingual attitudes between students with different grades. The Levene test for equal variances was used to check the homogeneity of variances between the two groups of samples. The F values obtained from the Levene test did not reach a significant difference for any of the four types of trilingual attitudes, indicating that the variances of the two groups of samples were homogeneous. For recognizing trilingual attitudes, the t-test analysis showed that there was no significant difference in the trilingual attitudes between the students of different grades. The p-value was greater than the significance level of 0.05, indicating that the difference was not statistically significant.

Similarly, for instrumental trilingual attitudes, although there was a difference in the mean scores of freshman and junior students, the difference was not statistically significant [22]. This suggests that the grades of the students did not affect their instrumental trilingual attitudes. In terms of integrative trilingual attitudes, the results of the t-test analysis indicated that there was no significant difference between the students of different grades. The p-value was greater than the significance level of 0.05, suggesting that the sample students' grades did not have an impact on their integrative trilingual attitudes. For transferring trilingual attitudes, the results of the t-test analysis showed that there was no significant difference between the sample students of different grades. The p-value was greater than the significance level of 0.05, suggesting that the grades of the students did not affect their transferring trilingual attitudes. In conclusion, the study found that the grades of the students did not significantly influence their trilingual attitudes. The homogeneity of variances between the two groups of samples further supports the validity of the results obtained from the t-test analysis.

Table 4. Analysis of grade differences in trilingual attitudes among sample students

	Gender	N	Mean	Std. Deviation	F	Sig	t	df	Sig. (2-tailed)
Recognizing trilingual attitude	Freshman	338	2.8715	.63118	.281	.597	-984	603	.326
	Junior	267	2.9230	.64784					
Instrumental trilingual attitude	Freshman	338	3.5030	.87920	.703	.402	.862	603	.389
	Junior	267	3.4419	.84593					
Integrative trilingual attitude	Freshman	338	3.7071	.84829	.245	.621	-420	603	.675
	Junior	267	3.7360	.82861					
Transferring trilingual attitude	Freshman	338	3.1905	.63650	.000	.989	1.187	603	.236
	Junior	267	3.1288	.63284					

4. Conclusion

The study examined the attitudes of Tibetan college students towards trilingual learning, specifically in Tibetan, Chinese, and English. The results indicated that the sample students had positive attitudes towards trilingual learning in four dimensions: recognizing trilingual attitude, instrumental trilingual attitude, integrative trilingual attitude, and transferring trilingual attitude. The students recognized the importance and necessity of trilingual learning and tended to use Tibetan-Chinese bilingualism in communication with their classmates, and Chinese or Tibetan-Chinese bilingualism in communication with their teachers. A positive language attitude was found to enhance language use. The study also investigated the relationship between the students' gender and their trilingual attitudes. The results indicated that male students had a higher degree of identification with the three languages and agreed more on the importance of trilingual education than female students. However, the gender differences were mainly concentrated

on recognizing trilingual attitudes. The students' instrumental trilingual attitudes, integrative trilingual attitudes, and transferring trilingual attitudes did not differ significantly based on gender.

Furthermore, the study examined the relationship between the students' grades and their trilingual attitudes. The results showed that the students of different grades did not differ significantly in their attitudes towards trilingual learning. This suggests that trilingual attitudes of Tibetan college students are not affected by the grade they are attending. Overall, the study found that Tibetan college students in Tibet have a strong desire to learn the three languages of Tibetan, Chinese, and English. They recognize the importance and necessity of trilingual learning and support it. For these students, Chinese and English are necessary for future development, while Tibetan is their mother tongue and necessary for daily life. The study highlights the importance of trilingual education in Tibet and the positive attitudes of Tibetan college students towards it.

It is worth noting that similar language attitudes were found in other parts of the world, indicating the universality of positive language attitudes towards trilingual learning. Future research can investigate the effectiveness of trilingual education in improving language proficiency and the benefits of trilingualism in academic and professional settings. In conclusion, the study provides valuable insights into the attitudes of Tibetan college students towards trilingual learning in Tibetan, Chinese, and English. The positive attitudes of the students towards trilingual learning suggest that trilingual education is important for their development and future success.

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