

The Impact of English Cartoons on Pronunciation of Chinese Children English Learning

—A Research Proposal

Bingjie Xu^{1,a,*}

¹*College of Foreign Languages and Literature, Fudan University, Shanghai, 200000, China*

a. 2336418707@qq.com

**corresponding author*

Abstract: This paper aims to investigate the effectiveness of English cartoons in helping Chinese children adjust their English pronunciation. The primary participants will be primary school students just beginning their English language learning journey. Through reviewing previous studies and conducting experimental research, this piece of work aims to improve current teaching methods for primary school students. The study adopts a quantitative data analysis approach, utilizing t-tests and ANCOVA to analyze the participants' pronunciation scores before and after watching English cartoons. Conducting such a test is certainly worthwhile, as the results will provide researchers interested in exploring the function of cartoons in pedagogical theories with a firsthand model and, hopefully, a repeatable experimental method. The conclusions of this research may also assist schools and educational institutions in better-utilizing cartoons and other similar mediums, promoting productive development in children's education. Although this research will be conducted with certain limitations, such as age restrictions among participants and potential external factors related to using cartoons as a new media in traditional educational methods, researchers have recognized these challenges. They will make every effort to regulate them.

Keywords: English cartoons, language acquisition, phonology, pronunciation, EFL learners

1. Introduction

1.1. The research context

In the globalized world economy, English has become the universal language for inter-regional communication. According to statistics published by the British Council in the past 10 years, approximately 200 million people have learned English, while 300 million people use it in their daily lives. The population of English speakers in non-English speaking countries is three times greater than the number of native speakers in English-speaking countries. In contrast, there are approximately 35 million English speakers in Asia, equivalent to the sum of English-speaking populations in America, Canada, and the UK. China also has approximately 10 million children studying English [1].

English is no longer limited to English-speaking countries. It has gradually become a World

Language. In Kachru's definition of the Tri-centric Model, after extensive research on Indian English, World English is divided into the Inner Circle, the Outer Circle, and the Expanding Circle [2]. The Inner Circle refers to countries that use English as a Native Language (ENL); the Outer Circle includes countries where English is a Second Language (ESL) and has formed local, national varieties of English; and the Expanding Circle comprises countries where English is a Foreign Language (EFL). China is located in the Expanding Circle, where English develops its variants.

Under such circumstances, the comprehensibility of English is a key aspect of its indigenization. Although English reading comprehension, listening, and standard academic writing training have been given great importance by the public, phonological and pronunciation training is often neglected, even in college English education [1]. However, mispronunciation of words and phrases can cause significant communicative misunderstandings. Therefore, developing an effective method for improving pronunciation should be a priority. In this study, researchers aim to enhance the pronunciation skills of Chinese English learners at an early stage with the aid of English cartoons.

1.2. Research Questions

The research question will center on a core inquiry: Does watching English cartoons effectively aid in adjusting Chinese children's English pronunciation? The work aims to determine whether this method is more productive than traditional English teaching methods in terms of effectiveness.

1.3. Research Significance

Current research, including studies on the use of cartoons, primarily focuses on improving vocabulary acquisition through watching cartoons with subtitles. However, little research has examined the relationship between English learners' phonology and cartoons. Thus, the research undertaken by us aims to address this gap in academia. There are some critics who argue that watching cartoons can be detrimental or distracting to students' learning. Whether or not cartoons prove to be an effective teaching tool remains controversial. Therefore, this project emphasizes determining whether cartoons have an impact on the pronunciation abilities of children, especially those who are beginning to learn English.

2. Literature Review of previous studies

2.1. Cartoons in Vocabulary Acquisition

Regarding vocabulary acquisition, numerous experimental studies and case studies have been conducted. Among them, the efficacy of animated cartoons with subtitles has been extensively researched. Most studies have concluded that cartoons are effective tools for vocabulary acquisition, as participants showed improved scores after watching cartoons [3-8].

In Karakaş et al.'s study, although there was little difference in the t-test results, the display of targeted words in cartoons contributed significantly to the improvement in vocabulary from the pre-test to the post-test in both groups [4]. The study focused on the vocabulary development process instead of reading or listening comprehension, which differed from previous studies.

Munir attempted to demonstrate that students show positive gains in vocabulary after treatment involving watching cartoon films [5]. The study involved 25 fourth-grade students, where a one-group pre-test and post-test approach was utilized, and qualitative data analysis was used to determine the difference before and after treatment.

In the empirical investigation of Ghilzai et al., a single toddler who used mobile devices, tablets, and television was observed to watch cartoons, and the study concluded that children should be exposed to rich language inputs for better language acquisition [6].

However, some studies suggest age and gender have greater impacts on an individual's language-learning process than exposure time to cartoons [9].

2.2. Cartoons in Pronunciation Improvement

There are limited studies on the potential benefits of cartoons in enhancing children's pronunciation skills, but several experiments have examined the impact of cartoons on adult learners [10]. Alghonaim and Ali's study explored the relationship between watching English cartoons and Arabic-speaking children's pronunciation acquisition in an English as a foreign language (EFL) setting [11]. In their longitudinal case study, researchers compared Anmar's pronunciation of problematic sounds identified in previous studies with those of typical Arab English learners. After seven years of English cartoon viewing, Anmar demonstrated native-like English pronunciation. As a result, the study concluded that TV cartoons might help children overcome pronunciation difficulties, and this approach could also benefit elementary school English learners by providing them with exposure to authentic language through the media.

2.3. Acknowledgement of the existing gaps

Although many previous experiments were conducted effectively, there are still issues and gaps that cannot be overlooked. Many studies do not provide specific animated cartoons utilized in their treatment, hindering the ability of replication and re-examination of their credibility and validity. Some studies, such as Munir and Karakaş et al. [4,5], failed to include a control group, leading to confounding factors and uncertainty of whether the independent variable was the sole factor influencing the research outcomes. Most case studies are focused on observing individual behavior, which has limited generalizability due to personal subjectivity. Individual learning progress may be influenced by various factors, such as socioeconomic status, gender, and age, causing findings to only apply to a limited scope. Our study aims to address these gaps to enhance the scientific and authentic nature of our research.

3. Methodology

Table 1: Display of research methods conducted in this test.

| | | |
|--------------------|--|--|
| Research Questions | 1. Research toward watching cartoons as an English Learning method | 2. Whether watching English cartoons truly is an effective method in assisting the adjustment of children's English pronunciation? |
| Analyze Methods | A Formal Literature Review of Previous Studies | Experiment |

Table 1 shows the two main questions in this test and the overall methodologies applied to solve them better.

3.1. Research Design

The primary independent variable in this study is whether or not participants receive English language

instruction through cartoons. To accomplish this, control and experimental group design will be capitalized, and ethical standards approved by Fudan University will also be under strict adherence. In addition to pre-and post-tests for both groups, initial data will include non-verbal IQ and memory capacity measures. T-tests will be conducted to analyze treatment effects, and ANCOVA will be utilized in case of non-equivalent levels in pre-treatment measures.

3.2. Participants & Sampling Frame

The targeted population for this study will comprise native Chinese children aged 10 to 12 years who are learning English as a foreign language. The sampling frame will be limited to third-grade children in public primary schools in Shanghai, considering the constraints caused by distance and language acquisition stages. Typically, Chinese students of this age, unless they have had prior exposure to English, are gradually introduced to the English language. In the case of public schools, there is less variability in the socio-economic status (SES) of students because they tend to come from the same district. Therefore, it is most appropriate to select beginner students in public primary schools who are 10 years old to minimize potential confounding factors such as SES and English proficiency.

3.3. Instruments

For this research, a pronunciation test comprising ten easily-confused phonological pairs will be employed, such as /θ/ and /ð/, /w/ and /v/, /z/ and /s/, among others [12]. This test will be administered twice - once as a pre-test and once as a post-test. The words comprising these confusing phonological pairs will be taken from the animated cartoon clips used in the experimental group. Meanwhile, in the control group, these words will be incorporated into the teaching syllabus using conventional teaching methods such as reading with the teacher, recorded tapes, rote memorization, etc. The pronunciation test will be administered to record individual pre-test performance and to compare it with post-test results if any difference exists. The reason for choosing the ten easily confusing phonological pairs is to observe if their pronunciation varies after treatment. The comparison between groups caused by watching cartoons may be more salient under such conditions.

The *Wechsler Abbreviated Scale of Intelligence (2nd ed.)* (WASI) *Similarities* sub-test will be used to measure participants' non-verbal IQ [13]. The aim is to determine if participants' verbal reasoning and concept formation are very different, which may affect their phonological analysis and imitation. The *Similarities* sub-test of the WASI also confirms that all participants function within the normal range. WASI was chosen as the non-verbal IQ test in our study for its reliability, applicability, and duplicability.

The *auditory verbal learning test* (AVLT) will measure participants' memory capacity [14]. (see Appendix 1) This ensures that participants have a similar memory capacity within acceptable variations. The purpose of AVLT is to recall as many words as possible accurately and quickly. AVLT is a standardized test that evaluates verbal learning and memory of words. It includes four additional trials consisting of 15 irrelevant words read aloud by the tester from a standard list, which guarantees its credibility and error-tolerance. AVLT also provides a range of other materials that can be compared between the performance of different groups or traced over a period of time or in response to interventions. This provides raw data that are reusable in further studies from various perspectives.

Peppa Pig may be used as the animated cartoon in the treatment [15]. This is due to its comprehensibility, suitability for everyday use, simple expressions suitable for English beginners, and positive energy conveyed by the characters in the clip. Additionally, the characters are cute and optimistic, with little negative influence on the formation of children's characteristics.

3.4. Pilot Test

The pronunciation pre-test and the animated cartoon clip will first be piloted under a group of ten children randomly picked from the same public school in grade three.

The pilot test for the pre-test will mainly focus on judging whether the confusing pairs are truly disturbing students' articulation.

Meanwhile, the pilot test will be followed by several questions inquiring about their attitudes toward animated cartoon clips, including but not only limited to the following questions:

- Do you think the conversation in the clip is too uncommon in daily communication?
- Do you find yourself strenuous in catching on with the speed of the conversation in the clip?
- Do you find yourself hard to understand the conversation in the clip?
- Do you find yourself being fed up with the clip shortly after it starts to play?
- Can you figure out the words you will learn in the cartoon clip?

These questions can assist researchers in adjusting the targeted cartoon clips to better suit students' average English level while excluding factors that could potentially affect the test results, such as students' misinterpretation of a word due to rapid speech, misunderstanding of a word caused by convoluted conversational contexts, and limited attention caused by disinterest in the animated cartoons' plot and characters.

3.5. Prepared Procedure

After conducting the pilot study, the pre-test and treatment will be modified according to the feedback received from the pilot test. For the main study, two classes will be randomly assigned as either the control group or the experimental group. English teachers from both groups, especially the experimental group, will be asked to prepare the lesson one day before class, ensuring the animated cartoon video is effectively integrated with the traditional teaching methods. This will eliminate any confounding factors related to differences in teacher preparation.

Before treatment implementation, both groups will complete a pre-test, followed by a non-verbal IQ test and a memory capacity test. Native English speakers who are not involved in the study will be the examiners and assess participant performance on a scale of 0 to 10 based on their pronunciation. The same process will be repeated in a post-test after treatment implementation.

The treatment session will last approximately 45 minutes, equivalent to a typical class duration in China, ensuring participants are not overly fatigued, thereby minimizing distractions during treatment.

Participants will not be permitted to use electronic devices or dictionaries during the pre-tests. Additionally, the entire study protocol will remain confidential until the end, with neither teachers nor students providing any information in advance.

3.6. Ethics Approval

In addition to strictly adhering to the ethics approval guidelines established by Fudan University, this research will also uphold the principle of voluntary participation. As our participants are under 16, the research will not proceed until a comprehensive overview of the research process and the express consent of their parents or legal guardians are obtained. Furthermore, the testees' verbal assent will be recorded and guaranteed before the official commencement of research.

3.7. Limitation acknowledgement

3.7.1. Limited, targeted age group

The study focuses solely on children aged 10, meaning the selected data only reflects the initial reactions and performance variations of beginner learners watching cartoons. Thus, we cannot confidently generalize our findings to other age groups. To achieve comprehensive and conclusive results, further research must encompass a broader range of ages.

3.7.2. The Hawthorne Effect

We have taken measures to ensure the validity and credibility of the test, such as using pronunciation examiners outside of the two research groups. However, uncontrollable confounding factors, such as participant awareness of experimental participation, could greatly impact performance and skew results. This must be taken into consideration when interpreting the final findings.

4. Results expected

While the study has not been implemented yet, differences in participant performance are anticipated between the pre-test and post-test, with the experimental group outperforming the control group post-test. However, further scientific analysis is required to confirm this estimation.

4.1. Data-analysis methods

4.1.1. T-test

The study analyzes pre-test and post-test scores for both the control and experimental groups, with the independent variable being the animated cartoon clip and covariates including English proficiency, SES, and gender. Language proficiency differences can be addressed by applying the appropriate formula. We will employ the t-test as performed by [5], who shares a similar research design to ours:

$$t = Md / \sqrt{\Sigma x^2 d / N(N - 1)} \dots \quad (1)$$

Notes:

Md = means of differential pre-test and post-test

xd = deviation in every subject (d-Md)

$\Sigma x^2 d$ = Total of quadrate deviation

N = Subject of sample

d.b = Decided by N-1

The formula above will be used to measure the treatment's effectiveness within the experimental group to figure out whether the independent variable in this study, the animated cartoon clip, really has an effect in assisting the adjustment of participants' pronunciation problems.

4.1.2. ANCOVA

Repeated measures ANCOVA will also be utilized to evaluate the impacts of covariates such as WASI and AVL T scores on pronunciation test scores [16]. These scores reflect participants' receptive sensors and memory retention of phonological features, which are significant indicators of pronunciation ability. By using the WASI and AVL T scores as covariates and conducting ANCOVA, the impact of the animated cartoon clip on exam scores independent of the influence of these covariates can be more explicitly determined, which allows researchers to test whether or not an animated cartoon clip

has an impact on exam scores after the influence of the covariate has been excluded. Thus, if a statistically significant difference can be found in test scores between the control group and the experimental group, then it is possible for the paper to conclude that this difference exists even after accounting for the student's current grade in the class [17].

5. Conclusion

This study is aimed at determining whether animated cartoons have a beneficial effect on children's pronunciation skills and if they can serve as a more effective teaching tool than traditional methods. If the experimental group outperforms the control group, the findings may provide additional learning materials for contemporary pedagogy, which are of interest to both children and teachers. If the results are similar between the groups, teachers can still utilize animated films to create a more interactive and enjoyable learning environment for their students.

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Appendix 1

Our research will conduct similar test paper to this one.

Rey Auditory Verbal Learning Test (AVLT)

| | |
|----------------------|---|
| PID: | |
| Acrostic: | |
| Visit: | |
| Date Form Completed: | mm/dd/yyyy |
| Administration Type: | <input type="checkbox"/> Self-administered <input type="checkbox"/> Mailed <input type="checkbox"/> Telephone <input type="checkbox"/> Interviewer-administered <input type="checkbox"/> Home <input type="checkbox"/> Administered to Proxy |
| Administered by: | STAFF II |
| Language: | <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Navajo |

| Trials | A1 | A2 | A3 | A4 |
|-------------|--------------------|--------------------|--------------------|--------------------|
| Totals: | {total_a1} {int 4} | {total_a2} {int 4} | {total_a3} {int 4} | {total_a4} {int 4} |
| Intrusions: | {intr_a1} {int 4} | {intr_a2} {int 4} | {intr_a3} {int 4} | {intr_a4} {int 4} |

Time at End of Trial 6: {endtimehour} {int 4} : {endtimemin} {int 4}

{00-59} (24-hour clock)

Rey Auditory Verbal Learning Test (AVLT)

Delayed Recall

| | |
|----------------------|---|
| PID: | |
| Acrostic: | |
| Visit: | |
| Date Form Completed: | mm/dd/yyyy |
| Administration Type: | <input type="checkbox"/> Self-administered <input type="checkbox"/> Mailed <input type="checkbox"/> Telephone <input type="checkbox"/> Interviewer-administered <input type="checkbox"/> Home <input type="checkbox"/> Administered to Proxy |
| Administered by: | STAFF II |
| Language: | <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Navajo |

| | | | |
|-------------|------------------------|---|-----------------------|
| Delay time: | {delaytm_hour} {int 4} | : | {delaytm_min} {int 4} |
| | (24-hour clock) | | |
| Total: | {total} {int 4} | | |
| Intrusions: | {total} {int 4} | | |

Rey Auditory Verbal Learning Test (AVLT)

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|--|--|--|------------|--|--|--|--|--|-----------------------|--|--|--|----------|--|---|--|--|--|---------------------|--|--|--|--|
| Patient ID | | | | | | | | | | [affix ID label here] | | | | | | | | | | Date Form Completed | | | <div> <div>Month</div> <div>Day</div> <div>Year</div> </div> | |
| Administration Type | | | | Visit Code | | | | | | Reviewed by | | | | Language | | E | | | | | | | | |

Read instructions verbatim. If the participant does not understand, you may repeat the instructions. Read the words at an even pace, 1 second per word. Maximum time for participant recall for each trial is 1 minute (60 seconds). Words stated that are not from the list are "intrusions" and should be noted as such on the score sheet. Singular/plural variations are considered correct.

At the end of Trial 6 note the time. There must be at least a 15-minute delay before the Long-Delayed Recall.

At the end of Trial 6 note the time. There must be at least a 15-minute delay before the Long-Delayed Recall.

Tryal 1 Instruction: Say, "I am going to read a list of words. Listen carefully, for when I stop you are to repeat back as many words as you can remember. It doesn't matter in what order you repeat them, just try to remember as many as you can. Go ahead."

Trial 2-5 Instructions:

Say, "Now I am going to read the same words again, and once again, when I stop I want you to tell me as many words as you can remember, including words you said the first time. It doesn't matter in what order you say them, just say as many words as you can remember, whether or not you said them before. Go ahead."

List B Instruction:

Say, "Now I am going to read a second list of words. Listen carefully, for when I stop you are to repeat back as many words as you can remember. It doesn't matter in what order you repeat them, just try to remember as many as you can. Go ahead."

Trial 6 Instruction (Do not read the list of words to the participant):

Say, "Now tell me all the words you can remember from the first list, the list I repeated a number of times. Go ahead."

| Write the first six and the words you can remember from the first six, and the last. Reproduce a handout of this table 30 times. | | | | | | | | |
|--|---|---|---|---|---|-----------------------|----------|---------------|
| List A | 1 | 2 | 3 | 4 | 5 | After List B-recall 6 | List B | List B Recall |
| Drum | | | | | | | Desk | |
| Curtain | | | | | | | Ranger | |
| Bell | | | | | | | Bird | |
| Coffee | | | | | | | Shoe | |
| School | | | | | | | Stove | |
| Parent | | | | | | | Mountain | |
| Moon | | | | | | | Glasses | |
| Garden | | | | | | | Towel | |
| Hat | | | | | | | Cloud | |
| Farmer | | | | | | | Boat | |
| Nose | | | | | | | Lamb | |
| Turkey | | | | | | | Gun | |
| Color | | | | | | | Pencil | |
| House | | | | | | | Church | |
| River | | | | | | | Fish | |
| Totals | | | | | | | | |
| Intrusions | | | | | | | | |

Time at end of Trial 6: :

| | | | | |
|----------|--|--|--|--|
| Staff ID | | | | |
|----------|--|--|--|--|