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Language recognition in wireless network communication and its type generalization for second language teaching and learning

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ABSTRACT

With the rapid development of China's economy and the continuous improvement of its international status, "Chinese fever" is quietly emerging all over the world, and the teaching of Chinese as a second language has become an independent discipline in China. There is a lot of room for exploration in research. In the past few decades, with the rapid development of science and technology, "intelligence" has become the development trend of the whole society. The potential of smart devices has become more and more widely used, which has also inspired users' love and ultra-fast adaptability to devices. This paper uses wireless network communication to study language recognition and its type induction in second language teaching, and proposes a resource allocation mechanism based on bilateral induction. Different expressions are designed with different priorities, and after transformation, the follow-up type induction research can be carried out smoothly, and finally the optimal induction allocation scheme is obtained. The research results show that in the teaching type induction, there are 684 new words in volume I, 778 new words in volume II, and 1462 total words in volumes I and II, and they are all summarized. Compared with traditional methods, the search and extraction speed is increased by 45%. Teaching type induction is more effective in the comprehensive use of multiple teaching methods in primary teaching, but it is still inseparable from traditional teaching methods. Therefore, in the specific teaching practice, we should choose a more suitable teaching method according to the individual factors of the teaching content and teaching objects.

Keywords: Type Induction, Second Language Teaching, Language Recognition, Wireless Network Communication

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1. Introduction

Wireless network communication plays an important role in modern society. Wireless network communication is not only an indispensable part of our daily life, but also profoundly affects the development of various industries.

With the popularization of mobile devices and the growth of user needs, wireless network communication has gradually become an important way to connect people and things. It transmits data through radio waves, breaks the limitations of traditional wired communication, and provides users with a more convenient way to connect [1-2]. Wireless network communication is widely used in various fields, such as wireless sensor networks, Internet of Things, mobile communication, etc., which provides convenience for people's life and work [3-5]. Language recognition in wireless network communication is mainly used to process and output information after converting human language into machine-recognizable data patterns through computer algorithms and speech recognition systems [6-7]. For example, in mobile communication, wireless network communication enables people to make voice calls and voice chats anytime and anywhere using, tablets, and other mobile devices for language recognition, which can be output as text. This is done by machine learning from a large number of language data samples, and after deep learning and feature extraction, the language recognition system is able to master the language structure and grammar rules [8-11]. Language recognition is particularly important for improving the efficiency and accuracy of wireless network communication. In terms of efficiency, language recognition allows for real-time translation and improves the speed of communication [12-13]. And storing and transmitting linguistic knowledge in the form of digital data can thus help teachers realize teaching interactions across borders and languages [14-16]. For example, teachers can receive students' voice data for analysis and timely feedback to students through wireless network communication. That is to say, it improves the teaching efficiency and allows students to better master the knowledge and pronunciation of the second language. It can be seen that language recognition in wireless network communication can provide a new teaching form for second language teaching.

It can be seen that it is meaningful and necessary to establish "Second Language Teaching and Type Induction". Foreign research on language standards has been started as early as the last century, and the results have been quite fruitful. With the rise and vigorous development of Chinese teaching, it is imperative to establish a "Chinese as a Second Language Teaching and Type Induction Research". It will become the common basis for language syllabus, course guidance, testing and teaching materials, and promote and promote the development of Chinese language teaching in the direction of communication. It can also facilitate collaboration among educational institutions, establish links between interpretations of language proficiency assessments, provide a basis for comparability, and help learners, teachers, curriculum designers, test developers, and educational administrators to better accomplish their respective work. The establishment of type induction research in second language teaching is not only to guide teaching and evaluation, but also to serve teaching and evaluation, and to collect subject data in teaching practice. Starting from specific teaching examples, on the basis of analysis, comparison, synthesis and induction, this paper discusses the comparative study of various teaching methods in teaching Chinese as a foreign language in detail.

2. Theory and Framework of Wireless Network Communication Virtualization

Wireless network virtualization can be divided into four parts: spectrum resources, network infrastructure, virtual resources and virtualization controllers according to network functions. InP abstractly slices physical resources through wireless network equipment, including physical resources such as infrastructure, access network, spectrum and power, and then converts them into a certain number of virtual resource slices according to a certain isolation scheme. According to the rules, the above-mentioned segmented virtual resource pieces are rented in a certain way, and then

they are provided to users with different needs according to different levels and types of customized services. In the model of wireless network virtualization, in general, we divide the members of the model into two categories according to their different tasks, namely InP and SP. The two-layer wireless network virtualization model is shown in Figure 1. In this model, the main task of InP is to build and maintain the underlying wireless infrastructure, such as the deployment of base stations and other underlying basic infrastructure tasks. When SP builds virtual network, it rents or buys resources from InP according to different needs of users, and provides different services for users by creating different virtual networks. Moreover, multiple SPs are allowed to coexist on the same InP.

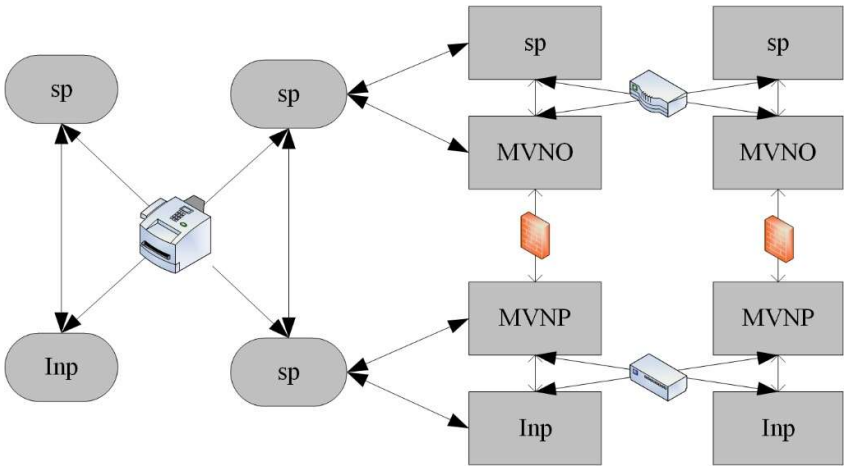


Fig. 1. Wireless network virtualization model

The wireless network virtualization of the two-layer model can be divided into two different roles according to different functions, a new role MVNP is separated from the original InP, that is, the mobile service provider, and the original SP is also separated. There is a role MVNO, that is, mobile virtual network operator. Different roles have different functions. The virtual environment is created by the MVNP purchasing resources from the InP. The MVNO manages the virtual resources it owns in a unified manner. When the user needs a specific service, the SP initiates a request to the MVNO to establish virtual resources, and then the corresponding resources are allocated according to the resource requirements learned by the SP. It can also be said that the SP says the virtual resources it wants to obtain, the MVNP establishes the virtual resources according to the requirements of the SP, the MVNO allocates and manages the virtual resources created by the MVNP, and finally runs the requested virtual resources on the InP, so that the first Different data in second language teaching can be retrieved more quickly, which further improves the speed of type induction research.

2.1. Features and Advantages of Wireless Network Virtualization

Radio resources include time domain resources, frequency domain resources, power resources, and transmission bandwidth resources. Physical resources are divided and then recombined, and then allocated and managed on this basis. Through software-defined networking technology and network function virtualization technology. The resources in the wireless network are defined as resource pools, and the resources are scheduled by the method of mapping, as shown in Figure 2. In network virtualization, the main task is the virtual network controller, which will be generated according to different requirements. Different task networks simultaneously request network resources from the central controller. The node link controller mainly allocates the underlying network resources and the network in need, and it will carry out related processing according to the resources that can be allocated by the network and the resources required by different business applications. On the wireless network infrastructure, coexisting virtual networks are constructed by using abstraction and other mechanisms, and these virtual networks have isolation.

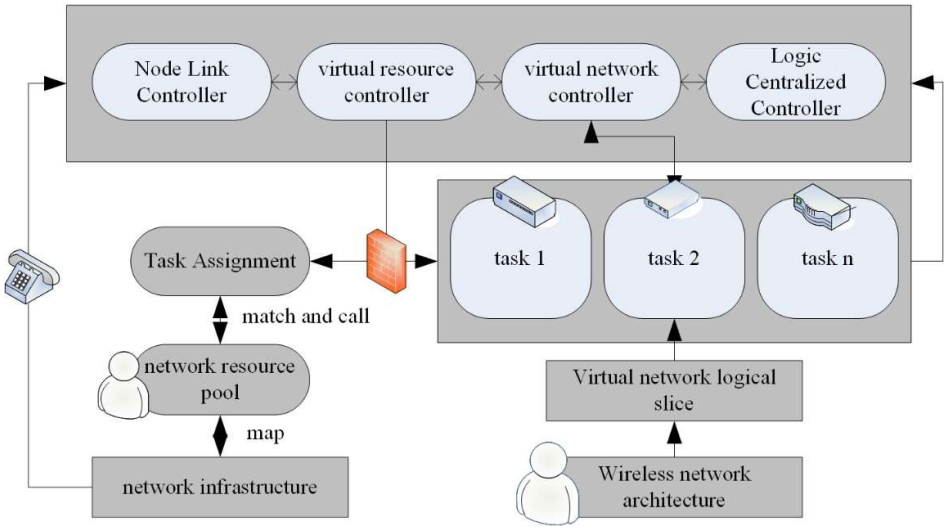


Fig. 2. Network resource virtualization

In the flow graph, each node represents a computation, which can well describe the computation experienced from input to output. In the flow direction graph, the basic calculation and the value of the calculation are represented by the node, and the result of the calculation is expressed by the value of the child node. The depth is a unique concept of the flow direction graph. The model of deep learning with hidden layers is shown in Figure 3. Deep learning is different from traditional shallow learning. Here, deep learning highlights two key points. One is to focus on the depth of the model structure. Generally, the depth of the model is 5 or 6 layers. Secondly, feature learning is more emphasized. Deep learning undergoes multi-layer feature transformation before transforming the features of the original space into a new feature space. After this transformation, the difficulty of classification and prediction is greatly reduced. In the case of enough data, the method of using artificial rules to construct features is obviously more advantageous than the method of using big data to learn features.

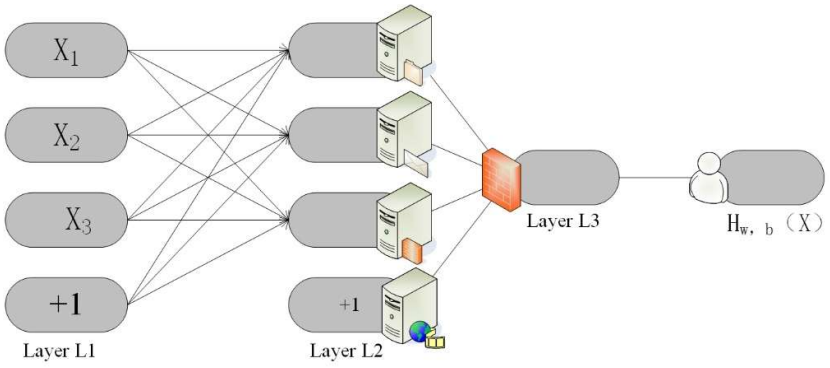


Fig. 3. Deep learning model

2.2. Resource Allocation Based on Classification and Induction in Wireless Network Virtualization

Wireless virtualization technology is one of the technologies applied to resource allocation in wireless networks. In order to prevent excessive waste of resources and further reduce capital expenditures and operating costs, operators adjust network resources at any time according to a certain allocation mechanism and changing business needs. The resource allocation of wireless network virtualization is mainly divided into two stages, inter-chip isolation and intra-chip allocation. Inter-chip isolation refers to resource allocation between InP and MVNO, and then intra-chip resource allocation. Here we assume that inter-chip resource slicing has been implemented between

InP and MVNO. The requirement for each seller is to allocate resources Sell to SPs (service providers) with specific needs, and at the same time, allow SPs (service providers) to freely choose suitable MVNOs, so that MVNOs can get the maximum profit, and the buyer's SP (service provider) utility also reaches the maximum. Here we consider an Orthogonal Frequency Division Multiple Access (OFDMA) cellular system. It is a system for downlink transmission. In the model shown in Figure 4, to meet the minimum communication rate requirements of access service users, InP mainly provides a series of infrastructures including base stations and physical resource networks. Each MVNO first gets resources allocated among photos.

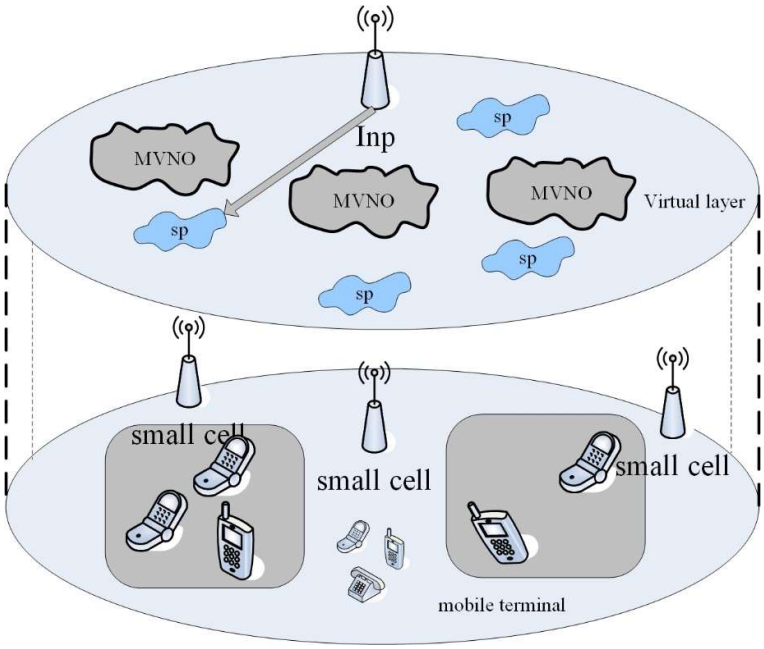


Fig. 4. System Model

2.3. Description of Experimental Parameters

The experiment verifies the proposed communication and computing resource allocation algorithm based on matching theory. Among them, 8 open base stations are divided into 3 small base stations, 5 RRHs and 18 users distributed in an area with a radius of 300m. The functional division of the open base station is shown in the figure. The channel gain includes path loss and small-scale fading, the path loss coefficient is 3, and the small-scale fading obeys CW (0,1). Table 1 summarizes the parameter settings in the simulation.

Table 1. Simulation parameter settings

parameter	Numerical value
total system bandwidth	10MHz
User power spectral density	-154dBm/Hz
User transmit power	20dBm
User upload data size	[2,3] Mbit
The size of the user's calculation	[0.4-0.6]
Fronthaul link transmission rate	5Mbps

In the process of conversion, the upper limit of sub-channel resources is set to 3, and the upper limit of power block resources is set to 50. For buyer SPs with different needs, if the SP who is devoted to communication goes through the auction process and finally successfully wins the resources, it will get 1 sub-channel and 10 power blocks. Set the rate convergence value of bid conversion decomposition and set it to 0.2M/S. When calculating the utility, set the parameter β1 of the range. For the SP of the minimum rate requirement, the parameter is set to D=0; for the SP of the BE, the parameter is set to D=-0.5. The specific parameter settings are shown in Table 2 below.

Table 2. Combined bilateral auction parameter table for multiple MVNOs and SPs

parameter	Set value (range)
number of cells	L=5
Number of SPs	[100,542]
Number of MVNOs	4
MVNO subchannel resource range	[5,25]
MVNO power resource range	[50,540]
Resource value weight ratio	5
SP Demand Rate Range	[5,10]

In terms of average social welfare. The total utility of the three mechanisms is shown in Figure 5 with the increase of SP, or buyer. The abscissa in the figure represents the total number of SP, and the ordinate represents social welfare, but after dividing by 1000, it is finally reflected in the form of a ratio.

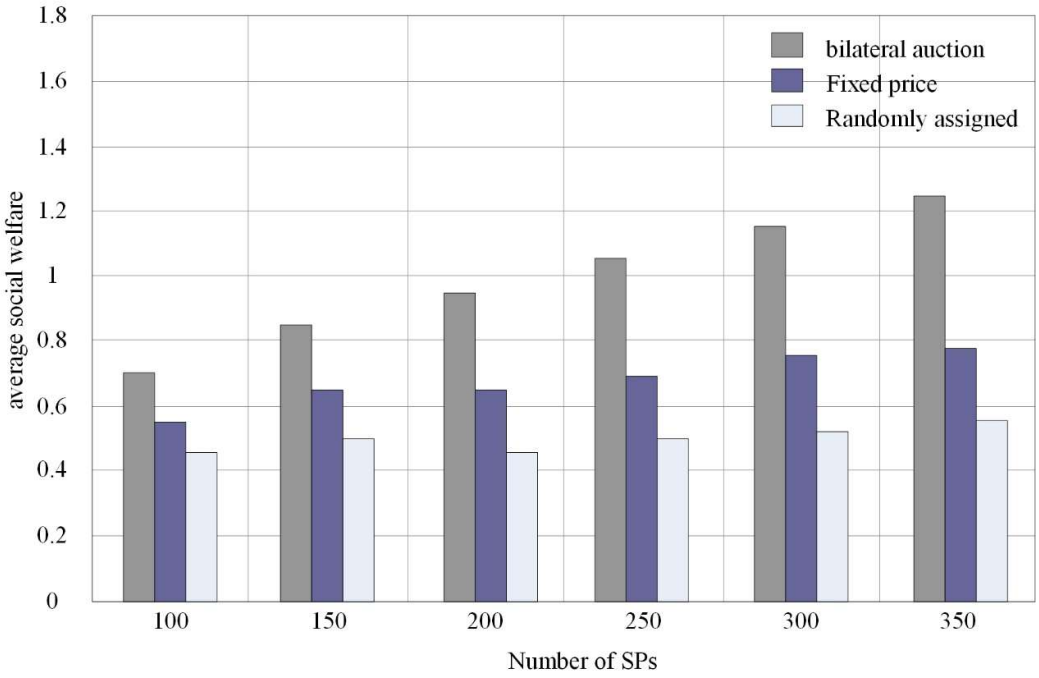


Fig. 5. Comparison of Learning Efficiency for Increasing Number of SPs

It can be seen from the results that the total utility of the proposed allocation mechanism has a clear preference trend compared with the other two mechanisms. Then with the increase of the number of learners, the learning speed increases slowly. However, due to the fierce competition for teaching resources, the growth rate of total utility slowed down. When the number of SPs exceeds 250, since the design of the "fixed resource" mechanism does not consider the different needs among SPs, the priority of allocation, and the competition when learning resources are insufficient, the total utility of allocation is very low and increases the change in speed will not be very large. Then calculate and compare the resource utilization of SP, as shown in Figure 6.

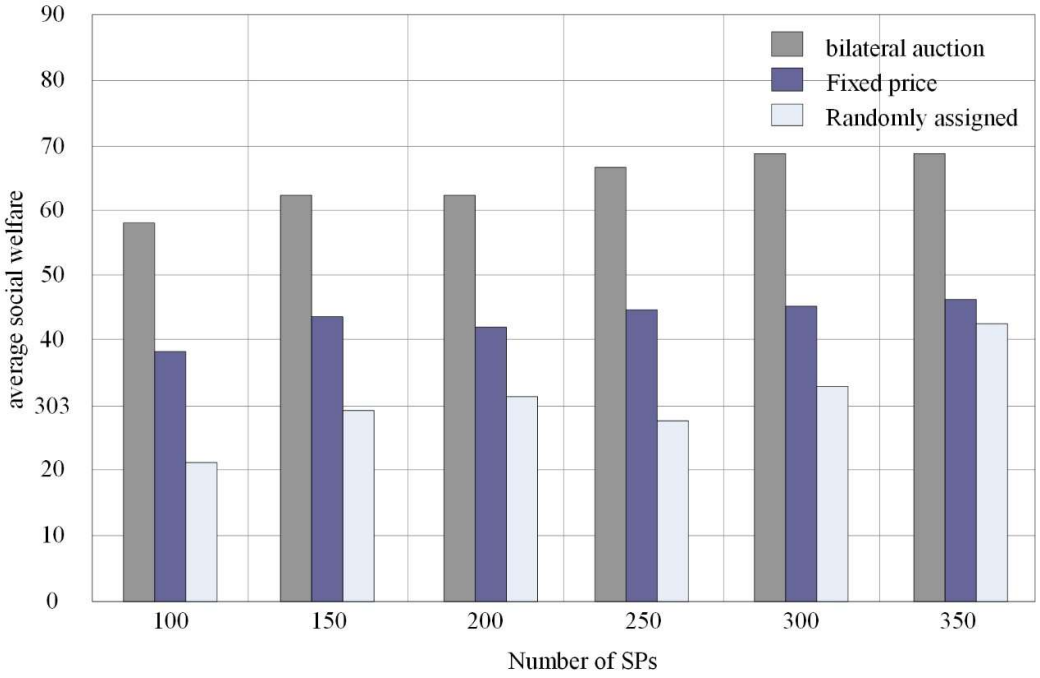


Fig. 6. Comparison of Average Resource Utilization for SP Number Growth

Under normal circumstances, the demand for teaching resources and the final number of acquisitions are related to the number of SPs of the buyer. The increase in the number of SPs increases the demand for resources and the number of final auction transactions. The channel reuse gain also increases with the number of SPs. In this case, the resource utilization rate will also be significantly improved. The resources of the random allocation scheme are allocated randomly, so it can be seen that the resource utilization rate also fluctuates within a certain range. However, the actual situation is different from the experimental data, mainly because the actual resource of MVNO is much larger, and our experimental data is only a simple simulation, so the ratio of growth rate will be relatively stable in practice. It is also because of this situation that it is rare for too many SPs to compete for resources. The experimental results show that the mechanism used in the study has a more efficient distribution efficiency, reflecting the benign ratio of educational resources investment and utilization.

2.4. Energy Consumption Model in Edge Service Mode

In the edge service mode, the user delay includes the uplink transmission delay from the user to the small base station and the calculation delay of running its computing tasks in the small base station. For user u accessing the small base station bF. Assuming that all users accessing the small base

station bF equally share the bandwidth resource W pre-allocated to the small base station bF, therefore, the transmission rate of user u is:

$$R_{u,b_F} = \frac{W}{\left|U_{b_F}\right|} \log 2\left(1 + \frac{p_u \left|h_{u,b}\right|^2}{n_0 W / \left|U_{b_F}\right|}\right) \tag{1}$$

$$t_{u,b_F} = \frac{s_u}{R_{u,b_F}} \tag{2}$$

$$V_{u,b_F} = V_1 + V_2 + \theta R_{u,b_F} \tag{3}$$

$$L_{u,b_F}^{pro} = CPI \cdot V_{u,b_F} \cdot 10^6 / \tau_{TS} \tag{4}$$

Since the total computing resources available in the small base station bF are Lb, assuming that the remaining computing resources are all used to perform the computing tasks of the user, the computing resources used for the computing tasks of the user u to run can be calculated as:

$$L_{u,b_F}^{ex} = \frac{Lb - \sum_{u \in Ub_F} L_{u,b_F}^{pro}}{\left|U_{b_F}\right|} \tag{5}$$

$$t_{u,b_F}^{ex} = \frac{y_u}{L_{u,b_F}^{ex}} = \frac{y_u \left|U_{b_F}\right|}{L_b - \sum_{u \in b_F} L_{u,b_F}^{pro}} \tag{6}$$

$$SINR_u = \frac{P_{u_C} \left|v_{u_C}^H h_{C,h_C}\right|^2}{\sum_{j \neq u_C, j = U_C} P_j \left|v_{u_C}^H h_{C,j}\right|^2 + n_o W_{RRH} v_{u_C}^H v_{u_C}} \tag{7}$$

$$R_{u,0} = W_{RRH} \log_2(1 + SINR_u) \tag{8}$$

Therefore, the wireless transmission time of user u is:

$$t_{u,0} = \frac{s_u}{R_{u,0}} \tag{9}$$

$$t_u^{front} = \frac{s_u}{R_{front}} \tag{10}$$

$$t_u = \sum_{b_F \in Bf} x_{u,b_F}(t_{u,b_F} + t_{u,b_F}^{ex}) + x_{u,0}(t_{u,0} + t_u^{front}) \tag{11}$$

The energy consumption of the computing process running unit CPU computing cycle is L2, where the computing energy consumption factor r is a constant related to the hardware structure, and L is the number of CPU computing cycles running per second. The energy consumption for baseband processing of user u's signal is:

$$E_{u,b_F} = P_u t_{u,b_F} \tag{12}$$

$$E_{u,b_F}^{pro} = \gamma_b (L_{u,b_F}^{pro})^2 (L_{u,b_F}^{pro} t_{u,b_F}^{pro}) \tag{13}$$

$$E_{u,b_F}^{ex} = \gamma_{b_F} (L_{u,b_F}^{ex})^2 y_u \tag{14}$$

The energy consumption in the cloud service mode mainly includes the wireless transmission energy consumption, the transmission energy consumption of the fronthaul link, the energy

consumption of beamforming and baseband signal processing and the energy consumption of running computing tasks. Similar to the edge service mode, the transmission energy consumption from user u to RRH is

$$E_{u,0} = P_u t_{u,0} \tag{15}$$

$$E_u^{front} = \varepsilon s_u \tag{16}$$

$$V_{u,0} = \mu |N|^3 + V_1 + V_2 + \theta R_0 \tag{17}$$

Based on the energy consumption analysis in the above two modes of edge service and cloud service, the energy consumption of user u is expressed as:

$$L_{u,0}^{pro} = CPI \cdot V_{u,0} \cdot 10^6 / \tau_{TS} \tag{18}$$

$$E_{u,0}^{pro} = \gamma 0 (L_{u,0}^{pro})^2 (L_{u,0}^{pro} t_{u,0}^{pro}) \tag{19}$$

$$E_{u,0}^{ex} = \gamma_0 L_0^2 y_u \tag{20}$$

3. Contrast of Second Language Teaching

The article focuses on theoretical elaboration, and lists the main teaching methods used in teaching practice and the theoretical support corresponding to these teaching methods. Starting from the theoretical basis, propositions and main characteristics of the main schools of second language teaching methods, this paper sorts out the feasible points of the various teaching methods used in teaching practice that are compatible with them, and then proves that these teaching methods are used in teaching practice research is meaningful. Phonetics teaching is the basis of teaching Chinese as a foreign language, and the recognition and reading of initials and finals, the spelling of initials and finals, and the teaching of tones are the key points in basic teaching. Statement, whole-body response method and group language learning method, take Class 1 and Class 2 of the second grade of high school (the students in the two classes have the same level of Chinese, and the number of students in each class is 47) as the research objects. A comparative study of teaching methods is carried out to explore which teaching method is more suitable for the teaching of pronunciation.

3.1. Direct Method (Traditional Teaching Method) and Cognitive Method

The combination of the direct method and the cognitive method is to use the table of initials and finals to teach directly, and to use cards to assist in repeated practice of the recognition, reading and spelling of initials and finals. Take the 8 initials of "b, p, m, f, d, t, n, and l" as an example to demonstrate the teaching: students first look at the initials table and read the 8 initials with the teacher, then the teacher Exaggerated lip shapes and gestures are used to simulate mouth shapes to explain their pronunciation. With the help of paper, students can intuitively feel the pronunciation contrast between aspirated and unaspirated sounds, and then let students practice pronunciation with the teacher on the basis of perception and understanding. Ask students to imitate the teacher to write the eight initials in the four-line grid of pinyin. After completing the writing session, the teacher then leads the students to practice pronunciation repeatedly, and takes out the cards corresponding to the 8 initials, and randomly selects them for the whole class to recognize and read together. One-to-one random check and recognition, the result is that the whole class can quickly recognize the reading, and the pronunciation is more accurate. Then, try dictation after the quick spot check and recognition. The following table compares the dictation situation of 47 students in the second and first class of senior high school, as shown in Table 3.

Table 3. The number of pairs of 8 initials "b, p, m, f, d, t, n, l" in Class 2 and 1 and the statistics table

Write the correct number of people (unit: person)	The number of 8 initial consonant pairs (unit: pieces)
1	1
2	3
3	2
4	5
5	13
6	15
7	5
8	7

From Figure 7, it can be seen that the correct rate of dictation of a class of students is only 20%, which is far from the expected value, and the students who write 5-6 correctly account for about 53% of the total number of students in the class, which means that most of the students are correct. The students' dictation accuracy rate was only 69%. It can be seen from this that the combined teaching of the direct method and the cognitive method can ensure the correct rate of reading and speaking, but it does not make students truly master the 8 "b, p, m, f, d, t, n, l" The listening and writing of the initial consonant only forms a vague cognition in the cerebral cortex of the students, and cannot ensure the combination of the sound shape and the memory in the practice of repeated speaking. It can be seen that the direct method and the cognitive method cannot fully achieve the ideal teaching effect in terms of listening, speaking, reading and writing in phonetics teaching.

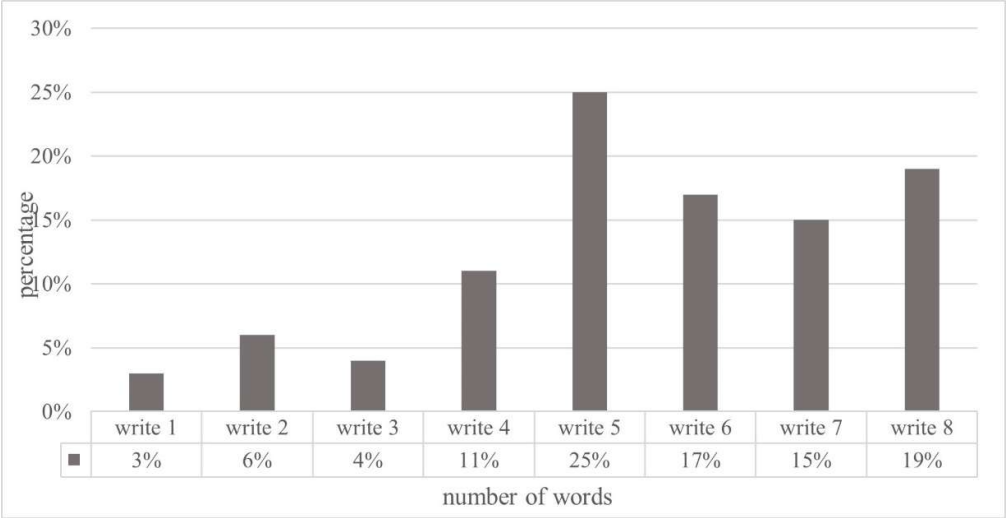


Fig. 7. The correct rate of dictation for the eight initials of "b, p, m, f, d, t, n, l" in Class 2 and 1

3.2. Group Language Learning Method

The group language learning method is widely used in vocabulary teaching, which makes the teaching content richer, more diverse and easier to accept. The experimental object of this teaching method is the second and fourth classes of senior high school. The experimental process is as follows: The pictures of the 7 words to be taught and the Chinese names are printed separately into 46 sheets, that is, a picture corresponds to a Chinese character card, distributed to the students and ensured One per person. Link 1: This link is a process of cognitive familiarity, similar to the audio-visual method. The teacher acts as the commander of the password. When the students hear the Chinese spoken by the teacher, they should hold up the corresponding pictures or Chinese names. Those who are slow to respond or show errors Switch roles with the teacher; Session 2: Divide the 46 pictures into two groups, and paste them on the blackboard in random order, and then divide the students

into two groups. When the cards are combined, the students in the audience can help, but they must speak Chinese, and the team who completes the correct combination first will be rewarded; Session 3: 14 cards are arranged in 7 groups of words and pasted on the blackboard, the teacher speaks Chinese, draws Point the students to the stage to point out the corresponding pictures. During this period, the teacher's speech rate will gradually increase to check the students' reaction speed and familiarity with the words they have learned. Then, they will arbitrarily cancel a few pictures and Chinese names to let the students listen to Chinese. Refers to the pictures, and unconsciously grasps these seven words in the participation and interaction of repeated listening and recognition. The test results are shown in Table 4 below:

Table 4. Scores of ten students in Class Two and Four of Senior High School in listening, speaking and reading

class 1		class 2	
Testing skills	Total score of ten students (points)	Testing skills	Total score of ten students (points)
listen	10	listen	15
Say	15	Say	9
read	10	read	12
perception	6	perception	8
understand	13	understand	11

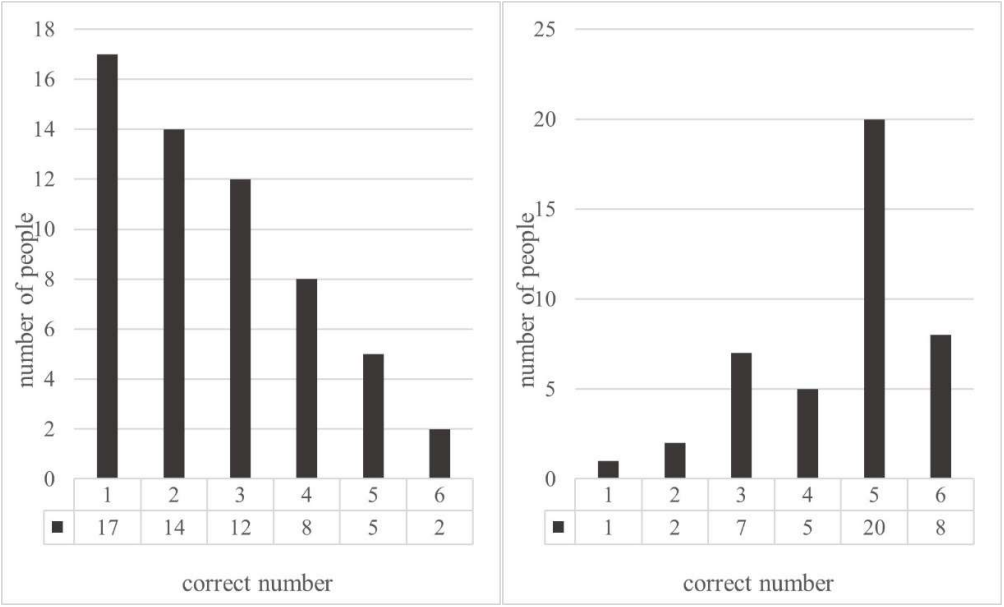
It can be seen from the above three links of teaching design that although the group language learning method is based on the experience-based audio-visual method, the diversity of its teaching methods is far superior to that of the audio-visual method. Combining the teaching methods of the above three links, the recognition and reading of the six words "apple", "pear", "banana", "pineapple", "jackfruit" and "watermelon" are used as the teaching content, and 43 students in the second and eighth class of senior high school are used as the experiment. The subjects, through the comparative analysis of "the score sheet of the teaching test completed the first link" and "the score sheet of the teaching test completed the third link", to demonstrate the superiority of the group language learning method. The reason why the students in the second and eighth class of senior high school were selected as the experimental subjects is because the students in the second and eighth class of senior high school are more difficult to teach: they have many novel ideas, are smart by nature but do not like learning, do not like rigid and traditional teaching, and are difficult to fully integrate into Come to the classroom learning, and, if this method can achieve good teaching effect in the second and eighth class of senior high school, then the teaching in other classes will also be handy, as shown in Table 5.

Table 5. The results of the teaching test for completing the first part (audio-visual method)

The number of correct readings (unit: pieces)	1	2	3	4	5	6
Number of students (unit: person)	15	14	12	2	1	5
Completion of the teaching test score sheet for the third stage (group language learning method)						
The number of correct readings (unit: pieces)	1	2	3	4	5	6
Number of students (unit: person)	5	2	7	8	15	6

The following conclusions can be drawn from the comparison of the recognition and reading test scores in Figure 8: In terms of vocabulary teaching, the teaching effect of the group language learning method is much better than that of the audio-visual method. This conclusion not only proves that the group language learning method takes advantage of the situation, takes students as the main body, and gives full play to the advantages of students' initiative, but also shows that in the teaching of Chinese as a foreign language, the form of group collective learning can deepen students' sense of security in Chinese learning, and then can enhance self-confidence, actively participate in teaching

activities, think independently, absorb and memorize the knowledge learned, and achieve a good teaching effect.



(a) (b)

Fig. 8. Comparison of Recognition Test Scores

3.3. Systemic Response Method

The whole-body response method is to enable students to fully activate their hands-on ability, the ability to operate the brain quickly, and the coordination and cooperation ability of various parts of the body in the process of learning Chinese. Through all-round participation, students can concentrate more and learn more efficiently. The research on this teaching method takes the second and ninth class of senior high school as the teaching object, and still takes four Chinese characters as the teaching content. The specific teaching process is as follows: first, the students are divided into 9 groups with 5 people in each group, and then the prepared etc. Some "small parts" of related Chinese character components are distributed to each group, and students are asked to copy and spell the Chinese characters given by the teacher, and say the Chinese and Thai translations of the placed Chinese characters, and then through the mode of cooperation and competition, let the students They competed to spell the four Chinese characters "Sun, Moon, Mountain and Water" to see which group took the shortest time. The method of testing teaching performance is still to dictate these four Chinese characters, and ask students to mark the Thai translation. The test results of the second and ninth class of high school are as follows. From the data information in Table 6, it can be seen that the whole body response method can fully mobilize the enthusiasm of the students and let the students master the Chinese characters they have learned naturally in the cooperative competition.

Table 6. The dictation of Chinese characters in the second and ninth class of senior high school

Chinese character	Glyph writing accuracy	Native language tagging accuracy
day	100%	100%
moon	96%	100%
Mountain	97%	100%
water	85%	100%

As Shown in Figure 9, from the teaching effect achieved by these three teaching methods: the teaching effect of the direct method is relatively poor, the teaching effect of the cognitive method and the whole body response method is better, and the teaching effect of the whole body response method is better. From the characteristics of these three teaching methods: they can better assist students to perceive, understand and memorize Chinese characters. From the effect of these three teaching methods: the direct method pays more attention to the teaching of basic knowledge and the practice and writing of Chinese characters; the cognitive method pays more attention to the students' understanding of the evolution of Chinese characters, and the combined memory of the shape and the meaning of the characters; the whole-body response method pays more attention to the development of Students' subjective initiative, emphasizing students' awareness of subject participation. All in all, these three teaching methods have played a good auxiliary role in Chinese character teaching, and can be used for reference in future teaching.

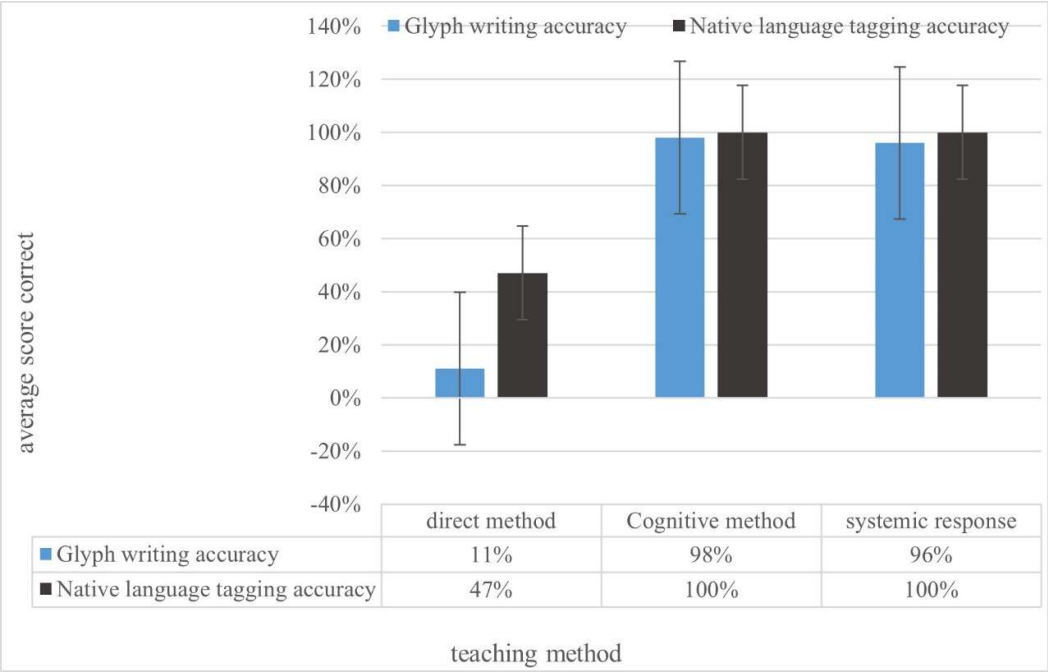


Fig. 9. The performance comparison of direct method, cognitive method, and whole-body response method in Chinese character teaching

4. Discussion

Based on the second language teaching method, this paper takes the research conducted in the Harmony Middle School in Chuchai County, Nakhon Ratchasima Province, Thailand as an example, and mainly focuses on the teaching of pronunciation, vocabulary, Chinese characters and sentence patterns, and compares the teaching methods of various teaching methods in Chinese as a foreign language. Feasibility and applicability in primary teaching, the following conclusions are drawn: First, let's start with the teaching method. There are many teaching methods included in the second language teaching method school, and this study selects several teaching methods for comparison.

On the basis of wireless network virtualization, by considering the dynamic allocation of physical resources including sub-channels, power blocks and other physical resources among multiple SPs and multiple MVNOs with different requirements, in order to improve the energy efficiency of the system, a classification-based induction method is proposed. By designing and transforming buyers and sellers, that is, designing and transforming the bidding expressions of SP and MVNO, after design and transformation, the subsequent matching and pricing process can be carried out smoothly, and solving the winner decision problem is transformed into solving the maximization of social welfare.

Then, a heuristic algorithm is proposed, which can solve the winner decision problem with low complexity, and then find the winner pair in the auction process. Finally, the effectiveness of the mechanism is further verified by simulation experiments.

After verifying the effectiveness of wireless network communication, three teaching methods of direct method, cognitive method and whole-body response method are compared and studied in Chinese character teaching. They can help students to perceive, understand and memorize Chinese characters. In terms of the effects of the three teaching methods: the direct method pays more attention to the teaching of basic knowledge and the practice and writing of Chinese characters; the cognitive method pays more attention to the students' understanding of the evolution of Chinese characters, and the combined memory of the shape and the meaning of the characters; the whole-body response method pays more attention to the development of students' abilities. All in all, these three teaching methods have played a good auxiliary role in Chinese character teaching, and can be used for reference in future teaching. In the aspect of sentence pattern teaching, the three teaching methods of grammar-translation method, erasure method and dialogue performance are compared and studied. It is also relatively boring, and there are relatively few adaptable groups; the erasing method allows students to exercise their own subjective initiative and practice repeatedly, but also increases the tension of students to a certain extent, so that students cannot be completely in a relaxed state. Memory; dialogue performance method takes the cultivation of communicative competence as the fundamental goal, allowing students to perform conversational performances in certain simulated situations, to activate the classroom atmosphere, and to mobilize students' enthusiasm for participation. However, in specific teaching, the creation of scenarios is more difficult, which is also The Relative Limitations of Dialogue Acting. Therefore, it should be used comprehensively when combined with the teaching of specific sentence patterns.

5. Conclusion

This paper studies language recognition and type induction in second language teaching through the method of wireless network communication. In the cloud-edge heterogeneous wireless network scenario, in order to overcome the problem of resource optimization caused by the tight coupling of communication, computing and cache resources To solve the difficult challenge, a joint induction method of multi-dimensional resources based on alliance game and multi-agent reinforcement learning is proposed. Judging from the comparison of teaching methods in terms of pronunciation, vocabulary, Chinese characters and sentence patterns, the teaching methods have their own merits. The specific analysis is as follows: In the aspect of phonetics teaching, the five teaching methods of direct method, cognitive method, group language learning method, whole body response method and listening and speaking method are compared and studied. Among them, the group language learning method and the whole body response method have the best teaching effect. In the process of using this method to teach pronunciation, the direct method, the cognitive method and the tongue twister method can be interspersed to achieve a more ideal classroom teaching effect. Although deep learning technology and auction methods can solve resource allocation, due to the immature application of its characteristics in wireless networks, we should consider how to reasonably deploy wireless network virtualization resources in the future. It is believed that these will promote the development of communication in the near future. There will be a good solution to the problem, so that the wireless network virtualization technology has a greater development in today's intelligent era.

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