

A Research Study about the Role of Performative Language Teaching on the Understanding of Chinese Idioms

Investigación sobre el papel de las técnicas de dramatización en la comprensión de Chengyu chinos

戏剧化教学法对汉语成语理解的作用研究

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Abstract: Chengyu are essential to Chinese language and culture. They condense ancient Chinese wisdom in a story of four characters and are usually challenging for international students.

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In this research, a mixed method employing quantitative and qualitative techniques is adopted to investigate how using drama to perform the stories associated with the Chengyu might boost students' understanding of them. The research was conducted at the language school in La Coruña, Spain, with 20 students aged 14-60, thirteen females and seven males of A1/HSK1 Chinese language level. The control and experimental groups comprised ten students who had to learn the same five Chengyu. One week after they learned the Chengyu, both groups took the same test to evaluate the degree of understanding of the five Chengyu. Statistical results show that students in the experimental group outperformed the ones in the control group. Therefore, we may argue that drama significantly helped students understand Chengyu.

Key Words: Chinese; Chengyu; Performative Language Teaching (PLT); embodied learning.

Resumen: Los Chengyu son esenciales para el idioma y la cultura chinos. Condensan la sabiduría antigua en una historia de cuatro caracteres y suelen ser un desafío para los estudiantes internacionales. En esta investigación, utilizamos un enfoque de métodos mixtos que emplea técnicas cuantitativas y cualitativas para investigar cómo el uso del teatro para representar las historias asociadas con los Chengyu ayuda a facilitar la comprensión de los estudiantes sobre ellos. En este artículo, llevamos a cabo una investigación en la Escuela Oficial de Idiomas (EOI) de Coruña en España con 20 estudiantes de entre 14 y 60 años, 13 mujeres, 7 hombres de nivel de idioma chino A1/HSK1. Los grupos de control y experimental estaban compuestos por diez estudiantes que tenían que aprender los mismos cinco Chengyu. Una semana después de haber aprendido los Chengyu, ambos grupos realizaron la misma prueba para evaluar el grado de comprensión de los cinco Chengyu. Los resultados estadísticos muestran que los estudiantes del grupo experimental superaron a los del grupo de control. Por lo tanto, podemos argumentar que el uso del teatro ayudó significativamente a los estudiantes a comprender el Chengyu.

Palabras clave: chino; Chengyu; enseñanza performativa de idiomas; aprendizaje corporeizado.

摘要: 成语在中国的语言和文化中扮演着至关重要的角色，它们将中国传统智慧浓缩在四个汉字的故事中，通常情况下对国际学生学习汉语具有很大挑战。本文采用定量和定性相结合的方法，调查戏剧教学法对于汉语成语教学所产生的积极作用。本文以西班牙拉科鲁尼亚官方语言学校的学生为对象，对20名年龄在14-60岁之间的A1/HSK1级汉语学生（女生13人，男生7人），分对照组和实验组各10人进行调查。研究发现，一周教学后，采用戏剧化教学法的实验组学生成绩优于对未采用戏剧化教学法的对照组学生。该实验数据分析验证了戏剧教学法对西班牙学生学习和理解汉语成语发挥的作用。

[关键词] 中文；成语；戏剧化教学法；体现式学习

1. Introduction

Chengyu are different from other Chinese colloquial expressions such as Guanyongyu (惯用语 *guàn yòng yǔ*, literally “accustomed to use language or speech”) and proverbs, Yanyu (谚语 *yàn yǔ*). According to their structure, Chengyu are usually four characters long, whereas Guanyongyu and Yanyu have no fixed structure but usually are longer. They have different origins: Chengyu are related to ancient Chinese literature, culture, and history, while Guanyongyu and Yanyu are based on centuries of shared knowledge and wisdom from ordinary people (Rohsenow, 2003).

There are over 18,000 Chengyu in Chinese, most of which consist of four characters. Four characters follow the symmetrical structure of the Chinese language, which can be dated back thousands of years (Wray, 2005). In addition, four characters resemble the musical pattern 4/4 and help people speak and remember Chengyu (Dong, 2002).

Many Chengyu have a solid cultural foundation and are driven by the meaning of the words they include and the particular cultural and historical setting in which they first appeared (Boers et al., 2004). Therefore, one of the main problems with most Chengyu is that, when encountered for the first time, their meaning cannot be inferred (Opaqueness in meaning, Jack Richards et al., 1985), and their structure is fixed and cannot be changed (Fixedness in structure, Moon, 1998). This even happens to Chinese native speakers who must study them in school. Therefore, understanding the meaning of Chengyu is a tremendous challenge for international students because it is useless to translate the four characters one by one. The students usually need to know the story that goes together to understand the meaning.

For example, the Chengyu 草船借箭 *Cǎo chuán jiè jiàn* literally means “to use straw boats to borrow arrows” and has a fixed structure of four characters. It is related to a specific chapter in the famous Chinese novel *Sān guó Yǎn yì* (《三国演义》 *The Romance of Three Kingdoms*), one of the four classical novels in Chinese literature. The story can refer to being clever by using deception to obtain gains from the enemy and creatively solve a problem. This Chengyu has a direct historical reference.

2. Literature Review of Chengyu

2.1 Characteristics of Chengyu

Chengyu (成语), or Chinese idioms, are a key Chinese language and culture component. Chengyu have been part of the Chinese language for thousands of years; therefore, they have many historical and cultural references. Chengyu are ancient wisdom “time capsules” condensed into a few characters. According to Wu (1995: 81), chengyu is a set phrase, an old expression prevalent in society, used by the common folk, and has seen ages of constant use, usually in four-character form. In addition, Zhang (2012: 19) defines Chengyu as syntactically fixed and semantically opaque Chinese expressions used by native Chinese speakers to communicate intentions and cultivate relationships.

Therefore, we can argue that Chengyu constitute a unique category of Chinese words with a set structure, concise and complete meanings, and significant historical and cultural value (Petrovčič, 2022).

For example, the Chengyu 画蛇添足 *huà shé tiān zú* has a fixed structure of four characters. Those four characters isolated should be easy to understand for beginner/intermediate HSK 2-3 international students: 画 *huà* means “to paint or to draw,” 蛇 *shé* means “snake,” 添 means “to add, to increase,” and 足 *zú* means “foot.” Therefore, a student who encounters this Chengyu for the first time, after checking all its components, might try to do a literal translation as “to draw a snake and add feet to it” (画蛇添足 *huà shé tiān zú*). Because of Chengyu opaqueness in meaning, this literal translation of the meaning of this Chengyu without knowing the related story has little or no help in understanding the deeper cultural and historical meaning of this Chinese idiom, which is “spoiling things by doing something unnecessary.”

A Chengyu can be seen as a movie title that summarizes the whole story. For example, some four-word movie titles: “The Shape of Water,” “The Fast and the Furious,” “Death on the Nile,” “Pirates of the Caribbean,” etc., are all movie titles and could be equivalent to Chengyu. If one has not heard or watched the movie, there is no way that one will understand the meaning and the story. The lack of knowledge of typical expressions of an idiomatic nature, such as Chengyu, is the frequent reason for lexical and cultural interference that often impacts sociocultural competence and, in the long run, can also impair communicative competence.

Speakers choose Chengyu to achieve several communicative goals, such as deepening the bond among members of the same social group (Chwe, 2001). The exchange of Chengyu in communication helps identify members of the same circle. It connects the speakers (Gerrig & Gibbs, 1988) because it shows they have mutual knowledge of Chengyu.

Another fundamental communicative goal is being precise and informative. Chengyu contain extra information and figurative use of language; therefore, they are more specific and precise (Gerrig & Gibbs, 1988). If both interlocutors know a specific Chengyu, it would not be faster or easier to express the same amount of information as stated in, for example, the Chengyu 塞翁失马 *sài wēng shī mǎ* using literal language with a longer sentence.

In addition, different cultures might have different communicative goals when using idioms or Chengyu. For example, in English culture, using idioms can be exciting and humorous (Roberst & Kreuz, 1994). However, the use of Chengyu in Chinese culture might be to show knowledge, intelligence, and elegance (Bai, 2010).

2.2 Teaching Chengyu in the Chinese Language Classroom

According to Zhang (2012), because acquiring new languages and cultures takes time and effort, an international student's ability to employ a Chengyu in conversation with native Chinese speakers shows understanding and admiration of Chinese culture. The more Chengyu they know, the easier language learners can interact socially and become members of a target cultural group.

Also, due to their frequent use in media, literature, and everyday interactions, Chengyu should be incorporated into the curriculum. According to Wang & Luo (2021), by studying Chengyu in a Chinese as a foreign language classroom, students may increase their vocabulary, language proficiency, and expressiveness and have a deeper understanding of Chinese history and culture.

Idiomatic expressions such as Chengyu are often part of verbal and written communication and are regarded as distinguishing characteristics of native-like ability (Petrovčič, 2022). Given the vast range of contexts in which they are employed and their significant role in communication, language learners need to be familiar with the meaning and usage of idioms (Vasiljevic, 2015).

Despite the importance of Chengyu for L2 learners, they are not given enough attention in the Chinese classroom since they are usually not included in most textbooks and are often only taught at the upper-intermediate or advanced level (Xiao, 2016). One reason might be that teachers might see Chengyu as a luxury rather than a necessity since they are more challenging to understand than other words and require extra time to discover their cultural and historical context.

Regarding previous studies on Chengyu learning, some authors analyzed textbooks and dictionaries (Hong, 2012; Wang & Luo, 2021), and others focused on examining the types of mistakes made by foreigners when using Chengyu (Xiao, 2016; Shi, 2008). Piedra Molina (2017) analyzed several Chinese textbooks used in Spain and concluded that Chengyu were not taught. Zhang (2012) examined 261 entries found in 11 sets of Chinese language teaching pedagogical materials in the US and concluded that insufficient attention to Chengyu was given, and inadequate research was done for selecting those Chengyu. When some Chengyu were included, the main problem was the stress of reading and writing skills and neglect of listening and speaking skills. Piedra Molina (2017) designed and implemented a didactic unit about Chengyu for A2-level beginner students of Chinese in Spain.

However, to my knowledge, no study has investigated the relationship between the use of drama and its impact on remembering Chengyu. The current study focuses on understanding Chengyu for beginner students using EL and PLT. We do not focus on their syntax and use, which will be taught to intermediate or advanced students.

2.3 Embodied learning (EL)

Kosmas (2021), Macedonia (2019), McClelland, Pitt, & Stein (2015), and Wilson (2002) stress the importance of Embodied learning (EL), stating that there is an inseparable connection between body and mind. Therefore, teachers must integrate the body into learning languages because recent neuroscientific discoveries suggest that the mind is connected to the body's sensorimotor systems and the brain areas responsible for language.

Combining body motion with physical interaction with the world can facilitate the development of new learning. Studies such as Lindgren (2014) have shown the essential benefits of movement-based intervention in different classroom environments. Regarding brain function, activity or exercise impacts cognition, which helps learn tasks and languages.

According to Kosmas (2021), many studies with empirical evidence support using EL in the language classroom. For example, Chaddock-Herman et al. (2014) have shown that embodied interactions improve neural connectivity in the brain. In the same vein, another study in this area has revealed that when a movement is connected to certain words, children are better able to learn new vocabulary (Kosmas & Zaphiris, 2019). Also, gestures and physical motions benefit language acquisition skills, such as reading and phonological awareness (Moritz et al., 2013).

Glenberg (2010) pointed out that physical movement impacts memory and perception. In addition, word meaning is connected to sensorimotor experience, according to research by Van Dam et al. (2012), who found that using EL with university students enhanced overall language understanding. Furthermore, other studies have also shown that EL influences students' verbal knowledge (Chang et al., 2013) and second language comprehension (Lee et al., 2012).

Therefore, we may infer from all this research that EL (movement, gestures, body motion, etc.) improves language acquisition. Additionally, studies show that engaging in physically enhanced learning activities in the classroom can increase students' motivation and engagement as well as their feelings of well-being (Anastopoulou et al., 2011; Kosmas & Zaphiris, 2019).

2.4 Performative language teaching (PLT)

Numerous authors have investigated the use of drama/theatre as a pedagogical aid in the classroom (Bolton, 1979; O'Neill, 1995; Spolin, 1986), with Kao (1994) focusing on language classrooms. Recently, Schewe (2013) proposed that the term "Performative Language Teaching (PLT)" be used as an umbrella term to describe the various culturally specific forms of foreign language teaching that derive from the performing arts. This idea emphasizes the crucial role that the body plays in teaching and learning, and significantly, other authors have placed a clear emphasis on embodiment and EL (Piazzoli, 2018), showing that it is possible to design a language class that connects EL and PLT (Corderi Novoa, 2023).

In addition, PLT is supported by two well-known theories in the study of second language acquisition (SLA): The Interaction Hypothesis (Long 1985a, 1985b, 1996) and the Socio-Cultural Theory (SCT) of Vygotsky (1930). According to Long's theory, interaction between language learners fosters language growth. Students negotiate over meaning and form during their interactions. Constructive criticism, which may be offered and received when learners interact with their interlocutors, has been shown to help L2 acquisition. According to Vygotsky's Social Construction Theory (SCT), the development of language and other cognitive abilities is socially created. The expert (such as instructors or more seasoned peers) provides the beginner with the necessary assistance for learning (scaffolding).

Most of the research on using PLT in the language classroom is focused on English as a second or foreign language. However, a few studies exist on using PLT in the Chinese classroom (Corderi Novoa, 2019; Corderi Novoa & García Mayo, 2022; Meng & Wan, 2013; Wang, 2009 and Wen, 2015). Nevertheless, no study has linked EL with PLT and Chengyu in the Chinese language classroom.

Walker and Noda (2000) described performed language pedagogy as a process where memories are created in the student's mind when completing various tasks using the target language in the target culture.

According to Zhang (2012: 17), Chengyu can be seen as cultural performances because "These culturally conventionalized phrases exist to convey intentions between speakers and hearers" (p.17). The speaker and the listener must share the same cultural knowledge to communicate successfully using a Chengyu.

Therefore, we can argue that with this paper, I try to fill the gap in the existing literature and research the use of EL and PLT to improve students' understanding and learning of Chengyu in the Chinese classroom.

3. Research methodology

3.1 Research questions and hypothesis

This research investigates the impact of using EL and PLT on understanding Chengyu in a Chinese classroom. The specific research question we aim to answer in this study is whether learners in an EL-PLT Chinese-as-a-foreign-language classroom experience more significant gains in their understanding of Chengyu than in a non-EL-PLT Chinese course.

Before the experiment, we developed the following hypothesis in anticipation of the research questions: following an EL-PLT program will improve the learners' general understanding of Chengyu in Chinese. Based on the studies we have reviewed, we expect a better understanding of Chengyu in the treatment group than in the control group.

3.2 Setting and Participants

3.2.1 Setting

The current study was conducted in the metropolitan city of A Coruña. This city has a population of over two hundred and forty thousand people. The research was carried out at *Escuela Oficial de Idiomas* (EOI) da Coruña, built in 1974, is the first school of this kind in Galicia, Spain. It offers courses in eleven different languages: Arabic, Chinese, English, French, Galician, German, Italian, Portuguese, Russian, and Spanish as a foreign language. The headquarters is in A Coruña but has several satellite sections in Arteixo, Carballo, Cee, and Culleredo. In 2023, there were more than five thousand students and one hundred language teachers. In 2024, the Chinese department has approximately eighty enrolled students and two teachers.

Escuelas Oficiales de Idiomas (EOI) are public Official Language Schools funded by each Spanish regional education government. They are not compulsory and mainly only in teaching languages. Adults (fourteen years and older) can study languages part-time for a reduced fee. In the European Union, the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001) establishes the different proficiency levels learners can attain, from the A1 level (beginner) to the C2 level (proficiency).

However, the trend in recent years has been that EOI schools are losing students every year. The decrease in students of all languages at the EOIs in Spain has been a critical problem. Most students are adults and sometimes do not have enough time to commit to attending school as they usually have work and family-related responsibilities. In some cases, the students do not like the methodology used by their teacher (mainly if that

methodology relies on memorization and repetition) or get stressed about the final exams, and they lack the motivation to continue studying.

In addition, comparing the number of students enrolled in each language at the EOI da Coruña in 2002/2023, we can see that more than 64% of the school's students are enrolled in English, followed by French. Therefore, only a few students are enrolled in the Chinese language at EOI da Coruña, usually with small classroom numbers, making it difficult to have large size of groups to research. In this case, twenty students participated in the study, representing around 25% of the student population of the Chinese Department at the EOI da Coruña in the school year 2022/2023.

3.2.2 Participants

The twenty study participants are students of two classes at the Beginner (A1) level at the EOI da Coruña in the 2022-2023 school year. Once I decided to choose level A1, I asked the students whether they would like to participate in the study, and those who agreed signed a consent form.

The learner age range was 14-66, which is the most common age group for Chinese learners at EOIs. I was lucky to have two groups with the same number of participants and the same Chinese level at the start of the study: both were complete beginners who had just started learning A1 Chinese class at EOI da Coruña in September 2022. We understand that this is a positive feature of this study.

The same teacher, the study's author, taught both groups. Thus, improvement in either the treatment or the comparison group could not be attributable to a teacher change.

Table 1 below presents information about the control and experimental groups.

Table 1: Participants in the control group vs. the experimental group

	The control group (non-EL - PLT)	The experimental group (EL - PLT program)
Number of students	10 students: 9F, 1M	10 students: 6F, 4M
Average age	38.8 years (range = 14 - 66)	26.9 years (range = 14 - 39)
Chinese language level	Complete beginner (A1 / HSK 1)	Complete beginner (A1 / HSK 1)
Time of intervention	September to December 2022	September to December 2022

3.3 Methodology

The control and experimental groups had to learn the same five Chengyu (塞翁失马 *sài wēng shī mǎ*, 画蛇添足 *huà shé tiān zú*, 叶公好龙 *yè gōng hào lóng*, 亡羊补牢 *wáng yáng bǔ láo*, 鸡鸣狗盗 *jī míng gǒu dào*). The intervention was from September to December 2022. They all received the same input: Chengyu stories written in Spanish and adapted from Saula Molero (2017). Each group followed a different approach to learning the same Chengyu: the control group read aloud the stories, and the experimental group had to create and perform short drama scenes to represent the stories. After one week of learning each Chengyu, both groups (control and experimental) took a written exam designed to evaluate the degree of understanding of the five Chengyu. The exams were collected and analyzed.

3.3.1 The traditional comparison program (control group)

Students from this group had to take turns reading aloud in the classroom the stories of the Chengyu adapted from Saula Molero (2017). They were sitting all the time, and there was no interaction. This simulates a traditional methodology classroom where the students merely receive knowledge and have no active part in learning. They received input from the textbook (the Chengyu story) and were expected to memorize and remember the information given in the classroom.

3.3.2 The experimental EL - PLT program (experimental group)

The students from the experimental group were given the same input texts as the ones from the control group. However, they were divided into two teams, and their task was to create a short dramatic scene using EL and PLT and then perform the Chengyu in the classroom in front of their classmates. Each time, the teacher suggested one dramatic game each team could use. Students were free to change or adapt their scenes. The creative process started with brainstorming, rehearsal, redesign of the scene, performance, feedback, and reflection.

Since students are total beginners in the Chinese language, they are not required to use it in their performance. They can use Spanish and add some words in Chinese if they want. Students were encouraged to use gestures and body movements that had embedded meaning and were related to the Chengyu. Those movements could be characters, actions, or even abstract concepts. Here is a summary of the dramatic types of performances created by students from the experimental group:

Chengyu 1: 塞翁失马 *sài wēng shī mǎ*.

Type of EL - PLT scene: “Typewriter”: One student is a narrator and tells the story from the Chengyu. The rest of the classmates perform the

story and dialogue according to what the narrator says. Both teams used this approach.

Chengyu 2: 画蛇添足 huà shé tiān zú.

Type of EL - PLT scene: “Chengyu Musical.” One team created the lyrics of a rap song and performed the story.

The other team performed the Chengyu story using body movement and gestures in silence, with no sounds or dialogue, as if it were an old Charlie Chaplin film.

Chengyu 3: 叶公好龙 yè gōng hào lóng.

Type of EL - PLT scene: One team used the Typewriter game with a narrator but with the modification that two students created the sounds and special effects of the story (for example, the sound of a dragon flying, the sound of a door opening, etc.).

The other team used a game called “Timer.” They performed the Chengyu in a scene lasting 2 minutes, then repeated the same scene in 1 minute, then in only 20 seconds, and, in the end, they performed in reverse (starting from the end of the scene).

Chengyu 4: 亡羊补牢 wáng yáng bǔ láo.

Type of EL - PLT scene: One team used “Genre”; they represent the Chengyu story as it would happen in 2022 in A Coruña (the city where the school is located in the northwest of Spain), with the typical accent and vocabulary of people from this city.

The other team did an embodied silent version of the Chengyu, with gestures and movement.

Chengyu 5: 鸡鸣狗盗 jī míng gǒu dào.

Type of EL - PLT scene: Both teams played the game “Genre” together. First, they all created a scene to perform with a narrator. Then, they will start over, but the narrator will call several genres that students must incorporate into the scene. Those four options were the Disney movie genre, Telenovela genre, Horror film genre, Japanese Anime genre, and Action movie genre.

4. Results and findings

This research includes 20 students divided into a control group of 10 and an experimental group of 10. After each pedagogic intervention, both groups had to take a written test. Exam scores range from 0 to 5, with 5 being the highest possible score for each exam. Five exams were administered for each student, one for each Chengyu, one week after the intervention. In Table 2 below, we can see the scores for the control group:

Table 2: Exam scores for the control group

Control group					
Student code	Exam 1	Exam 2	Exam 3	Exam 4	Exam 5
1	5	3	3	5	2
2	4	3	3	4	3
3	5	4	3	3	3
4	2	3	3	5	4
5	5	4	3	4	4
6	3	3	0	4	2
7	4	5	3	4	2
8	5	5	2	3	3
9	5	3	3	2	3
10	2	5	2	2	2
Average	4	3.8	2.5	3.6	2.8
Total	40	38	25	36	28

From a descriptive statistics point of view, Table 2 shows that exam 1 had the highest average score (40), followed by exam 2 (38) and exam 4 (36). The exams with the lowest average scores were exams 3 (23) and 5 (28). In addition, in Table 3 below, we can see the scores for the experimental group:

Table 3: Exam scores for the experimental group

Experimental group					
Student code	Exam 1	Exam 2	Exam 3	Exam 4	Exam 5
11	5	5	5	5	5
12	5	5	5	5	5
13	5	5	5	5	5
14	5	5	5	5	4
15	5	5	5	5	5
16	5	5	5	5	4
17	5	4	5	5	5
18	5	4	5	5	5
19	4	5	5	5	5
20	4	5	5	5	5
Average	4.8	4.8	5	5	4.8
Total	48	48	50	50	48

From a descriptive statistics point of view, Table 3 shows that students from the experimental group had significantly higher scores than those from the control group. They scored 50 out of 50 for exams 3 and 4 and very high scores (48) for the rest. We could argue that the difference between the scores and control groups is significant.

4.1 Differences in exam scores of students in the control and experimental groups

In this section, the goal is to continue to test for each exam whether there is a significant difference in the exam scores of students in the control group and the experimental group. Table 4 below compares the mean, standard deviation, and mean standard error of the control and experimental groups.

Table 4: Comparison of the control and experimental groups' mean, standard deviation, and mean standard error

	Group	N cases	Mean	Standard Deviation (SD)	Mean standard error
Exam 1	Control	10	4.00	1.247	.394
	Experimental	10	4.80	.422	.133
Exam 2	Control	10	3.80	.919	.291
	Experimental	10	4.80	.422	.133
Exam 3	Control	10	2.50	.972	.307
	Experimental	10	5.00	.000	.000
Exam 4	Control	10	3.60	1.075	.340
	Experimental	10	5.00	.000	.000
Exam 5	Control	10	2.80	.789	.249
	Experimental	10	4.80	.422	.133

Table 4 shows that the experimental group had significantly higher scores than the control group. For example, for exam 3, the control group's mean score was 2.50, while the experimental group had 5.0

Table 5: Results of the t-test for the exams of both groups

Levene test for equality of variances T-test of mean equivalence										
		F	Significance	t	Degree of freedom	Significance (two-tailed)	Average deviation	Standard error difference	95% confidence interval for the difference	
									Lower limit	Upper limit
Exam 1	assuming equal variance	9.094	.007	-1.922	18	.071	-.800	.416	-1.675	.075
	assuming different variance			-1.922	11.031	.081	-.800	.416	-1.716	.116
Exam 2	assuming equal variance	11.676	.003	-3.128	18	.006	-1.000	.320	-1.672	-.328
	assuming different variance			-3.128	12.629	.008	-1.000	.320	-1.693	-.307
Exam 3	assuming equal variance	12.250	.003	-8.135	18	.000	-2.500	.307	-3.146	-1.854
	assuming different variance			-8.135	9.000	.000	-2.500	.307	-3.195	-1.805
Exam 4	assuming equal variance	26.241	.000	-4.118	18	.001	-1.400	.340	-2.114	-.686
	assuming different variance			-4.118	9.000	.003	-1.400	.340	-2.169	-.631
Exam 5	assuming equal variance	4.431	.050	-7.071	18	.000	-2.000	.283	-2.594	-1.406
	assuming different variance			-7.071	13.755	.000	-2.000	.283	-2.608	-1.392

According to statistical results from Table 5, except for Exam 1, the scores of the control and experimental groups in the rest of the exams (2,3,4 and 5) are significantly different, with a confidence level of 99%. In addition, for Exam 1, the control group and the experimental group, with a confidence level of 90%, present significant differences in the scores obtained by the students.

4.2 Differences between each exam

Here, I analyze the difference between each exam in the control group and the difference between each exam in the experimental group separately. I used a one-way ANOVA with a post hoc test.

4.2.1 The control group

Table 6 below shows the differences between each exam in the control group:

Table 6: Descriptive statistics: Differences between each exam in the control group

Control group exam scores								
95% confidence interval of mean value								
	N Cases	Average value	SD	Standard error	Lower limit	Upper limit	Minimum value	Maximum value
Exam 1	10	4.00	1.247	.394	3.11	4.89	3	5
Exam 2	10	3.80	.919	.291	3.14	4.46	3	5
Exam 3	10	2.50	.972	.307	1.80	3.20	0	3
Exam 4	10	3.60	1.075	.340	2.83	4.37	2	5
Exam 5	10	2.80	.789	.249	2.24	3.36	2	4
Total	50	3.34	1.136	.161	3.02	3.66	0	5

According to Table 6, the average value had the highest score for exam 1 (4.00) and the lowest score for exam 3 (2.50). In addition, SD was higher for exam 1 (1.247) and lower for exam 5 (.789). Also, with a 95% confidence interval of mean value, the upper limit had the highest value for exam 1 (4.89) and the lowest value for exam 3 (1.80). Table 7 below shows the homogeneity of variance test for the control group.

Table 7: Homogeneity of variance test for the control group

Homogeneity of variance test Contro group exam scores			
Levene's test	Degrees freedom of 1	Degrees freedom of 2	Significance
.711	4	45	.589

In this scenario, the Levene Test results are employed to examine the presumption of equal variances across the groups in the variables under investigation. According to Table 7, $P=0.589 > 0.05$, this value indicates that the variances are homogeneous, and variance analysis can be done. Table 8 below shows the one-way analysis of variance for the control group:

Table 8: One-way analysis of variance for the control group

ANOVA					
Control group exam scores					
	Quadratic sum	Degree of freedom	Mean square	F	Significance
Intergroup					
Intragroup	17.120	4	4.280	4.178	.006
Total	46.100	45	1.024		
	63.220	49			

After carrying out a one-way analysis of variance for the control group, the F scores were 4.178 with a significance of .006. Therefore, we must conduct a least significant difference (LSD) test: Post Hoc Test of ANOVA; Comparison of Means of the control group; see Table 9 below.

Table 9: Least significant difference (LSD) test: Post Hoc Test of ANOVA; Comparison of Means of the control group

95% confidence interval

(I)Test	(J)Test	Mean difference (I- J)	Standard error	Significance	Lower limit	Upper limit
Exam 1	Exam 2	.200	.453	.661	-.71	1.11
	Exam 3	1.500*	.453	.002	.59	2.41
	Exam 4	.400	.453	.382	-.51	1.31
	Exam 5	1.200*	.453	.011	.29	2.11
Exam 2	Exam 1	-.200	.453	.661	-1.11	.71
	Exam 3	1.300*	.453	.006	.39	2.21
	Exam 4	.200	.453	.661	-.71	1.11
	Exam 5	1.000*	.453	.032	.09	1.91
Exam 3	Exam 1	-1.500*	.453	.002	-2.41	-.59
	Exam 2	-1.300*	.453	.006	2.21	-.39
	Exam 4	-1.100*	.453	.019	-2.01	-.19
	Exam 5	-.300	.453	.511	-1.21	.61
Exam 4	Exam 1	-1.500*	.453	.382	-1.31	.51
	Exam 2	-1.300*	.453	.661	-1.11	.71
	Exam 4	-1.100*	.453	.019	.19	2.01
	Exam 5	-.300	.453	.084	-.11	1.71
Exam 5	Exam 1	-1.200*	.453	.011	-2.11	-.29
	Exam 2	-1.000*	.453	.032	-1.91	-.09
	Exam 3	.300*	.453	.511	-.61	1.21
	Exam 4	-.800	.453	.084	-1.71	.11

*.The significance level for the difference in means is 0.05.

According to Table 9, $P=0.006<0.01$, indicating that at the 99% confidence level, there are significant differences in the five exam scores in the control group. See below for the multiple comparison results. At the 95% confidence level, the mean score of Exam 1 is significantly higher than that of Exam 5 by 1.2 points, and the mean score of Exam 2 is significantly higher than that of Exam 3 by 1.3 points. At the 99% confidence level, the mean score of Exam 1 is significantly higher than that of Exam 3 by 1.5 points, the mean score of Exam 2 is significantly higher than that of Exam 5 by 1 point, and the mean score of Exam 3 is significantly lower than that of Exam 4 by 1.1 points.

4.2.2 Experimental group

After analyzing the control group, the next objective is to investigate the experimental group. Table 10 below shows the differences between each exam in the experimental group:

Table 10: Descriptive statistics: Differences between each exam in the experimental group

Experimental group exam scores								
95% confidence interval of mean value								
	N Cases	Average value	SD	Standard error	Lower limit	Upper limit	Minimum value	Maximum value
Exam 1	10	4.80	.422	.133	4.50	5.10	4	5
Exam 2	10	4.80	.422	.133	4.50	5.10	4	5
Exam 3	10	5.00	.000	.000	5.00	5.00	5	5
Exam 4	10	5.00	.000	.000	5.00	5.00	5	5
Exam 5	10	4.80	.422	.133	4.50	5.10	4	5
Total	50	4.88	.328	.046	4.79	4.97	4	5

Table 10 shows that average scores were highest for exams 3 and 5 (5.00) and 4.80 for the rest. SD had a value of .422 for exams 1, 2, and 5 and a value of 0.000 for the rest. Also, with a 95% confidence interval of mean value, the upper limit had the highest value for exams 1, 2, and 5 (5.10) and the lowest value for exams 3 and 4 (5.00). At the same time, in the lower limit, the highest scores were in exams 3 and 4 (5.00) and the lowest scores for exams 1,2 and 5 (4.50). Table 11 below shows the homogeneity of variance test for the experimental group:

Table 11: Homogeneity of variance test for the experimental group

Homogeneity of variance test Experimental group exam scores			
Levene's test / Degrees of freedom 1 / Degrees of freedom 2 / Significance			
8.000	4	45	.000

Table 11 shows that $P < 0.05$, which indicates uneven variance. Therefore, I will use a non-parametric test—the Kruskal-Wallis test.

Table 12: Kruskal-Wallis test for the experimental group

Kruskal-Wallis Test			
Rank	Exam	N cases	Rank Mean
Experimental group exam scores	Exam 1	10	23.50
	Exam 2	10	23.50
	Exam 3	10	28.50
	Exam 4	10	28.50
	Exam 5	10	23.50
	Total	50	

Table 12 shows that the Rank Mean results were 23.50 (exams 1, 2, and 5) and 28.50 for the rest. The observations in the data set are assumed to be independent, the population distribution is not necessarily standard, and the variances are unequal. Table 13 below shows a summary of the Test statistics for the experimental group.

Table 13: Summary of the Test statistics for the experimental group

Test statistics ^{a,b}	
Experimental group exam scores	
Chi-Squared Test	4.455
Degrees of freedom	4
Asymptotically significant	.348
a. Kruskal-Wallis test	
b. Grouping variable: exams	

According to Table 13, $P=0.348 > 0.05$ indicates no significant difference in the experimental group’s exam scores.

5. Discussion and conclusions

Here, I will discuss the results and findings of the impact of the EL–PLT program on the learner’s understanding of Chengyu. Extensive statistical analysis was conducted to consider the potential impact of test anxiety or other psychological factors on exam scores.

First, the descriptive statistics and t-test results show a significant difference in the scores of the control and experimental groups, with a confidence level of 99%. The experimental group obtained better scores in the exams than the control group.

Second, I separately analyzed the difference between each exam in the control and experimental groups using one-way ANOVA with a post hoc test. The exam scores of students in the control and experimental groups. $P=0.006 < 0.01$ shows that at the 99% confidence level, there are significant differences in the five exam scores in the control group. However, the result of $P=0.348 > 0.05$ suggests no significant difference in the exam scores between the experimental group.

These findings corroborate the previous hypothesis that following an EL-PLT program will improve the learners’ general understanding of Chengyu in Chinese. One possible explanation is that EL and PLT help students internalize the target language by creating a fictional task where

learners can perform, live, and act using it, helping them better remember the Chengyu stories and details. Using a combination of EL and PLT in the language classroom, performing, or watching classmates perform a Chengyu in front of you makes the lessons more memorable and accessible for the students to remember. On the other hand, for the control group, teaching from a textbook and asking students to memorize and repeat the words in a teacher-centered traditional classroom cannot achieve the same results as in the EL-PLT example.

Chengyu are a crucial part of effective communication in Chinese language, both in written and spoken language. They serve as a marker of native-like proficiency but are usually seen as a luxury rather than a necessity by Chinese language teachers. Numerous previous studies have highlighted the importance of comprehensive idiom teaching (Hong, 2012; Zhang, 2012; Xiao, 2016). Maximizing learning potential is essential, given the limited time available to study in a foreign language setting. Mastering idioms is a fascinating challenge for those learning Chinese as a foreign language.

According to Xiao (2016), teaching Chengyu was usually done at the upper-intermediate or advanced level. However, this research has shown that even students at the beginner level can grasp and use them accurately with proper guidance. Therefore, we agree with Piedra Molina (2017) that Chengyu should also be taught to beginner-level students to improve their linguistic competence, cultural competence, and knowledge of China. We also agree with Wang & Luo (2021) that Chengyu should be incorporated into the curriculum, and teachers should include Chengyu in their lessons at all levels. This could be done using visuals and videos, with the help of EL and PLT, to help students experience their stories connected to each Chengyu.

More people worldwide should learn the Chinese language and culture, including Chengyu, and teachers should continue to research more engaging teaching methodologies that help language students improve their oral skills. This research argues that EL and PLT are part of the solution and should be integrated into Chinese language classrooms. Ideally, the PLT methodology would also be applied to teaching foreign languages in China.

In addition, it has been observed that the number of students in EOI schools in Spain and EOI da Coruña decreases yearly. One of the primary reasons behind this is the lack of motivation among adult students. To tackle this issue, EL and PLT can effectively motivate them and attract more Chinese students to the schools.

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