



Analogous Study of the Linguistic Knowledge between Monolingual and Bilingual Students in the Minority Region of Northwestern China

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Abstract

Minority students' English learning is a special and an indispensable component of English education system in China. This article studies students' linguistic knowledge that live in Northwestern China – Gan Nan Autonomy State of Gan Su Province with majority population of Tibetan, mixed with Chinese and some Muslim. An analogous analysis is conducted between **L2** students (Chinese students who learn English as a second Language) and **L3** students (Tibetan Students whose first language is Tibetan, second language is Chinese, and third Language is English) in English Linguistic Knowledge. The linguistic knowledge is constituted of vocabulary, grammar and reading skill. (Raykov, T., & Marcoulides, G. A., 2006) The paper concludes the remarkable difference exists between the Tibetan Students and Chinese students in Linguistic Knowledge, especially on vocabulary and grammar. The difference on reading skill is apparent, but not significant. The reasons that caused these distinctive or non-dramatic differences are explored and further discussed respectively.

Keywords: Monolingual, Bilingual, L3/L2, Linguistic knowledge

1. Introduction

Almost everywhere in the world, school education at elementary and secondary levels is provided in the official language of the country or region. For the large number of students, it is their native or first language, the language they acquired at home before they go to school. (Amos van Gelderen, 2003) It is true for Chinese students whose native language is Chinese and therefore are called Monolinguals. For a considerable number of students, however, the language of schooling is not their first language. Tibetan students who live in the study area are fall into this category and therefore are called Bilinguals. Most of the Tibetan students can speak Tibetan fluently before they acquired Chinese in school.

Some studies suggest that in learning foreign language, monolingual students (refer to **L2** students whose only language is Chinese before they learn English) and bilingual students (refer to **L3** students who master both Tibetan and Chinese before they learn English) possibly experience the same difficulties, being a second (L2) or a third (L3) language, is relatively new to both groups. By foreign language we mean a "non-indigenous" language, which is only taught at school. (Sanders and Meijers, 1995) English is the most commonly taught foreign language in Chinese secondary schools.

Some studies also suggest that bilingual students have an advantage in learning a new (foreign) language in comparison to monolinguals (Thomas, 1988; Valencia & Cenoz, 1993). Several explanations have been suggested for this advantage of L3 in contrast to L2 learning. According to Thomas (1988), bilinguals learning a third language have more sensitivity to language as a system, which helps them to perform better in formal language learning activities than monolinguals learning a new language for the first time (cf. Sikogukira, 1993). Corder (1979) suggests that knowing languages other than the L1 has a facilitating effect on learning a new language, because there are more opportunities for making comparison with the new language. Consequently, the L3 learners can generate a larger number of hypotheses about the new language's structure and characteristic and subsequently test them in the language learning process.

Instead of approaching the question from the point of view of advantages, it is possible to look for differences in the underlying structure. This article compares two groups of students' Linguistic knowledge to verify whether they both

experience the same level of difficulty in learning English. On the other hand, the article surveys all the L3 students to prove whether bilinguals do have more sensibility than monolinguals in English learning process as stated above.

To our knowledge, no similar comparative study has been done between minority students and Chinese students in the Northwestern part of China. For this part, the study is predominantly exploratory.

2. Methodology

2.1 Participants

The study is conducted with the advantage that I am the English teacher in He Zuo Minorities Teachers' College, the college trains English teacher for the Gan Nan Autonomy State and areas beyond. I have access to both monolingual and bilingual students in school year 2007-2008. A sample of 100 L2 students and 100 L3 Students from different grades were randomly invited for the survey. Students who identified themselves as L3 students are in the divisions called "Tibetan English Major", who are able to speak and write Tibetan fluently, can also speak and write Chinese fluently outside of their home environment. The ones identified themselves as L2 students are in the division called "Chinese English Major". Both groups' EFL (English as Foreign Language) education was focused on vocabulary, grammar, and reading skill.

2.2 Instruments

Two questionnaires were designed for the study. Questionnaire I intended to test students' linguistic knowledge objectively. The difficulty level of questionnaire was adjusted to the expected level of students considering the average English education level in minority regions is relatively lower than that of other regions. Questionnaire II provided background of two groups and evidence of students' reading skill capability, which ultimately lead to deeper discussion the study involved. The following paragraphs briefly describe the format of each test and how the survey conveys the tasks we are trying to accomplish.

Linguistic knowledge testing is embodied in the examination of their vocabulary, grammar knowledge and reading skill. The vocabulary test is conducted with the questionnaire that consists of 50 words, including noun, verb, adjectives, articles and adverb. Some words are existing words, others are pseudo words. Students were asked to mark down the valid English words for Vocabulary testing purpose. The grammar test asked students to specify the part of speech for each word using the same 50 words instrument. The reading skill was measured by a questionnaire consisting of 10 statements which students were asked to indicate agreement or disagreement on each of them. This is based on "The reading skill is the ability to use strategies that students developed in their first language to regulate the reading process in second or third language. For example, the reading of a text in order to find a piece of information requires a different strategy from reading for memorization of as many details as possible. The way readers adapt their reading strategies to their reading goals reflects their reading skill". (cf. Baker & Brown, 1984; Flavell, 1979; Schoonen, Hulstijn, & Bossers, 1998)

Questionnaire II was provided in both Chinese and English to ensure other possible variables that might affect the survey results are eliminated. (See attachment I and II).

2.3 Procedure

Tests were conducted during school hours in 5 difference classes, 3 of them consisted of L2 students, and the other 2 consisted of L3 students. The data were collected, accumulated, averaged based on different groups, and then further analyzed using Statistics Software to create linear distribution charts and histogram charts. Then, a trend of data distribution was also generated to reflect two groups of students' performance on linguistic knowledge. Finally the reasons that result in the corresponding distribution graphics were explored.

2.4 Scoring

The three components of Linguistic knowledge were scored by percentage to measure the two groups' performance. For each group, the highest and the lowest score were omitted as outliers. The average value of each component was then compared.

3. Data Collection and Analysis on Vocabulary and Grammar

3.1 Data Collection

The following 2 sets of words were selected to test L2 and L3 students' vocabulary and grammar knowledge. (please also see section 1 of Attachment I)

Sam, Sad, Sag, Sax, Saw, Sat, Sap, Settle, Sandal, Sahara, Seattle, Scandal, Sable, Salutee, Sapour, Sarah, Sattyer, Seattle, Sorry, So, Sister, Sit, Stupid, Sperm, Spam, Student, Settle.

August, Aouroust, Anger, Australian, Arm, Anticipate, Anthrax, Autonomy, Automobile, Aunt, Ant, Anxious, About, Annous, Akans, Adrin, Afing, Alone, Adues, Aristics, Artist, Aborn, Ador

The questionnaires were collected and then classified to L2 group and L3 group correspondingly. The score was given to each questionnaire based on the percentage of questions that were answered correctly. Students get one point if they can recognize an existing word correctly, vice versa, they get one point if they can recognize a pseudo word. The total score for word recognition is 50. If a student can distinguish all the words correctly, he gets 50 points on vocabulary part. On grammar test, if students can indicate the right part of speech for a word, he gets one point. If he can indicate all 50 words correctly on their part of speech, he gets 50 points. With total 100 points, if a student earned 30 points on word recognition and 40 points on grammar, his scored is 70 in total.

3.2 Data Processing

The scores were accumulated, categorized into 5 levels: 90-100, 80-90, 70-80, 60-70, and less or equal to 60. A frequency polygon and a histogram were generated out of those scores to compare the two groups of students' performance. See Figure 1.

Insert Figure 1 Here

The frequency polygon diagram (Figure 1) indicates the highest score among L2 Students is 93, and the lowest score is 45. Whereas, the highest score among L3 Students is 90, and the lowest score is 28.

Another histogram chart is generated to measure the frequency distribution of students' score. See figure 2.

Insert Figure 2 Here.

The blue histogram bar chart shows that the majority of L2 students (48%) scored between 70-80, whereas, the red histogram tells the story of the majority of L3 students (49.5%) scored lower than 60. There are about 10% of L2 students scored below 60. Interestingly the number of students who scored between 60-70 from both groups is almost the same.

Correspondingly, the polyline represents the trend of 2 groups of students score distribution. The blue line shows L2 students' score is a near normal distribution with bell shaped diagram plotted. In another word, the mean, media, and mode value of the scores are almost equal and locate at the peak of the arc. As we calculated those values for L2 students, we found they are consistent with the diagram as following: the mean score μ (Average of all score) is 70.42, the median score (half of students scored over the median and half of the students scored below the median) is 71, and mode (midpoint of the class containing the largest number of class frequencies) is 75.

We also calculated the standard deviation (σ) for L2 students, which is the value to measure the variability of data in a sample. The standard deviation of the L2 students is 10. That means around 68 percent of the L2 students' score are located within 60-80 ranges, which is between $\mu-\sigma$ and $\mu+\sigma$. 95 percent of L2 students' score are within 50-90 ranges, which is between $\mu-2\sigma$ and $\mu+2\sigma$.

$$f(x) = \frac{e^{-(x-\mu)^2} / (2\pi^2)}{\sigma\sqrt{2\pi}}$$

Where μ is the Mean value of the sample, and σ is the standard deviation.

The red line represents L3 students' score. It is very different than the blue line in that it is not bell shaped; instead it depicts a trend that with increasing number of students get lower score in general. We also calculated the Mean, Medium and Mode value for L3 students score, they are: the mean μ score of L2 students μ is 56.12, the median score (half of students scored over the median and half of the students scored below the median) is 60, and mode (midpoint of the class containing the largest number of class frequencies) is 45. Those numbers are very different comparing to L2 students' corresponding value. The standard deviation for L3 students is 16. The trend is in a skewed distribution pattern, which indicates that either the students' sample was not broad or large enough or there are special reasons causing the skewness.

Since all 100 of L2 and 100 of L3 students were randomly selected for participation, and we later verified using the questionnaire 2 (see attachment II) that all of the L3 students are Tibetan, they came from different area of the state. It eliminates the possibility that sample data are not broad or large enough. There must be special reasons caused this skewed distribution of L3 Students' performance on linguistic knowledge. We will discuss it in the next section.

Both the trend line and statistic measurement variables reveal the fact that there are big differences exist between L2 and L3 students' linguistic knowledge.

3.3 Data Analysis

By digging deep of reasons that L3 student's linguistic knowledge is far behind L2 students, combining my 10 years of working experience and more than 30 years of life experience in the area, I identified the following facts that count for this result.

First, age-linguistic factor: As we all know that the earlier people expose to a foreign language, the easier they master the language and better linguistic skill they developed of that language. L3 students were exposed to English in their high school years, and had received an average of 4.5 years of education in EFL (English as Foreign Language); Whereas, L2 students started learning English in their junior high school years, and had an average of 7.5 years of education in EFL. In another word, L2 students started English learning during their puberty. This is the time that the human brain takes a “set” in the “language center”, having the best capability of memorizing and processing the language details, the flexibility and effectiveness of the language functionality loose after then. (Jorge Chavez, 2002). Three years of difference in learning a foreign language stage made a huge difference. Philologists tell us that if you learn three languages before puberty, your language centers will remain adaptive and flexible. Anyone who has learned three languages as a child will be able to learn a fourth or fifth language later in life, and learn to speak it without an accent. The result of the data analysis indicates that L2 students established solid linguistic skills of vocabulary and grammar, while L3 students are still in the process of accumulating and acquiring that knowledge.

Second, psycholinguistic factor: due to the culture difference, L3 students have some learning barriers of English. Most of the L3 students grew up in small villages, where the environment and culture are relatively obdurate. Most of them never went outside their villages until they went to high school, and 70% of the L3 students never been to the big cities like capital of the province- Lan Zhou. It took them quite awhile to get used to the college life, not even mention they are overwhelmed and challenged by modernism of the city in many ways from culture, mentality, and life. L3 students are psychologically self-contradictory, complicated, and therefore tend to be shy, that is manifested by not speaking out. Most of them avoid to read English loudly, some of them are afraid of answering questions in the class especially when they do not know how to pronounce. In the traditional Tibetan culture people even believe that girls are not suppose to speak out in front of public. We found that L3 female student’s score were especially low when we counted only female L3 students’ score.

Third, sociolinguistic factor: most of L3 students’ worldview and ethical consciousness have established before they learned English. In other words, their nationalism and the environment where they grow up have determined their way of thinking and learning. The social relationship among Tibetan is simpler than Chinese and Western Country in many ways. As they grow up, their mother language and the way of thinking are already challenged and modified, sometimes conflicted by Chinese. They started learning English as the their third language after all above factors occurred, the conflicts and distraction from both their mother language and second language stressed learning barrier in the process of acquiring English. After all, Tibetan, Chinese, and English are so difference in many ways such as pronunciation, grammar, structure, implementation and especially culture. For instance of name, Tibetans have no last name, only first name, they can only choose their name from existing names. They are not supposed to create new names. That leaves a very high chance of duplicated names among Tibetans. Chinese have both Last and first name. Last name is usually from family, first name can be created and combined with any word usually up to 3 words, and pronounce the name as Last name first and then first name. In western culture, people have first name, **middle names** (placed between the first and last), and last name. First and Middle name are both given name by parents, usually second given name (middle name) mean different thing to different people, some people may choose a middle name by using the literal meaning of the name, while others may choose their middle name based on a more sentimental meaning. In the U.S, the middle initial is sometimes used in formal documentation or official records, such as George W. Bush. They pronounce first name, and last name in the daily use, but omit the middle name.

4. Data Collection and Analysis on reading skill

4.1 Data Collection

Second part of questionnaire I was designed to examine students’ reading skill, which is the ability to use their reading strategies to regulate the reading process.

Students were asked to indicate the sentences that they think reasonable and agree with. (Please also see section 2 of Attachment I)

1. The computer is made of iron and plastics.
2. Car has 8 wheels.
3. Light can reveal the darkness
4. Sun and Moon are moving most of the time but stops sometimes.
5. She wants to go to bed because she is tired.
6. No one know his name except his teacher
7. School opens at 3 am in the morning
8. Students love to play volleyball because it is not nice.

9. Kids argue to each other because they want their parents to fight
10. I hope I get a good score in school so I can drop school.

The questionnaires were collected and then classified to L2 and L3 group respectively. Students get 10 points on each sentence that they did right, and total score is 100.

4.2 Data Processing

The data processing procedure is the same as the one for Vocabulary and Grammar: scores were accumulated, categorized into 5 levels: 90-100, 80-90, 70-80, 60-70, and less or equal to 60. A histogram was then created to show the reading skill of two groups of students. See Figure 3.

Insert Figure 3 Here

79% of L2 students scored over 60, whereas, 64% of L3 students scored over 60. The majority of L2 students scored in 60-70 ranges, and majority of L3 students scored in the same range. It is very interesting that we found no significant difference existed between L2 and L3 students in reading skill even though L3 students are still behind of L2 in general. L3 students did better in reading test than on Vocabulary and Grammar.

4.3 Data Analysis

Recently, the role of meta-cognitive awareness in L3 reading has been studied (Bruno, 2001). According to this study, L3 readers may use their awareness of reading strategies and lexical awareness developed in L1 and L2 to compensate for their limited proficiency in the foreign language. Hacquebord (1989). Statements were designed to test the strategies student took to finish their reading goal, including the ability to pick up the key words while reading, and ability to use common sense to make a logic judgment. We found as long as both L2 and L3 students capture the key word and understand the meaning of the sentences, they can make logic and precise judgment of the statements. However, 20% of L2 students 36% of L3 students are still scored below 60 largely because the foundation of vocabulary and grammar was not established solid yet. Foreign language reading skill is very much dependent on the reading skill that students developed in their first language. Good first-language readers will read well in the foreign language once they have passed a *threshold* of foreign language ability. (O.c.: 4). It seem most of L2 and L3 students developed good reading skills on their first language, as soon as they pass the threshold on linguistic ability, they should be able to pass that strategy on English reading.

The questionnaire II was designed to supplement and verify the reading skill theory stated above (Please see attachment II). It provided the background of each student, as well as their findings of the comparability between Tibetan and English. The result of survey shows that 95% of the L3 students found there are some similarities between English and Tibetan. They have also compared the English with Tibetan during their English learning process. 60% of students were able to give some examples of the similarities between Tibetan and English such as grammar and tense.

To sum up the data collection and analysis, the analogous analysis of relationship between L2 and L3 students in linguistic knowledge shows there are significant differences between two groups on Vocabulary and Grammars, however there is no substantial difference on reading skill between 2 groups.

5. Findings and Conclusions

We used the componential model to determine the contribution of constituent skills to L2 and L3 students in English Linguistic knowledge. The questionnaires are designed specifically for those three skills. The data were then collected and analyzed; the data distribution and correlation of two groups on each skill were then mapped and further discussed.

The result of the study indicates that the componential model of English Linguistic Knowledge is valid for both L2 and L3 students. The significant differences exist between L2 and L3 students on vocabulary and grammar; however, it is minor in reading skill. We discussed there are English learning barriers among L3 students that caused by social, psychological and age factors, though we found L3 students are intelligent in making logic judgment of the sentence in their reading test. L2 student has advantage over the L3 students in many ways, they started learning English earlier, they were raised in an environment that are relatively more open to the outside world, they have less conflicts and confusion in their English learning course. However, L3 students are advanced in the area that they prone to be more sensitive to the English as they have more opportunity to make comparisons, and in turn may generate a larger number of hypotheses about the English structure and characteristics and subsequently test them in the English learning process. It is perfectly proved by their reading skill and answers of the questionnaire II.

China is on fast track in developing economy, and with new appearance interacting with the rest of the world. The necessity and pressure of master English is crucial to both L2 and L3 students as it is the key to communicate with the western world. In the northwestern minority region, English learning seems extremely important, as those students are the motivators who will drive the region to mingle with rest of country and even interact with rest of the world. They are the generations to take China to the world stage and play an important role in the world political and economic arena. L3 students are expected to adjust themselves to the Chinese community in the overall culture mingle course, with more open

mindful attitude and prepare themselves for challenges. They can and will make huge contribution to the Region's economical, political, educational and social development, and they will be the elite among the Tibetans to develop the region to be a better place to live on the earth.

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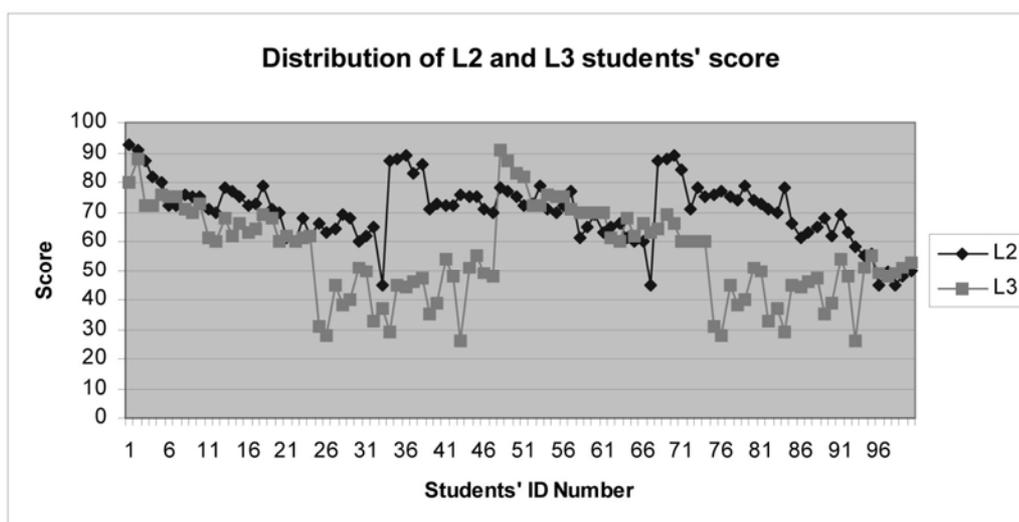


Figure 1.

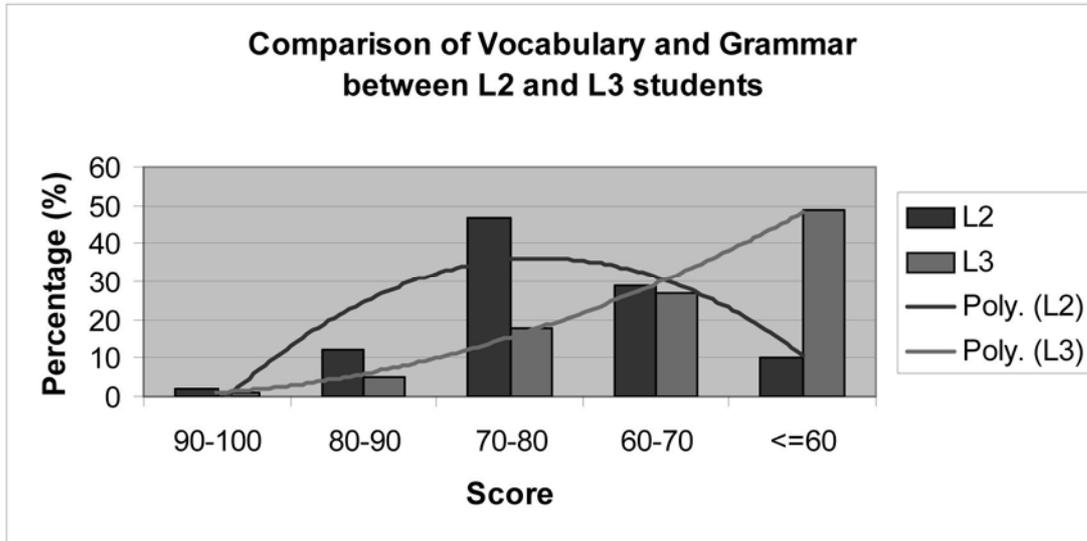


Figure 2.

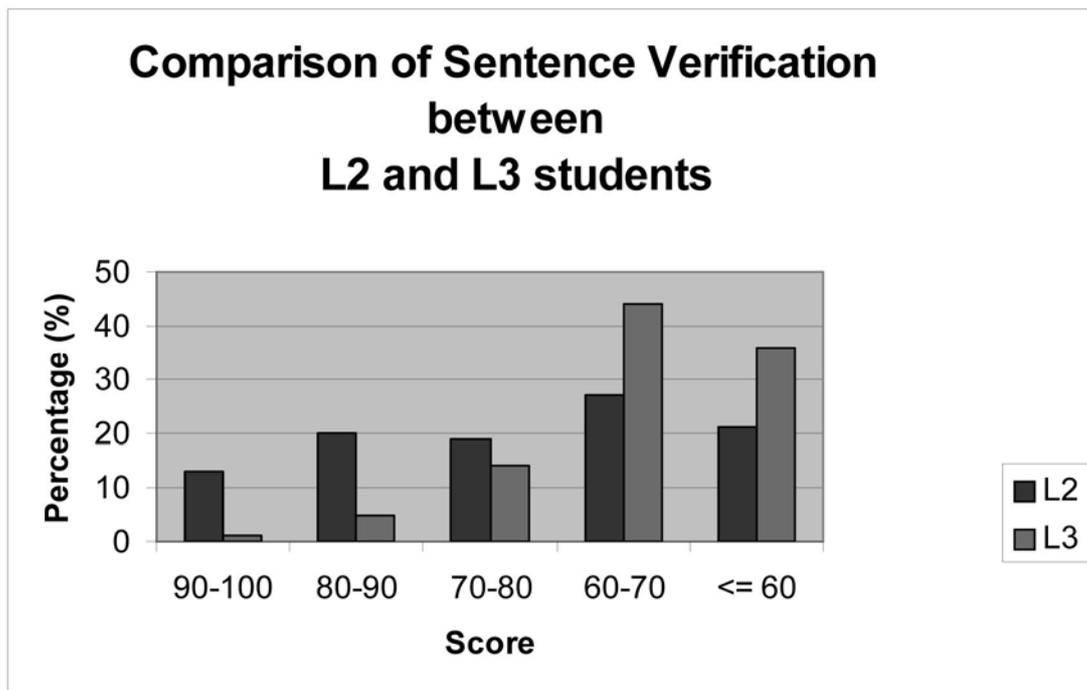


Figure 3.