THE DEVELOPMENT OF A LEADERSHIP COMPETENCY MODEL TO ENHANCE CHINESE VOCABULARY TEACHING AT CONFUCIUS INSTITUTES IN KENYA

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The purpose of this study was to develop a leadership competency model to enhance Chinese vocabulary teaching at Confucius Institutes in Kenya. The objectives of this study were: 1) to explore the factors affecting the leadership competency of teachers; 2) to determine the levels of leadership competency of Chinese vocabulary teachers in Kenya; 3) to test the practical effect of sound change law in Chinese vocabulary teaching; and 4) to develop and verify a leadership model to improve the teaching effect of Chinese vocabulary at Confucius Institutes in Kenya. There were 308 students from the Confucius Institutes at the University of Nairobi and Kenyatta University who participated in the study. The data was analyzed through content analysis, descriptive statistics, and a paired samples t-test. The results of the survey showed that the supportive leadership approach (M = 4.32, SD = 0.46) was the style mainly used by Chinese language teachers. The results of the paired samples t-test indicated that the Chinese vocabulary test scores of thirty students after they received instruction on the sound change law was significantly higher than before they received instruction on the sound change law. The results of the paired samples t-test of competency indicated that the score of five expert teachers after they received leadership competency training was significantly higher than before they received the training. Therefore, the effectiveness of Chinese vocabulary teaching at the Confucius Institutes in Kenya can be enhanced by improving the leadership competency of teachers.

Keywords: Leadership competency; Chinese vocabulary teaching; Chinese sounds change; Confucius Institutes

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Introduction

With China’s increasing global influence, the importance of the Chinese language has become more prominent. According to Peng (2017), China’s influence is increasing worldwide, and it is particularly important to learn Chinese well in the global situation. Likewise, Worrachaiyut (2012) pointed out that there has been an upsurge of Chinese language learning internationally.

From the perspective of China’s and Africa’s development strategies, the Chinese language is increasingly important to Africa. According to the State Council Information Office (2021), a white paper titled “China and Africa in the New Era: A Partnership of Equals” highlights the need for a stronger China-Africa community and a shared future. China maintains friendly cooperative relations with Africa and strengthens cooperation. Additionally, by the end of 2020, the cumulative direct investment of Chinese enterprises in Africa exceeded US$43 billion.

China has established more than 3,500 enterprises of various types in Africa, and private enterprises have gradually become the main force of investment in Africa, employing over 80% of local African employees and directly and indirectly creating millions of job opportunities (Xinhua News Agency, 2021). With the improvement of China's economic status in Asia in recent years, young Africans believe that it is very necessary to learn Chinese as a communication tool, which is helpful for them to find jobs, seek more development opportunities, and communicate with Chinese people (Xiang, 2012; Liu, 2014).

According to the Constitution and by-laws of the Confucius Institutes (2006), the Confucius Institutes are committed to meeting the needs of people all over the world for Chinese language learning and enhancing the understanding of the Chinese language and culture among people all over the world. Confucius Institutes are non-profit educational institutions established by Sino-foreign cooperation.

Thus far, there are 541 Confucius Institutes in the world, located in 162 countries and regions. The first Confucius Institute in Africa was established in Kenya in December 2005. According to the official data of Hanban (2023), there are 48 Confucius Institutes in Africa, particularly four located in Kenya. They are located at the following four universities: the University of Nairobi, Kenyatta University, Egerton University, and Kesses Moi University.

For countries whose official language is not Chinese, teaching vocabulary is both a key and a difficult point. Many Chinese teaching institutions and teachers have encountered obstacles in teaching Chinese vocabulary, which is a common cause of confusion among students (Yan & Huang, 2014; Zhao, 2014; Niu, 2014). As the target language of second language acquisition, Chinese vocabulary is difficult to teach (Li, 2018; Lin, 2019; Li, 2020). Thus, how to improve the efficiency of teaching Chinese vocabulary is worth studying.

At present, there are still some problems in the research and practice of Chinese vocabulary teaching. At the micro level, the teaching efficiency of Chinese vocabulary is low, discouraging many beginners (Zhang, 2010). It is necessary to explore a new method of effective linguistics to improve the competence of teachers.

From an educational point of view, teachers are more inclined to mechanically use existing educational theories and pedagogies to teach Chinese vocabulary. However, the problems are mainly due to the gap between language education theory and Chinese vocabulary teaching practice, or the teachers’ selection of theories and methods has not been fully and organically combined with the Chinese teaching practice in Kenya.
From the perspective of linguistics, the teaching of Chinese vocabulary has always been a difficult problem, and more effective and systematic solutions are needed (Zhang, 2010; Liu, 2014; Yang et al., 2018).

From a management and leadership perspective, the specific Chinese teaching work of the Confucius Institutes in Kenya mainly depends on teachers. The Confucius Institutes in Kenya therefore should explore teacher training systems suitable for local students and the actual situation; from a macro perspective, it is beneficial to improve the educational leadership of teachers and address the above problems (Wang, 2017; Lian, 2018; Zhang, 2019).

**Research objectives**

The following objectives form the basis for this study:
- To explore the factors affecting the leadership competency of teachers.
- To determine the levels of leadership competency of Chinese vocabulary teachers in Kenya.
- To test the practical effect of sound change laws in Chinese vocabulary teaching.
- To develop and verify a leadership model to improve the teaching effect of Chinese vocabulary at Confucius Institutes in Kenya.

**Literature review**

The main theories used in this research involve two aspects: leadership and language education. Specifically, they include the Leadership Competency Model (McClelland, 1973), the Path-Goal Leadership Theory (House, 1971), and the Sound Change Law in Chinese.

The Leadership Competency Model and Path-Goal Leadership Theory are used to guide the development of leadership in Kenyan Chinese language instructors, and the Chinese Sound Change Law is proposed for the enhancement of Chinese language teaching. Specifically, the theory of leadership competency corresponds to the improvement of teachers’ competency because it is related to the goal of improving the level of Chinese vocabulary teaching. Path-goal leadership theory corresponds to the appropriate leadership required to achieve the goal of improving Chinese vocabulary teaching. Sound Change Laws are proposed to help teachers improve their thinking and methods of vocabulary teaching to overcome obstacles in vocabulary teaching activities.

**Leadership competency theory and model**

The Leadership Competency Model is an extension of McClelland’s earlier work on human motivation and needs, which focused on the intrinsic factors that drive human motivation and behavior in the workplace. It was proposed by McClelland in 1973 in his essay, “Testing for Competency Rather Than for Intelligence”.

According to McClelland, specific competencies are better predictors of job performance than intelligence, and they can be developed through training and experience. Some key competencies in the leadership model include emotional intelligence, social intelligence, cognitive abilities, and achievement orientation.

McClelland (1973) pointed out that the process of determining competencies needs to follow two basic principles:
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1) Whether work performance can be significantly distinguished is the only criterion for judging a competency;
2) Judging whether a competency can distinguish work performance must be based on objective data.

For leaders, the competency model has the following advantages:
1) Selection with basis;
2) Cultivation with goals;
3) Efforts with direction;
4) Behavior with orientation.

McClelland believed that teacher competencies include benchmark competencies and discriminating competencies. Benchmark competency is the requirement for the basic quality of the competent person, including professional knowledge and professional skills, which is the explicit part. McClelland’s model has been influential in shaping how organizations approach leadership development by moving away from reliance on credentials towards a more holistic evaluation of leadership potential that is based on a range of competencies.

There is a close relationship between competency and leadership. In many studies, competency is also called leadership competency. According to Hollenbeck, McCall, and Silzer (2006), the competencies should also reflect the leadership skills that are needed to accomplish the organization’s strategic objectives.

Northouse (2013) asserts that the competency approach will be used in future leadership development. According to Bolden et al. (2003), the two main strengths of the competency approach are the flexibility and uniqueness of the concept to suit organizational needs based on reports in organizational leadership. In order to optimize performance, it is necessary for leaders to adjust the competency approach based on the organization’s long-term development strategy, vision, and competencies of subordinates (Cardy & Selvarajan, 2006).

Path-goal leadership theory

Path-goal theory was proposed by House in 1971 to explore the influence of a leader’s behavior on followers’ motivation and performance. Since the effectiveness of leadership depends on the leader’s behavior, he believes that leaders can influence subordinates’ satisfaction, motivation, and organizational performance through appropriate approaches. Whether the behavior of the leader can increase the happiness of the subordinates and whether it can help the subordinates overcome difficulties will be related to the performance of the organization.

Path-Goal Theory is a leadership theory based on performance and satisfaction. Motivation can stimulate the individual’s subjective initiative and drive the individual to have more confidence in overcoming difficulties in the face of adversity. Therefore, the importance of motivation for the achievement of goals is unquestionable (Evans, 1970; Baumeister & Voh, 2004).

The core concept of path-goal is that the leader’s main function is to clear the path for their subordinates to help them overcome obstacles to their goals, in this case, learning Chinese. To do this, leaders need to adapt their style to fit their subordinates and work environment.

The theory identifies four leadership behaviors: directive leadership, where leaders provide specific directions and instructions; supportive leadership, where leaders focus on the
well-being of their subordinates; participative leadership, where leaders involve their subordinates in decision-making; and achievement-oriented leadership, where leaders set up challenging goals and expect high performance from their leaders.

Leadership effectiveness in this context is determined by how well leaders enhance their subordinates’ perceptions that their efforts will result in desirable outcomes and that they are capable of doing the work. For teachers, they should adopt the best type of leadership based on their students’ goals.

**Chinese sound change law**

Sound change is a phonetic phenomenon that commonly exists in human language. The sound of the original basic vocabulary has changed during the process of spreading and evolving new vocabulary.

This phenomenon is called sound change. Although the pronunciation of the derived vocabulary is different from the source vocabulary, their core meanings are the same or related (Hu, 2002; Hu, 2007; Luo, 2011; Guo & Huang, 2019).

Specifically, in order to reflect the change of pronunciation intuitively, if the pronunciation of Chinese vocabulary is Latinized, the following sound change law of Chinese vocabulary could be shown by these examples:

- when the vowels (a/o/e/i/u/ü) are interchanged, the meaning of the words is the same or related. Such as bà (father) and bó (father’s brothers);
- when the consonants g, k, and h are interchanged, the meaning of the vocabulary remains the same or is related. Such as kě (thirsty) and hē (to drink);
- when b, p, m/f are interchanged, the meanings of the words remain the same or are related. Such as fǒu (negation) and bù (no);
- when d/t/n/l/r are interchanged, the meanings of the words are unchanged or related. Such as nán (gender male) and láng (respectful title for men);
- when j, q, and x are interchanged, the meaning of the vocabulary remains the same or is related. Such as jiǔ (long time) and xiǔ (decayed);
- when z/c/s/zh/ch/sh are interchanged, the meanings of the words remain the same or are related. Such as zhǔ (to boil) and shú (cooked).

In short, if two words have similar pronunciations, there may be a phonetic relationship between them or a phonetic relationship between Chinese characters or roots, so their core meanings are the same or related. As a form of linguistics and language teaching knowledge, the law of sound change may provide Chinese teachers with professional inspiration to optimize their knowledge and skills in Chinese vocabulary teaching and then provide motivation for improving their leadership competency.

**Conceptual framework**

This study aimed to develop a leadership competency model for teachers at the Confucius Institutes in Kenya, Africa, to improve the teaching of Chinese vocabulary. The theoretical and conceptual framework of this study included the leadership competency model, path-goal theory, and the application of sound change law. The conceptual framework is shown in Fig. 1.
**Methodology**

The study used an exploratory mixed-methods instrument development design. To explore the factors affecting the leadership competency of teachers, a systematic review of the literature was conducted using content analysis. Through the content analysis process, the researcher was able to derive the factors that affect the leadership competencies of teachers.

To determine the levels of leadership competency of Chinese vocabulary teachers in Kenya, the study used a questionnaire that was developed from the findings of the first objective and from semi-structured interviews conducted with Kenyan language instructors. Descriptive statistics were applied to determine the levels of the means and standard deviations of the leadership competencies. Content analysis was used to determine the qualitative interpretation of the interview questions. Question items were developed for each of the derived leadership competencies. A draft of the questionnaire was developed employing a 5-point Likert-type scale, and content validity was established via the IOC Index. Subsequently, the questionnaire was pilot tested to ensure reliability using Cronbach’s alpha score as the statistical standard.

To test the practical effects of the sound change law in Chinese vocabulary teaching, students were taught using the sound change law to test whether application of the sound change law was able to enhance the effectiveness of Chinese vocabulary teaching. A paired sample t-test was utilized to measure the differences before and after the application of the sound change law for Chinese vocabulary enhancement.
The purpose of this stage was to test the effectiveness of the Chinese vocabulary teaching method based on Chinese sound change law and incorporate it into the leadership model of Objective Four.

Therefore, the researcher used a Chinese vocabulary list designed on the basis of the Chinese sound change law to test the actual application effect of the sound change and the extent to which the Chinese sound change law can affect the effectiveness of Chinese vocabulary teaching.

To develop a leadership model to improve the teaching effect of Chinese vocabulary at Confucius Institutes in Kenya, results from all previous findings were combined to develop a model that was validated using expert validation.

The researcher analyzed the factors derived from the first objective, combined with the statistical results of the second objective, and developed the first draft of the leadership competency model of this study, which was evaluated by five experts.

**Population and sample**

The total number of students who participated in the study was 308, accounting for 81% of the total population. Of these, 232 were from the University of Nairobi and 76 from Kenyatta University.

**Findings and results**

**Objective One**

From the literature, twenty original factors were obtained and reduced to seven variables with the highest frequency of occurrence. These seven variables were: knowledge/skills, attitude, values, social role, foreign language ability, traits, and motivation. Therefore, factors affecting teachers’ leadership competency are divided into two parts in this study: leadership behaviors and competency.

The former includes four variables: directive leadership, supportive leadership, participative leadership, and achievement-oriented leadership, while the latter includes seven variables: knowledge and skills, attitude, values, social role, foreign language ability, traits, and motivation.

**Objective Two**

The questionnaire to measure the levels of Kenyan Chinese language instructors’ leadership competencies was sent to students to evaluate their instructors. A total of 378 questionnaires were distributed, and 308 valid questionnaires were returned, accounting for an 81% return rate. In addition, in order to supplement the questionnaire results, the researcher interviewed ten Chinese language teachers with experience working in Kenya and analyzed their responses using the content analysis method.

The following table shows the results of the levels of the derived competencies and the levels of the path-goal leadership behaviors.
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Table 1 - Descriptive statistical results for all variables (n = 308)
(made by co-authors)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path-Goal Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directive</td>
<td>3.81</td>
<td>.48</td>
</tr>
<tr>
<td>Supportive</td>
<td>4.32</td>
<td>.46</td>
</tr>
<tr>
<td>Participative</td>
<td>3.27</td>
<td>.48</td>
</tr>
<tr>
<td>Achievement-Oriented</td>
<td>3.84</td>
<td>.54</td>
</tr>
<tr>
<td>Leadership competency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge/Skills</td>
<td>2.59</td>
<td>.51</td>
</tr>
<tr>
<td>Attitude</td>
<td>3.91</td>
<td>.45</td>
</tr>
<tr>
<td>Values</td>
<td>3.88</td>
<td>.45</td>
</tr>
<tr>
<td>Social Role</td>
<td>3.44</td>
<td>.45</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>4.49</td>
<td>.32</td>
</tr>
<tr>
<td>Traits</td>
<td>3.93</td>
<td>.46</td>
</tr>
<tr>
<td>Motivation</td>
<td>4.93</td>
<td>.20</td>
</tr>
</tbody>
</table>

From the Tab. 1, it can be seen that the highest total mean value of path-goal leadership of the teachers is supportive leadership (4.32), which shows that in the practice of Chinese vocabulary teaching, the current main leadership style and approach of Kenyan Chinese teachers is supportive.

Among the factors that affect teachers leadership competency, the three highest scoring factors were motivation (4.93), foreign language ability (4.49), and traits (3.93), while the lowest score was knowledge or skills (2.59). Although none of the variables had a mean below 2.50, considered low by the interpretation scale, the knowledge/skills score (2.59) was close to the upper limit of low scores (2.50) with a standard deviation of 0.51, which shows that Chinese teachers still have room to improve in terms of knowledge and skills.

In addition to the questionnaire survey, the researcher also conducted interviews with ten Chinese language teachers, all of whom had at least one year of teaching experience in Kenya. A summary of the analysis showed that interviewees generally agreed that it was difficult for students to learn Chinese vocabulary, although the problems varied from limited vocabulary knowledge to an inability to write, difficulty distinguishing synonyms, and poor pronunciation. As for problems in teaching, the majority answered that it was difficult to teach vocabulary.

The interviewed teachers generally used a supportive teaching approach. However, each teaching approach was represented in the answers from all 10 of the instructors. Similarly, each instructor felt that their reported style of teaching was the best for language teaching. The majority of respondents interviewed felt that knowledge and skills were the most important competencies for language instruction.

Additionally, among the seven factors, when asked which was most important for teaching Chinese vocabulary, there was no majority, but the most frequently answered competency was motivation.

When asked what methods they currently use to teach Chinese vocabulary and whether they are effective, the interview results showed that the methods currently used by teachers mainly include: reading (4 teachers); writing (3 teachers); putting words in sentences (2 teachers); using multimedia (1 teacher); and introducing the history of Chinese vocabulary formation (1 teacher). Some teachers use more than one method.
Multimedia and Chinese character history methods were considered to be effective, but other methods were not so effective. The final question was related to whether the teachers had ever used the sound change method. Eight of the teachers had never heard of or used this method, and two teachers had misconceptions about it.

The interview results indicated that Chinese vocabulary is not only a difficulty for students in learning Chinese but also a major teaching difficulty for teachers. In summary, combined with the results of the questionnaire survey and interviews, the findings are: Currently, the supportive approach is the main style used by teachers to teach Chinese vocabulary. Teachers’ motivation was rated highest, but their knowledge and skills in vocabulary teaching need to be improved. The Chinese sound change theory is unfamiliar to the teachers.

**Objective Three**
The researcher introduced and explained the knowledge and teaching skills of Chinese sound change to teachers through training to improve their leadership competency by improving their knowledge and skills of Chinese vocabulary teaching. The one-month training was divided into four two-hour sessions, which mainly included related content on Chinese sound change and leadership competency. To ensure the effectiveness of the training, five expert teachers participated in it.

To prove the effectiveness of this leadership competency model, it is necessary to verify whether knowledge, skills (Chinese sound change), and other competency factors in the model are effective in practice. In Objective Three, five expert teachers have been trained on Chinese sound change and leadership competency. Among them, in terms of knowledge and skills, the effectiveness of the Chinese sound change teaching method in vocabulary teaching practice has been verified.

The researcher computed and analyzed the paired sample t-test on the questionnaire scores of the five experts before training and after training to verify the effectiveness of other competency factors in the model. The experts were asked to complete questions in the questionnaire before and after the training, specifically related to the six factors of leadership competency: attitude, values, social roles, foreign language ability, traits, and motivation.

The results of the teachers’ leadership competencies before and after training are as follows:

<table>
<thead>
<tr>
<th>Pair</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Mean</th>
<th>N</th>
<th>Std. deviation</th>
<th>Std. error mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair</td>
<td>4.13</td>
<td>4.53</td>
<td></td>
<td>5</td>
<td>.29</td>
<td>.129</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Tab. 2, the mean value of the leadership competency test of the experts after training increased from 4.13 to 4.53, which is 0.40 higher than that before training.
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Table 3 - Paired sample correlations of teachers’ competency
(made by co-authors)

<table>
<thead>
<tr>
<th>Pair</th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test &amp; Post-test</td>
<td>5</td>
<td>.979</td>
<td>.004</td>
</tr>
</tbody>
</table>

As shown in Tab. 2, the Pearson correlation coefficient of the competency test is 0.979, and the p-value is 0.04, which is lower than 0.05. This means that there is a significant correlation between test scores before and after training. Therefore, the result is statistically significant.

Table 4 - Paired sample test of teachers’ competency
(made by co-authors)

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
<th>Upper</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair Pre-Post</td>
<td>-.40</td>
<td>.06</td>
<td>.23</td>
<td>-.48</td>
<td>-.32</td>
<td>-14.70</td>
<td>4</td>
<td></td>
<td>.00</td>
</tr>
</tbody>
</table>

From the statistics in Tab. 4 above, the significant p-value for this paired sample is equal to 0.00, which is less than 0.05, indicating a significant difference between the scores of the two tests. As can be seen from the negative (-0.40) mean, the scores of leadership competency after training have improved compared with those before training. Although the improvement is not large, the effectiveness of the model in improving teachers’ competence can be verified.

In order to test the actual effect of the sound change law in the teaching of Chinese vocabulary, or, in other words, whether the introduction of the sound change law really helped to improve the leadership competence of teachers, it was necessary to determine whether the law can help improve the academic performance of the students.

Therefore, with the help of participating teachers, 30 students were chosen to participate in instruction before and after using sound change law and asked to take two Chinese character tests before and after they completed the study of sound change law, and test scores were recorded. Tab. 5 shows the results of the paired sample t-test.

Table 5 - Paired sample statistics of the Chinese characters test
(made by co-authors)

<table>
<thead>
<tr>
<th>Pair</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>31.73</td>
<td>30</td>
<td>15.37</td>
<td>2.80</td>
</tr>
<tr>
<td>Post-test</td>
<td>49.40</td>
<td>30</td>
<td>14.59</td>
<td>2.66</td>
</tr>
</tbody>
</table>
From the data, it can be seen that after receiving knowledge and skill training, the mean value of the tests increased from 31.73 to 49.40, with an increase of 17.67.

Table 6 - Paired sample correlations of Chinese characters test
(made by co-authors)

<table>
<thead>
<tr>
<th>Pair</th>
<th>N</th>
<th>Correlation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test &amp; Post-test</td>
<td>30</td>
<td>.98</td>
<td>.00</td>
</tr>
</tbody>
</table>

As shown in the Tab. 6 the Pearson correlation coefficient of the Chinese test is 0.98, and the p-value is 0.00, which shows that the scores of the two tests are highly correlated.

Table 7. Paired Sample Test of Chinese Characters Test
(made by co-authors)

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>Lower</th>
<th>Upper</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair</td>
<td>-17.67</td>
<td>3.11</td>
<td>.57</td>
<td>18.83 (16.51 to 31.10)</td>
<td>-31.10</td>
<td>-16.51</td>
<td>29</td>
<td>.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The table above shows the statistics of the paired sample t-test for the pre-test and post-test scores. The significant p-value of this paired sample was equal to 0.00, which was less than 0.05, indicating that the difference between the scores of the two tests was significant.

Since the mean value was negative (-17.67), it shows that the results of the post-test have improved compared with the pre-test, and the improvement was more obvious in the test with a full score of 100 points. This shows that the training of knowledge and skills for sound change has achieved the expected teaching effect.

The significance of the statistical data on knowledge and skills (Chinese sound change) in Object Three was relatively high, and the mean difference was obvious (see tables 5, 6, and 7 for details), which also proved that knowledge and skills are easily intervened by means of training, while the other six factors that affect competency (attitude, values, social roles, foreign language ability, traits, and motivation) are relatively less susceptible to influence.

**Objective Four**

Based on the findings of previous objectives, a draft model was created incorporating the research findings. The draft model was sent to experts for validation. Upon receiving the experts’ comments and suggestions, a final model was created and approved.

Combining the research results of Objective Three and Objective Four jointly confirmed the validity of this leadership competency model. The final model is depicted in Fig. 2.
Figure 2 - Leadership competency model for Chinese vocabulary teaching  
(made by co-authors)

The model above is the leadership competency model to enhance Chinese vocabulary teaching, composed of several concentric circles, and its center represents the goal of enhancing Chinese vocabulary teaching. The outer circles around the center present the paths that teachers can choose to achieve this goal, as well as the competency elements that teachers need to possess.

The outermost circle of the model is the four styles of path-goal leadership, or, in other words, the four approaches that leaders can take to achieve a goal. They are the directive leadership approach, the supportive leadership approach, the participative leadership approach, and the achievement-oriented leadership approach.

The specific interpretations are:
1) A directive leadership approach means that teachers help students clarify teaching tasks and classroom discipline and even provide them with detailed guidelines for learning Chinese vocabulary. Including the specific standards for completing tasks, completion deadlines, and methods.

2) The supportive leadership approach refers to the approach by which teachers adopt an amiable attitude or use their charisma to carry out teaching activities to achieve their goals.

3) The participatory leadership approach refers to the method by which teachers achieve the goal of teaching and learning by encouraging students to participate in the decision-making of teaching activities. Such teachers advocate listening to the voices of the students, actively soliciting the opinions of the students, and providing a more comprehensive reference for the decision-making of teaching activities.

4) An achievement-oriented leadership approach means that the teachers set relatively high task standards for vocabulary learning and trust and motivate students to improve learning efficiency.

Looking from the outside in, the second circle of the model shows factors that are not easily intervened, including attitude, values, social roles, foreign language ability, traits, and motivation. The specific interpretations of them are:

Attitude: positive teaching attitude, kind attitude towards students, and enterprising spirit.

Values: Objectively evaluate students’ achievements and encourage students’ progress. Social Role: have the competency to communicate with students, organize vocabulary teaching, and guide students to work in teams.

Foreign Language Ability: be able to use a medium language for vocabulary teaching, help students answer questions clearly, and have the competency to use the medium language for classroom management.

Traits: Teachers need to have a stable personality, an upright style of being a teacher, and an orderly arrangement of vocabulary teaching.

Motivation: The purpose of teaching Chinese vocabulary is to improve students’ vocabulary learning efficiency, to improve students’ Chinese proficiency, and to realize the purpose of students using Chinese to communicate.

The third circle of the model is the knowledge/skills factor, which is easily intervened with by training and other means, mainly referring to the knowledge of Chinese sound change and the skills to use it in teaching. In this study, the researcher classified and summarized the laws of sound change in Chinese vocabulary and introduced them into the iceberg model of leadership competency as an element related to the variable of knowledge or skills.

If teachers master the knowledge and skills that are conducive to improving the efficiency of vocabulary teaching, then their leadership competency will improve, under the premise that other conditions remain unchanged. The researcher summarized the laws of sound change in Chinese vocabulary into the following groups:

1) Group a/o/e/i/u/ü;
2) Group g/k/h;
3) Group b/p/m/f;
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4) Group d/t/n/l/r;
5) Group j/q/x;
6) Group z/c/s/zh/ch/sh.

These laws imply that if two Chinese words or characters have the same meaning or their meanings belong to the same category, then their pronunciations may follow the phenomenon of mutual phonetic change.

Conclusion

The method of literature analysis was employed in order to find out the factors that affect teachers’ leadership competency in Chinese vocabulary teaching practice. These seven high-frequency factors are: knowledge/skills, attitude, values, social roles, foreign language ability, traits, and motivation. In addition, four leadership approaches adopted to achieve a certain goal are also summarized. As another important part besides the teacher’s competency, the two together constitute a complete set of variables that affect the leadership competency.

These seven high-frequency factors that affect competency are: knowledge and skills, attitude, values, social roles, foreign language ability, traits, and motivation. The four path-goal leadership approaches are: directive leadership approach, supportive leadership approach, participative leadership approach, and achievement-oriented leadership approach.

The teachers at the Confucius Institutes in Kenya practice teaching through a supportive leadership approach and create a harmonious classroom atmosphere. The teachers’ motivation for teaching vocabulary is most satisfying to students and themselves because the motivation is for the benefit of the students, not the teachers’ personal interests. The interview results showed that Chinese vocabulary is both a teaching and learning difficulty, and the teachers’ vocabulary knowledge and skills need to be improved. Therefore, the teachers still need to further strengthen the study and research of Chinese vocabulary knowledge to make their vocabulary teaching skills more sophisticated.

In order to achieve the goal of improving the vocabulary teaching effect of Kenyan Chinese teachers, it is necessary to enhance the competency of the teachers in teaching Chinese vocabulary. In order to enhance the competency of the teachers, it is necessary to improve their knowledge and skills. The researcher selected the sound change law of Chinese vocabulary as a supplement to the teachers’ knowledge reserves and tried to promote their perfection of Chinese vocabulary knowledge and understanding of competency leadership through training. The research showed that the Chinese vocabulary test scores of the students had been significantly improved after receiving the Chinese sound change teaching method, and the scores of the two tests were highly correlated.

Therefore, the teaching method of Chinese sound change has a significant effect on the improvement of Chinese vocabulary teaching. That is to say, the Chinese teachers of the Confucius Institutes in Kenya can improve their leadership competency by learning the knowledge of Chinese sound change and the skills to use it.

Discussion

Although the teachers at Confucius Institutes in Kenya have adopted a supportive leadership approach in order to achieve the goal of Chinese vocabulary teaching, which
reflects their harmonious classroom management style. However, this approach is not enough to make up for their lack of Chinese vocabulary knowledge reserves.

In teaching Chinese as a foreign language, vocabulary is both the foundation and the difficulty (Wen, 2018; Xu & Zheng, 2011). Due to the characteristics of Chinese characters that are different from the phonetic writing of other languages, the recognition and writing of Chinese characters are often considered novel and complicated by foreign learners (Taft & Chung, 1999; Zhang, 2010).

The special writing system of Chinese characters makes their pronunciation unable to be identified through the shape of the characters, which also makes the original correlation between some Chinese characters concealed, which is not conducive to the teaching of Chinese vocabulary (Jiang, 2015). So far, the research and books on writing Chinese characters are not uncommon, while the research and teaching practice on Chinese phonetics often focus on standardizing the pronunciation of Mandarin, which is not enough to solve the problem that Chinese vocabulary is difficult to memorize (Zhao, 2014).

Even though many advanced software and teaching tools can play an auxiliary role in teaching, the essence of Chinese vocabulary learning still mainly relies on traditional methods such as repetition and visual and auditory stimulation (Wang, 2016).

With the deepening of learning and the expansion of vocabulary, the efficiency of these methods is questionable. The statistical results on knowledge and skills in Objective Two also imply the difficulty of teaching Chinese vocabulary.

Therefore, in this study, the researcher only started with the specific object of the law of sound change, followed by the derivation of Chinese vocabulary, the verification of its validity, and a new idea for the majority of Chinese language teachers. In this study, the method of how to improve the writing effect of Chinese characters was not mentioned, but the Sound Change method was introduced innovatively in order to make the research object more specific.

The research results of the model confirmed the effectiveness of this sound change method, so teachers can promote the improvement of their leadership competency by learning the knowledge and application skills of sound change. The promotion and implementation of this new method seem to be more suitable for the directive leadership approach. In a way, it is coercive, but it is more efficient when the goals are clear and the results can be expected.

Statistics from Objective Two showed that the Chinese language teachers at the Confucius Institutes in Kenya mainly adopted a supportive leadership approach. The advantage of this method is that it is easy to create a harmonious classroom management atmosphere. Therefore, the teachers do not have to change their supportive approach and classroom management style. In fact, this approach does not conflict with the participative and achievement-oriented ones. In reality, the researcher would like to encourage the teachers to flexibly adjust their classroom management mode according to the styles of different classes and the personalities of the students and to comprehensively use various approaches to play to their strengths.

According to the interpretation of the competency theory model, different from knowledge and skills, other factors (attitude, values, social roles, foreign language ability, traits, and motivation) that affect the competence of teachers are not easy to discover and interfere with because they are all related to the subjectivity of leaders (Staškeviča, 2019; Hassane, 2021).
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The Chinese language teachers’ competencies are not easily affected by external factors such as training, but they can still be made to pay attention to these factors by explaining education and other methods. The teachers already have the required foreign language skills, and their motivation was also commendable. The score on motivation was high, but we cannot relax the importance of motivation because of this.

On the one hand, it is necessary for the Confucius Institute Headquarters to strengthen its understanding of the purpose of the teachers during the training period, and on the other hand, it is also necessary for the teachers to have a rational consideration of their own motivations for applying to the Confucius Institutes. An ideal situation is that if a certain teacher’s motivation is more selfish or utilitarian, then he or she should consciously consider other work units and positions instead of a certain Confucius Institute, a not-for-profit educational institution.

Therefore, in order to achieve the goal of improving the teaching effect of Chinese vocabulary, the Chinese language teachers at the Confucius Institutes in Kenya need to improve their leadership competency (Mei, 2019; Sun, 2021).

They can consider improving their competency in knowledge and skills by increasing their knowledge of Chinese sound change and the skills to use it for teaching activities. At the same time, the teachers also need to constantly reflect on themselves and strictly demand themselves to ensure that they maintain their advantages in foreign language ability, work attitude, etc., and further improve their competency in other aspects such as social roles. In addition, the teachers can maintain their supportive leadership style and steadily advance teaching in a harmonious classroom management atmosphere. With the rapid development of science and technology, teachers can also use high-tech teaching tools to upgrade the specific implementation effect of this model (Dong, 2016).

Recommendations

The following recommendations are made based on this study: Chinese language teachers at the Confucius Institutes in Kenya should pay attention to in-depth research on the characteristics of the Chinese language itself and apply it to teaching practice. They should continue to carry forward their teaching style of supportive leadership and respect the different teaching cultures of China and Kenya.

They should pay attention to their own competency development. Students should actively explore ways to learn Chinese. It is not enough to only limit the learning content in the classroom. It is worth noting that those methods that involve the core logic of language formation should be more effective. For example, if students already knew the rules followed when Chinese characters were created, then the fun and efficiency of learning Chinese characters would be improved.

On the contrary, they can only hope for frequent review and the stimulation of pictures, audio, and video. Finally, Confucius Institute Headquarters can benefit by paying more attention to practicality and operability in the training of the Chinese language teachers. Judging from the setting of the previous teacher training courses, the theoretical training courses accounted for the main part. As for whether the teachers who received the training can even apply these theories effectively in teaching practice, it is not known. For future researchers who study management and leadership, this study may provide them with a model on how to improve leadership competency.
Although the object of this study is Confucius Institutes, a language teaching institution, it may be applicable to other types of institutions. In addition, the researcher hopes that more scholars in Chinese linguistics, philology, or archeology of ancient characters contribute to the international education of the Chinese language and organically combine their research findings with teaching Chinese as a foreign language to develop more efficient and interesting teaching methods that reveal the core characteristics of the Chinese language to promote the theoretical innovation of Chinese language teaching.

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