https://doi.org/10.51483/IJEDT.3.1.2023.1-15 ISSN: 2788-5011

International Journal of Education and Teaching
Publisher's Home Page: https: / / www.svedbergopen.com /

Research Paper Open Access

A Study on the Effectiveness of Chinese Character Etymology Teaching of Lower Grade Students in the Primary School of the Yi Ethnic Group

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Article Info

Volume 3, Issue 1, June 2023
Received : 30 January 2023
Accepted : 22 May 2023
Published : 05 June 2023
doi: 10.51483/IJEDT.3.1.2023.1-15

Abstract

Chinese character etymology Teaching is traced through their original patterns and evolutionary process. It has unique teaching value as a literacy method to improve the quality of students' Chinese character learning, stimulate their interest in education, enhance their thinking development, and pass on the development of their own culture. When teaching Chinese characters, there is a slow pace of teaching, low and weak literacy, and irregular writing students of Lower Grade Students in the Primary Schools of the Yi ethnic group. It is not conducive to improving the overall quality of students in the Yi ethnic group and the high-quality development of education in the Yi ethnic group, so it is urgent to study how to improve the quality of Chinese character learning for elementary school students in the Yi ethnic group. This study was conducted in the first grade of Yi elementary school. The study shows that Chinese character etymology Teaching can effectively improve students' literacy and writing skills, as well as promote the development of students' memory comprehension and observation skills, achieve the experimental purpose of effectively improving the quality of Chinese character learning for students in the lower grades of Yi elementary school, and provide a reference for exploring effective solutions and mechanisms for strengthening Chinese language teaching in Yi ethnic group and even other ethnic groups.

Keywords: *Teaching methods, Chinese character, Acquisition of Chinese character, Ethnic communities*

1. Introduction

China is a multi-ethnic country with many ethnic groups, languages, and scripts. Among the 56 ethnic groups, all of them use their languages and scripts, except for Han, Hui, and Manchu, which are commonly used in Chinese (Postiglione,, 1999). The languages of ethnic minorities have been developed in the course of long-term use through the test of historical competition for language functions. Objective and practical needs have determined the development of these languages into their native languages and have their aim inevitability. Nowadays, except for a few ethnic groups that

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have switched to Chinese to varying degrees, most ethnic groups use their languages as the primary means of communication in their daily lives and use scripts consistent with their languages. For minority students, due to differences in their growing environment, cultural background, behavior, and cognitive thinking, they will inevitably have difficulties in code-switching, difficulty in reading and understanding Chinese, and difficulty in remembering and writing Chinese characters when learning a second language, which makes minority students feel intimidated in acquiring Chinese, the quality of Chinese teaching is not high (Khasinah, 2014). The overall Chinese standard in ethnic areas is low.

Chinese language ability includes Chinese characters, phonetics, grammar, vocabulary, and other aspects. Chinese character acquisition is a unique language module in Chinese language acquisition (Scrimgeour, 2011). As an essential part and complex point of Chinese language education in ethnic areas, improving its quality is significant to developing Chinese language education in ethnic regions. Therefore, how to stimulate minority students' interest in learning Chinese characters, improve their Chinese character literacy, and enhance the quality of Chinese character education in ethnic areas needs urgent attention and research.

2. The Current Situation of Chinese Character Learning in the Lower Grades of Elementary Schools in the Yi Ethnic Group

2.1. Students Have A Low Number of Chinese Characters and a Weak Ability to Recognize Chinese Characters

Most students in the Yi ethnic group were not exposed to Chinese characters before entering school. Students' literacy is limited to the dozens of Chinese characters taught by kindergarten teachers. A semester or a year after entering school, many students still need help reading the required Chinese characters they have already learned and cannot read a text or newspaper in its entirety. The author conducted a vocabulary literacy survey of first- and second-grade students in a school in the Yi ethnic group, and only 23 of 89 students could complete all vocabulary recognition. When examining the meanings of the individual characters, almost all students in the lower grades needed clarification about the concept of the unique characters. They appeared to be able to read but did not understand their meanings and could not use the characters correctly for creative purposes. As we can see from the table, more than half of the student's grades are in the 60-75 range, 19% of the students are unqualified, and 74% of the students are in the 0-75 range, which means that the majority of the students' language grades are not high. Chinese characters are the foundation and starting point for language learning in the early grades, and learning familiar Chinese characters is the main task in the early grades of elementary school. The low literacy level and weak literacy skills of Yi students directly lead to low language achievement in the Yi ethnic group.

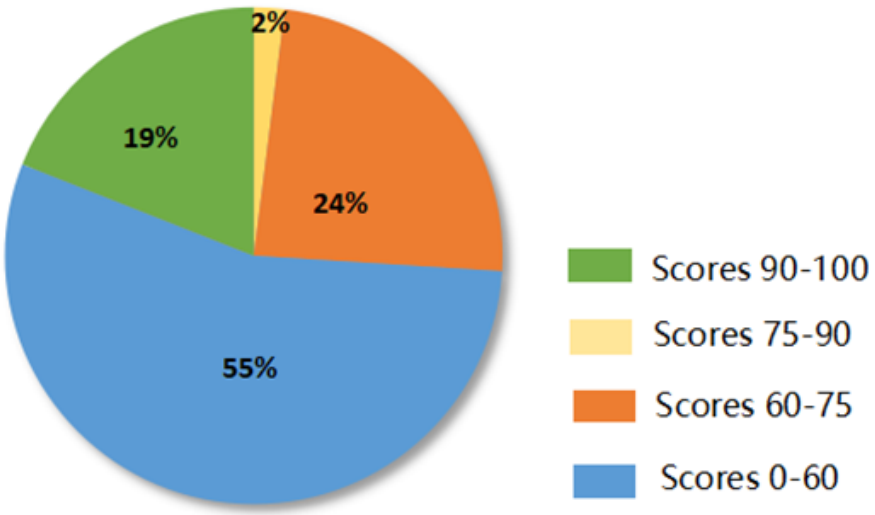

Figure 1: Final Grade 2 Language Results of an Elementary School in Sikai Township, Zhaojue County—Sichuan Province

2.2. Teachers' Slow Pace of Teaching and Inefficient Literacy Instruction

In the spring semester of 2023, for example, language courses in other areas of Sichuan Province, which started at the same time, were already in the first lesson of Unit 3 a month after the school year began, while the teaching progress of language courses in Yi ethnic group was in the first lesson of Unit 2, which was a whole unit behind the teaching progress of non-minority areas. In order to complete all the language teaching tasks in one semester, most of the language classes in the Yi ethnic group take up more than half of the total class time of students. Language teachers will take up the time of other non-major classes on the schedule, such as music and art, in order to catch up with the progress, which is a significant burden for the language learning of first and second-grade students. In the lower grades, it takes 2-3 hours to explain the new characters that appear in a text. The slow progress of teaching is because teachers emphasize the recognition of Chinese Pinyin when explaining new characters and defining new characters by first noting the phonetic sounds and then breaking down the structure of the characters and clarifying the order of the strokes; Secondly, the attention span of the students in the lower grades is low, and the actual adequate teaching time in the classroom is short. According to a teacher, a class should only have 15 minutes of new content, while the remaining time should be dedicated to maintaining discipline and reminding students to pay attention. This is especially important for first-grade students, who should only be introduced to a maximum of two Chinese characters per class.

3. An Analysis of the Problems of Teaching Chinese Characters in the First Grade of an Elementary School in the Yi Ethnic Group

The root causes of "difficult to learn Chinese characters" in lower elementary school literacy teaching in the Yi ethnic group are three: first, the complexity and uniqueness of Chinese characters; second, the unique way of thinking and cognitive habits of students in the Yi ethnic group; and third, the single method of teaching Chinese characters reduces students' interest in learning.

3.1. The Complexity and Uniqueness of Chinese Characters

The most essential characteristic of Chinese characters is their ideographic nature (Hansen, 1993). From the dictionary, "ideograph: a script that uses a system of symbols to represent semantic meaning, has a certain pronunciation, but does not simply represent speech. The late ancient Egyptian, cuneiform, and Chinese characters are usually regarded as ideographic scripts"(*Dictionary*, 2019). It is clear that Chinese characters belong to the ideographic writing system, which is a "trinity" of form, sound, and meaning. "There are about 60,000 Chinese characters, and the meanings expressed in these characters are roughly the meanings of the 60,000 monosyllabic words in Chinese, which are basically a combination of form and meaning, with one Chinese character corresponding to one word"(Xu, 2016). In the process of transmutation of the world's national scripts, only Chinese characters have retained their unique imagery and become a highly unified script in terms of pronunciation, form, and meaning after thousands of years of operation. In the thousands of years of development, the way Chinese characters are formed has changed several times, but the "archetypal" form of Chinese characters has not changed fundamentally, and is basically a semantic form. There is an intrinsic and logical connection between the state and the meaning of Chinese characters, which expresses the natural world as perceived by the ancestors in their unique and concrete images. Although modern Chinese characters are less aesthetically meaningful, the character's shape still carries a certain amount of meaningful information (Wang, 2021).

The most apparent feature of Chinese characters is that they are square-shaped, unlike all alphabetic writing systems, which are one-dimensional and linear in configuration and have left-right or left-center-right, top-down or top-middle-bottom structures, which are two-dimensional and flat (Kang and Wang, 2022). Although the basic strokes of Chinese characters are horizontal, vertical, apostrophe, dot, and fold, many different combinations of strokes make the learning process of Chinese characters challenging to recognize and write.

3.2. The Unique Way of Thinking and Cognitive Habits of Students in the Yi Ethnic Group

The way of thinking is closely related to language, the method of thinking is the deep mechanism of language generation and development, and vocabulary contributes to the formation and development of the way of thinking, which is the primary carrier and prominent expression of thought (Yu, 2020). Studies have shown that reading Chinese vocabulary by native Chinese speakers induces an electroencephalographic response in the parietal region of the brain that is unique to Chinese character reading (Zhang *et al.*, 2012). The use of Chinese characters generates a uniquely Chinese way of thinking, which is externalized into every nerve ending of Chinese culture, art, philosophy, and other social life. It internally constitutes a unique way for Chinese people to approach the world (Zhang, 2023). The children of the Yi ethnic group grow up in their native language environment. Yi children acquire the Yi language under the baptism of Yi culture,

and the students have developed a way of thinking exclusively for the Yi ethnic group. Coupled with the long-term lack of Chinese communication context and Chinese learning environment, it isn't easy to learn Chinese naturally, unconsciously, and coherently before enrolling in school. When they learn Chinese in school, their native language system is already established, and their thinking skills are already formed. They usually use their acquired knowledge of their native language to guide, explain, compare, and translate the second language and do not have the advantage of the thinking style of Chinese speakers. This is demonstrated by the following: Yi and Chinese have different language habits. Yi is "subject-object-predicate," with the verb usually placed at the end, contrasting with the sentence structure of modern Chinese, which is "subject-predicate-object (Zhang *et al*., 2022). Differences in language habits lead to problems such as bias occurring when performing Yi to Chinese conversion and taking a long time to reflect. And Yi has no radicals. The oval and half-circle are the main strokes of Yi script, and the shape is easy to learn. But the Chinese characters have complex strokes and different conditions. From the beginning of their cognition, Yi children have considerable difficulty extracting the features of Chinese character structure and need better comprehension and recognition of Chinese characters.

3.3. Single Method of Teaching Chinese Characters Reduces Students' Interest in Learning

In all the schools visited, Chinese language instruction begins with Chinese Pinyin, taught throughout the first grade in some schools in the Yi region. The vast majority of teachers teach literacy by first writing the characters on the blackboard, labeling them with their Pinyin, then deconstructing the structure of the characters, forming words and sentences, and finally asking students to read them aloud and repeat them. Especially in the lower grades, the teaching of literacy follows the "pinyin-Chinese character" pattern and focuses on static mechanical memorization. Language performance positively correlates with motivation when minority students learn a second language (Shi, 2022). The single traditional teaching method makes students tired of learning and loses the desire to explore Chinese characters, making it difficult to effectively improve their Chinese language skills. According to Piaget's assimilation and conformity theory of knowledge construction, assimilation refers to acquiring information from the external world and assimilating it with our established knowledge; conformity involves changing old schemas to process new information and objects in the environment (Solso *et al.*, 2019). Students in the Yi region have yet to be exposed to Chinese characters and Chinese Pinyin daily. The acquisition of Chinese characters and Chinese Pinyin is a process of knowledge compliance for Yi students. Students have to memorize both Chinese characters and Chinese Pinyin in a short period and adapt to new knowledge by repeating aloud and writing a lot, which not only overloads students with pressure to learn but also has poor learning results.

4. The Significance of Research on Literacy Teaching in the Lower Grades of Elementary Schools in the Yi Ethnic Group

From the above, it is clear that the complexity and difficulty of the Chinese characters themselves, the different cognitive and thinking styles of students in the Yi region, and the mechanical approach to literacy teaching make it difficult and ineffective to teach literacy in elementary school in the Yi region. How improve the quality of Chinese character education in the Yi region is a top priority for improving the quality of education in the Yi region. This study intends to improve the literacy and literacy skills of lower elementary school students in the Yi region, reduce the fear of learning Chinese characters, and enhance the interest of Yi students in learning Chinese characters through Chinese Character Etymology Teaching. At the same time, enrich theories related to Chinese character teaching in minority regions.

5. Concept and Feasibility Analysis of Chinese Character Etymology Teaching

5.1. The Connotation of Chinese Character Etymology Teaching

5.1.1. Meaning of Chinese Character Etymology Teaching

Chinese Character Etymology Teaching is to understand the original meaning of each character and the principles of character construction through the character structure of Chinese characters (Chang, 2017). It has two dimensions: teaching philosophy and teaching method. Regarding teaching philosophy, Zhang Shiya points out that Chinese Character Etymology Teaching is "centered on developing the whole person's thinking, learning words, mastering reading and writing, and improving cultural quality." The teaching method is "based on the research results of philology, through the glyphs of Chinese characters, we trace the origin of Chinese characters through their original pictures and the evolution of the characters, in order to establish the connection between modern Chinese characters and their original contexts, and to help students understand the construction and meaning of Chinese characters from their origin and thus recognize them" (Liu and Zhang, 2010). This paper on Chinese Character Etymology Teaching focuses on teaching methods.

5.1.2. The Process of Chinese Character Etymology Teaching

Chinese Character Etymology Teaching consists of three main aspects. The first is to show the etymology of Chinese characters. The etymology of Chinese characters is the basis of the Chinese Character Etymology Teaching. Students are offered the original forms of Chinese characters, and the objective objects corresponding to the states of Chinese characters are presented in the form of pictures or objects so that they can have a more concrete image of Chinese characters in their consciousness and understand the connection between the states of Chinese feelings and the intentions of their creation.

The second is to show the process of character evolution. Chinese characters have evolved from pictographs to abstractions through the development of oracles, inscription in bronze, small seal script, clerical script, and regular scripts, becoming increasingly simplified and symbolic. By showing the evolution of the abstraction of Chinese characters, the presentation of "physical images—abstract images—early ancient characters—evolution of characters—modern Chinese characters" enables students to establish the connection between characters and symbolic objects.

The third is to sort out the character-meaning relationships of Chinese characters. The most important feature that distinguishes Chinese characters as ideographic characters from phonetic characters is that they represent their meaning by their shape. The shape of a Chinese character directly or indirectly indicates the meaning of the character. Both visual images and abstract symbols are closely linked to the meaning to be expressed. Therefore, it is essential to explain the meaning of Chinese characters so that students can memorize them based on their understanding of the meaning.

5.1.3. The Theoretical Basis of Chinese Character Etymology Teaching

5.1.3.1. Chinese Character Etymology Teaching Follows the Evolutionary Development of Chinese Characters

Scholars in different fields have views on the origin and development of Chinese characters from their disciplinary perspectives. Xu Shen describes in "Shuowen Jiezi" that" in the immediate sense it is taken from anything around us, and in the far mind it can be obtained from anything (Xu, 2009). This shows that the ancient ancestors created Chinese characters based on primitive natural landscapes and human characteristics in their production and living practices. This process went through roughly three stages.

The stage of direct conformation is based on physical objects. This is the primary stage of Chinese character development. The primitive people constructed the form of words through visual depictions of objects. The early oracle and inscription in bronze have obvious intuitive conformational features. For example, the oracle of " 山 "  ""is clearly the head of three mountain fronts on the horizon. Small Seal Character Form"  " "The lines of the characters are standardized and symbolized, but it is clear that the character configuration is still the appearance of a mountain shape. In terms of character formation and evolution of characters, it seems that the characteristics of pictograms are basically maintained.

With the development of the abstract thinking of the primitive people, the pictorial nature of the Chinese characters gradually faded in the course of their evolution, transformed into the second stage, Chinese characters no longer directly describe the shape of natural objects to reflect the meaning. Instead, the meaningful information is carried directly into the character form with the help of meaningful symbols.

The third is the stage of morphophonetic characters. The emergence of morphophonetic characters has brought Chinese characters to maturity. Ancient Chinese characters have a strong pictographic meaning, and it can be said that the meaning can be deduced from the shape of the character. Modern Chinese characters are largely transformed from primitive images to abstract symbols, Chinese Character Etymology Teaching starts from the original form of Chinese characters, establishes the connection between modern Chinese characters and their original context, helps Yi students understand the construction of Chinese characters and their meaning, so as to increase their literacy and improve their ability to read and write.

5.1.3.2. Chinese Character Etymology Teaching Appropriate for Children's Cognitive Development

Piaget argues that: "Children's cognitive processes are divided by stages, and school-age children aged 7-12 are in the concrete operations stage; children in the concrete operations stage are able to reason about concrete situations or things according to the logical method, but their thinking is still not free from the support of concrete things" (Inghail *et al*., 2001). According to Piaget's theory of cognitive development, it is known that children in the early elementary grades are in the stage of intuitive thinking. Intuitive thinking relies on the subject's senses, perception, memory, and other mental factors, through direct contact with nature, and thinking by sensory stimulation. Therefore, the materials most easily understood by learners at this stage must be intuitiveness. Chinese Character Etymology Teaching is to recognize the particularity of children's cognitive development, first from the word form to link to specific things in order

to understand the concept of things, and then expand from specific features to general comprehensive words, while using objects, models, or videos to show objects, to guide children from pictogram to abstraction, in order to achieve the purpose of literacy, is in line with the current situation of children's cognition and its development.

American psych biologist Professor Roger Sperry conducted a series of brain-splitting experiments, It was discovered that the human brain is split into two hemispheres, the left brain is responsible for logic, the right brain is responsible for graphics and text, and the right brain has the function of visualization (Ciccarelli and White, 2021). This particular intuitive ability appears most often in the right brain of children between the ages of 0 and 6, and then more easily between the ages of 6 and 12, with increasing difficulty after that. Studies have confirmed that Chinese second language learning is closely related to the right brain, and that the initial learning of Chinese as a second language relies on important brain areas in the right brain, This reliance diminishes as Chinese language skills improve (Zhang *et al.*, 2023). Chinese Character Etymology Teaching made use of the special functions of the right brain during this period, Making full use of objects and pictures to create an environment for learning Chinese characters. Help Yi students make the "picture-Chinese character-word" connection.

5.1.3.3. Chinese Character Etymology Teaching is Aligned with Multimodal Teaching Theory

With the development of information technology and the emergence of more expressions, multimodal theories have been developed. When a person acquires information through a channel that contains more than two perceptual channels, it is called multimodal. From a multimodal perspective, the act of teaching can be understood as a multimodal system of educators collaborating with language, images, videos, and body language to achieve the most meaningful expression and effective information transmission, as well as guiding learners to develop cognition with the help of multimodal tools and methods (Wang, 2019). It has been demonstrated that multimodality from a pedagogical perspective is a teaching method to strengthen the teaching symbol system and teaching expression (Hu *et al.*, 2022). Teachers achieve meaningful classroom teaching through their language, gestures, space, and positioning, as well as resources such as textbooks, whiteboards, and educational technology (Lim, 2021). Chinese Character Etymology Teaching is precisely an interactive classroom teaching method that shows images of the etymology of Chinese characters, the evolution of Chinese characters, and the pronunciation of Chinese characters, with the teacher explaining the photos and Chinese characters verbally and gesturally and the students connecting the pictures and symbols. Such images, animations, audio, teacher behavior, and student interaction trigger students' visual, auditory, tactile, and other sensory cells in the learning process, which can fully stimulate students' sensory potential and comprehensively promote the memorization of Chinese characters on top of attracting students' attention and increasing their interest in learning Chinese characters.

5.1.4. The Advantages of Chinese Character Etymology Teaching in Yi Ethnic Group

5.1.4.1. Chinese Characters and Yi Characters are Closely Linked

The Yi character has a long history and the Yi character is an ancient character used by the Yi people. The Yi characters are closely related to the Chinese characters. First of all, Yi character has many things in common with Chinese characters, including character shapes, stroke forms, and the writing system. Some studies have found that Yi can be used to interpret some of the excavated pottery incised symbols from Halfpo, jade writing from Sanxingdui, incised symbols from the Jiahu site, and oracle bone writing, and that Yi has deep roots in the development of ancient Chinese characters (Wen *et al.*, 2020).

Secondly, the Yi characters have their origins in pictographic symbols and are of the same origin as the oracle bones (Wang, 2018). In terms of the development of the script itself, Yi is a typical script that developed from pictographic symbols and became an ideographic and phonetic script in the process of development. Most of the Yi history book were written during the Yi "Ai Pu" era. In this era, "seeing with our eyes and then writing with our hands", which is the process of tracing and drawing. This shows that the Yi language was created from something that existed objectively and was closely related to oneself, and that it evolved from pictographs to the current abstract symbols. From the connection between Yi and Chinese characters and the origin of Yi, the thinking pattern of Yi ancestors is similar to that of Han ancestors, both following the evolutionary pattern from figurative to abstract, which lays a deeper foundation for the teaching of Chinese character etymology in the Yi region.

5.1.4.2. The Motivation for Creating Chinese Characters is Similar to the Life Experience of Students in the Yi Ethnic Group

An obvious motivation existed at the beginning of the creation of Chinese characters. The recognizable oracle bone characters have been examined and divided into three categories: represent objects, represent actions, and represent

states (Lei, 2013). From his research findings, it can be found that Chinese characters are descriptions of life situations and are extremely contextual.

Students think habitually from their own accumulated experience, and the living environment in which they live is a real "living" environment for them, which can easily become the material for their cognition. Most Yi areas are mountainous and remote, and Yi students have far more access to the natural outside world than Han Chinese students in cities. They have more personal experience with natural animals, plants and weather conditions, and they have a richer experience in life, which is in line with the reality that Chinese characters are originally created from living situations. The etymology of Chinese characters and the contexts it presents can combine the symbol of Chinese characters with students' life experiences to facilitate their learning of Chinese characters, stimulate their interest in literacy, and positively influence their awareness of Chinese character learning. For example, when explaining the word "生, the oracle bone character for "生" is  The original meaning is "growing",development derives other meanings such as "fertility" , "life" , "living", etc. Students will be able to understand the meaning of the Chinese characters by relating them to what they see in spring when the seedlings are first born.

6. Experimental Design and Implementation of Chinese Character Etymology Teaching in the Lower Grades of Primary Schools in the Yi Ethnic Group

6.1. Purpose of the Experiment

To verify the effectiveness of using the Chinese Character Etymology Teaching to help lower grade students in the Yi region learn Chinese characters better through an experimental method.

6.2. Assumptions of the Experiment

The experimental hypotheses of this study are mainly the following two: (1) the literacy quantity and literacy ability of lower elementary school students in the Yi Ethnic Group can be improved through Chinese Character Etymology Teaching. (2) The Chinese Character Etymology Teaching can increase the interest of lower elementary school students in the Yi Ethnic Group in learning Chinese characters.

6.3. Subjects of the Experiment

In this study, 61 Yi students in the first grade of M Primary School in Sikai Township, Zhaojue County, Sichuan Province, were randomly assigned into 31 experimental groups and 30 control groups. All 61 students had Yi language as their first language and Chinese as their second language.

6.4. Mode of the Experiment

This study used an equal-group pre and post-test experimental design. One class was the experimental group using Chinese Character Etymology Teaching, and one class was the control group following the conventional teaching method for the experimental intervention. The pre-test and post-test experimental test papers were unified, a total of 121 test papers were distributed, and 121 were effectively returned.

Table 1: Experiment Mode

Group	Pre-test	Intervention	Post-test
Experimental group	O1	X1	O2
Control group	O3	X2	O4

Note: O1 represents the pre-test of the experimental group, O2 represents the post-test of the experimental group,O3 represents the pre-test of the control group,O4 represents the post-test of the control group X1 represents the use of Chinese Character Etymology Teaching and X2 represents the use of the conventional teaching method.

6.5. Variables of the Experiment

Implicit variable: the level of mastery of Chinese characters, including the ability to recognize, write, and relate characters to pictures, among first grade students in Yi ethnic group.

Unrelated Variables: The main test and the student's mastery of the foundation of Chinese characters.

The experimental intervention of the experimental study was conducted by the author himself in order to exclude the effects of differences in the style of the main test subject, the instructional language, and the grasp of the Chinese character focus during the teaching process.

For the influence brought by the students' own foundation, a uniform test is needed in the early stage of selecting the subjects, and if there is a more obvious difference between the literacy level of that Yi student and other Yi students, they are not used as experimental subjects.

6.6. Instructional Design

6.6.1. Selecting Chinese Characters for Teaching

According to the teaching schedule of the experimental school, 12 Chinese characters not yet learned in the second book of the first grade were selected for the experiment. Including 6 Chinese characters (羽、望、扛、掰、寒、鹿) that required to be able to read and recognize 6 Chinese characters (光、羊、象、豆、采、网) that required to be able to write.

6.6.2. Determining Teaching Methods

Chinese Character Etymology Teaching: The 12 selected Chinese characters are presented to the students in the process of "physical image—abstract image—early ancient script—evolution of script—modern Chinese character". Take "羽" as an example:

Traditional method: The 12 Chinese characters are explained in the order of Pinyin, structure and strokes. Take " 羽 " as an example: First, write the character " 羽 " on the blackboard, then mark the Pinyin, and finally explain the structure of " 羽 " and the order of the strokes.`

6.6.3. Clarify the Evaluation Method

A combination of process and summative assessment is used to evaluate the effectiveness of students' learning of Chinese characters. Process evaluation means evaluating students' learning process by recording the active classroom atmosphere, students' classroom attention and teacher-student interaction during the lessons in the experimental class and the control class respectively, so as to form a process evaluation of students. Summative assessment means focusing on students' post-test scores.

7. Analysis of Experimental Results

7.1. Comparative Analysis of the Chinese Character Learning Test Results Between the Experimental and Control Groups

In this study, the experimental test questions were divided into three parts: " 连一连""**写一写**""选一选 " and each part was worth 6, 8, and 12 points, respectively, with a total score of 26 points. Before the experiment, the children in the experimental and control groups were pre-tested, and after the experiment was completed, the experimental and control groups were post-tested, and the results of the experimental and control groups were compared with the help of SPSS software:

7.1.2. Analysis of Experimental Pre-test Results

From the table, we can see that the literacy levels of Yi children in the experimental group and the control group are comparable, with *p*-values greater than 0.05, and there is no significant difference. In other words, there is no significant difference between the experimental group and the control group in terms of Chinese character recognition, writing and word association, and the experimental subjects satisfy the experimental conditions.

Table 2: Experimental Pre-Test Variance Analysis

Independent Samples Test										
		Levene's Test for Equality of Variances		*t*-Test for Equality of Means						
		F	Sig	t	df	Sig (2-tailed)	Mean Diff.	SE Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
连一连	Equal variances assumed	.070	.792	-.033	59	.974	-.00968	.29198	-.59394	.57458
	Equal variances not assumed			-.033	58.999	.974	-.00968	.29181	-.59358	.57423
写一写	Equal variances assumed	.971	.329	.555	59	.581	.31398	.56527	-.81711	1.44507
	Equal variances not assumed			.555	57.950	.581	.31398	.56622	-.81946	1.44741
选一选	Equal variances assumed	.397	.531	-.1322	59	.191	-.96882	.73265	-2.43485	.49722
	Equal variances not assumed			-.1321	58.529	.192	-.96882	.73334	-2.43648	.49884
Total Score	Equal variances assumed	.007	.935	-.517	59	.607	-.66452	1.28491	-3.23561	1.90657
	Equal variances not assumed			-.518	58.972	.607	-.66452	1.28373	-3.23328	1.90424

7.1.3. Analysis of Experimental Post-test Results

From Figure 2 there was a difference in the average scores of the two groups after the experiment, with the experimental group scoring 3.6 points higher than the control group. In addition, as shown in Table 5, the Sig (2-tailed) of the independent sample **t**-test was 0.020 < 0.05. The experiment proved that there was a relatively significant difference between the test scores of the experimental group and the control group after the teaching activities, with the experimental group scoring higher than the control group. Therefore, this study confirms that the Chinese Character Etymology Teaching can enhance the effectiveness of learning Chinese characters in the lower grades of elementary school in the Yi ethnic region.

7.1.3.1. Analysis of the Results of the "连一连"

The first part of the test, "连一连", was designed to examine the students' literacy and literacy skills, the first is whether they can recognize Chinese characters through teaching, and the second is whether they can form words according to the meaning of Chinese characters. As shown in the graph, there was no significant difference between the experimental group and the control group in terms of the number of literate characters and literacy ability, which was 2.29 for the

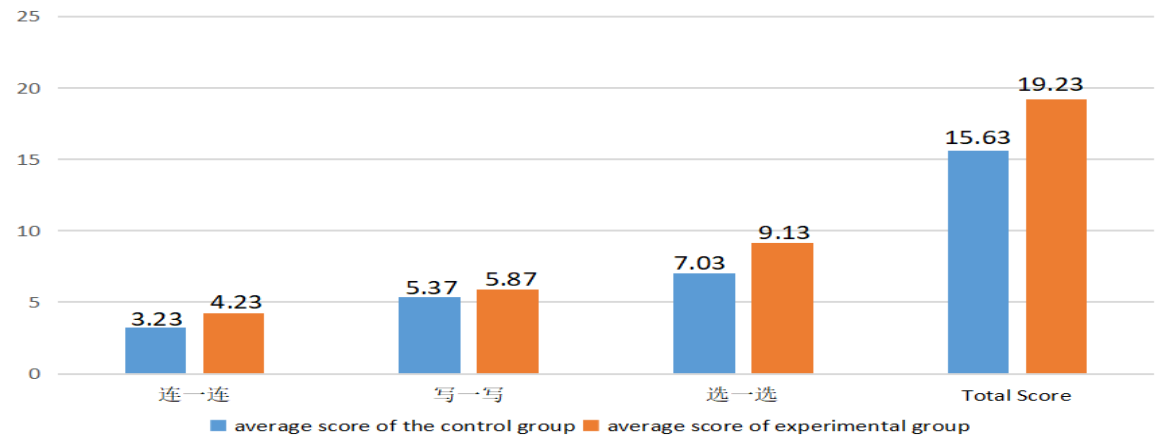

Figure 2: Comparison of Average Scores of Experimental Post-Tests

experimental group and 2.30 for the control group. The literacy ability of both the experimental group and the control group improved after the intervention of different teaching methods, which was 4.23 for the experimental group and 3.23 for the control group in the post-test. The improvement of the literacy ability of the experimental group was more significant.

Table 3: Experimental Post-Test Variance Analysis

Independent Samples Test										
		Levene's Test for Equality of Variances		*t*-Test for Equality of Means						
		F	Sig	t	df	Sig (2-tailed)	Mean Diff.	SE Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
连一连	Equal variances assumed	1.269	.264	2.424	59	.018	.99247	.40943	.17321	1.81174
	Equal variances not assumed			2.431	57.917	.018	.99247	.40827	.17520	1.80974
写一写	Equal variances assumed	.007	.933	.979	59	.331	.50430	.51487	-.52595	1.53455
	Equal variances not assumed			.980	59.000	.331	.50430	.51456	-.52534	1.53394
选一选	Equal variances assumed	.321	.573	2.385	59	.020	2.09570	.87865	.33752	3.85388
	Equal variances not assumed			2.384	58.738	.020	2.09570	.87914	.33637	3.85503
Total Score	Equal variances assumed	.405	.527	2.392	59	.020	3.59247	1.50166	.58765	6.59730
	Equal variances not assumed			2.394	58.985	.020	3.59247	1.50043	.59011	6.59484

The control group accepted the traditional teaching method, using the conventional "pinyin-Chinese character" model, by repeatedly and mechanically emphasizing a Chinese character, students were able to memorize the character to a certain extent; the experimental group accepted the Chinese Character Etymology Teaching, by showing the etymology of Chinese characters and their evolution, students deepened their impression of a Chinese character, thus achieving the purpose of knowing Chinese characters.

Secondly, the ability to understand the meanings of Chinese characters. The control group did not focus on the individual meanings of the Chinese characters, but on the word formation of the Chinese characters. Although the words shown in the "连一连 " section were all words that the teacher had taught in class, the students' ability to absorb the words was weak. The experimental group analyzed and explained the individual word meanings of Chinese characters when showing the native images of Chinese characters, and derived the derivative meanings of Chinese characters from the original meanings of Chinese characters, which made it easier for students to accept the coherent explanation of the meanings of Chinese characters and words compared to the raw display of words, so that they could better understand the meanings of the characters and words.

7.1.3.2. Analysis of the Results of the "写一写 "

The second part of the test question, "写一写", mainly examined students' ability to write Chinese characters. The control group scored 4.27 points before the experiment and 5.37 points after the experiment, with an increase of 1.1 points; the experimental group scored 4.58 points before the experimental method and 5.87 points after the experiment, with an increase of 1.29 points. From the experimental results, there was no significant difference between the control group and the experimental group in terms of the improvement of their ability in Chinese character writing. And observation of the paper showed that for the same Chinese characters, the control group's writing was significantly more standardized, for the following reasons.

In the control group, traditional teaching emphasized the strokes and stroke order of Chinese characters and focused on the training of writing Chinese characters, which was repeated continuously so that students could master the rules of writing Chinese characters and better standardize the writing of Chinese characters. When the experimental group was taught Chinese Character Etymology Teaching, firstly, the teaching process did not focus on the stroke order of Chinese characters, but more on the evolution of Chinese characters and their construction, which led to some students' possible ambiguity about the stroke order of Chinese characters; secondly, they did not spend a lot of time on training students' writing, and students did not practice enough for writing Chinese characters, which led to writing crooked Chinese characters.

The results of the experiment showed that although the Chinese Character Etymology Teaching can improve students' writing skills, it does not have unique advantages over other methods of teaching Chinese characters, so teachers can choose Chinese Character Etymology Teaching with other teaching methods to better improve students' writing skills.

7.1.3.3. Analysis of the Results of the " 选一选 "

The third part of the test " 选一选 " examines students' observation skills and association ability. The figure shows that the control group scored 5.03 before the experiment and 7.03 after the experiment, with an increase of 2 points; the experimental group scored 4.06 before the experiment and 9.13 after the experiment, with an increase of 5.07 points. Compared with the control group through the Chinese Character Etymology Teaching, the observation and association ability of students in the experimental group was significantly improved.

Both the control group and the experimental group were able to make better picture-word connections for simple Chinese characters, but the students in the experimental group were obviously able to make better picture-word connections for unlearned Chinese characters after receiving the Chinese Character Etymology Teaching. This shows that Chinese Character Etymology Teaching not only helps students to better understand Chinese character configurations and meanings but also helps students to enhance their ability to observe pictures and to make associations with Chinese characters. Through the teacher's lectures on the evolution of Chinese characters and their original images, students are able to transfer their observation and association skills to other Chinese characters, which greatly enhances their imaginative thinking skills.

7.2.2. Comparative Analysis of the Interest in Learning Chinese Characters Between the Experimental and Control Groups

After participant observation and interviews, it was found that the experimental group was more active and showed more interest in learning Chinese characters in the Chinese character teaching classroom compared to the control group.

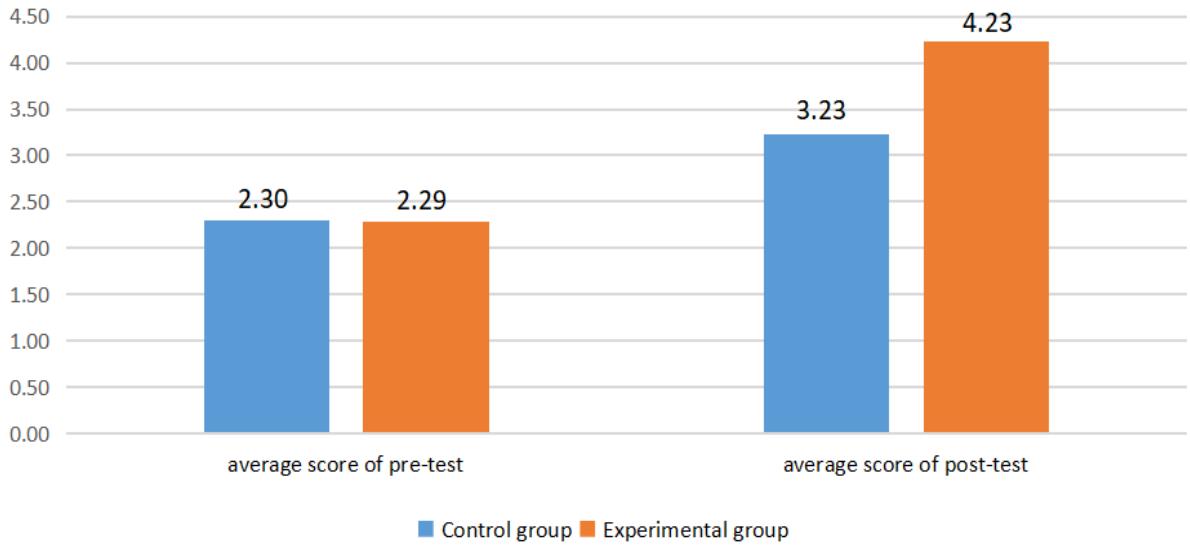

Figure 3: “写—写” Comparison of Performance Before and After the Experiment

The first is the performance in the classroom. The students in the control group were able to answer the teacher’s questions well in the early part of the class and enthusiastically raised their hands to the stage to practice writing Chinese characters, but after 20 minutes of class, some of them appeared to be distracted and inattentive. When one student started to play with the pencil in her hand, her tablemate was also attracted to her, and the two of them played with the pencil at the same time without paying any attention to what the teacher was talking about. Students in the experimental group basically followed the teacher’s rhythm throughout the 40-minute class and were able to respond positively when the teacher showed pictures and asked questions, and also made a series of extended associations. For example, when explaining “豆”, the author mentioned that “the original meaning of 豆 is a vessel for food”, and immediately some students said “+ 豆 in a 豆” linking the original meaning of “豆” to food “+ 豆 (tomato”), which exercised students’ thinking.

The second is the performance after the class. When the students were interviewed after class, the students in the experimental group said, “Today I learned to use pictures to learn Chinese characters, so I remember more Chinese

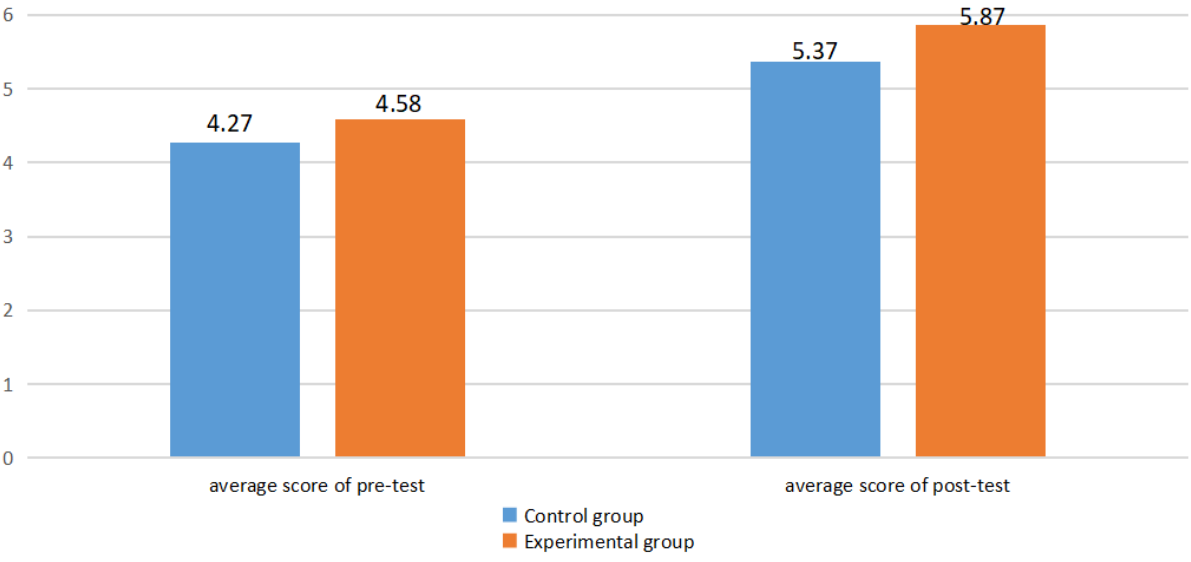

Figure 4: “选一选” Comparison of Performance Before and After the Experiment

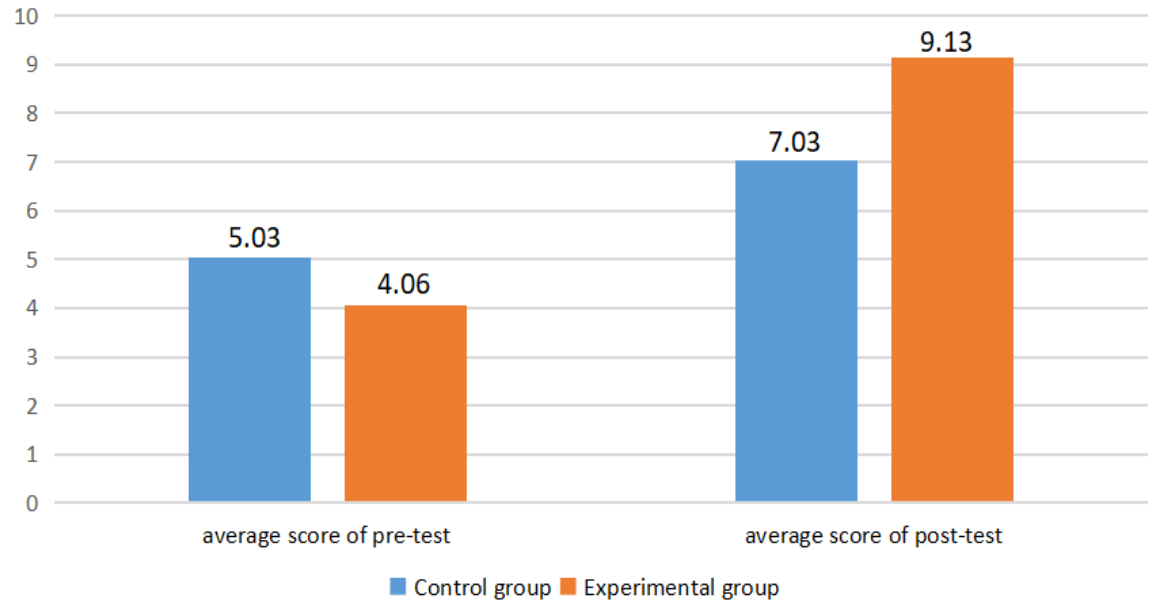

Figure 5: “ 选一选 ” Comparison of Performance Before and After the Experiment

characters. There was also a greater sensitivity to Chinese characters, for example, when the experimental group was given candy, some students took the initiative to ask the teacher what Chinese characters were on the candy wrappers. And when the cards made for Chinese Character Etymology Teaching were distributed to the students in the control group at the end of the experiment, the students in the control group immediately showed great interest, actively passing the cards around to each other and discussing the contents of the pictures and the Chinese characters.

In summary, both the performance in the classroom and the performance at the end of the lesson prove that using the Chinese Character Etymology Teaching can increase students’ interest in learning Chinese characters and thus help them acquire Chinese characters better.

8. Discussion and Reflection of Experimental Results

8.1. Discussion of Experimental Results

The results of the experimental tests and comparative interest analysis showed that using the Chinese Character Etymology Teaching has the following pedagogical values.

8.1.1. Stimulate Students' Interest in Learning Chinese Characters and Promote the Development of Their Self-Learning Skills

Through the Chinese Character Etymology Teaching, the original characters are shown in pictures or objects to create a relaxed teaching atmosphere and to reduce students’ psychological wariness about the difficulties of learning Chinese characters, and through the graphic presentation, students are visually stimulated to form a “picture-character-word-meaning” connection in their minds, which increases their interest in learning Chinese characters, thus stimulating their desire to explore Chinese characters and promoting their self-learning and meaningful learning.

8.1.2. Help Students Understand and Memorize Chinese Characters and Promote Their Thinking Skills

Chinese Character Etymology Teaching as a literacy teaching method, the visible results lie in the improvement of the quantity and quality of students’ literacy. The progressive presentation of Chinese characters and the explanation of the meaning of characters not only help students to understand and memorize Chinese characters, but also help them to develop an awareness of characters, to understand the figurative and integrated nature of Chinese characters, to establish a holistic consciousness, and realize the transformation from figurative thinking to abstract thinking in the evolution of Chinese characters from “physical images -abstract symbols”.

8.1.3. Passing on Excellent Chinese Traditional Culture qnd Improving Cultural Literacy

As a symbol of Chinese culture, Chinese characters carry a wealth of cultural information and are imprinted with traditional Chinese cultural genes. By tracing the origin of words and using the "form-meaning" association, students receive cultural information in the process of learning, so that they can feel the charm of Chinese culture, appreciate the wisdom of the Chinese people, and improve their cultural literacy.

8.2. Reflection of Experimental Results

The author has learned the unique value of Chinese Character Etymology Teaching in teaching and learning, and has also realized the points that need attention and improvement in using word source literacy. First of all, you need to have an overall understanding of the Chinese characters to be taught and a lot of knowledge of kanjiology before the lesson. It also requires a lot of preparation time to take into account the learning situation of the target students and to design the lesson in relation to the students' reality. Secondly, it is important to provide timely answers to the questions students ask in the classroom, because the process of showing pictures and the evolution of Chinese characters is such that students may ask questions beyond our imagination, and the teacher should provide reasonable answers to the questions while also pulling students' attention back to learning Chinese characters. Finally, we should pay attention to the timely review and consolidation of the students after the lesson. The Chinese Character Etymology Teaching does not focus on the practice of writing Chinese characters, so we need to strengthen the training of students after the explanation of Chinese characters, supplemented by other teaching methods if necessary, to help students better absorb the learned Chinese characters.

9. Conclusion

The character of a nation can be considered as the essence of its cultural identity. Only a more profound comprehension of the national characters promotes a genuine recognition of its cultural heritage, fostering a robust national cohesion. In the context of the educationally challenged southwestern ethnic areas, the deficiencies in Chinese character acquisition, particularly among the Yi ethnic group, are particularly conspicuous. This study focuses on the Chinese character learning among lower-grade primary school students from the Yi ethnic group, highlighting the prevalent issues of low literacy rates, weak character recognition proficiency, and slow teaching progression in this region.

The research conducted an analysis of the underlying causes of these issues. It proposed the use of Chinese character etymology teaching as a means to ameliorate the current situation. A sample of first-grade Yi ethnic primary school students was selected as the experimental group, confirming the efficacy of Chinese character etymology teaching in enhancing literacy among lower-grade Yi students. This study contributes to exploring effective approaches and mechanisms to enhance Chinese language education in Yi and other ethnically diverse regions, offering valuable insights for future implementations.

Funding

This work is supported by Project "Enhancing the sense of community for the Chinese nation by Constructing Chinese etymology System" (Grant No. yyk22233) and Intelligent Laboratory for Education of the Sense of Community for Chinese Nation of Southwest University (Annual Project 2022). These two funding projects provide financial support to us, allowing researchers to conduct research within a certain scope and alleviating the financial burden. Throughout this process, we delve deeply into the research and endeavor to complete the research tasks within a specified time frame. Meanwhile, the funding initiatives afford researchers ample time and resources, enabling us to conduct a more profound investigation into this subject. Furthermore, these funding initiatives also provide us with the opportunity to engage with experts from other fields, broadening our perspectives and offering additional insights.

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Cite this article as: Jian Zhang, Yici Qin, Mengyue Yu, Qiqi Liu4 and Qinyi Tan (2023). A Study on the Effectiveness of Chinese Character Etymology Teaching of Lower Grade Students in the Primary School of the Yi Ethnic Group. *International Journal of Education and Teaching*, 3(1), 1-15. doi: 10.51483 / IJEDT.3.1.2023.1-15.