

Comparative Analysis of Chinese and Shona Tones

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Abstract - In an attempt to compare Chinese and Shona tones a short experiment was done to show tone values and patterns in Shona tone system. This was done to put the two languages' tone systems at par so that they can be comparable. The results from the experiment showed that Shona language just like Chinese language has level, rising and falling tones, however no evidence of the curving tone (the Chinese third tone) was found in Shona. It was concluded that it could be possible to utilize the knowledge of Shona tones as a point of reference in teaching Chinese tones to native speakers of Shona language. This paper suggests that if more such comparative researches are done it could be possible to find useful information which can in turn be used as point of reference in second language teaching.

Keywords -Tones; Chinese and Shona language; Comparison; Second language learning

1.1. Introduction

This paper compares tones in Chinese a Sino-Tibetan language and tones in Shona language a Bantu family language. Though this paper is a comparison of Chinese and Shona tones, it is rather expected to benefit other Chinese language learners who are non-native speakers of Shona. It is estimated that 70 % of the world's languages are tonal languages (Yip, 2002). Among these tonal languages Chinese language seem to have a set of relatively complicated tones, it is characterized by four tones generally identified as first tone, second tone, third tone and fourth tone. On the other hand it is generally believed that Shona like other Bantu languages uses a two tonal system, generally classified as High (H) and Low (L) (Scott Myers 2000, Ashleigh Gonzales 2009, McLoddy R. Kadyamusuma 2010). This comparison will be done based on tone value, tone category and tone pattern.

1.2. Importance of the research

The aim of this paper is not only to clarify the similarities and differences that exist between Shona and Chinese language' tones, rather it is also aimed at triggering interest in such comparative researches between Chinese language and other partially or wholly tonal languages. Also it is believed that comparison of Chinese tones and Shona tones will help other Chinese language learners throughout the world to master Chinese tones.

Mao Shizhen (2008) described Chinese tones as the important characteristic of Chinese language. Mao Shizhen (ibid) further explained that for a foreigner to

understand what native speakers of Chinese say he or she should have strong perception of tones. This clearly shows that Chinese tones form the bases for learning Chinese as a second language. In teaching of Shona to both Shona native speakers and foreigners tones are not given this much importance. Therefore, it is believed that by comparing the Chinese and Shona tones not only will we be helping Shona native speakers to understand Chinese tones but will be also awakening their consciousness of tone perception.

1.3. Conceptual framework and hypotheses

In this paper it is believed that Chinese tones are easy to master when they are referred to something that a student knows already or something that the student is already used to. In one of my lessons where I was teaching Chinese tones I had to use an example of the sound that comes out when one changes car gears from a lower level gear to a higher level gear in order to explain how the so called Chinese third tone sounds. Despite the fact that this is not really scientific, the majority of students in that class managed to grasp the pronunciation technique for this tone. Therefore, it is assumed that by finding similarities between Chinese and Shona tones Chinese language teachers will have a point of reference which can be easily understood by students. This will be more useful when teaching Chinese to native speakers of Shona. It doesn't matter whether there will more differences than similarities between the tonal system of these two languages, what matters more is creating a point of reference when teaching a concept that seems to be foreign. Attempts will be made to answer the following questions:

- i. What are tone patterns in these two languages?
- ii. What are the tone values in Chinese and Shona?
- iii. Is it possible to use some of Shona tones as the point of reference in teaching Chinese tones to native speakers of Shona?

2.1. Nature and significance of tones in Chinese and Shona language

Shona language is not a completely tonal language like Chinese. It should be noted that tone in this paper mainly refer to the pitch that differentiate syllable meaning. The Chinese 4 tones are used to differentiate meaning of the majority of Chinese similar syllables except in few syllables such as, /么 *me*, 能 *neng*, 俩 *lia*, 给 *gei*, 谁 *shei*, 日 *ri*, 贼 *zei*, 咯 *lo*/ etcetera (Xing Gongwan 2004). On the other hand in Shona language the majority of words do not need the use of tones for meaning differentiation. For instance the word /*bang*/ (LH) knife though it has a high and low tone, there is no other word with the same syllables and different tones. There is however a number of Shona words which like in Chinese are also differentiated by the attached tones, for instance; the disyllabic word /*Hama*/ (HH) means relative while /*hama*/ (HL) means hammer (Dale 1981:75).

Apart from the above there are three and four-syllabic words in Shona which are also differentiated by tones, for example: Three syllables; /*ambuya*/ (HLL) meaning a wife of a man's brother-in-law, differs from /*ambuya*/ (LHL) which refers to a grandmother both paternal and maternal. Examples for words with four similar syllables which are differentiated by tones are relatively few. It seems like in Shona the more the syllables the less significant the tones, a few examples were found such as /*mukaranga*/ (HHHH) meaning the youngest wife in polygamy, this word also refers to a bird that can guide people to a place with honey. The second /*mukaranga*/ (HLLL) refers to a person who speaks a Shona language dialect called Karanga. Another example is /*teketera*/ (HHHH) which means to speak with the dead, or an African prayer, and /*teketera*/ (LLLL) a kind of grass or female chicken.

This paper proposes that comparison of Shona and Chinese tones should be based on meaning-differentiating

tones as those shown above rather than any other standard pronunciation-determining tones. In this paper it is believed that some Shona tones are not necessarily meant to differentiate meaning but rather to give a standard pronunciation to a given word, of which if there is any tone variation meaning will not be affected.

Teaching of Chinese language can be regarded as basically the teaching of tones. According to The General Theory in Modern Chinese edited by Shao Jingmin (2001) there are 405 syllables only that make up the whole set of Chinese vocabulary. Compared to English syllables which are estimated to be between 1000 and 2000 syllables according to Pinson and Dene (1993:14), Chinese syllables are approximately a quarter of the English syllables. Many will wonder why then is Chinese vocabulary difficult to master yet it has few syllables? The answer is very simple; the four Chinese tones are responsible for this complication. It is therefore compulsory for anyone learning Chinese as a second language to have a sense of tones.

It is for this reason that tonal comparison between Chinese and Shona was done in this paper, so as to find (if any) the tone similarities and differences that exist between Shona and Chinese language. This was done on the proposition that it is possible to create a point of reference in teaching Chinese tones, a teaching technique that can make it easy for students to grasp pronunciation of Chinese tones.

As already mentioned tone in Chinese language brings distinctive meaning to syllables, in some Shona words it has the same function while in the majority of the words it is meant to give distinction between standard pronunciation and foreign or improper pronunciation. Liu Xiajun in his 2007 paper mentioned that Chinese linguists use a five contour scale method in order to describe tones that differentiate meanings in Chinese language. Through the use of the five contour scales one can define the various types of tones in terms of the tone pattern as well as the tone value. The five pitch contour system used in describing Chinese tones shows the pitch movement during sound production from the beginning of a syllable up to its end. The following table is a detailed description of Chinese tones adapted from Zhou Tongchun's book titled Chinese Phonology.

Table 1: Description of Chinese 4 tones

Tone number	Tone value	Tone pattern	Tone mark
First tone	55	High level tone	—
Second tone	35	rising tone	/
Third tone	214	low-falling-rising tone	∨
Fourth tone	51	Falling tone	\

From the above table, it can be seen that the Chinese tones are well described in terms of tone value, tone pattern and tone marks. This shows that the Chinese tone

researches are relatively systematic and clear. The same tones on the above table can be plotted on a graph using the tone values 55, 35, 214 and 51 as follows;

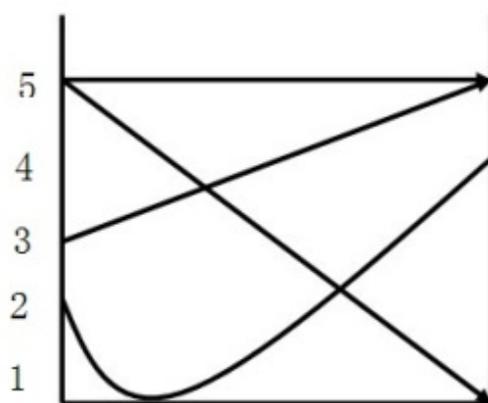


Figure 1. Graphic representation of the 4 tones Chinese

It is from this graphical representation where those Chinese tone marks (ˉ, /, ˇ, \) shown in the last column of table 1 were derived. On the other hand, although in some Shona vocabulary tones are used to differentiate meanings between syllables just as in Chinese language, the major distinction between Chinese tone system and Shona tone system is that Shona does not have detailed tonal analysis. This could be due to the fact that research on Chinese tones has a longer history than that of Shona language. According to Wang Lijia and Linshou (1997:128) as early as the 5th century, some people had already started researching on Chinese tones. On the contrary, researches on Shona tones started recently with major researches done by the following researchers; George Fortune (1969), Scott Myers (2000), Kagaya Rhohei (2001) and Mudzingwa Calisto (2010).

Despite the evidence available that shows the existence of a High and Low tone structure in Shona, up to the present we do not know how high is the so called Shona high tone and we also do not know how low is the so called Shona low tone. In other words the Shona researches on tones do not give details on the Shona tone values. Apart from that, we also do not know the tone patterns in Shona. Whether the Shona high tone remains high throughout the production of a given syllable or it starts as high and falls at the end still remains a mystery. The same is true for the low tone. In the light of this missing information, it is therefore not possible to compare Shona tones with Chinese tones because details on Chinese tones seem to be more complete than those of the Shona high and low tones. Certainly, there is need to find the complete details of the Shona tone values and tone patterns before comparing the two languages' tone systems.

2.2. Research methodology and data analysis

Library research was used as the basic source for background data for this topic. At the same time desktop research was obviously necessary in order to find recent researches around the world concerning Chinese and Shona tones. The advantage of desktop research is that it is quick and effective in terms of connecting the researcher to current and even old researches. Since the research was carried out in China it was going to be very expensive to access some of the resources only available

in Zimbabwe, desktop research was helpful in sourcing data from different parts of the world.

In order to make the comparison of this research more scientific there was also need to carry out a Shona tone experiment. This was due to the fact that the nature of Chinese tones can be described in terms of tone value and its graphical form known as tone patterns in Shifeng's Mandarin Experiments, yet there seem to be no such details on Shona tonal system. It could have been unfair to compare Shona's High and Low tones with the Chinese First, Second, Third and Fourth tones which are based on known graphic figures and values. Therefore, praat software was used as the basic analytical software for the recordings of Shona monosyllables and disyllables words which were done with 5 native speakers of Shona. With the use of Microsoft excel data transferred from praat was processed into values which were then used to create graphs for the different tones in Shona.

3.1. Shona tone experiment design and process

In this experiment only those Shona words with similar syllables yet they have different meanings due to variations in tones were used. These words were then analyzed following tone analysis processes used for Chinese tone analysis as in Shi Feng's 2006 paper titled Experimental Phonology and The Analysis of Chinese Phonology.

3.1.1. Purpose of the experiment

The main purpose of the experiment was to identify the Shona tone values and tone patterns which are normally used for tone categorization. Due to the limited nature of this experiment only Shona monosyllables and disyllables were used for this experiment. Words with three and or more syllables were not included because that could have required more time to do the analysis.

3.1.2. Participants

Five Zimbabwean students aged between 20 and 30 years who were studying Chinese in Tianjin participated in this experiment. All of the participants were native speakers of Shona language from the capital city of Zimbabwe. More details about the participants are shown on appendix 1.

3.1.3. Words selection and recording

Ten monosyllabic and ten disyllabic words with similar syllables yet referring to two different things were selected at random from the Duramanzwi: Shona-English Dictionary by Dale (1981). Only those words with different meanings due to tonal differences were selected. In Dale's Duramanzwi: Shona-English dictionary all these words are differentiated by H and L, where H represents High tone and L represents Low tone. This makes sense because each of these words refers to only 2 different concepts. Most of these monosyllabic words selected were onomatopoeia words, while most of the disyllabic words were either nouns or verbs. These 40 words though they might not reveal the complete nature of the whole system of the Shona tones, they were enough for this small-scale, unfunded research to give an insight of the possible complex nature of Shona tones. If a large quantity of vocabulary was used this could have been boring on the part of participants and possibly arouse fatigue during recording, hence leading to misleading results. The detailed list of the selected words and their meanings is shown on appendix 2.

Great care was placed on recording since it determines the success or failure of such tone experiments. During recording a new Toshiba computer, a new microphone and Cool Edit Pro 2.0 software were used. Sampling frequency was maintained at 16000 and mono recording was used in order to avoid capturing

outside noises. All the recordings were done in a closed room late at night in order to minimize noise from other students, vehicles, construction noises and other human activities. During recording a given word with a specific tone would be read 4 times so as to avoid pronunciation bias due to participant's low voice or low sound quality due to body movement and unstable breathing. For the ten monosyllables each being read four times per a given meaning thus a total of 40 samples per participant was recorded. For both monosyllables and disyllabic words a total of 80 samples per person were recorded, thus for the 5 participants there were a total of 400 samples. All recorded samples which were kept in wave format, were saved in labeled participant's individual folders and a backup file was also kept in a separate portable storage drive just in case of computer crash.

3.1.4. Data processing

An acoustic analysis was done to all the 400 samples using praat. This followed a long tiresome process where each sample file would be opened from praat software and each sample would be annotated to TextGrid, then by simultaneously selecting the original sound file and the annotated sound file the Edit option would then pop up to allow sound wave analysis. On each syllable for both mono and di-syllables, only the vowel part was selected, this was done by dividing the sound wave into its basic phonemes as shown in one of the samples taken during acoustic analysis in **figure 2** below:

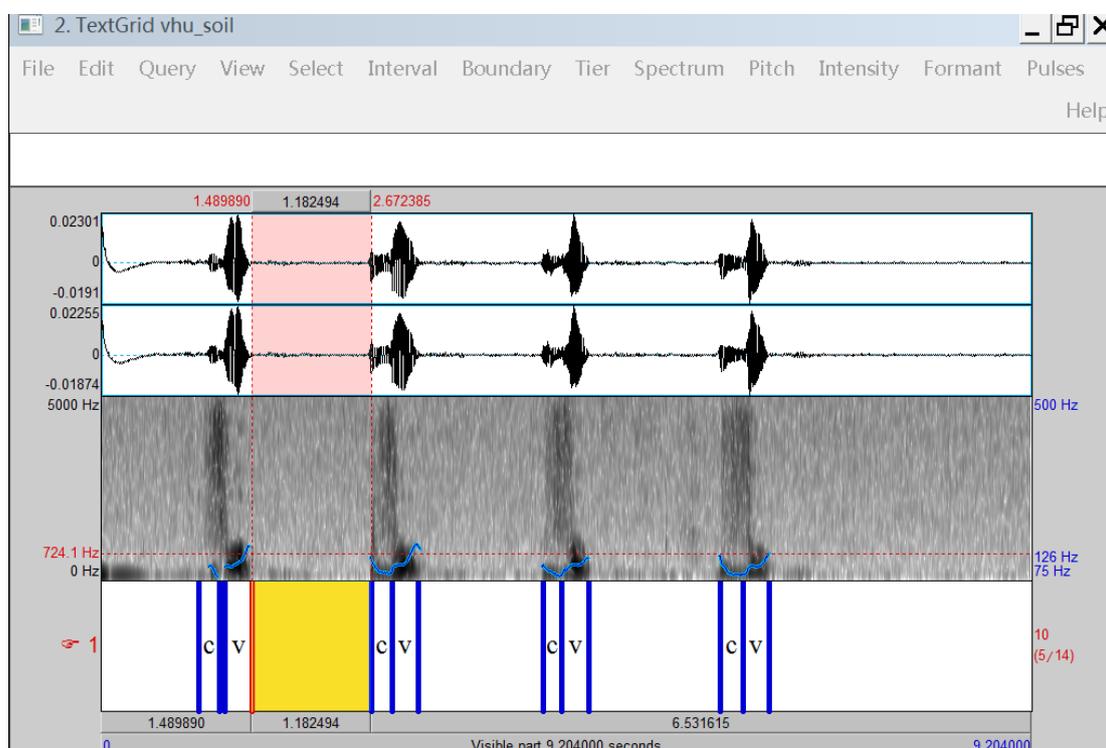


Figure 2. Vowel discrimination during acoustic analysis

Fig 2 above shows a text grid of one of the participants' 4 samples of the word *vhu* (soil) during acoustic analysis. The part labeled **C** was separated from the **V** since it represents the consonant which does not carry the tone. The part labeled **V** represents the vowel which carries the tone. These tones are normally shown

by the blue line on praat, on this sample it is shown by a rising line below the sound wave, along the left side's 724.1Hz dotted line. After this stage the frequency values were then imported to Microsoft excel for further statistical calculations. From the list of several frequency values on Microsoft excel 9 measuring points were

selected for each section labeled **V**, for this represented the actual tone value of the vowel part. At this stage, the following simplified **T**-value formula proposed by Shi Feng (2006) was used:

$$T = [(x - \min) / (\max - \min)] \times 5$$

Where **T** represents tone value and **X** represents the mean value of the points extracted from the imported frequency values of a given syllable. **Max** is the maximum of mean values of all measuring points for all samples and **Min** is the minimum, of mean values of all measuring points for all samples (in this case maximum and minimum value of 20 samples which are mean values of the 80 samples).

In order to calculate **T**-value for a given participant's single syllable, average pronunciation per word was calculated, thus converting the 80 samples to 20 samples, then maximum value and minimum value was calculated out of these 20 samples. The maximum and minimum values were used per each syllable's mean value to calculate the tone value for that given syllable. The result was then multiplied by 5 to set all the values to a five contour graph as the one used in Chinese tonal analysis. After obtaining the five contour figures, graphs were then created using Microsoft excel. Tone values for syllables with graphs that looked same and had almost similar values were grouped together and mean value per participant was calculated. These mean values were lastly plotted on graphs again to estimate the various tone categories responsible for meaning differentiation in Shona language.

3.2. Shona tone experiment results

The results of this experiment are divided into 2 parts which are; monosyllabic tones and disyllabic tones. The Shona monosyllabic and disyllabic tone experiment

showed that there are three tone categories responsible for meaning differentiation. In this paper for the purposes of pictorial representation of the nature of Shona tones some symbols suggested by Wang Lijia and Linshou (1992:126) shall be used. The three Shona tone categories observed in this experiment are

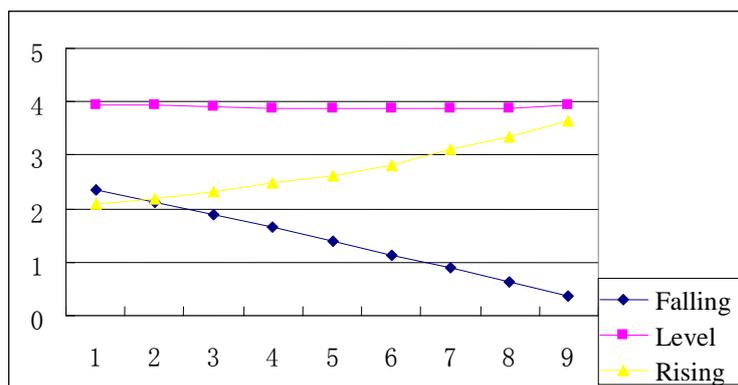
- i. Flat tones or level tones; these level tones can be further divided into upper level tones which shall be represented as: () , middle level tones which shall be represented as: () and low level tones which shall be represented as: (). It is possibly from this category where the Shona's traditional High and Low tone system was derived.
- ii. The rising tone which shall be represented as: ⇐
- iii. Falling tone which shall be represented as: ⇐

3.3. Tone results for Shona monosyllabic words

The results showed that the majority of the twenty monosyllabic words were differentiated by a rising tone. Ten monosyllables had a falling tone, while five had a rising tone and the other five syllables were differentiated from other syllables by a flat tone. The following line graphs show 5 participants' three tone categories and average tone values.

3.3.1. Participant A Tinashe

Three tone categories were observed for participant A. The level tone had an average tone value of 44 meaning to say the tone value remained at level 4 throughout the graph, while the rising tone started from level 2 upto level 4. The falling tone fell from level 2 to level 1 as shown below:

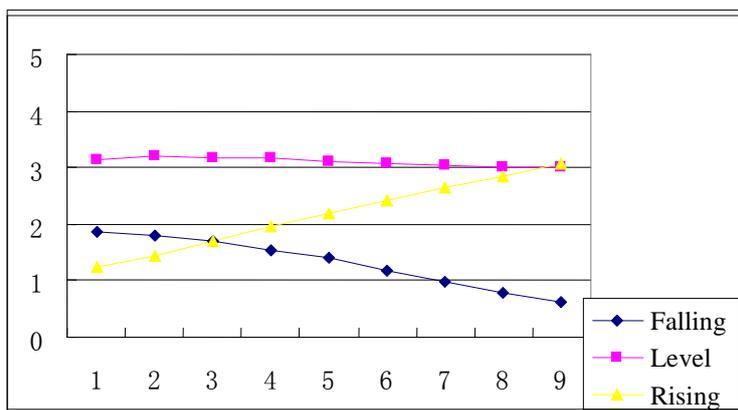


Graph 1. Tinashe

3.3.2. Participant B Benjamin

Three categories of tones were also observed for participant B. However, the level tone was lower than

that of participant A, tone values were at 33. The rising tone was from 1 up to 3, while the falling tone was just like that of participant A, falling from 2 to 1. Below is the graph:

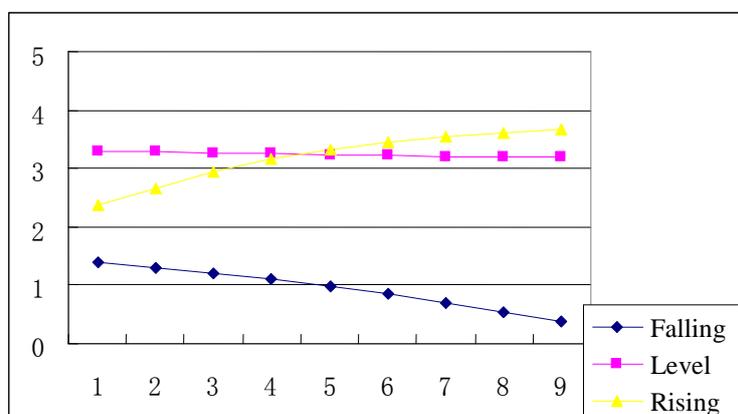


Graph 2. Benjamin

3.3.3. Participant C Charles

Three tone categories were observed with almost same tone values just as in participant A and participant

B. The level tone had a tone value of 33, while the rising tone and falling tone had a range of 2 to 3 and 2 to 1 respectively as shown below:

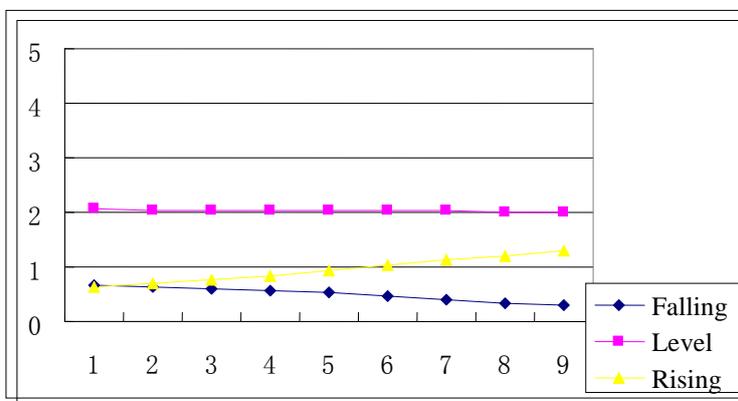


Graph 3. Charles

3.3.4. Participant D Tawanda

For participant D, though the tone values were relatively low but the tones observed could be still categorized into level tone, rising tone and falling tone.

The tone value for level tone was at 22, while the rising tone was from nearly 0 to 1 and from 1 to nearly 0 for the falling tone. These low tone values were probably due to participant's deep male voice or just failure to produce the syllables audibly, see graph below:



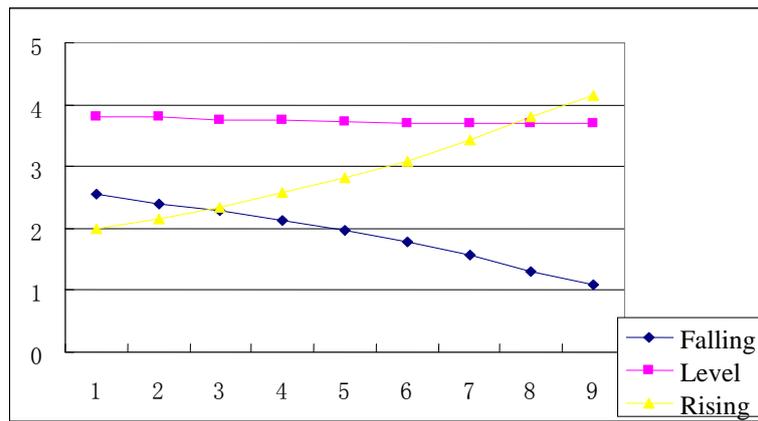
Graph 4. Tawanda

3.3.5. Participant E Violet

The results for participant E as shown on graph 4 below indicated that the level tone had a tone value of 44 while rising tone was from 2 to 4 and falling tone was

from 2 to 1. The tone values for participant E's level and rising tone were high, this could be due to the fact that

this participant was a lady while the rest were males.



Graph 5. Violet

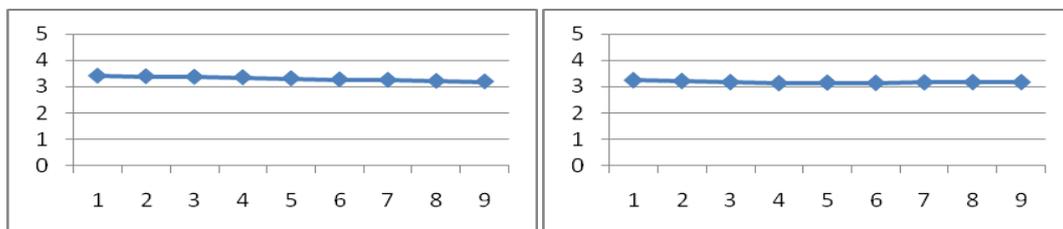
3.4. Tone results for Shona disyllabic words

The Shona tone experiment showed that unlike in monosyllabic words where falling tone is dominant, Shona disyllabic words are mainly dominated with level tones. A few words had either falling or rising tone. Below is a list of different patterns of level tones.

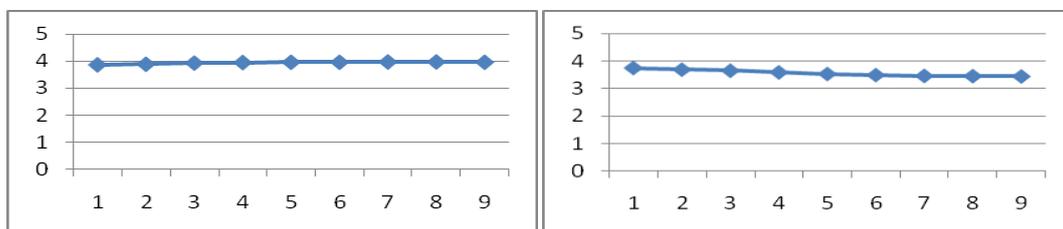
3.4.1. Middle level tone pattern on both syllables ()

Words in this group are differentiated from their counterparts by a middle level tone. This tone pattern was

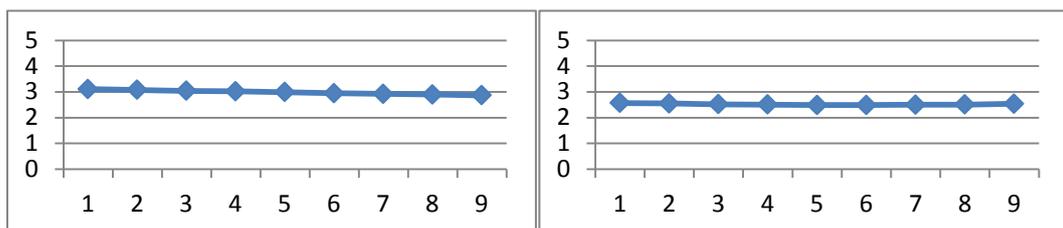
observed in the following words; /chera/ to fetch water, /nyara/ to be shy, /kamba/ tortoise, /pamba/ to confiscate, /para/ to scratch and /tora/ to take. Symbol () was used to show that the tone is neither very high nor very low. The approximate tone value for such words is 3.3 for each syllable as shown in the following participants' average tone graphs for the above words. It should be noted that the first graph represents the first syllable while the second graph represents the second syllable.



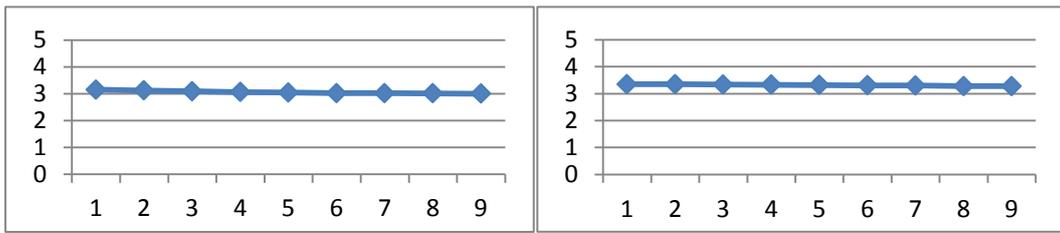
Graph 6. A Tinashé



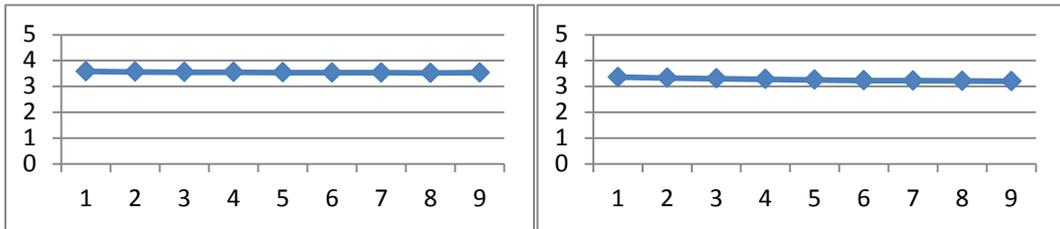
Graph 7. B Benjamin



Graph 8. C Charles



Graph 9. D Tawanda



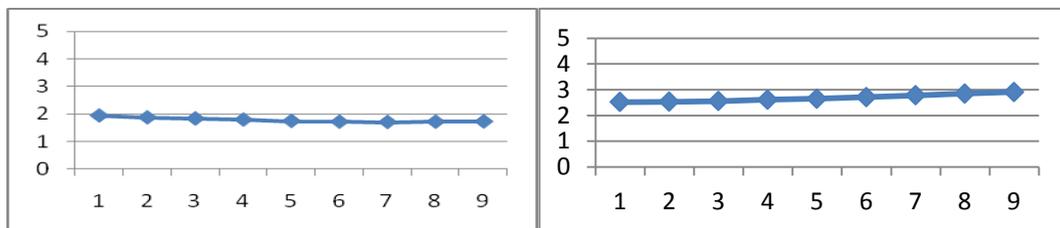
Graph 10. E Violet

With an exception of B's graph, the tone values for A, C, D and E were all 33 for both the first and second syllable.

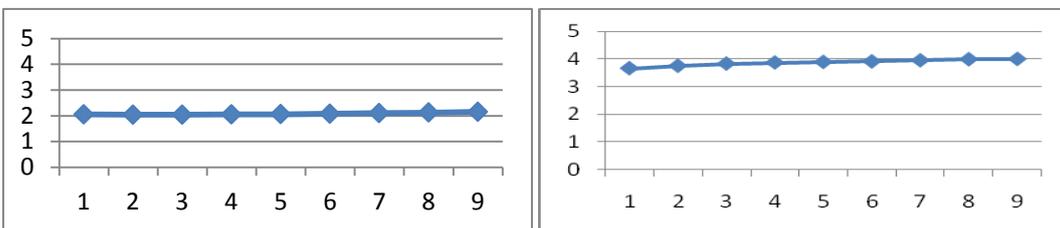
3.4.2. Low level and middle level tone pattern ()

In this group there were words such as; /chera/ to dig, /gara/ to sit down, /kamba/ a small house, /nyara/ to be

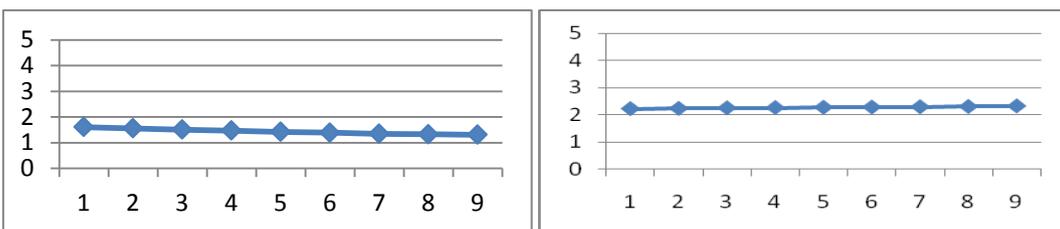
tired, /pamba/ at home, /para/ to commit a crime, /rima/ to do farming and /vana/ children. It was observed that these words were differentiated from their counterparts by a low tone on the first syllable and a middle tone on the second syllable. Symbol () was used to indicate that the tone on the second syllable was not really high but middle as shown in the following graphs.



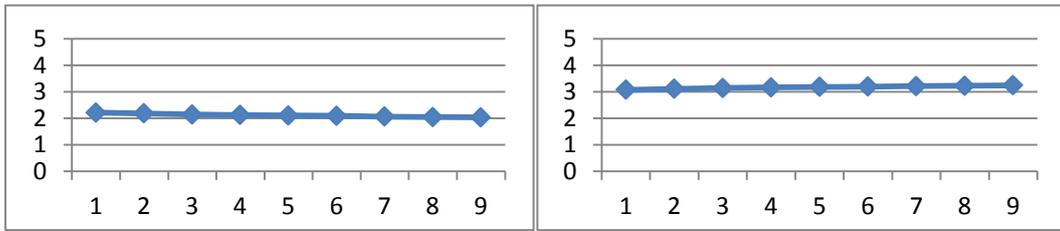
Graph 11. A Tinashe



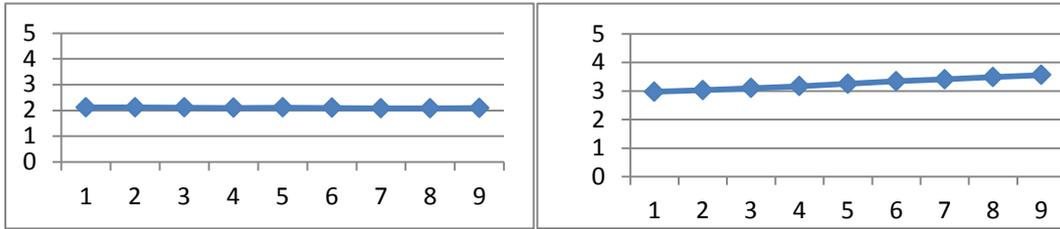
Graph 12. B Benjamin



Graph 13. C Charles



Graph 14. D Tawanda

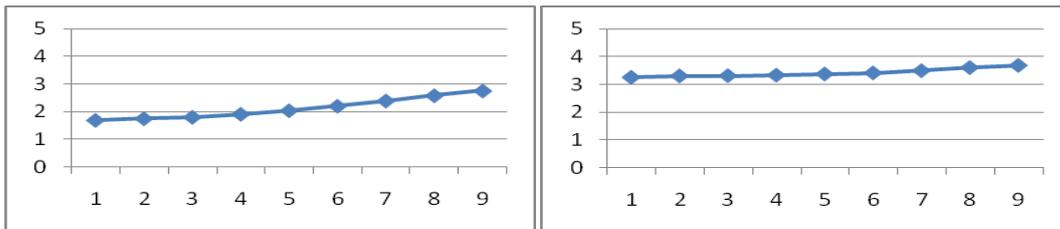


Graph 15. E Violet

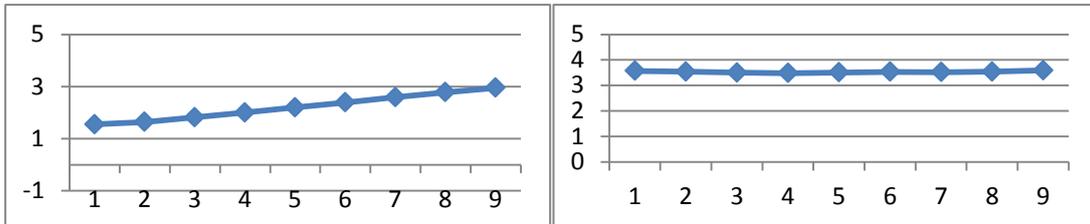
All the participants' first syllable had a tone value of either 22 or 11 while the second syllable's tone value was generally at 33.

Out of the twenty words only one word /dzoro/ big head, revealed this pattern where the first syllable had a rising tone and the second syllable had a middle level tone. Below are the graphs to show this pattern.

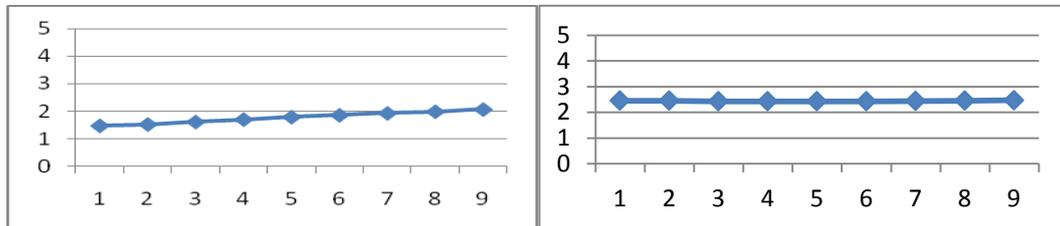
3.4.3. Rising and middle level tone pattern (↗)



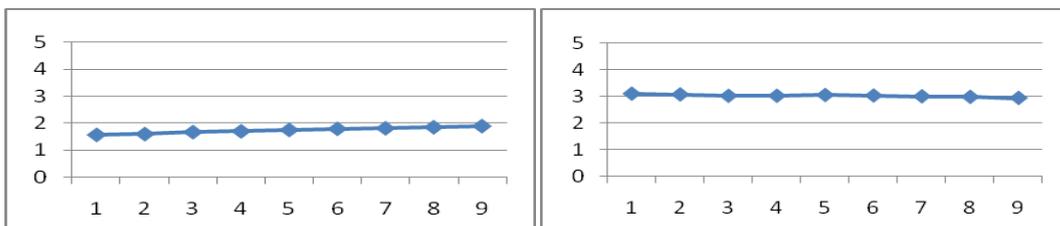
Graph 16. A Tinashe



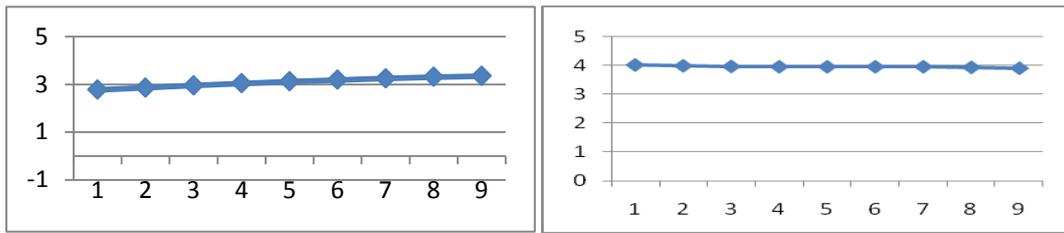
Graph 17. B Benjamin



Graph 18. C Charles



Graph 19. D Tawanda

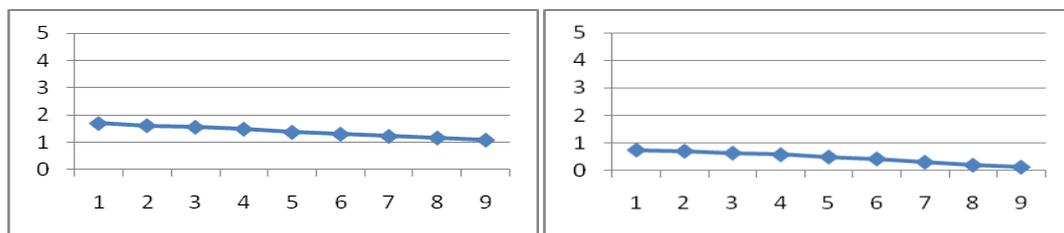


Graph 20. E Violet

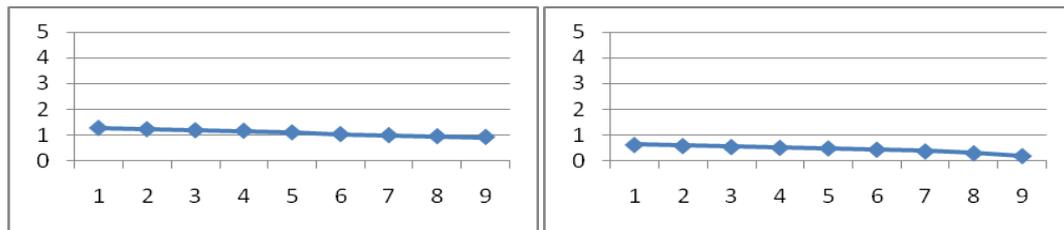
The first syllable /dzo/ had a clear rising tone either from 2 to 3 or from 1 to 2 in some graphs for deep voiced participants. The tone for the second syllable for the majority of the participants was middle level with a tone value of 33.

This tone pattern was observed in the following words; /dzoro/ taking turns, /gara/ a dangerous animal and /vana/ children. These words were differentiated from their counterparts by a slightly falling tone on both syllables as shown on the graphs below.

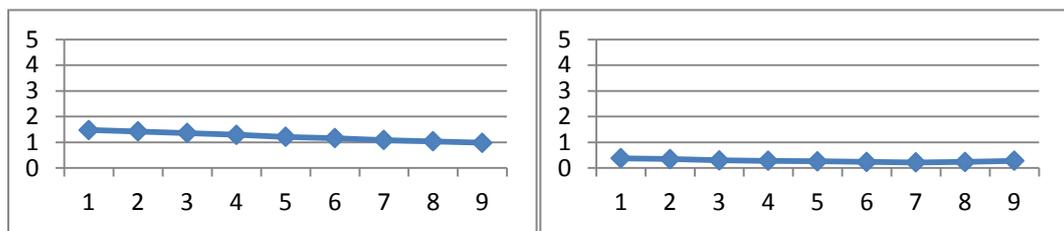
3.4.4. Falling tone pattern on both syllables ()



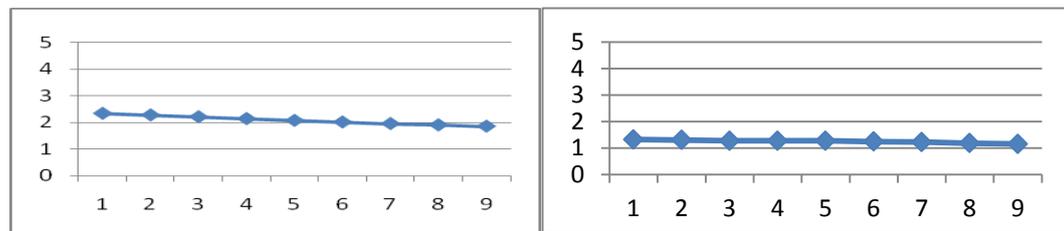
Graph 21. A Tinashe



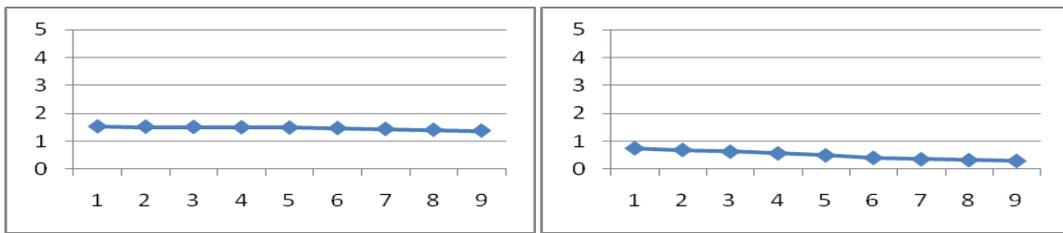
Graph 22. B Benjamin



Graph 23: C Charles



Graph 24. D Tawanda

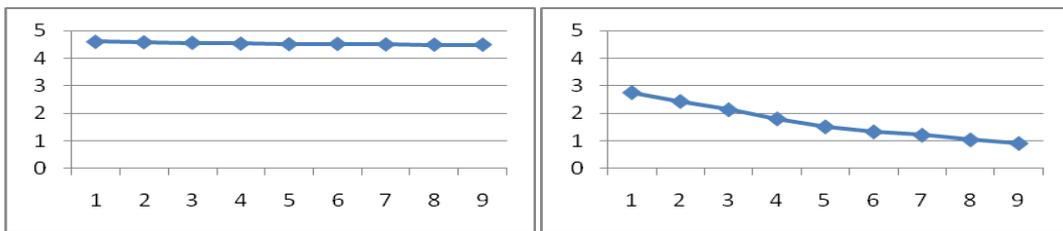


Graph 25. E Violet

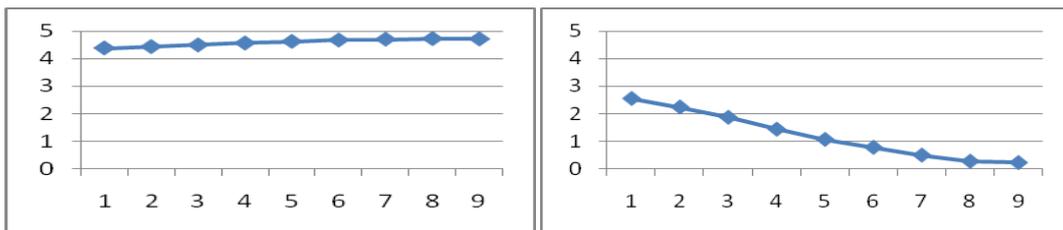
The tone values for this set of words were very low. The first syllable had a tone value slanting from 2 to 1, while in the second syllable was from 1 to nearly zero, in some cases it was just flat. The fall in the second syllable was not as sharp as that of the first syllable.

In this experiment only two words /*rima*/ darkness and /*tora*/ to run or go after something, showed that they were differentiated from their counterparts by a high level tone on the first syllable and a falling tone on the second syllable. This is also shown on the participants' graphs below.

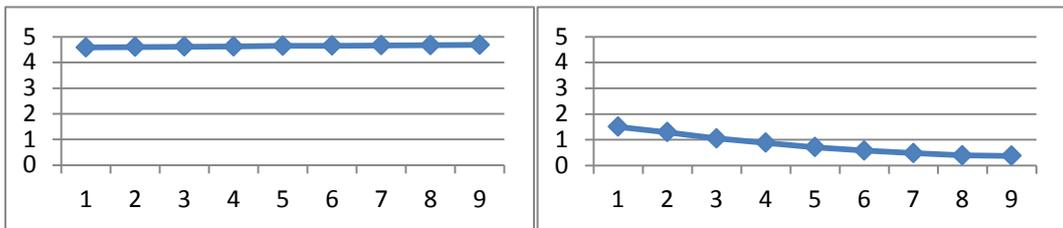
3.4.5. High level and falling tone pattern ()



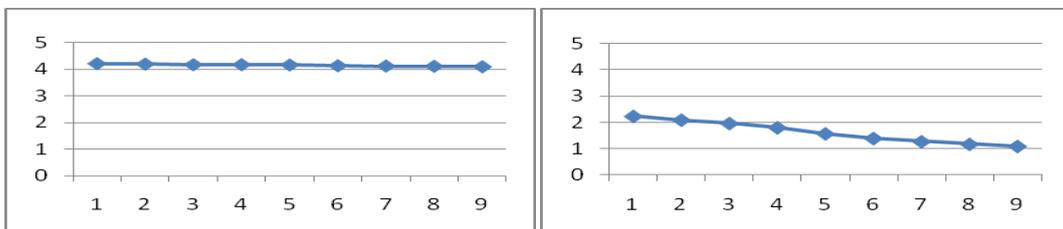
Graph 26. A Tinashe



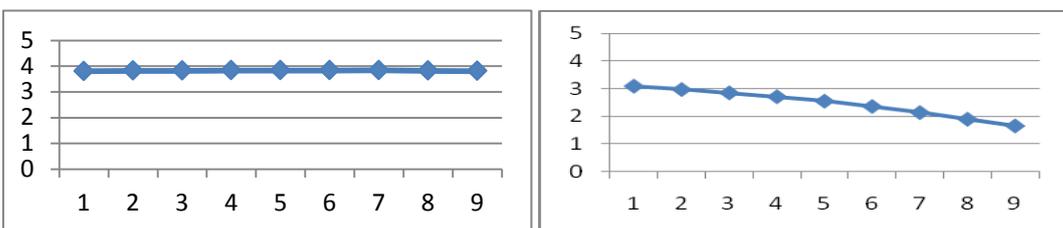
Graph 27. B Benjamin



Graph 28. C Charles



Graph 29. D Tawanda



Graph 30. E Violet

For some participants the tone value for the first syllable was as high as 55 while for others was around 44. The falling tone was also varied; participant A and B's tone value was from 3 to 1, while for others was from 2 to 1.

3.5. Shona tone experiment's results analysis and conclusion

Despite the fact that the words which were used in this experiment were by far few to represent the entire Shona tonal system there was a clear recurrence of certain similar tones in both monosyllables and disyllables. This Shona tone experiment showed that in Shona language there are at least three tone categories which are level tone, falling tone and rising tone. This experiment also showed that falling tone commonly appears in monosyllabic words, while level tone is common in disyllabic words. This could be the reason why most researchers believe that Shona language is just a High and Low level tone language.

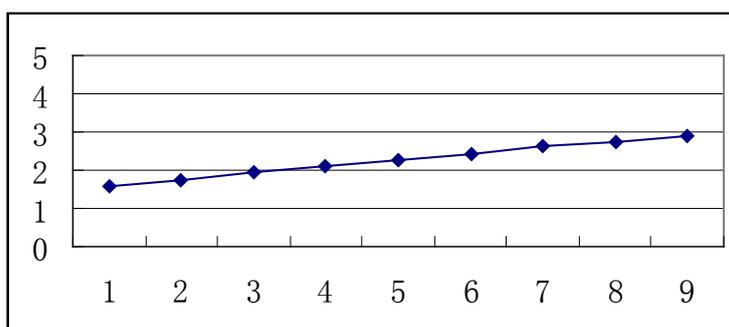
On average the tone value for Shona's rising tone is from 1 to 3 which can be represented as 13 or by symbol (⇌), while that of falling tone is from 2 to 1 (21) or (). The tone values for most Shona level tones range from 11, 22, 33, 44, and 55 depending on the speaker's voice, sex and probably age. However, in this experiment it was evident that these various levels can be grouped into high, middle and low, we can therefore summarize that the Shona level tones can be 11(), 33() or 55().

3.6. Similarities and differences between Chinese and Shona tones

In both Chinese and Shona language tones can be used to bring new meaning to a given syllable. However, the major difference that exists between Chinese tones and Shona tones is that, it seems like the meanings are limited to two in Shona language. For example a syllable like /ba/ can only be /-ba / to steal or /ba / to see, also syllable /doro/ can only be /doro / wet land or /doro /beer.

On the other hand for Chinese language a single syllable can have three or four different meanings. Zhu Xiaonong (2010:272) indicates that the majority of Chinese syllables can be inflected by the four tones to bring four different meanings. For instance the syllable /zou/ can have three meanings as shown below; /zōu邹/ with level tone refers to a name of a state during the Zhou dynasty, /zǒu走/ with curving tone means to walk or to go and /zòu揍/ with a falling tone means to beat; also syllable /ma/ can have four different meanings as in the following words /mā妈/(level tone) means mother, /má麻/(rising tone), means fibre or numb, /mǎ马/ (curving tone) means a horse and /mà骂/ (falling tone) means to scold.

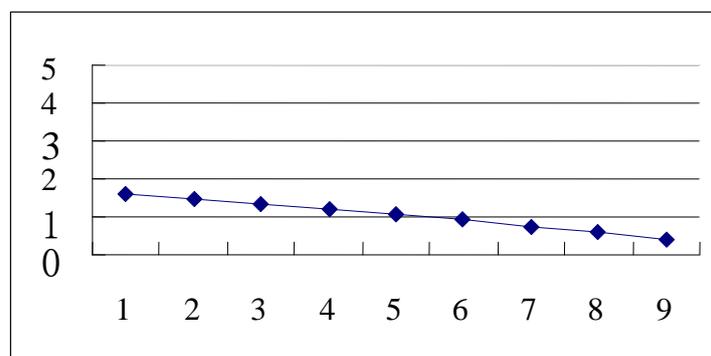
Apart from the above, both languages do have level tone, rising tone and falling tone. However, although both Chinese and Shona language have level tone, it should be noted that in Shona language there are several level tones ranging from Low11(), Middle33() to High55(), while standard Chinese has only one high level tone, with a tone value of 55(). Also though both Shona and Chinese language do have a rising tone, the tone value for rising tone in Chinese language starts from level 3 going up to 5 while as shown on the Shona average graph for rising tone the Shona tone value is from roughly 1 to level 3.



Graph 31. Rising tone for males

The graph above shows an average of 4 males' rising tone. The graph shows a rise from roughly 1 up to 3. As for the falling tone both Chinese and Shona language both do have this tone pattern however, the major

difference is on tone values. As shown on the graph below, Shona's falling tone is not as sharp as the Chinese one.



Graph 32. Shona's falling tone

This graph shows that tone values for Shona language's falling tone falls from roughly 2 to 1. This differs from the Chinese one which falls from 5 to 1. In teaching the Chinese falling tone it can be helpful to give reference to such Shona syllables with a falling tone such as /pa/ beat with a palm, /do/ falling of a round object, /ga/ a mark etc so that students will at least have a guide on how to practice their pronunciation.

The last major difference between Chinese and Shona language's tone system is that Chinese language has a

curving tone which does not exist in Shona language. The Shona tone experiment showed that there is no curving tone in Shona language. Whether this was due to sampling error or the mere fact that it might be a rare tone, this paper concludes that the Chinese curving tone should be all Chinese language teachers' major concern when teaching Chinese to native speakers of Shona and or other Chinese language learners. The comparison of Chinese and Shona tonal system can be summarized as in **Table 2** below:

Table 2: Summary of Chinese Shona tones

	Tone value	Tone pattern	Tone mark
Chinese level tone	55	High level tone	—
Shona level tone	55, 33, 11	High, middle and low	, ,
Chinese	35	rising tone	/
Shona	13	rising tone	↔
Chinese curving tone	214	Curving tone	∨
Shona	None	None	None
Chinese Falling tone	51	falling tone	\
Shona Falling tone	21	half falling tone	

4.1. Conclusion

This Shona tone experiment revealed that Shona monosyllable words are mainly differentiated by falling tones just as in Chinese's fourth tone (falling tone). However, the Shona falling tone differs from Chinese on tone values. The experiment also revealed that Shona disyllabic words are mainly differentiated by three level tones with tone values of 11, 33 and 55. On the other hand Chinese has a single level tone with a value of 55. From the sample words which were used for this experiment there was no evidence of a curving tone as in Chinese's curving tone or third tone. The fact that Shona tones do appear to have same tone patterns as those in Chinese language gives us assurance that it is possible to utilize some of these patterns in teaching of Chinese language. However, the questions that remain are that; will a native speaker of Shona be able to pronounce the Chinese curving tone perfectly? Since there are partial similarities will the native speakers of Shona language have any pronunciation bias due to native language transfer? Unfortunately this paper is not aimed at exploring these areas of pronunciation bias.

Based on the above findings it is therefore safe to argue that if a proper reference to Shona words that carry similar tones as those in Chinese is made, students who are native speakers of Shona will be able to grasp the Chinese tone system easily and without excessive practice. In Second language learning, excessive practice without much progress is one of the activities that can mislead students to think that Chinese language is difficult. In short, if more such comparative researches are done more useful information about the Chinese tones can be obtained, certainly learning Chinese shall never be a nightmare again.

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Appendix I

Participants' details

Participant/sex	Age	Mother tongue	Other Languages	City
A Tinashe (Male)	28	Shona	English and basic Mandarin	Harare
B Benjamin (Male)	24	Shona	English and basic Mandarin	Harare
C Violet (Female)	23	Shona	English and basic Mandarin	Harare
D Charles (Male)	22	Shona	English and basic Mandarin	Harare
E Tawanda (Male)	20	Shona	English and basic Mandarin	Harare

Appendix II

Selected vocabulary for experiment

Monosyllabic			
Word	meaning	Word	meaning
ba	to see	bhu↔	airflow out
-ba	steal	bhu	beating with a cloth
do	a drop or a small mark	ga	a mark on something
do	dropping of something round or heavy	ga↔	cutting of a tree
go	wasp (noun)	dhu	gun shots
go↔	cutting of a tree	dhu↔	finished
na	stick to something	ngwe	tiger
na-	conjunctive: with, and	ngwe	ringing of an iron bell or metal
-pa	to give	vhu↔	soil
pa	beat with the palm	vhu	To arrive

Disyllabic words			
Word	Meaning	Word	meaning
-chera	Fetch water	dzoro	taking turns
-chera	digging	dzoro↔	big head
gara	dangerous animals	kamba	tortoise
-gara	sit down	kamba	small house
-nyara	shy	pamba	at home
-nyara	tired	-pamba	to confiscate
para	the scratches	rima	Darkness

-para	to commit a crime	-rima	to do farming
Tora	To go along or run after something	vana	children
-tora	to take	vana	four

Vitae



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