European Proceedings of
Social and Behavioural Sciences
EpSBS

www.europeanproceedings.com

e-ISSN: 2357-1330

DOI: 10.15405/epsbs.2020.11.03.23

DCCD 2020

Dialogue of Cultures - Culture of Dialogue: from Conflicting to Understanding

INFORMATION TECHNOLOGY IN TEACHING CHINESE: ANALYSIS AND CLASSIFICATION OF DIGITAL EDUCATIONAL RESOURCES

Tatiana L. Guruleva (a)*
*Corresponding author

(a) Moscow City University, 5B Malyj Kazennyj pereulok, Moscow, Russia; Institute of Far Eastern Studies of Russian Academy of Sciences, 32 Nakhimovskii prospect, 117997, Moscow, Russia, gurulevatatiana@mail.ru

Abstract

The intercultural approach to teaching Chinese as a foreign language in Russia was first implemented by us in a model for co-learning languages and cultures. This model was developed in 2009-2011, it took into account the specifics of teaching the Chinese language, which is studied simultaneously with the English language. The model was tested in the international multicultural educational region of Siberia and the Far East of Russia and northeastern part of China. However, the intercultural approach has wide potential for implementation not only in conditions of direct contact with representatives of another culture. In the modern world, information technologies for teaching foreign languages are increasingly in demand. For a number of objective reasons, large technology companies until the beginning of the 21st century could not begin to develop information technologies that support the Chinese language. Therefore, the history of the creation and use of information technologies for teaching the Chinese language is happening right now before our eyes. In this regard, the analysis and classification of information resources for teaching the Chinese language is relevant and in demand. As a result of the research, we identified the most effective information technologies for teaching the Chinese language and developed their classification: learning resources, Corpus of Electronic Texts, electronic dictionaries, communication resources, information resources, new type of software.

Keywords: Chinese language, information technology training.

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

1. Introduction

The development of the sociocultural approach to teaching foreign languages in our country has led to the formation of a new intercultural approach (Elizarova, Khaleeva, Pluzhnik, Huseynova, Tareva, Guruleva, etc.). The essence of the approach is to prepare the student for intercultural communication from the perspective of an intercultural mediator, and the goal is the formation of intercultural communicative competence. Experts emphasize that the main difference between the intercultural approach and other cultural-like approaches is the transition of the native culture and the language of the student from the category of means of comprehending another language and culture to the category of the object of rethinking and interpretation from the perspective of an updated picture of the world. This significant difference in the intercultural approach allows researchers to talk about the formation of a new intercultural linguodidactic paradigm that is different from a culture-like paradigm (Tareva, 2017).

Since the early 2000s, an intercultural approach has been the basis for the development of various concepts and models of teaching foreign languages. One of the first concepts of co-learning a language and culture based on an intercultural approach was the concept developed by Elizarova (2001) on the material of the English language.

In teaching Chinese as a foreign language as part of an intercultural approach, we developed the first model for co-learning languages and cultures in 2008-2011 (Guruleva, 2008; Guruleva, 2011). The model was tested in the conditions of the international multicultural educational region of Siberia and the Far East of Russia and northeastern part of China (Reznik & Guruleva, 2009).

However, the implementation of the intercultural approach is possible not only in direct contact with a representative of another culture. In the modern world, the professional educational community is more and more attentive to the information technologies of teaching foreign languages. In the absence of direct contact with a native speaker, these technologies provide the opportunity to create an intercultural educational environment in which students receive authentic patterns of communicative behavior and participate in real intercultural communication.

2. Problem Statement

In Russia there is rich experience in the use of information technology in teaching European languages. The first bilingual electronic dictionaries, training platforms, mobile applications, etc. began to be used in our country in the context of teaching European languages, primarily English. In addition, if we talk about the development of information technologies for teaching foreign languages, it is precisely the information tools for teaching English that have been created among the first in the world.

As for the Chinese language, for a number of reasons, such as the linguistic situation in China, the level of development of information technology and the global Internet in this country, typological features of the Chinese language and written language, insufficient number of linguistic and linguodidactic research in the field of Chinese, etc., large technology companies until the beginning of the 21st century could not begin to develop information technologies that support the Chinese language.

The indicated set of factors has led to the fact that information resources in the Chinese language are not used enough in the Russian professional community, they have not been ranked in terms of the

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

effectiveness of teaching the Chinese language, their varieties have not been classified, and the possibilities for effective use of certain types of resources have not been studied.

As for the latest Chinese research in this area, Chinese scientists mainly study the effectiveness of individual educational information technologies, substantiate the significance of their use in the educational process, and also identify the problems of their use. So, Wang and Jin (2018) emphasize the importance of teaching teachers of Chinese as a foreign language to use information technology in the classroom, which is a requirement of the time and is in line with international practice in teaching foreign languages. At the same time, they urge not to use “technology for technology” and to remember the “true nature of learning” (p. 46). Dong (2016) also says that multimedia technologies cannot be a full substitute for traditional learning, while under certain conditions the use of multimedia learning tools is necessary and they are of great importance for the learning process. Feng Jinghui (2015) also points out the effectiveness of e-learning tools in his research. He emphasizes that the use of information technology increases the interest and effectiveness of teaching Chinese as a foreign language (Feng, 2015).

3. Research Questions

The research questions are the following:

1. What does the concept of "educational information resources" include?

2. Which of the existing educational information resources are most effective in teaching the Chinese language?

3. What are the possible grounds for classifying the information resources of teaching foreign languages in general and the Chinese language in particular?

4. What is the classification of information resources for teaching the Chinese language?

5. What information resources are the most effective? For what purposes to use them?

4. Purpose of the Study

The named problem and questions allow us to formulate the following research objective: to analyze and classify the information resources of teaching the Chinese language.

5. Research Methods

The research is based on the dialectical method of philosophical methodology, which allows us to consider learning tools – information educational resources in the relationship of their types, in interaction with other basic categories of linguodidactics, such as goals, content, teaching methods and technologies. The dialectical method serves as the basis for the use of a general methodological systematic approach to the analysis of the information resources of teaching the Chinese language. Of the concrete scientific methods of pedagogical science, theoretical methods were used, such as a theoretical analysis of scientific articles, as well as various types of information resources for teaching Chinese. A comparative method was used to identify the effectiveness of information resources for teaching the Chinese language. For experimental verification of the effectiveness of information resources in teaching the Chinese language, was used the empirical method: a longitudinal pedagogical experiment, as well as the method of processing

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

empirical data: a method of qualitative analysis of experimental data. In formulating conclusions, theoretical methods of synthesis, abstracting, and generalization were used.

6. Findings

Educational information resources – data contained in information systems that are in demand for educational use.

An information system is a combination of information contained in databases and the processing of information technologies and technical means ("Federal Law on ...", 2006). Information technologies – processes, methods for searching, collecting, storing, processing, providing, disseminating information and methods for implementing such processes and methods ("Federal Law on ...", 2006).

Information resources can be adapted for smartphones and tablets in the form of mobile applications. For optimal interaction between mobile applications and information resources, developers are encouraged to use a client-server architecture, where clients are mobile devices (smartphones, tablets), personal computers, laptops, etc., moreover, mobile devices act as full-fledged clients with full use of functionality (Rakhimov, 2016).

Educational information resources may include: educational resources themselves (training web services, platforms (portals), podcast terminals, mobile applications, etc.), as well as other resources demanded in the learning process, such as electronic dictionaries, electronic corps of texts, information resources of authorities, information resources of social and cultural spheres, electronic encyclopedias, electronic libraries, social media, etc.

Educational information resources provide digital material and are called digital educational resources. Digital educational resources are one of the varieties of electronic educational resources. At first, electronic educational resources existed in analog form, now in digital form, and in the future, they can develop in quantum, laser and other forms.

We have carried out the analysis and classification of the digital information resources of teaching the Chinese language.

An analysis of the existing digital informational educational resources in the Chinese language showed that one of the most optimal grounds for the general classification may be *the purpose of the educational resource*. Based on this reason, we have identified: educational resources (learning); electronic cases of texts; electronic dictionaries; communication resources; informational resources; software of a new type.

I. Learning resources. This type of resource is directly used for educational purposes. It includes:

- training web services. The most famous and effective training web service is ***ChinesePod***, a Hong Kong Chinese language web service that consists of several key components: video and audio lessons, dialogs, exercises, etc. The web service has a mobile application. The resource also provides an opportunity for classes with Chinese teachers (ChinesePod, 2020). The ***Chinese Stories*** web service is intended for the formation of reading and writing skills, as well as acquaintance with Chinese culture. It contains educationally adapted written texts about ancient and modern events, as well as their audio recordings in MP3 format. Has a computer and mobile version;

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

- online learning platforms. The latest and only teaching platform created by professional specialists in the PRC today is the ***Quanqiu shuo*** (***Talkmate***) Chinese platform for learning languages. The platform is being developed with the support of the UN, as well as the Ministry of Education of the PRC. Training courses in 87 languages have already been created, by the end of the project it is planned to create training courses in 240 official languages and more than 4,000 unofficial languages (Talkmate, 2020);

- mobile educational applications. Some multilingual mobile apps provide Chinese language learning opportunities. Such applications include the ***Memrise*** mobile application, which gives users the opportunity to learn pronunciation, vocabulary, grammar. Another multilingual mobile app is ***AnkiApp Flashcards***. The application is focused on memorizing words, expressions, phrases using interval repetitions. The application uses flash cards. The multilingual Chinese language learning application is ***FluentU***. For training, ***FluentU*** provides authentic videos: movie trailers, music videos, interesting public lectures, news, motivational videos, clips, commercials, etc. for individual lessons in Chinese. The multilingual ***Word Run*** app is designed to develop listening and speaking skills. It contains 40 audio courses, a Chinese phrasebook, 16 thematic sets of words and popular phrases, a pronunciation simulator, a dictionary of learned words.

Another type of mobile application is a specific application focused on learning only the Chinese language. Some applications are aimed at learning the pronunciation and perception of the Chinese language by ear: ***Learn Chinese Pinyin Chart***, ***Pinyin Chart by Pin Pin***, ***Pinyin Trainer*** by *trainchinese*, etc.

A number of applications are designed to study Chinese vocabulary. For example, ***Desktop Chinese Dictionary and Flash Cards*** by *trainchinese* application contains a dictionary and allows you to create flash card lists from words and phrases that are available in the application dictionary, online or in other applications. ***Brainscape*** application contains in its database more than 5000 flash cards on various topics. In addition, there is the ***Pleco Chinese Dictionary*** application, which is also designed to study Chinese vocabulary. The application is equipped with the functions of optical character recognition (OCR), as well as full-screen manual input of hieroglyphs. ***Chinese Numbers*** app by *trainchinese* is designed to learn Chinese numerals. The application forms the skills of listening, reading and translating Chinese numerals. ***Hanping Chinese Dictionary Lite*** is a Chinese-English Pinyin transcription dictionary with 6,000 words. Learned words can be added to favorites and returned to them for repetition, as well as train them in a game form depending on the level of difficulty. There is also a ***Chinese Dictionary*** application from Around Pixels, which provides translation of Chinese words into English and hieroglyph transcription, recognizes Chinese and English speech, reproduces the sound of Chinese words, contains training lessons and games.

To study the hieroglyphs, the ***Chinese Writer*** by *trainchinese* application was developed, which helps to master the writing of more than 7,600 Chinese characters in a game form, as well as the ***Skitter*** application, which contains cards with hieroglyphs from the most popular Chinese language textbooks (over 250) with the ability to write them on the screen and compiling thematic word lists.

A number of applications are devoted to the formation of competencies of certain types of speech activity. The ***Decipher Chinese*** application is designed to teach reading, contains several hundred texts in Chinese at various levels and has the option of spelling words. The ***Du Chinese*** app also aims to teach reading. Each text offered by the application is voiced by the carrier at three different speeds, and a whole

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

sentence translation is also available. ***Qing Ting*** application is designed to develop listening skills, it contains radio, audio blogs, audio books. It is possible to download audio content for re-listening.

For the comprehensive formation of the communicative competence of the Chinese language, an application such as ***ChineseSkill*** has been developed, in which beginners can learn Chinese (levels 1-2), you can train listening, reading, writing and speaking. Also, for beginners (level 1-2), the ***HelloChinese*** application was developed, containing more than 30 thematic blocks, including vocabulary, interactive phonetic exercises and grammar explanations, as well as tasks for all types of speech activity: speaking, reading, listening and writing. In addition, there is ***The Chairman's Bao*** application, which is an online newspaper with news on various topics written for educational purposes using words included in the lexical minimum of 3-6 levels of Chinese language proficiency.

Specific Chinese language learning applications also include HSK and YCT mobile exam preparation applications. These exams establish your Chinese language proficiency. The ***Hello HSK*** mobile app is a collection of interactive assignments and tests that are similar in appearance to the HSK exam assignments. There is also an application for preparing for the HSK 1-5 and YCT 1-4 exams from Around Pixels, in which the HSK and YCT vocabulary of each level is grouped into thematic blocks. The application contains flash cards, numerous tasks and games for each level, tracks training statistics and highlights the most frequent errors. In addition, there is an ***HSK Online*** mobile application based on artificial intelligence technologies designed to teach and prepare for the HSK exam. The ***HSK Hero*** application aims to learn 5,000 words in a game form, included in standardized tests of knowledge of the Chinese language (HSK levels 1-6);

- training terminal podcasts. Terminal podcasts – websites that support hosting of media files – podcasts and implying the possibility of downloading them. Quite often, terminal podcasts are a type of social media. Terminal podcasts provide audio file and video file podcasts. An example of a terminal podcast focused on learning Chinese and providing the ability to download audio files in Chinese is the ***Slow Chinese*** website;

- training courses (programs) of Chinese Internet television (***CCTV, CNTV***)**.** An Internet television program may include training courses, for example, a CCTV Russian training course, "Learning Chinese."

II. **Corpus of Electronic Texts.** Corpus of Electronic Texts provides authentic examples of the use of words and phrases in narrow and wide contexts for learners of a foreign language.

- Modern Chinese Language Corpus. ***Corpus of Modern Chinese of the Center for Chinese Linguistics*** (***CCL***) of Peking University is on the website of the Center for Chinese Linguistics of Peking University. It works with the help of a concordance program that builds concordances – lists of word usage in various contexts, both in a narrow (sentence) and wide (text) (Corpus ..., 2020).

III. Electronic dictionaries. Electronic dictionaries provide learners of a foreign language with reference information on the meanings of words and phrases, examples of their use, etc. Translation programs that can translate sentences, documents and websites differ from electronic dictionaries.

- electronic dictionaries requiring installation on a personal computer. For the language pair of Chinese and Russian languages, they use the multilingual version of ***ABBYY Lingvo x6***, which allows

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

translating words and stable expressions, as well as having a number of other features: the selection of synonyms and antonyms, the use of a large number of different examples of the use of words in detailed dictionaries of general vocabulary, phraseological dictionaries, slang dictionaries and phrasebooks, accurate translation of industry terms. There is a dictionary version for mobile devices.

Another dictionary for the Chinese and Russian languages pair is the ***Multitran*** dictionary, which has online and offline versions. The dictionary can be installed on computers, smartphones.

There is also an electronic dictionary ***Slovoed***, which contains Sino-Russian and Russian-Chinese thematic dictionary, including 5000 Chinese words and sentences, grouped into 100 topics. ***Slovoed*** installs on desktops and laptops, mobile devices and Amazon Kindle readers;

- online dictionaries. Online dictionaries include bilingual Chinese-Russian and Russian-Chinese dictionaries, as well as Chinese-Chinese dictionaries: dictionaries of the modern Chinese language, synonyms, related words, antonyms, dictionary of compatibility, explanatory dictionaries, etc.

Among the Chinese-Russian and Russian-Chinese online dictionaries, the most widely used are the ***Big Chinese Russian Dictionary*** and ***Zhonga***. These dictionaries are interactive crowdsourced dictionaries, which can be replenished by any Internet user. Interactive crowdsourced dictionaries also include the online version of the ***Multitran*** dictionary.

There are many online Chinese-Chinese dictionaries in the Chinese segment of the Internet, for example: ***Xiandai hanyu cidian*** (***Modern Chinese dictionary***), ***Zaixian xinhua zidian*** (***Online Xinhua dictionary***), ***Zaixian jinyici*** (***tongyici***) ***chaxun*** (***Online synonyms dictionary***), ***Zaixian fanyici chaxun*** (***Online dictionary of antonyms***), ***Zaixian chengyu cidian*** (***Online idiom dictionary***)**,** ***Xiehouyu daquan*** (***Xiehouyu Encyclopedia***), ***Wenyanwen daquan fanyi*** (***Classical Chinese Translation***), ***Cihai zidian*** (***Cihai Dictionary***). A number of electronic resources unite several online dictionaries at once, for example: ***Wu you wu lu zhongxue yuwen wang*** (***Middle School Language Network totally without worries***), ***Cihai zhi jia*** (***Cihai Zhi Jia***), ***Hanyu da cidian*** (***Chinese Dictionary***), ***Zhongwen zhushou*** (***Chinese Assistant***) and others. Some collocation dictionaries published in China are also available for download in the Chinese segment of the Internet in pdf format, for example: ***Xiandai hanyu shici dapei cidian*** (***Modern Chinese Content Word Collocation Dictionary***), ***Hanyu dongci yongfa cidian*** (***Dictionary of Chinese Verb Usage***), etc.

There are also online resources for converting hieroglyphic writing into pinyin transcription and vice versa, for example, ***Zhongwen zhuan pinyin*** (***Chinese to Pinyin Converter***) and standard hieroglyphic writing into complex, for example: ***Hanzi jianti fanti zhuanhuan*** (***Simplified Chinese and Traditional Chinese Conversion***) and others;

- electronic dictionaries-mobile applications. There are mobile applications of bilingual dictionaries, which we examined in the section *Mobile educational applications*. *Trainchinese* has developed a mobile dictionary application for a pair of Chinese and Russian languages called ***Desktop Chinese Dictionary and Flash Cards***. A number of mobile application dictionaries have been developed for a pair of Chinese and English languages: ***Pleco Chinese Dictionary***, ***Hanping Chinese Dictionary Lite***, ***Chinese Dictionary*** by Around Pixels.

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

With the rapid development of technology, many dictionaries are developed in several forms and at the same time can have an offline version that requires installation on a PC, an online version, which is often an interactive crowdsourcing project and a mobile version for installation on a smartphone or tablet.

IV. Communication resources. Communication resources provide learners of foreign languages with the possibility of intercultural communication, thus mastering the language takes place in the process of intercultural communication.

- ***language exchange websites and mobile applications***. These include websites: ***italki***, ***Lang-8***, mobile applications ***Hello Talk***, ***Tandem***, ***Hello Pal***, ***Speaky***, ***HiNative***. These resources provide ample opportunities to learn a language through communication with its speakers, the ability to quickly correct mistakes in communication, quickly get help with difficulties in speech generation and speech perception process, explaining language rules in terms of their application in real-life communication situations, etc.;

- ***social media*** (available for registration of Russian users). These include 1) Chinese social networks that provide opportunities for communication with native Chinese speakers, for example, ***QQ kongjian*** (***Qzone***), **Pengyou wang** (***Friends Network***)**, Ren ren wang** (***Renren***); 2) ***Xinlang weibo*** (***Sina Weibo***) social network, which provides users with the possibility of maintaining their own blogs; 3) Chinese social network ***Youku*** (***Youku***), which allows you to view various video content uploaded by users of the social network: from short videos of social advertising to feature films and TV shows, as well as discuss viewed content;

- ***mobile communication systems***. These include the ***WeChat*** system, which allows instant messaging with Chinese interlocutors;

- ***specialized websites and groups in social networks of professional communities*** (***Big Chinese Russian Dictionary***, ***Vk.com***, etc.).

V. Information resources. Information resources provide learners of foreign languages with all the necessary information in their area of interest.

- ***search engines.*** In the Chinese segment of the Internet there are a large number of search engines: ***Baidu*** (***Baidu)***, ***Sougou*** (***Sogou)***, ***Guge*** (***Google***), ***Sousou*** (***SoSo***), ***360 Sousuo*** (***360 Sousuo***), ***Youdao*** (***Youdao***), ***Yahu*** (***Yahoo***), ***Ali yun*** (***Aliyun)***, ***Aiwen*** (***iAsk***), ***Biying*** (***Bing***), ***Zhongsou*** (***Zhongsou***) and others;

- ***specialized Chinese websites*** (the website of the Ministry of Education of the People's Republic of China, the website of the NPC, the site of the CPPCC, etc.) that provide the opportunity to obtain up-to-date authentic reliable information;

- ***electronic encyclopedias*** (***Baike baidu*** (***Encyclopedia Baidu***)**,** ***Weiji baike*** (***Wikipedia in Chinese***)**,** to which access is closed in China);

- ***electronic libraries and library websites*** (***Baidu wenku*** **(*Baidu Library***); ***Zhongguo zhi wang*** (***cnki.net***) – an online platform for Chinese scientific papers, dissertations, conference materials, yearbooks, dictionaries and reference books, etc. (China National Knowledge Infrastructure, 2020); ***Zhongguo tushuguan wang*** (***China Library Network***) (China Library Network, 2020) and others);

- ***online media.*** Currently, there are media that operate on the Internet, in addition, almost all Chinese media have their own electronic versions on the Internet. For example, the electronic publication of the newspaper ***Renmin ribao*** (***People's Daily***) is the Internet platform ***Renmin wang*** (***People's Daily Online***).

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

The Chinese Internet platform ***Baozhi wang*** (***Newspaper Net***) accumulates a brief description of all Chinese newspapers, their electronic publications, provides the option of online scoring for electronic newspapers, etc. (Newspaper ..., 2020). Many online media can be read not only on a personal computer, but also using mobile applications;

- *Internet radio.* The most popular Chinese Internet radio available for listening using computer programs and mobile smartphone applications is ***YouTing Radio*** (***AnyRadio***). ***AnyRadio*** provides the ability to listen to various radio programs, music, audio books, etc. This Internet radio combines many channels of Chinese and foreign radio stations, such as ***Central People's Radio*** (***CNR***), ***China International Radio*** (***CRI***), all local broadcasting channels (including Hong Kong, Macau and Taiwan), etc.). The ***AnyRadio*** program and mobile application are available for download on Russian computers and on smartphones based on iOS and Android operating systems. In addition, Russian users have access to easy-to-use, very diverse and rich in content Chinese Internet radio ***Aishang wangluo shouyinji*** (***Aishang Radio***), based on the computer program Adobe Flash Player and on the mobile application. ***Aishang Radio*** mobile application provides the ability to download audio files to a smartphone. Also, major Internet radios are: ***Qingting fm shouyinji*** (***Dragonfly fm radio***), ***Papa zhu wangluo shouyinji*** (***Papa Pig Internet Radio***), ***Kugou shouyinji*** (***Kugou Radio***), etc. Almost all Internet radios provide the ability to listen to them through the mobile applications of smartphones based on iOS and Android operating systems, support Wi-Fi and 3G;

- *Online TV and video hosting.* Chinese television programs can be viewed on the websites of the respective television channels or using special applications for computers, smartphones or tablets with a built-in database of IP addresses. Almost all Chinese TV channels have their own websites. For example, the state-owned television channel ***Zhongguo Zhongyang dianshitai*** (***China Central Television***, ***CCTV***) maintains its website ***Yangshi wang*** (***CCTV***), where you can see the programs of all its channels from ***CCTV-1*** to ***CCTV-15***. The content of the ***CCTV*** channel is also available on the ***Zhongguo wangluo dianshitai (China Network Television, CNTV***) channel, which is available in various television formats: online television, interactive television, mobile television, etc. The ***Hunan guangbo dianshitai* (*Hunan Radio and Television Station*)** television channel has an ***Mangguo TV*** (***Mango TV***) Internet platform that can be viewed using installation of a computer program. All ***Mango TV*** content is accompanied by subtitles in Chinese in standard hieroglyphs. A mobile application ***Mangguo TV guoji*** (***International Mango TV***) has been created for an international audience. In addition, Chinese video hosting ***Yuoku*** also contains a large number of video content and provides ample opportunities to watch news, television programs, documentaries and feature films, commercials, etc. There is also a sufficient number of video platforms where you can watch a variety of video content: ***Ai qi yi*** (***IQIYI***), ***Tengxun shipin*** (***Tencent Video***), ***Souhu shipin*** (***Sohu Video***), ***Tudou wang*** (***Tudou***), ***Bi li bi li*** (***Bilibili***), ***Li shipin*** (***Pear Video***), ***Dou yin*** (***Douyin***), ***Er geng*** (***Ergeng***), ***PP shipin*** (***PP Video***) and others.

VI. Software tools of a new type. Software of a new type are resources developed on the basis of artificial intelligence that foreign language learners can use simultaneously for several purposes: educational, reference, communication, information, etc.

https://doi.org/10.15405/epsbs.2020.11.03.23
Corresponding Author: Tatiana L. Guruleva
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

- ***personal digital assistants and Question Answering* (*QA*) *systems*** supporting Chinese language *putonghua*: ***SIRI*** (Speech Interpretation and Recognition Interface), ***Google Assistant***, ***Xiao Ai*** (***XiaoAI voice assistant)***.

7. Conclusion

Thus, theoretical, comparative analysis and longitudinal pedagogical experiment allowed us to identify the following types of effective digital information educational resources in the Chinese language: learning resources, Corpus of Electronic Texts, electronic dictionaries, communication resources, information resources, new type of software.

When learning Chinese, it is effective to use Web 2.0 technologies. Web 2.0 technologies are services actively improved and developed by the users themselves, i.e. social media (according to Tim O'Reilly). The content of educational social services: language exchange communities, ordinary foreign-language communities, interactive crowdsourced dictionaries is dynamically developing "thanks to the organization of interactive user interaction with the website or with other users, the exchange of audio, video and text files, the result of which is the creation of user-generated content" (Gulaya & Romanova, 2014). The advent of Web 2.0 technology led to the emergence of a new type of training – electronic learning (e-learning). The combination of e-learning with traditional forms gave rise to a blended learning type.

Mobile technology has also become a new, convenient learning tool, thanks to which a large number of language learning applications and dictionaries have been created that provide learning opportunities anytime, anywhere using a smartphone or tablet. The development of mobile technologies has led to the emergence of a new type of training – mobile learning (or m-learning).

Web 3.0 technologies – a concept of development of Internet technologies, formulated by Jason Calacanis in continuation of the concept of Web 2.0. Its essence is that Web 2.0 is only a technological platform, and Web 3.0 will allow it to create high-quality content and services on the basis of professionals. The content in the field of learning Chinese created by professionals can be attributed to Corpus of Modern Chinese, learning web services (ChinesePod), online platforms (Talkmate), etc.

References

China Library Network. (2020, April 14). http://www.chnlib.com/

China National Knowledge Infrastructure (CNKI). (2020, March 6). http://www.cnki.net/

ChinesePod. (2020, April 23). https://chinesepod.com/

Corpus of Modern Chinese of the Center for Chinese Linguistics (CCL) of Peking University. (2020, April 24). http://ccl.pku.edu.cn:8080/ccl_corpus/index.jsp?dir=xiandai

Dong, X. (2016). On the Application of Multimedia in Teaching Chinese as a Foreign Language. *Chinese and Foreign Communication, 33,* 22-23.

Elizarova, G. V. (2001). *Formirovanie mezhkul'turnoj kompetencii studentov v processe obuchenija inojazychnomu obshheniju* [The formation of intercultural competence of students in the process of teaching foreign language communication]. (Doctoral Dissertation). https://dlib.rsl.ru/01002284855

Federal Law "On Information, Information Technologies and Information Protection" dated July 27, 2006 N 149-ФЗ (2006). http://ivo.garant.ru/#/document/12148555/paragraph/3471:0

Feng, J. (2015). The Application of Audiovisual Multimedia Technology in Teaching Chinese as a Foreign Language. *Youth years, 21,* 78-79.

Gulaya, T. M., & Romanova, S. A. (2014). *Social'nye setevye servisy v izuchenii inostrannyh jazykov* [Social network services in the study of foreign languages]. *Philological Sciences. Questions of theory and practice, 2*(32), 64-67.

Guruleva, T. L. (2008). *Polikul'turnaja model' vysshego jazykovogo obrazovanija s uchetom specifiki obuchenija vostochnym jazykam* [Multicultural model of higher language education, taking into account the specifics of teaching oriental languages]. *Sibirskij pedagogicheskij zhurnal – Siberian Pedagogical Journal, 4*, 95-121.

Guruleva, T. L. (2011). *Formirovanie lichnosti novoerazijskogo tipa v sisteme vysshego jazykovogo vostokovedcheskogo obrazovanija* [The formation of a personality of the New Eurasian type in the system of higher linguistic oriental education (based on the material of Sinology education]. (Doctoral Dissertation). https://dlib.rsl.ru/01005085533

Newspaper Network. (2020, April 20). Retrieved from http://www.baozhiw.com/

Rakhimov, B. K. (2016). *Optimal'nyj algoritm vzaimodejstvija informacionnogo resursa s mobil'nymi prilozhenijami* [An optimal algorithm for the interaction of an information resource with mobile applications]. *Molodoj uchenyj – Young Scientist, 4*, 158-162.

Reznik, Y. N., & Guruleva, T. L. (2009). Formirovanie mezhdunarodnogo polikul'turnogo obrazovatel'nogo regiona Sibiri, Dal'nego Vostoka Rossii i Severo-Vostochnyh provincij Kitaja [Formation of the international multicultural educational region of Siberia, the Far East of Russia and the Northeast Provinces of China]. *Bulletin of Chita State University, 6*, 85-92.

Talkmate (2020, April 2). https://www.talkmate.com/

Tareva, E. G. (2017). *Mezhkul'turnyj podhod v paradigmal'noj sisteme sovremennogo sociogumanitarnogo znanija* [Intercultural approach in the paradigm system of modern socio-humanitarian knowledge]. In E. G. Tareva, L. G. Vikulova (Eds.), *Dialogue of Cultures. Dialogue culture: Man and new socio-humanitarian values: a collective monograph* (pp. 17-45). Neolithic.

Wang, Y., & Jin, H. (2018). Application of Multimedia Teaching in Comprehensive Chinese Course. *Shanxi Youth, 13*, 46-47.