

Research on the Current Situation and Development of Foreign Language Teaching in the New Liberal Arts Based on Information Visualization Technology

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Abstract: Based on literature of new liberal arts and foreign language teaching research in CNKI database published from 2019 to 2022, this study reviews the research trend, focus and problems of existing research under of new liberal arts background in China. In addition, CiteSpace information visualization technology is used to visualize the findings. Three research focuses were suggested in this study, and they are cross-disciplinary study, combination of traditional arts and modern digital technology and cultivation of new foreign language talents. This study also suggested a severe lack and a badly need of empirical study although numerous studies were found to promote ideological construction. To gain a deep understanding of foreign language teachers' views on the foreign language teaching under the background of new liberal arts, semi-structured interviews were conducted among four foreign language teachers in universities. Interview findings suggested the important roles that teachers' knowledge and competency, institutional cooperation and social support would play in constructing and implementing foreign language education in the new liberal arts era. This way, the study contributed to developing foreign language education in the context of new liberal arts.

1. Introduction

In 2017, the concept of “New Liberal Arts” originated from Hillam College in the United States. It emphasizes the discipline reorganization of traditional liberal arts and the integration of new technologies into traditional humanities courses such as philosophy, literature and language, thus providing students with comprehensive interdisciplinary learning and research opportunities. 2019 is regarded as the start-up year for the construction of new liberal arts in China. In March, 2019, Wu Yan, Director of the Department of Higher Education of China’s Ministry of Education (MOE) gave a keynote speech entitled “new Mission, great mindset, new arts humanities disciplines and macro foreign languages”. In his report, he not only reiterated the importance of “new liberal arts”, but also put forward the concept of “big foreign languages”, that is, full coverage, large scale and heavy responsibility[1]. In November, 2020, the Ministry of Education held a kick-off meeting in Shandong University to promote the construction of new liberal arts in an all-round way. At the meeting, the Declaration on the Construction of New Liberal Arts in Chinese Universities was

issued, which pushed the construction of new liberal arts to a climax.

In the two years since the beginning of the new liberal arts, foreign language and literature disciplines responded positively and became more active in the construction of the new liberal arts. However, there is a lack of a systematic review of the current researches and a lack of concern about whether foreign language teachers are ready for the construction of new liberal arts. Therefore, this paper aims to fill this gap in the literature, more specifically, this paper attempts to answer the following three research questions:

What are the hotspots of new liberal arts research on foreign language teaching in recent years?

How do Chinese foreign language teachers perceive new liberal arts?

What difficulties do Chinese foreign language teachers encounter in the construction of new liberal arts?

2. Method

2.1 Literature Search: Identifying Primary Studies

To identify empirical studies, we explored the electronic databases of China National Knowledge Internet (CNKI). The literature search covered studies published from January 2019 up to and including April 2022. We used key subject terms, including “New Liberal Arts Foreign Language” or “New Liberal Arts English”. Then, we narrowed down and identified primary studies using the following criteria: (a) the study was based on the new liberal arts background or horizon (b) the study was conducted in the field of foreign language education; (c) the study was published in Chinese. 260 studies were downloaded and selected for inclusion in our review.

Then, this study utilized CiteSpace V.5.5.R2 to get the retrieved data aggregate by information visualization. Dr. Chen Chaomei developed Citespace, and it is used to generate and analyze networks of literature based on bibliographic records retrieved from databases[2]. In this way, users can find vital trends and pivotal points in a knowledge structure.

2.2 Semi-Structured Interviews

Semi-structured interviews were conducted individually, following a protocol of interview questions (see Appendix). Interview questions involved teachers’ understanding of new liberal arts, technical problems in facing the new tendency, etc. All the interviews were conducted face-to-face when the researchers in the universities in 2021.

Table 1: Participants

Name	Age	Gender	Main research fields
Teacher H	40	female	Foreign language education technology, cross-cultural communication
Teacher B	42	male	System-based functional linguistics
Teacher W	32	female	L2 acquisition, teaching method (Spanish), teacher development
Teacher L	34	male	Applied linguistic

Four foreign language teachers were selected for semi-structured interviews to have a deep understanding of foreign language teachers’ views on foreign language teaching under the background of new liberal arts. They were specifically selected based on several factors. First, the selected participants were from different departments and different research fields. Second, participants varied based on several individual factors, including gender, age, and teaching experience. Table 1 illustrated detailed information of the interviewees (pseudonyms were used to ensure their confidentiality).

Informed consents were obtained from the participants to record interviews. The researchers conduct the briefing about this study to each participant, including the research purpose, the use of pseudonym to protect participants' privacy.

2.3 Data analysis

The data analysis consisted of two steps. First, we use Citespace to have keyword co-occurrence and keyword clustering analysis. Second, we made a detailed reading of relevant important articles, trying to conduct in-depth research on hot issues. Based on these analysis, we puts forward three main research topics of foreign language teaching under the background of new liberal arts, and each topic also has subcategories, as detailed in Table 2.

Table 2: Data analysis results

Themes("3C")	Subcategories	Codes
Cross-disciplinary study	Internal cross External cross	Interdisciplinary, curriculum reform, discipline construction
Combination of traditional arts and modern digital technology	Language big data Information literacy	Artificial intelligence, "Golden Course"
Cultivation of new foreign language talents	Chinese characteristics International view	Multilingual, ideological and political, good at many things and expert in one

The qualitative data was analyzed by audio transcription, text reading, marking, coding, and induction. Specifically, the coding process operates inductively. It began with a collection of data based on a list of questions. When researchers reviewed the data, repeated concepts became apparent and were grouped into categories. For example, if interviewees consistently talked about the knowledge structure, each time an interviewee mentioned about it, or any aspect related to its knowledge, 'knowledge structure' would become a category. To avoid researcher bias and ensure the results' reliability, two graduate students coded together based on the audio transcription materials.

3. Findings

3.1 Research Hotspots

Since 2019, the number of publications on the new liberal arts theme has increased rapidly, with 11 published in 2019 and 163 in 2021, among which the number of journals reached 8 in 2019 and 110 in 2021. The annual trend of publication volume from 2002 to 2020 is shown in Figure 1.

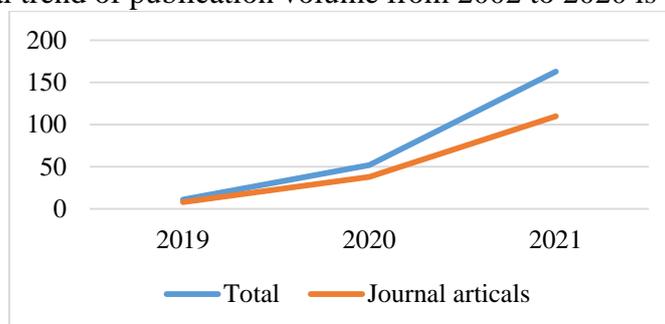


Figure 1: Annual map of literature quantity of in Chinese Foreign Language Teaching under the Background of New Liberal Arts (2019~2022)

As keywords co-occurrence map of foreign language teaching under the background of new

Liberal arts from 2019 to 2022 showed, from the large number of nodes and connections, foreign language teaching research under the background of new liberal arts involves a wide range of fields, with many keywords and strong relevance.

The frequency and centrality of keywords often represent the direction of basic research in the field. The top 5 keywords with higher occurrence frequency were extracted in descending order, as shown in Table 3. The most frequently appeared keyword was new liberal arts, which also had the largest node, followed by ideological and political education, college English, English major and talents training.

Table 3: Top 5 Keywords Co-occurrence Frequency

No.	Keywords	Count	Central	Year
1	new liberal arts	199	1.60	2019
2	curriculum-based ideological and political education	33	0.06	2021
3	college English	27	0.04	2020
4	English major	22	0.01	2020
5	talents training	18	0.07	2019

The keyword clustering of CiteSpace can explore the research topics in this field, and CiteSpace can be run to generate keyword clustering (Figure 2).

CiteSpace is a kind of bibliometric auxiliary software after all. Although it can analyze the research subject direction from an objective point of view, it is easy to overlook some research contents which are not prominent in features, but are often very important and cannot be used as the basis for determining the subject direction. Therefore, based on the expert opinion, keyword frequency, centrality and clustering, this study finally concludes that there are three key points in foreign language teaching research under the background of new liberal arts, namely cross-disciplinary study, combination of traditional arts and modern digital technology and cultivation of new foreign language talents.



Figure 2: Keywords clustering map of Foreign Language Teaching under the Background of New Liberal Arts from 2019 to 2022

3.1.1 Cross-Disciplinary Study

The new liberal arts emphasizes the cross of disciplines, which includes internal and external

crossover. The internal cross of this paper mainly refers to the intersection and integration between foreign language and humanities and social sciences, while the external cross refers to the intersection and integration between foreign language and foreign languages and natural sciences.

Internal cross emphasizes the self-innovation of foreign language subjects. Sub-disciplines of foreign languages such as linguistics, literature and translation studies have begun to intersect with sociology, economics, cultural theory, law and psychology, and some new sub-disciplines or interdisciplinary research fields have emerged, such as ecolinguistics, neurolinguistics and cognitive translation[3]. Another proposal is to combine foreign languages with national regions for the denotational development, such as the establishment of American studies, British studies, African studies, etc. [4]. In other words, it aims at the history, philosophy, art and other subjects of the target country to carry out interdisciplinary construction and train students' regional national thinking, so as to enhance the height and depth of foreign language discipline construction. In addition, Guo(2021) thinks that the training method of multilingual talents is one of the ways to directly cross-integrate foreign language disciplines[5]. That is, on the basis of opening the second foreign language course for undergraduate foreign language students, add the third foreign language course. It can not only promote the internal intersection of foreign language disciplines and cultivate multilingual talents needed for new liberal arts, but also make some non-universal languages, especially those in countries along the "Belt and Road" route, get strong development opportunities.

There are two main approaches to external cross-discipline: one is to integrate new methods and technologies in natural science and engineering into foreign language teaching; the other is to teach foreign language students to have other disciplines' thinking (such as logical thinking) to view the world. These two approaches have attracted the attention of many local colleges and universities, especially some non-language colleges and universities (such as science and engineering, medicine, finance and economics, etc.), which have more advantages in interdisciplinary integration. For example, science and engineering colleges generally have rich teaching resources for general technology. Their English majors can set basic natural science and engineering technology courses, such as advanced mathematics, statistics, Python programming, natural language processing, etc., in the training program to form a general technology literacy course module. The opening of such courses is conducive to the cultivation of logical and critical thinking of foreign language majors, and also achieves the purpose of "holistic education".

3.1.2 Combination of Traditional Arts and Modern Digital Technology

One of the important contents of the new liberal arts will involve adapting humanities and social sciences to China's national strategy of "empowering the country with science and technology"[6]. The "new" of new liberal arts lies in the "new technology", and the deep combination of modern digital technology and foreign language teaching is the inevitable trend of educational reform.

Under the background of new liberal arts, foreign language education should make full use of modern scientific and technology, such as artificial intelligence, corpus, big data and other means. For example, Some foreign teachers uses artificial intelligence-assisted foreign language teaching to carry out classroom reform of Business English, and finds that students have better performance in translation speed and quality than before. In addition, the technology can be used to build platforms, so as to promote the development of liberal arts. Some researchers has designed and built "Formative Assessment Data Platform for Foreign Language Teaching" to automatically collect and store data produced in the process of foreign language teaching. The platform has been used in five universities to innovate the communication channel of schools, and to realize the effective exchange of foreign language and literature. What's more, some universities have set up experimental classes for language big data innovation, aiming to cultivate innovative talents proficient in language and technology, and to carry out interdisciplinary exploration of language characteristics, language

intelligent understanding and processing, and big data analysis models and methods.

Teachers are the main body of technology use. In order to deeply integrate information technology into foreign language teaching, teachers of professional courses should be firmly grasped as the “main force”. Foreign language teachers must constantly improve their information technology application level and digital awareness, and learn relevant skills. At the same time, teachers should consciously change their roles from educators in traditional teaching mode to learners in the age of wisdom. Others put forward suggestions for the construction of “golden courses”. First of all, language teachers use MOOCs and other resources to create online courses, and then try to create an online and offline hybrid “golden courses”, such as typical flipped classes.

3.1.3 Cultivation of new Foreign Language Talents

Cultivation of new foreign talents is one of a core tasks of the construction of new liberal arts, and also the ultimate foothold of higher education. The training of foreign language talents under the background of new liberal arts should emphasize the combination of global vision and Chinese characteristics[7].

As for Chinese characteristics, the studies mainly focus on curriculum-based ideological and political education. As a new concept, curriculum-based ideological and political education emphasizes the organic combination of ideological and political content and professional knowledge content, and realizes the integration of them through infiltration. At present, the construction of curriculum-based ideological and political education for foreign language majors mainly focuses on two aspects: the compilation of curriculum-based ideological and political textbooks and the infiltration of ideological and political education in foreign language classes. This requires foreign language teachers to improve the ideological and political literacy of the curriculum, actively publicize and impart our traditional excellent culture and ideas, and dig deep into the patriotic culture behind the curriculum content.

As for international vision, the studies mainly focus on building up our capacity for international communication. Through the reform of curricula and teaching modes, the New Orientation of foreign language education is expected to enhance students’ ability to tell China’s stories and serve the social progress of the nation. Some foreign language courses have also been adjusted, including courses of international majors, international relations, world economy, etc. To cultivate internationally-oriented foreign language talents, it is necessary not only to take classes, but also to open educational resources and encourage foreign language students or teachers to go abroad to study, give lectures and conduct academic exchanges. Especially for students majoring in translation and business English, it is necessary to cultivate their international vision and find the best way to communicate between China and foreign countries.

3.2 Teacher Perception in New Liberal Arts in Foreign Language Teaching

4. Through interviews, it is found that all teachers have learned about the concept of new liberal arts through relevant documents, academic conferences, relevant reports, academic papers and so on. They believed that the concept of new liberal arts is mainly the cross-integration of multi-disciplines, resulting in a new perspective. As for the factors hindering the construction of new liberal arts, can be generally divided into internal factors and external factors. The internal factors include knowledge structure, research literacy and professional development, while the external factors including policy support and communication and interaction between different colleges, as detailed in Table 4.

Table 4: Difficulties in the new liberal arts construction.

Factors	Categories	Sample interview responses
Internal	Knowledge structure	“Many teachers feel that their professional knowledge is limited and they can’t find a good position in the process of integration of new liberal arts.” (Teacher H)
		“The knowledge structure reserve is not good enough to support the intersection with other disciplines.”(Teacher L)
	Research literacy	“With our own knowledge, the teacher will eventually teach a simple language class.” (Teacher W)
		“When it comes to research, foreign language teachers prefer qualitative research and are scared Quantitative research.”(Teacher W)
External	Professional development	“Language teachers should not simply think that they teach languages, but should improve their research literacy. Take the initiative to learn the knowledge and thinking methods of science and engineering. To expand the knowledge and thinking methods of liberal arts.” (Teacher L)
		“Teachers may try to pursue self-development and improvement, such as studying for a doctorate, studying abroad and so on.”(Teacher H)
	Communication and interaction between different colleges	“Many teachers keep an acre of three points in the traditional liberal arts. Their self-study and self-development are not enough.”(Teacher) “The college takes the lead and leads interested teachers to have a discussion with teachers of another college to seek collision. This is a mutual progress.”(Teacher L)
External	Policy support	“It must be between several colleges, or it must be led by colleges to gather such kinds of teachers. It’s impossible for a foreign language college to do new liberal arts by itself.”(Teacher W)
		“To actively seek discipline cooperation, we will find that there are places where we can integrate and cross. Only when you take the initiative to go out and communicate with others will you find the possible intersection.(Teacher H)
		“At present, I think the one thing that restricts teachers is the lack of policy support. Teachers are not very flexible, and teachers have no right to change what they want to teach" (Teacher L)
		“If the evaluation method is too utilitarian, it is not conducive to deepening reform.” (Teacher W)

As for the internal factors, many teachers have mentioned their worries about teachers’ strength and ability, and think that the traditional liberal arts education makes teachers’ educational background and knowledge structure relatively single, so they can’t find a good position in the construction of new liberal arts. Besides, teachers who are building new liberal arts and are willing to build new liberal arts mentioned that the external factors that influence are mainly the support of schools and colleges, as well as social support.

Knowledge structure

Teachers’ own knowledge structure mainly refers to whether teachers have mastered the knowledge to support the construction of new liberal arts, for example, they have mastered rich knowledge of foreign languages and other disciplines together, and have organically integrated the knowledge of the two disciplines in their own knowledge structure. In addition, some teachers mentioned that some foreign language+courses are taught to foreign language majors directly by teachers of other disciplines, and students will easily find the orientation of the courses and the significance of learning them.

“Many teachers feel that their professional knowledge is limited and they can’t find a good position in the process of integration of new liberal arts.” (Teacher H)

“The knowledge structure reserve is not good enough to support the intersection with other disciplines. And the knowledge once learned may have been eliminated by the times, the old-fashioned structure is no longer enough to teach modern young people.” (Teacher B)

“Our teachers are all from literature and linguistics. With our own knowledge, the teacher will eventually teach a simple language class. We expect to open Spanish for Business, but if we can’t have a teacher who knows both business and Spanish, the students will only stay in reading textbooks and taking exams, and they won’t learn the real thing, or even feel a burden.” (Teacher W)

Research literacy

Scientific research is the cornerstone of talent training. Only strong scientific research can support effective talent training. If foreign language teachers, especially foreign language teachers in colleges and universities want to build new liberal arts, they should not only understand the concept of new liberal arts construction, but also improve their research literacy and actively learn the research methods, research ideas or research tools of other disciplines.

“When it comes to research, foreign language teachers prefer qualitative research and are scared quantitative research.” (Teacher W)

“Language teachers should not simply think that they teach languages, but should improve their research literacy. Take the initiative to learn the knowledge and thinking methods of science and engineering. To expand the knowledge and thinking methods of liberal arts.” (Teacher H)

Professional development

Seeking professional development is an important strategy. However, teachers’ reaction to the self-development of many traditional liberal arts teachers is not strong. If teachers do not have a strong desire for self-development, and do not take the initiative to seek the intersection and improve themselves, they will have no way to adapt to the new concept of new liberal arts.

“Many teachers keep an acre of three points in the traditional liberal arts. Their self-study and self-development are not enough.” (Teacher L)

“To meet the new liberal arts, teachers may try to pursue self-development and improvement, such as studying for a doctorate, studying abroad and so on.” (Teacher H)

Communication and interaction between different colleges

New liberal arts emphasizes interdisciplinary integration, and the most direct way is for experts from different disciplines and fields to strengthen cooperation and exchange, so as to seek an intersection. In this case, the simplest way is to start communication and cooperation between colleges, then gradually expand to different schools, and finally help each other, learn from each other's strengths and make progress together.

“The college takes the lead and leads interested teachers to have a discussion with teachers of another college to seek collision between different disciplines. That makes a mutual progress. To actively seek discipline cooperation, we will find that there are places where we can integrate and cross. Only when you take the initiative to go out and communicate with others will you find the possible intersection.” (Teacher H)

“But the reality is that, if we really want to be a new liberal arts major, it must be between several colleges, or be led by colleges to gather such teachers. It’s impossible for a foreign language college to do new liberal arts by itself. Each college can make some plans, medical schools can put forward the needs of foreign languages, or our foreign language college can provide our needs for international areas, some needs for the computer field, etc. It is necessary to change the cooperation system and cooperation methods.” (Teacher W)

“The Foreign Language College should regularly revise the talent training plan and add new

courses, such as platter courses and general education courses.” (Teacher B)

Policy support

Finally, many teachers called for policy support, hoping to give teachers more space and time to develop foreign language teaching.

“At present, I think the one thing restricting teachers is the lack of policy support, teachers are not very flexible, and teachers have no right to change what they want to teach.” (Teacher L)

“We should reform the evaluation methods. If the evaluation method is too utilitarian, it is not conducive to sinking down to deepen the reform. To do the curriculum reform, ten years may not be able to see the results. To settle down and think about doing some solid things takes time.”(Teacher W)

5. Discussion

Through combing the domestic research, this paper finds that the research of foreign language majors under the background of new liberal arts is mainly in three aspects: the construction of interdisciplinary integration, the deep integration of technology into foreign language teaching, and the cultivation of compound foreign language professionals in the new era.

However, to achieve these goals, we must pay attention to whether we have a contingent of teachers who can meet the development of teaching and scientific research. For teachers themselves, they need to have knowledge of foreign languages and other disciplines at the same time, and realize organic integration of the two disciplines in their knowledge structure; Encourage foreign language teachers to study hard to improve their research literacy, learn the research methods and perspectives of other disciplines, so as to master interdisciplinary ideas, new methods and technologies, and apply them to teaching and scientific research; In addition, teachers can gain self-development by pursuing degrees, participating in domestic and foreign research and short-term training, and strive to find the intersection of foreign languages and other disciplines.

At the school level, we should strengthen the cooperation between departments and colleges and set up interdisciplinary teaching and research teams. Schools or colleges or become the leading force in the construction of new liberal arts, and effectively integrate different departments. It should break through the original definitions of colleges, departments and courses of undergraduate education, reorganize the framework of disciplines and courses, and shift from the traditional rigid teaching mode to a more flexible and customizable self-learning mode like menu. At the same time, different schools can also strengthen communication through various platforms, and make full use of the advantages of each school to achieve win-win cooperation.

Finally, the policy should update the scientific research evaluation mechanism and the evaluation criteria of teachers' titles, realize the diversified evaluation of teachers, and give teachers more flexibility and space for research and reform, so as to encourage teachers to engage in interdisciplinary research and teaching.

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