

# **An Error Analysis in Chinese Language Tones Pronunciation by Indonesian Students**

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**Abstract.** This research aims to find out the Chinese language error pronunciation and the factors that cause pronunciation errors by Indonesian students. The paper shows some errors in pronouncing Chinese language tones by Indonesian students who study at Jiangxi Nanchang University China. This research focuses on Error Analysis in Chinese Finals Tone Pronunciations. As an Indonesian, the writer thinks of the need to analyze this error and hopes it will become a solution for some tone errors that appear in Indonesian Students' pronunciation. The tone in the Chinese language is very important, it determines the meaning of the words. The data sources of this research are Indonesian students who studied at Nanchang University, Jiangxi Province, China. The result shows that there are errors in pronouncing the Chinese tone. Some errors that appear when pronouncing a single tone are fewer than when pronouncing one word with a double tone or two-syllabic. Some causal factors of these errors came from some conditions, such as the influence of the mother language of the students, culture, social environment, etc.

**Keywords:** Chinese language, Tones, Pronunciation, Phonetics

## **1. Introduction**

The development of China has made it a country of great concern. In China's development, Chinese has become one of the most widely spoken languages in the world. Indonesia also has an important role in ASEAN (Association of Southeast Asian Nations) and is subject to China's soft power (Amalia, 2019). In this industry 4.0 era, society needs variative skills including mastering foreign languages, hence, the need for foreign language learning has developed in Indonesia. In Indonesia, the Chinese have developed rapidly in the past ten years. We can see that there is an increasing number of people who are interested in learning Mandarin, also there are many Chinese language Centre in different cities, such as Jakarta, Surabaya, Makassar, Manado, etc. have gradually been perfected. In addition, there are more opportunities for Indonesian students to study in China.

Language learning is the process of learning a language. Learning the language certainly do mistakes. Corder pointed out that everyone learning a language can't escape from mistakes (Corder, 1975). Remember, mistakes are the source of inspiration and real. Error analysis was established in the 1960s by Stephen Pit Corder and colleagues. Error analysis is an alternative to comparative analysis, linguists attempt to predict errors using differences between the first and second languages learners. Error analysis shows that

comparative analysis cannot predict the vast majority of errors, although their more valuable aspects have been incorporated into language transfer studies. A key finding of error analysis is that learners make erroneous inferences about the rules of the new language and produce many learner errors.

Every language in sound, form, grammar, sentence and meaning has different forms. The main form is, speech is used as a spoken language, and written language is used in writing. To communicate well, it is necessary to have proper or standard pronunciation. The phonetic term is in the form of a sound-symbol produced by the organs of the speech as a tool. In the Chinese language, there are several important issues to be considered, such as pronunciation and tone (Malyshev et al., 2017). These are very important because many sounds in Chinese are pronounced differently from the Indonesian Language, and the tone also affects the meaning of each word.

Yan Guoqing revealed in the 普通话水平测试与培训教程 (Putonghua Proficiency Test and Training Course) that the Chinese Language has four Tone, which are the first, second, third, and fourth, also reveals the sounds level of Chinese tone. The value is divided into four sound adjustments: 55 (high to high), 35 (low to high), 214 (middle to low to high), and 51 (high to low). These four types of adjustments are also known as Yinping 阴平, Yangping 阳平, Shangsheng 上声, and Qusheng 去声. The first tone's mark is (-), the second tone's mark is (/), the third tone's mark is (v) and the fourth tone's mark is (\) (虞国庆, 2009).

In conversation whether in class or daily conversation, Indonesian students usually make mistakes. Errors that occur during our description often occur in daily communication. For example, in Chinese, the most common mistake is misleading when pronouncing consonants, vocals, and even tones. A previous study showed error pronunciation of Indonesian learners often appears at the final, initial, and tone. Chinese tone errors are one of the majority of problems in the Chinese learning process for Indonesian Students (Dan et al., 2021).

Chen et al mentioned in their research that occurs at the third tone and inadequate aspiration of affricative consonants. The third tone is mostly difficult for Chinese Language learners. The majority of errors are because the third tone is mispronounced to the second tone (Chen et al., 2013). Learners who pronounce the Chinese tone commonly over-focus on how to pronounce it well rather than practice pronouncing it. Learning a second or foreign language requires a complex process in which learners utilize their knowledge of pronunciation to perform successfully (Jiang & Cohen, 2018). For example, When the pronunciation of the rising tone (the second tone), the learner is less confident in their pronunciation because the pronunciation is unusual and there is a tendency to raise the tone at the end (Chen et al., 2013).

There are many things that can influence the pronunciation ability of learners. In investigating the phonological development of a second language, the main factor is often identified as the presence of first language phonology in second or foreign language learners' minds (Bassetti, 2006). The teacher also has an important role to conduct classroom teaching strategies to help students overcome their difficulties. While some

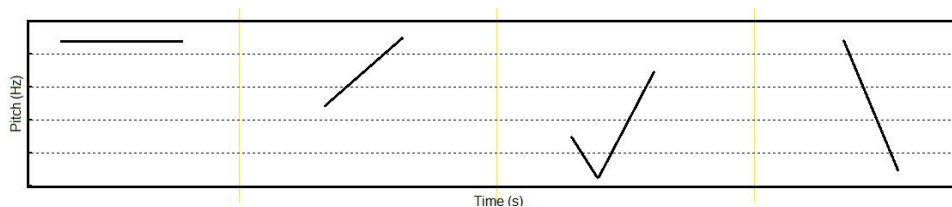
teachers found it difficult to accommodate multilingualism, others accepted and have developed a translanguaging pedagogy (Wang, 2019). As the author observed and had a learning experience at Nanchang University, there is also translanguaging in Chinese foreign language classrooms. Class observation demonstrates translanguaging as co-constructed a dialogical approach. It is carried out by teachers and students to keep the classroom communicative in a learning culture (Wang, 2019).

This research aims to find errors in tone pronunciation by Indonesian Students. The detail of the errors can be shown in the tone of pitch or *diao zhi*. The factors that cause pronunciation errors are also discussed in this research. It considers culture, environment, and other aspects that influence the Chinese language pronunciation of among Indonesia Students at Nanchang University.

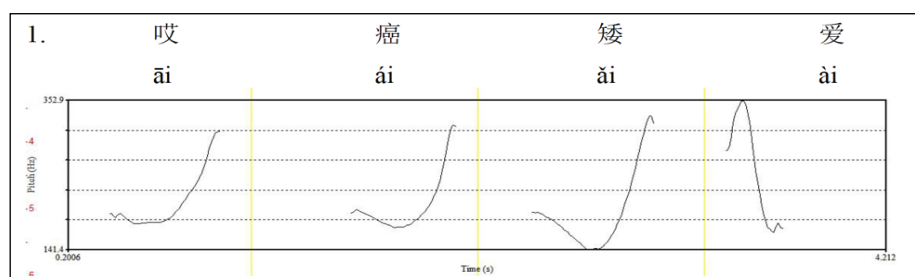
## 2. Method

The research method used in this study is descriptive qualitative, through data, description, comparison, and analysis. The data was collected by voice recording and was extracted using *Praat software*. The author analyzes the errors in Indonesian students' Chinese tones pronunciation.

The research procedure used the Praat software to analyze each audio sample. Praat is a cross-platform multi-functional phonetics professional software for analyzing, labeling, processing, and synthesizing digital voice signals, and generating various language and text reports.



**Figure 2.** Example of Praat Software Extracted Data



**Figure 2.** Example of Praat Software Extracted Data

## 3. Result dan Discussion

The Chinese words selected in this research used vocabularies of HSK level 1 until level 6. This research focus on the errors of Indonesian students' tone pronunciation, to prevent the pronunciation of the students from being misunderstood and affecting the

accuracy of the experiment, the authors used monosyllabic and two-syllable Chinese characters.

In this tone voice experiment, the total number of subjects was 12 people. The author invited Indonesian students studying at Nanchang University, China to conduct this language research. The participating students were divided into 3 groups: A, B, and C (code). A is 4 Chinese advanced level, B is 4 Chinese intermediate level, and C is 4 basic level students. The student level is differentiated according to the student's HSK level. Advanced level students are those who have already passed HSK 5 and 6, intermediate level students are those who have passed HSK 3 and 4, and basic level students are those who have passed HSK 2 or have never taken the HSK exam.

The monosyllable has a total of 80 characters and each tone has 20 words. All monosyllabic words were selected from HSK level 1 until level 6. There are 16 groups of two-syllable words, a total of 64 words, it is Yinping 阴平+ Yinping 阴平/ Yangping 阳平/ Shangsheng 上声/Qusheng 去声; Yangping 阳平+ Yinping 阴平/ Yangping 阳平/ Shangsheng 上声/ Qusheng 去声; Shangping 上平+ Yinping 阴平/ Yangping 阳平/ Shangsheng 上声/Qusheng 去声; Qusheng 去平+ Yinping 阴平/ Yangping 阳平/ Shangsheng 上声/Qusheng 去声; all **Two-Syllabic** words were selected from HSK level 3 and level 4 vocabularies. The total data is 960 tones for each monosyllable and two-syllabic.

Experimental data was extracted using Praat software. Each sample was analyzed by the pitch function of the Praat software. In the praat software, the following tone chart will be appeared and be saved to the word file. The pronunciation type of each sample was observed base on the standard of 4 Chinese tones—the tone pitch base on the five-degree adjustment. The value range of the pitch adjustment is between 0 and 5. The value of 0-1 can be roughly regarded as pitch 1. 1-2 can be roughly regarded as pitch 2. 2-3 can be roughly regarded as pitch 3, 3-4 can be roughly regarded as pitch 4, and 4-5 can be regarded as pitch 5.

To determine the tone value as called **Diao Zhi** (调值), it uses the "five-degree scale method" designed by Zhao Yuanren, which is to establish a coordinate, with the vertical axis representing the pitch, and the horizontal axis representing the sound length (赵元任, 2002). The pitch value is divided into five degrees, which are represented by 1, 2, 3, 4, and 5, where 1 means the lowest pitch, 2 means the second-lowest, 3 means the second middle, and 4 means the second-highest, and 5 means the highest. The difference between these five degrees has no absolute frequency value, but only represents the relative difference between high and low.

The tone type, called **Diao xing** (调型), is the type of tone, which refers to the changing pattern of the pitch, the rise, and fall 55 is a high-flat tone, 35 is a medium-rising tone, 214 is a zigzag type, and 51 is a full-falling type.

### 3.1. Monosyllabic Tone

**Table 1.** Students' Monosyllabic Tone Pronunciation Errors

Tone (Shengdiao)	Error Quantity	Error Percentage
First (Yinping 阴平)	138	14.48 %
Second (Yangping 阳平)	208	21.67 %
Third (Shangsheng 上声)	178	18.54 %
Fourth (Qusheng 去声)	92	9.58 %
Total	616	64.17 %

The result table above shows that, from 960 monosyllable samples, amount of pronunciation errors is 616 (64.17%). The largest error value occurs at pronouncing the second tone (21.67%), then occurs at pronouncing the third tone at about 18.54%, about 14.38% at pronouncing the first tone, and the smallest tone error value occurs when pronouncing the fourth tone, it is about 9.58%.

**Table 2.** Total Monosyllabic Tone Pronunciation Errors Based on Indonesian Student's Level

Level Tone	Errors Value			
	Advanced	Intermediate	Elementary	Total
First (Yinping 阴平)	52	49	37	138
	5.42%	5.10%	3.85%	14.38%
Second (Yangping 阳平)	63	66	79	208
	6.56%	6.88%	8.23%	21.67%
Third (Shangsheng 上声)	55	61	62	178
	5.73%	6.35%	6.46%	18.54%
Fourth (Qusheng 去声)	8	23	61	92
	0.83%	2.40%	6.35%	9.58 %

The data in Table 2, show the error value of Indonesian students' pronunciation of Chinese tones. The lowest percentage of error pronunciation is the Fourth tone (Qusheng 去声) at every level. For Indonesian students, the most difficult Chinese tones to pronounce are the third (Shangsheng 上声) and second (Yangping 阳平). This can be seen in the above results; the error of the third tone (Shangsheng 上声) is 178 (18.54%), and the highest pronunciation error occurs in second tone pronunciation, is 208 errors (21.67%), Intermediate level is the highest errors those happened in second tone pronunciation.

In monosyllabic tone pronunciation, the first tone error occurs in pitch 55 pronounce 44 pitch and 33 pitch of the tone. The second tone should be pronounced in 35 pitch, the students' pronunciation errors were pronouncing it in 214 pitch, 215 pitch, 213 pitch, and 15 pitch. They pronounced the second tone almost the same as the third tone. The third tone also mostly become a problem. It should be pronounced in pitch 214, the students

pronounced it in 213 pitch or 212 pitch. It will sound different from the third tone, it is diao xing down-rise or zigzag type of tone (降升). The fourth tone error happened when pitch 51 was pronounced in pitch 54, 53, and 52. The tone had not fallen down enough to pronounce the fourth tone.

### 3.2. Two-Syllabic Tone

**Table 3.** First Tone with other Tones Pronunciation Errors

Level Compound Tone	Errors Value			
	Advanced	Intermediate	Elementary	Total
First + First	19	15	15	49
Yinping 阴平+ Yinping 阴平	1.98%	1.56%	1.56%	5.10%
First + Second	20	20	20	60
Yinping 阴平+Yangping 阳平	2,08%	2,08%	2.08%	6.25%
First + Third	17	19	19	55
Yinping 阴平+Shangsheng 上声	1.77%	1.98%	1.98%	5.73%
First + Fourth	19	17	18	54
Yinping 阴平+ Qusheng 去声	1.98%	1.77%	1.88%	5.63%

According to table 3, the highest error occurred when the first tone was combined with the second tone (yinping+yangping). The error percentage of the first tone-second tone is 60 (6.25%), the first tone-third tone is 55 (5.73%), and the first tone-fourth tone is 54 (5.63%).

**Table 4.** Second Tone with other Tones Pronunciation Errors

Level Compound Tone	Errors Value			
	Advanced	Intermediate	Elementary	Total
Second + First	20	20	20	60
Yangping 阳平+ Yinping 阴平	2.08%	2.08%	2.08%	6.25%
Second + Second	19	20	20	59
Yangping 阳平+Yangping 阳平	1.98%	2.08%	2.08%	6.15%
Second + Third	19	20	20	59
Yangping 阳平+Shangsheng 上声	1.98%	2.08%	2.08%	6.15%
Second + Fourth	20	19	20	59
Yangping 阳平+ Qusheng 去声	2.08%	1.98%	2.08%	6.15%

According to table 4, the highest error occurred when second tone was combined with the first tone (yangping+yinping). The error percentage of the second tone-first tone is 60 (6.25%), and the other compound tone is 59 (6.15%).

**Table 5.** Third Tone with other Tones Pronunciation Errors

Level Compound Tone	Errors Value			
	Advanced	Intermediate	Elementary	Total
Third + First	16	18	20	54
Shangsheng 上声+ Yinping 阴平	1.67%	1.88%	2.08%	5.63%
Third + Second	20	20	20	60
Shangsheng 上声+Yangping 阳平	2,08%	2.08%	2.08%	6.25%
Third + Third	19	18	15	52
Shangsheng 上声+Shangsheng 上声	1.98%	1.88%	1.56%	5.42%
Third + Fourth	19	17	20	56
Shangsheng 上声+ Qusheng 去声	1.98%	1.77%	2.08%	5.83%

According to table 5, the highest error occurred when the third tone combined with second tone (shangsheng+yangping). The error percentage of the third tone-second tone is 60 (6.25%).

**Table 6.** Third Tone with other Tones Pronunciation Errors

Level Compound Tone	Errors Value			
	Advanced	Intermediate	Elementary	Total
Fourth + First	20	20	20	60
Qusheng 去声+ Yinping 阴平	2,08%	2,08%	2,08%	6,25%
Fourth + Second	20	20	20	60
Qusheng 去声+Yangping 阳平	2,08%	2,08%	2,08%	6,25%
Fourth + Third	20	20	20	60
Qusheng 去声+Shangsheng 上声	2,08%	2,08%	2,08%	6,25%
Fourth + Fourth	20	20	19	59
Qusheng 去声+ Qusheng 去声	2,08%	2,08%	1,98%	6,15%

According to table 6, the highest error occurred in Fourth-First, Fourth-Second, and Fourth-Third. The error percentage is 60 (6.25%) for each compound tone.

The data above shows that the error of two-syllabic tone occurrence is very high. In terms of diaozhi ‘tone value’, the highest errors occur in the second tone combined with other tones (Yangping Jiehe 阳平结合). Error pronunciation in the Second tone combination; Yangping 阳平 + others or others + Yangping 阳平 was more than other tones. It shows that Indonesian students had some difficulties and pressure when they pronounced the second tone (Yangping 阳平). This is because there are some Indonesian students who do not know how to pronounce the rising tone of Yangping 阳平. The second difficulty occurs in the third tone combined with other tones.

In the errors of the two-syllabic tone pronunciation test, it shows that errors in terms of diao zhi ‘tone value’ are higher than diao xing ‘tone type’. In terms of tone value, the

most errors occur in the Second Tone Yangping 阳平 combine with other tones, such as Yinping 阴平, Yangping 阳平, Shangsheng 上声, and Qusheng 去声. The second tone pronunciation problems were mostly because Indonesian students pronounce tone 35 as become another tone value. They pronounce it as the third tone-Shangsheng 上声 with tone value or pitch 214. While in the third tone, the errors appear when Indonesian students do not reach pitch 4 of tone value. The third tone should be in pitch 214, however, they still pronounce it in pitch 213 or 212. The first tone Yinping 阴平 error pronunciation appeared because they do not reach the pitch 55, mostly the pronunciation Yinping 阴平 in pitch 44 and 33. The lowest errors appeared in the fourth tone-Qusheng 去声 pronunciation. The fourth tone errors pronunciation mostly because the students' pronunciation does not fall off enough at pitch 51. Most of the students pronounced it in pitch 53 and 52.

### ***3.3. The Influence of Chinese Tone Learner Factors***

There are many factors that can lead to language errors. However, in this study, the authors concluded that five influences of Indonesian students on learning factors. The first is the influence of the mother tongue; second, the frequency of use of the second mother tongue; third, the internalization of the target language; the fourth is the cultural factor; the fifth is the influence of the learner's subjective factor.

First, the process of learning a foreign language is inseparable from the influence of the learner's previously mastered first language, also known as native language transfer (muyu qianyi 母语迁移). This transfer can be positive because can help to master the language target. However, can also be negative, it can be called distractors or language interference, and it will play a role in inhibiting the learning process. When Indonesian students learn Chinese, most of the phonetic errors are caused by the negative transfer of their mother tongue.

In the process of learning Chinese, it is inevitable that the mother tongue will have an influence on it. After all, the influence of the mother tongue on the personal phonetic system is deeply rooted. Under this circumstance, it is easy for students to learn Chinese to encounter difficulties. The mother tongue has a great influence on a person's ability to learn a second or foreign language. When learning a foreign language, students automatically compare their native language, then they often do some comparisons to find similarities and differences between the target language and their native language. Students hope to master a second language easily and conveniently. However, in the process of learning Chinese tones, it is difficult for Indonesian students to master Chinese tones well because Indonesian is a non-tonal language. Although Indonesian has tones, it does not affect the meaning of the expression.

Secondly, several studies have suggested that the frequency of use of the native language has a strong impact on students who are learning a second language or foreign language. The author believes that this also occurs widely among Indonesian students at Nanchang University in Jiangxi. Since Indonesian students were gathered in the same university and interact frequently, it leads to higher intensity of Indonesian students' use



of their native language and leads to an environment in which their native language is frequently used.

Gradually, the number of Indonesian students at Nanchang University in Jiangxi is increasing (about 50 students when conducting the tone recording). Indonesian students often use their native language, so Indonesian students rarely train in their Chinese language. In meeting friends from the same country, Indonesia, they are more willing to use their native language. Under this situation, it has a bad impact on Indonesian students. International students spend less time communicating in Chinese, and it is difficult for them to practice Chinese tones in daily life.

Third, In the process of mastering a foreign language, many errors arise from the difficulty or complexity of the target language system itself. The results of some studies indicate that the internal factors of the target language are also the source of errors. The main source of Foreign Language Anxiety among Chinese learners is unfamiliar scripts, unfamiliar topics, and worry about comprehension (Zhao et al., 2013). According to some Indonesian students' interview results, the Chinese language is a difficult language to understand because the Chinese language and Indonesian language have different alphabets, and some Chinese consonants and vowels do not exist in Indonesian. Also, Mandarin is a tonal language that is quite different from the Indonesian language. This is a big difficulty for Indonesian students. For Indonesian students, Chinese is more difficult, the main reason is that Indonesian students are not used to tonal languages.

In the learning process, teachers also contribute to improving student pronunciation. In some cases, compared to the proportion of respondents in their attitudes towards pitch accuracy in learning Chinese, more instructors emphasized pitch accuracy and far fewer were less likely to reduce pitch accuracy in actual teaching, indicating inconsistencies in their attitudes and teaching practices (Yang & Jin, 2018).

Fourth, In the process of learning Mandarin, culture also influences the pronunciation of Chinese tone by Indonesian students. This is because some Indonesian students feel that the use of Chinese tones goes against their nature and way of speaking. Most of the Indonesian students studying at Jiangxi Nanchang University are from the central part of Indonesia and have a culture that advocates cultural values and etiquette. Modesty in this context includes how to dress, behave, speak, etc. The way and style of conversation in central Indonesia are low, soft, smiling, and without high notes. These cultural factors are very influential. Thus, it is difficult for Indonesian students to adapt to the way of speaking Chinese, especially when it is high-pitched, Indonesian students will find it a little strange, especially when talking to the elderly or teachers, they will feel impolite.

The Last, In the process of learning a foreign language, the learner's personality, interests, and motivation also have a great influence. The learner's subjective desire in learning, interest and the learner's personality is fundamental. Students who are cheerful and outgoing are more inclined to participate in various activities organized by schools or clubs, practice Chinese, and communicate with Chinese people in Chinese, their Chinese proficiency will naturally improve faster, and then their interest in learning Chinese will become stronger and stronger. Introverted students are afraid of making mistakes and being laughed at when communicating with Chinese people. They rarely

have the opportunity to communicate with their classmates and teachers. They have relatively few opportunities to get Chinese training, and their level of improvement is slower. Most Indonesian students are shy by nature, but they are still willing to communicate with the encouragement of teachers and classmates. In the process of communication, teachers and classmates may wish to praise more to protect their willingness to learn. The encouragement of teachers and classmates will stimulate their enthusiasm for learning, gain a sense of achievement from learning, and enhance their interest in learning.

#### 4. Conclusion

Some errors that appear when pronouncing a single tone are fewer than when pronouncing one word with a double tone or called a two-syllabic word. Some causal factors of these errors came from some conditions, such as the influence of the mother language of the students, culture, social environment, etc.

The monosyllabic tone pitch analysis showed that Indonesian students had no great difficulty except for pronouncing the Chinese tone of yang ping (Second tone). According to the data of the research results, the error rates of Yinping (First tone), Shangsheng (third tone), and Qusheng (Fourth tone) are lower than the Second tone. It means Indonesian students understand the tone pitch of these three tones.

Analysis of two-syllabic tones shows that the most errors happened when the second tone combine with other tones. The second highest error is the combination of the third tone and other tones. This happened because Indonesian students could not consistence in pronouncing the second tone. It usually changes to a lower or higher tone. In Indonesian student pronunciation, two-syllabic tones are more difficult than monosyllabic tones.

The monosyllabic and two-syllabic tones have the same errors to be concerned. Whether in monosyllabic words or two-syllabic words, the largest errors showed in second tone pronunciation. The second tone pronunciation problems were mostly because Indonesian students pronounce tone 35 to become other tone pitches. They pronounce it as the third tone-Shangsheng 上声 with tone value or pitch 214. While in the third tone, the errors appear when Indonesian students do not reach pitch 4 of tone value. The third tone should be in pitch 214, however, they still pronounce it in pitch 213 or 212. The first tone Yinping 阴平 error pronunciation appeared because they do not reach the pitch 55, mostly the pronunciation Yinping 阴平 in pitch 44 and 33. The lowest errors appeared in the fourth tone-Qusheng 去声 pronunciation. The fourth tone errors pronunciation mostly because the students' pronunciation does not fall off enough at pitch 51. Most of the students pronounced it in pitch 53 and 52.

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