

Feasibility Analysis and Innovation of a Culture Immersive Chinese L2 Vocabulary Learning App Based on Multi-modal Learning Theory

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Keywords: Multi-modal; Chinese L2 learning App; Immersive learning; International students acculturation; Chinese culture Going in

Abstract: By taking the Chinese L2 (Second Language) vocabulary learning App as an example, this paper looks into the conflict between the pressing need to shift China's culture strategy from *Going Out* to *Going In* following the 19th National Congress and the current Chinese learning App's lack of cultural connotation, as well as the construction of a new mode of Chinese language dissemination in the new phase of international Chinese language education. The goal of this research is to look into how a new mode of cultural communication is being built in the next phase of Chinese learning Apps. The team plans to use machine learning information extraction and retrieval system to capture and aggregate natural language texts on the Internet and to improve the culture content of Chinese vocabulary learning Apps by analyzing successful cases of Chinese and English vocabulary learning Apps, conducting questionnaires and Google Trends research, and applying the theory of Multi-modal Learning to innovate the content and form of Chinese vocabulary Apps which will include both fast-learning functions and culture immersive-learning functions, as well as a multi-modal database covering Chinese society and culture, particularly latent culture, and thus probing a new direction for Chinese culture's *Going in* strategy.

1. Introduction

Enhancing the soft power of Chinese culture has been one of the national strategies since the 18th Party Congress. After many years of research into culture going out, the government has come to the conclusion that culture going out is only the first stage. In order to form the influence and competitiveness of Chinese culture in the world arena, the key lays in Going in. The key to developing the influence and competitiveness of Chinese culture lies in culture Going in strategy. Chinese culture can only have a limited impact by going out, but it can only strengthen its global competitiveness by actually going in [1]. Professor Yali Gao of Shanghai International Studies University, on the other hand, emphasizes the importance of non-native learners studying Chinese in the context of cross-cultural communication. Culture and language instruction are usually linked in international Chinese language education; language learning goes hand in hand with culture learning, and language teaching goes hand in hand with culture teaching [2] In the multimedia era, traditional literacy abilities such as reading and writing are no longer sufficient [3] Multi-modal teaching will gradually become a major trend [4] and an important part of the teaching reform [5]. With the uprising of "Mandarin fever" and the coming "third stage" of Chinese international education, the purpose of teaching Chinese as a foreign language is changing from "learning Chinese" to "learning with Chinese," the content of teaching is changing from "historical China" to "modern China," the teaching method is changing from "traditional teaching" to "technological teaching," and the teaching location is changing from "in-classroom" to "out-classroom" [6]

However, existing Chinese vocabulary applications, as an important instrument for Chinese multi-modal learning, can only meet the needs of Chinese learners for fundamental learning. Updating Chinese learning Apps is becoming increasingly important in order to satisfy the needs of Chinese learners in the new stage, as well as China's current needs of culture communication and dissemination.

Simultaneously, in the new media era, people no longer learn solely through visual means, but rather through numerous channels such as audio, spatial, and gestural.[7]; the New London Group proposed a multiple literacy approach based on the idea of multiple-literacy.[8] It solves the flaws of the classic language-centered transmission paradigm, which focuses on the acquisition of language and culture through the use of a variety of symbolic systems such as words, visual images, sound effects, and paintings. After that, G. Kress offered multi-modal modes of expression, arguing that visual symbols, as well as images, music, and colors, are becoming increasingly significant in the formation of meaning.[9] On this basis, the audio-visual multi-modal teaching method was developed, which is a teaching approach that use several channels and teaching tools to mobilize the senses of various types of learners to collaborate in order to increase memory and deepen impressions. Multi-modal learning data collecting and system design have also become a popular research subject in recent years.[10] The goal of this research is to investigate and innovate the content and form of a Chinese vocabulary App in the context of Multi-modal learning theory, to explore a new model of "vocabulary + culture" learning and the establishment of a multi-modal database, and to develop a Chinese vocabulary learning App. Yuci with this concept and will turn into a trailblazer for Chinese culture's new direction of going out strategy.[11].

2. Study Object

2.1 Theoretical basis and principles of Chinese vocabulary learning App design

2.1.1. Multi-modal learning theory

Modality refers to the way of interaction with the external environment through various senses. Multi-modal learning theory comes from the Audio-visual multi-modal teaching method, which refers to the fact that humans perceive the world through the five senses of sight, hearing, touch, smell and taste, and the five senses produce five communicative modalities, namely, visual, auditory, tactile, olfactory and taste modalities. . In the process of teaching, different channels and teaching strategies are employed to mobilize learners' numerous senses to work together in order to enhance the impression and strengthen the memory, i.e. the visual-auditory multi-modal teaching model[12]. The multi-modal learning theory lends itself well to the design and development of a Chinese cultural learning App. In this era of information technology, how can Chinese culture be combined with artificial intelligence, and how can big data be used to sense people's desires for Chinese culture, allowing Chinese culture more effectively to go in? The App will establish an original database combining image, video, audio, texts, and other elements under the guidance of multi-modal learning theory.

2.1.2. Immersive learning theory

Immersive learning is defined as the process of learning in a simulated or artificial environment. The environment enables the learners to completely get immersed in the learning and in a way that feels like experiencing an actual learning environment. Immersive Education has been an active topic of interest for educators, researchers, and businesses for nearly a decade. Immersive scenarios and environments are becoming more common as enabling technologies, e-learning, and mobile learning technology continue to evolve. This app uses audio and video multi-modal technology, e-learning technology, as well as game learning technology, to simulate Chinese social communication settings, giving learners real-life conversation experience while also enhancing their understanding and learning efficiency.

2.2 Analysis of existing Chinese vocabulary learning Apps

This study looks at ten of the most popular Chinese vocabulary learning Apps on the market, all

of which have a big number of users.

2.2.1 Analysis of the content of vocabulary presentation

(1) PLECO series

There are two free dictionaries built into PLECO that provide 100,000 words with over 78,000 more detailed entries and over 20,000 example sentences [13], and each example sentence is annotated in Pinyin. Users may look up single words or phrases, look for related words, and convert conventional and simplified words.

(2) NAVER Dictionary & Translator

This App is designed mainly for Korean Chinese L2 learners. The entries are included in the Mandarin dictionary, Chinese-Korean dictionary, and Korean-Chinese dictionary, providing basic Chinese vocabulary search, as well as Chinese word quiz and Chinese website translation.

(3) Train Chinese

Train Chinese has a vocabulary of 100,000 words or so, including more than a thousand HSK vocabulary lists from level 1 to level 10, with all vocabulary categorized by level or topic. In addition, Train Chinese also provides a large number of commonly used words and phrases, example sentences, stroke order animation. Example sentences there also provide pinyin and English explanations. Four test modes are provided.

(4) Han Pin Chinese-English dictionary

The App supports offline thesaurus, provides query function of HSK vocabulary and slang, but with no example sentences.

(5) Hello Words

Vocabulary within this App includes three categories: HSK vocabulary, life vocabulary, and business vocabulary, together with functions as dubbing and example sentences explanation.

(6) Chinese Language Dictionary

The functions can be divided into 2 parts: HSK vocabulary and mock exams. The App provides pronunciation, pinyin, animation of Chinese character stroke order, interpretation, and example sentences of vocabulary.

(7) English-Chinese dictionary

The main feature of this App is the search and query function, providing vocabulary practice, which can be used offline.

(8) Netease Youdao Dictionary

It includes common modern Chinese definitions and example sentences, ancient Chinese definitions and example sentences, as well as online definitions. The definitions include both professional definitions and their encyclopedic entries as well as vocabulary expansion including synonyms, antonyms, Internet buzzwords, etc.

(9) Written Chinese Dictionary

This App combines a dictionary and flash cards in one, containing HSK1-6 vocabulary, providing pinyin, pronunciation, interpretation, example sentences, animation of the stroke order of Chinese characters, as well as their synonyms and antonyms.

(10) Hello, China

Hello China is a Chinese culture learning App, which selects 100 words that represent the essence of Chinese traditional culture, and allows learners to learn the vocabulary while gaining a better understanding of Chinese culture through video explanations, explaining the origin, interpretation and usage of the words in daily communication[14].

2.2.2 Analysis of culture presentation content

(1) The vocabulary base is insufficiently authoritative and professional, and the word definitions are likewise inadequate. A comparative study effect is also absent when using different vocabularies.

(2) The existing App is clearly insufficient in classifying, summarizing, and integrating the complex Chinese vocabulary system, and the majority of the vocabulary is divided according to the examination vocabulary, while the number of vocabulary outside of the grade examination is

lacking, and categorization and classification are incomplete, and the presentation of Chinese culture is even worse. It is incompatible with the learning of students with various demands and backgrounds.

(3) Many vocabularies continue to be supplied in a text-only format. Although some Apps include pictures, animations, audios, and videos, they are insufficiently complete and of poor quality.

(4) The example sentence database is rarely updated in a timely manner, and the sentences are frequently out of date. According to the source of the example sentences, the immense and profound cultural riches of China are not given enough attention, and the vast cultural resources of China are not completely used.

(5) Learning a language entails gaining a better grasp of a culture. Currently available Apps lack a sense of cultural identification and rarely bring learners psychologically closer to Chinese culture, instead focusing solely on practical and technical knowledge learning.

2.2.3 Analysis of vocabulary presentation

The current mainstream Apps deliver vocabulary in a variety of ways, which may be classified into four groups based on their functions: word memorization, word practice, word test, and dictionary. The first two groups are chosen for further analysis in this research.

(1) Methods for word memorization

The current presentation of mainstream Chinese word memorizing Apps shows that their mnemonic functions mainly have the following commonalities.

1) Great in interests

2) Fine review function.

3) Timely, able to update the vocabulary database according to the most recent textbook version and exam range.

4) Supervised learning function: setting learning goals, learning time reminders and other ways to monitor and supervise learning.

(2) Methods for word practice

Based on the current presentation of mainstream Chinese word practice Apps, the practice functions mainly have the following commonalities.

1) Great in interests: The mainstream vocabulary Apps all provide game-based exercises to help memorization. Take Happy Chinese as an example, its games have several themes according to the category of vocabulary, and each theme has several game forms. Take the theme color as an example, the games are presented in the forms of color matching and bubble poking.

2) Fine review function: All mainstream Apps provide review and consolidation functions to help users fully master the words firmly. Some of the Apps have various review functions, dividing into several sections according to the difficulty or categories of vocabulary, or tests and games, etc. Users can choose the sections and review them fully according to their needs.

3) Fine records data: The learning and practice records are adequate and are clearly presented on the interface, so users can see their learning progress, learning hours and scores clearly.

4) Deficiency: Errors, for example, several mispronunciation of words, still exist.

2.2.4 Analysis of culture presentation

(1) Culture presentation in the example sentences

Generally, existing Chinese vocabulary learning Apps do not adequately utilize example sentences in the dissemination of Chinese culture. In general, example sentences are undervalued as a vital component of cultural communication. Take, for example, PLECO and HSK Online, where the majority of the example sentences are simple sentences that are mostly unrelated to Chinese culture, with the only cultural characteristics being a few hackneyed parts (dumplings, Chinese new year, etc.). It lacks in real-time update of cultural content, making it impossible to elicit users' emotional responses to modern Chinese culture. As a result, it fails to convey and disseminate China's true image to the rest of the world.

(2) Cultural presentation in exercises and games

In terms of cultural communication and dissemination, some Apps innovate in gamification practice function. Take Hello Chinese as an example, it provides eight games with Chinese cultural elements, so that learners can improve their Chinese listening, speaking, reading and writing skills while gaining a certain understanding of Chinese culture. However, most of the Apps with gameplay lack the awareness of culture plantation [15].

3. Research method and analysis of the demand content of Chinese vocabulary learning App

3.1 Big data survey based on Google search engine and Google trends

Google Trends is an analytic tool based on Google search data. It is one of the world's major search engines. It informs consumers how often a given keyword or topic is displayed in Google search engine every day as well as its related statistics by analyzing the data of billions of searches done every day by Google search engine. Users can utilize the search results to learn more about the market, investigate future trends, and compare with other relevant data and information. This study examines the global interest in ancient and present Chinese culture in politics, economy, culture, entertainment, and people's livelihood, as well as stereotypes on these categories, using data from Google Trends.

Culture was split into four primary components by the keywords employed in the process: politics, economy, people's livelihood, culture, and education, with literature, art, education, science, philosophy, religion, customs, and so on. Authoritative databases such as the "Standardized Terminology Database for Foreign Translation of Discourse with Chinese Characteristics," "Terminology Database of Research Results on the Sinicization of Marxism," and "Terminology Database of Chinese Traditional Aesthetic Culture," among others, were used to translate the Chinese keywords into English. The authoritative bilingual corpus translated the keywords into English, and then multiple synonyms of the English translation were entered into Google search and Google Trends (global): that is, the keywords were entered into Google search and Google Trends to compare their hotness trends and record the related topics with higher hotness.

In terms of literature and education, the hot keywords under Chinese literature include Chinese web fiction, Chinese romance novel, and Chinese science fiction, which show that foreigners are concerned about Chinese contemporary literature, especially non-serious literature. The hot keywords under Chinese art direction include Chinese art market, Chinese art education, Beijing 798 art district, nail art, Chinese silk painting, and Chinese traditional string music. painting, Chinese traditional string instrument, etc., indicating that foreigners are interested in both traditional and contemporary China, but are more interested in contemporary art; As for China's education topic, it including Chinese education system, Chinese education problem, (Chinese education is the subject of the following studies: Chinese education system, Chinese education problem, Chinese education reform, Chinese education and society, Chinese education and American education, and Chinese education level, tiger parents, indicating that foreigners are more curious about Chinese education, and are particularly interested in certain negative educational phenomena in China; For Chinese philosophy direction, Chinese philosopher, Chinese contemporary philosophy, Chinese modern philosophy, Chinese philosophy questions, human nature, etc.. The hotness in philosophy direction is relatively low, which means the culture introduction and dissemination work of Chinese philosophy is not satisfying.

3.2 Literature survey based on data from official government websites and journal materials

From the official websites of the Ministry of Foreign Affairs, Confucius Institute and the Ministry of Education and their activities in recent years, the above-mentioned official organizations intend to disseminate not only Chinese traditional customs and skills such as Chinese New Year, martial arts, drumming, tea making and Chinese medicine, but also the current status and achievements of China's current economy, culture, education, economy, science and technology through a series of activities and different ways such as Hanyuqiao (i.e. Chinese Bridge, a Chinese

language competition for college students), cultural festivals, film and television festivals or China booths to introduce traditional customs and skills, but also the current situation and achievements of China's present and contemporary economy, culture, education, economy, science and technology, so that the West can understand ancient and modern culture in order to continue friendship and common development. Through a thorough reading of the documents published on the official website and related periodicals, it is found that its cultural aspirations are to use traditional culture as a base, to self-interpret contemporary culture, to respond to the trend with a reinterpreted image of contemporary Chinese culture, to show the cultural heritage and technological strength of contemporary China; in addition, the government is also committed to the popularization of Chinese culture, to break the dominant pattern of Western culture; thus shaping and showing China's cultural image of opening, harmonious and co-prosperous.

4. Innovation of Chinese Vocabulary Learning App Based on Chinese Culture

4.1 Product positioning

The proposed name of the App is "Yuci", which is inspired by the Chinese poem lines "Swimming fish can be seen from time to time, emerald mountains are visible from here to there ". A sentence aims to make foreigners a free swimming fish to see thousands of emerald mountains of Chinese culture and latent culture through this App, so as to better adapt to the latest culture and latent culture of Chinese society. The App aims to make overseas Chinese learners have a fair and correct impression.



Figure 1 Yuci App Icon

4.2 Function design

The App is divided into two major sections, the left section is the Fast-learning Interface, which aims to meet the basic learning needs of users such as quick search, and the right section is the Immersive-learning Interface to provide readers with integrated real-time bilingual information on various cultural fields in China, so that they can learn Chinese in an immersive way.

4.2.1. Fast-learning Interface

The entry page is divided into two parts: the search box and hot buzzwords. Type a word in the search box to enter the detailed learning interface for that term. The buzzwords are dynamically displayed when there is no search operation. Clicking on one of the terms will instantly go to the detailed learning page for that term.

(1) The search function

The function bases on a Chinese word search engine, providing pinyin search, handwriting input search, voice search, and related word search. The search system bases on magi search engine, which equipped with a machine learning-based information extraction and retrieval system that extracts information from natural language texts on the internet, provides web-wide scale search results, and presents them in a highly aggregated and structured way.

(2) The Detailed learning function

This section is the presentation of search results. It is divided into 6 sections: pronunciation, stroke order animation, word evolution, definition, example sentences, and new words list.

The first "Pronunciation" section is designed to use real people's pronunciation, here we use

Beijing accent as the standard voice.

The second "stroke order animation" section is designed to show animations of Chinese characters written with brush strokes, so that users can feel the beauty of flowing Chinese calligraphy. Users can set which font to display the animation in, or click the expand button below to see the animation of other fonts.

The third "Character Evolution" section is designed to provide a visual representation of the evolution of a certain character changing from oracle bones to Jinwen, Xiaozhuan, Lishu to Kaishu.

The fourth "Definition" section is designed to provide English and Chinese definitions, all of which are extracted from authoritative dictionaries. The definitions of different dictionaries are listed for users' reference.

The design of the fifth "example sentence" is the most significant and innovative part of the App, example sentences will be presented in the following 4 forms:

The standard example sentences are designed as follows: click to view example sentences of commonly used Chinese sentences as well as those from government documents, CCTV(China Central Television) and other official published texts, and by clicking the sentences, the page will immediately go to the source website of the sentence.

The net example sentences are designed as follows: click to get the latest and most popular expressions and usage of the word on the internet. The example sentences are selected from the major social platforms, such as Weibo, WeChat, Douyin, etc., and sorted according to word frequency.

The design of the video example sentences is as follows: click to play the video clips in which the lines act as the example sentences of the new word, the video clips selected from these excellent modern and contemporary Chinese film and television works, or authoritative news media.

The sixth "new word list" section is designed as follows: click on the star button to put the new words into the user's personal new word list for later review.

(3) The buzzword function

This section is to present China's latest most popular buzzwords to the user. After clicking into the interface, ten dynamic floating buzzwords bubble up, the size of the bubbles is positively correlated with the hotness of the words. By clicking each bubble, the user will go to the detailed learning interface and learn details there with the help of example sentences.



Figure 2 The Search function and The buzzwords function



Figure 3 The detailed learning function

4.2.2 Immersive-learning Interface

According to the culture classification of Dongping Han[16] and 114 culture items classification[17] and the results of previous google trends big data survey. The presented culture contents are divided into four modules: Chinese literature and arts module, Chinese film and television module, Chinese political and economic philosophy module, Chinese science and technology module.

Each of the four modules of the interface is presented in the form of a card.

The Literature and Art module introduces contemporary or ancient Chinese literature and art work and will be updated everyday, and the contents are presented in the form of bilingual parallel texts, combining pictures, videos and texts, or interactive animations.

The China Science and Technology and China Political and Economic Philosophy modules, in bilingual parallel text with videos or pictures, presents latest news clips daily from CGTN(China Global Television Network), China Daily and other official media websites, introducing China's latest scientific and technological achievements and Chinese political and economic philosophical views.



Figure 4 Immersive-learning Interface

The Chinese Film and Television Module, in the form of online screening room, divides the contents into four categories: documentary, film, TV series and TV shows. Based on Douban

ratings, the list of exported Chinese film and television series, and the list of three domestic film awards winners, it recommends film and television works according to different themes. Each film and TV series provides bilingual parallel introduction, Douban ratings and trailer clips.

Any vocabulary that appears in the parallel text can be clicked to go to the detailed learning interface and can be added into the new words list for later review.



Figure 5 Immersive-learning Interface

4.3 Content design

The content material presented in the App is based on a machine learning information extraction and retrieval system that extracts natural language text available on the internet and presents it in a highly aggregated and structured way.

4.3.1 The sources of the concise example sentence

The main function of the concise version is to meet with users' basic learning needs such as quick search. It is also designed to deepen the impression of the vocabulary through different example sentences and various uses of the vocabulary.

(1) Text example sentence

The text examples are designed to enable Chinese L2 learners to master the regular usage in line with the norms of a certain word.

The materials are sourced from authoritative dictionaries, official media, formal Chinese learning websites, etc.

(2) Internet example sentences (popular usage in social media)

The web-based example sentences are designed to enable Chinese L2 learners to master the unconventional usage of vocabulary.

The example sentences comes from Weibo, Zhihu, WeChat and other prevalent social media.

By mastering the vocabulary popularized on social media, it is beneficial for users to grasp the trend of Chinese vocabulary in real time, so that they can better apply the Chinese vocabulary they have learned, and learn more about Chinese modern and contemporary society and its culture.

(3) Video example sentences

The video examples are an innovation in this App, aiming to enable Chinese learners to master the colloquial usage of vocabulary while further experiencing the charm of the present-day Chinese society in Chinese film and television productions.

The video clips are selected from the award-winning list of the four major domestic TV series, the list of CCTV export TV series and other classic TV series, as well as interesting short videos from platforms such as "Zhihu", "Bilibili" and "Douyin".

These real-life scenario presented in the videos can drive great interests for users to learn Chinese and help them improve their speaking and communication skills.

4.3.2 The sources of immersive culture-learning interface

The main function of the immersive-learning version of the App is to provide users with integrated, real-time bilingual information on various cultural areas of China and learn Chinese in a culture immersive environment.

(1) Chinese Literature and Art Module

The content of modern art comes from contemporary art website and China Art Research Institute; ancient art comes from the official website of the National Palace Museum and its App, etc.

The information on these websites can provide Chinese learners with a preliminary understanding of Chinese art and culture from various periods, and experience the charm of Chinese art under the influence of the unique Chinese art.

(2) Chinese Film and Television Module

The module aims to enable Chinese L2 learners to better master the application of Chinese vocabulary through watching movies in a multi-modal learning environment, while experiencing the unique values and current contemporary culture conveyed in Chinese movies.

The film or TV works come from the list of award-winning films of the four major domestic TV series awards, CCTV export TV list, etc.

These films show the charm of traditional Chinese kung fu, the courage and fearlessness of Chinese people, and the goal of China's "A community with a shared future for Mankind", showing the current image of contemporary China and the unique charm of China's contemporary culture.

(3) Chinese Political and Economic Module

The material comes from CGTV, China daily and other Chinese English news media official websites.

These news can make it easy for even beginners in Chinese to learn about the political and economic highlights of China, to learn more about the development of China's political, economic and philosophical aspects, and to stimulate users' interest in learning Chinese.

(4) Chinese Science and Technology Module

The material comes from the Ministry of Science and Technology of the People's Republic of China, China Science and Technology Network, etc.

The information provided enables Chinese L2 learners to understand the current development of Chinese science and technology, shows the strength of Chinese science and technology, and makes users fully aware of the need to learn Chinese.

4.4 Function framework

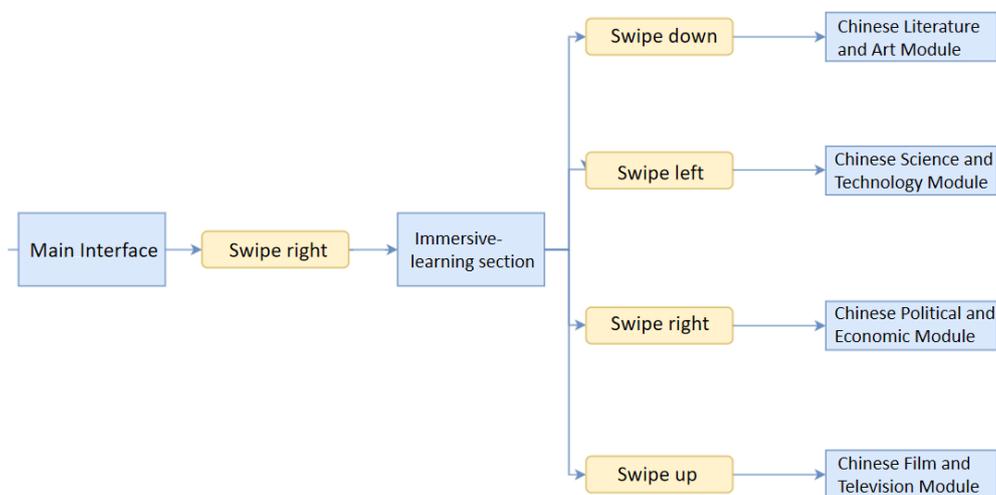


Figure 6 The function framework of Immersive-learning Section

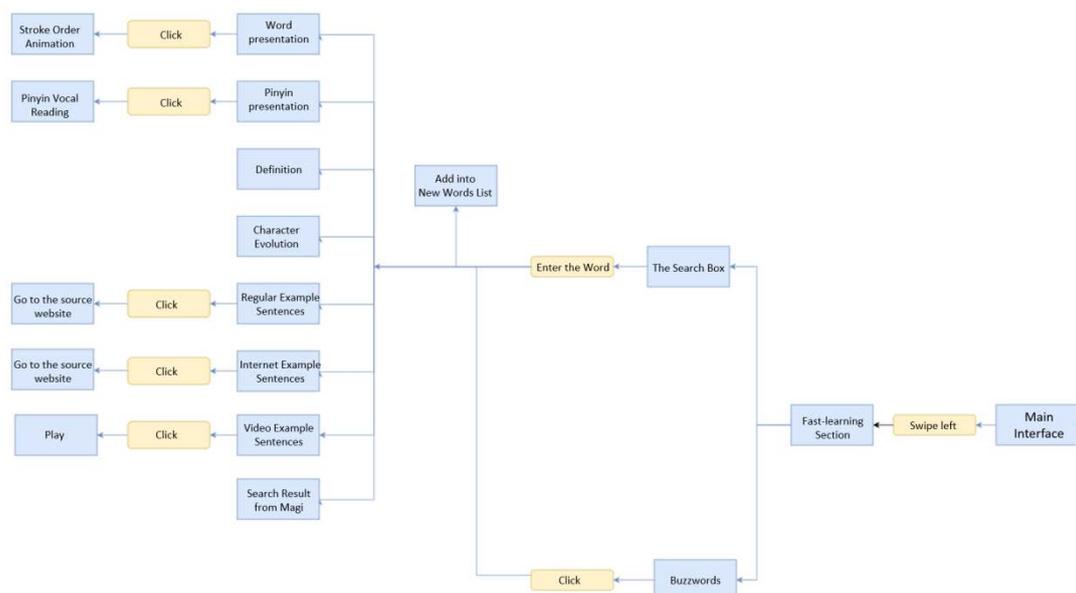


Figure 7 The function framework of Fast-learning Section

4.5 Main technical analysis of App development

The most often used programming language for Android OS mobile terminal App development is JAVA. This programming language, which has a wide range of applications, is totally object-oriented. There are numerous benefits, the most important of which is excellent security and portability, which is the primary reason why this programming language is currently extensively used. The language is capable of not only completing the development of the Android system App, but also numerous commercial websites, as well as game development and other fields. At present, the App used in cell phones is generally developed on the basis of the Android system, the Android operating system is formed on the basis of the Linux open source code, and most of the mobile terminal devices in China are currently operated using the Android system. With the increasing popularity of modern smart phones, this App technology that can be used for Android development has also been developed rapidly and now has formed the most widely used programming technology in the market. The App "Yuci" will be developed in JAVA on Android development platform or as a Wechat applet.

5. Future Prospects of Chinese Vocabulary Learning App Based on Chinese Traditional Culture

This research proposes an innovative approach to developing and deploying Chinese vocabulary learning Apps for cultural communication and dissemination. The paper summarizes the existing Chinese vocabulary learning Apps' lack in functions and cultural content, and, based on this, proposes the following innovations and designs:

(1) Strengthen the importance of example sentences for cultural communication and dissemination, add video learning, audio learning, and other modes of learning, export contemporary Chinese culture and values, and achieve multi-modal Chinese L2 learning while enhancing the interests of learning.

(2) The latest Hot News section is intended to export the mainstream Chinese values and the latest policy guidance in the new era and enhance the timeliness of Chinese cultural learning in Chinese learning Apps.

(3) Use Internet buzzwords to improve the world's young generation's understanding of contemporary China, dispel misconceptions about China, and allow the world to perceive the dynamic side of China's society.

This study aims to show the world the latest development of China and the true image of China

in the new era through innovative ways of Chinese cultural export, as well as to attract learners to visit China and enhance learners' cultural identity.

The main innovation of this paper in terms of the App function design is that two learning modes, fast-learning and immersive-learning, are developed for learners to choose according to their individual needs and language level. The design of the video example sentences in fast-learning and immersive-learning sections provides Chinese L2 learners with a multi-modal and immersive learning environment that can meet their learning needs while allowing them to appreciate and learn Chinese history and culture, both the culture and the latent culture of Chinese society, in a comprehensive, cross-disciplinary, multi-angle, and multi-modal manner. It will improve the understanding of contemporary Chinese culture and society among overseas Chinese L2 language learners or foreign students studying in China, strengthen their understanding and recognition of Chinese mainstream values, and promote the transformation of Chinese culture strategy from *Going out* to *Going in*.

There are still some flaws, to be sure. On a technological level, for example, the establishment of a multi-modal database, the functional design of an App, and content copyright issues are all needed to be followed up on and enhanced, and all of these will be the main focus in the future. We anticipate the implementation and application of this App, which corresponds to the idea of a multi-modal database, in order to export Chinese culture through innovation, to show the world what China truly is in the new era, to enhance the appeal of Chinese culture, and to explore a new direction for the culture *Going in* strategy, rather than simply disseminating culture.

Acknowledgement

This study was sponsored by the National College Students Innovation and Entrepreneurship Training Program of China. Program ID: 202110295072.

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