Design of English Guidance Information System Based on Multiple Reading and Writing Information Fusion Algorithm

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Abstract:Diversified literacy is a new requirement for students' literacy in today's information globalization and culturally diverse society. In college English teaching, based on the theory of multiple reading and writing, this paper designs an information-based system to guide the teaching of college English. According to the four steps of multiple reading and writing teaching method, students are trained in visual reading and writing, media reading and writing, digital reading and writing, and digital reading and writing. Multiple reading and writing skills such as critical reading and writing. Master multiple ways to build a multi-modal teaching model, and optimize the available multi-modal resources to the greatest extent, so as to stimulate the interest of non-English majors in English learning and cultivate their multiple reading and writing skills Ability and comprehensive application ability of English.

Keywords: English Guidance, Information System, Multiple Reading and Writing, Information Fusion Algorithm

1. INTRODUCTION

Since ancient times, human beings have sensed the world around them through various senses such as sight, hearing, and smell. They mainly use spoken language, supplemented by gestures [1], expressions, etc. to convey meaning and communicate and interact. In the multimedia era of communication with the Internet and smart phones, the transmission and exchange of information presents multimodal characteristics [2]. "Modality refers to the channels and media of communication, including language, technology, image, color, music and other symbolic systems", and the communication interaction using two or more modalities at the same time is called "multimodality". In order to cope with the increasing number of Modal [3], multimedia-based classroom teaching, New London Group (1996) proposed the "multi-literacy pedagogy" (multi literacies pedagogy), to explore how to change the traditional teaching methods, effectively use multimedia resources, and cultivate students' multiple literacy skills [4].

In China, research on multiple reading and writing has developed rapidly in recent years [5]. On the one hand, the theoretical framework of multiple reading and writing and its enlightenment to Chinese English education have been comprehensively introduced and explained [6]. It has greatly reduced the damage of human beings working in harsh environments, and has attracted great attention from all over the world [7]. It is gradually becoming the military force of developed countries. Frontiers of technological research. With the expansion of the application field of mobile robots, especially with the development of autonomous navigation technology [8], the intelligent level of mobile robots and the adaptability of the working environment are increasingly challenged. The intelligent mobile robot system is a comprehensive system that integrates a variety of technologies [9]. The development of the system involves multiple disciplines, such as computer network, artificial intelligence, information processing, mechanical manufacturing [10], integrated electronics, dynamic image processing, and automatic control.

With the continuous development of information globalization [11], cultural diversification and new media, the construction of human communication methods and discourse meanings presents a multimodal trend [12]. The central position of language symbols in communication has been impacted, and other communication means such as images, animations, sound effects, space [13], gestures, body posture and other symbolic systems play an increasingly important role in social communication. In today's multimodal era, discourse is changing from unimodal to multimodal, which has gradually upgraded and expanded traditional literacy to multiliteracies [14]. In terms of literacy, the traditional literacy training model has been difficult to meet the needs of social development, and scholars' understanding of literacy has also undergone tremendous changes. With the development of the new media era [15], the status of various forms of communication in social communication is getting higher and higher. People gradually acquire knowledge through various channels, and the expression of meaning tends to be more integrated and multiple [16]. Kress pointed out that there are two important shifts in literacy worthy of attention: one is the transition from writing to images, which has always been dominant; the other is the transition from book media to screen media [17].

The new literacy skills are diverse, so traditional literacy skills [18] centered on a single language are transforming into multiple literacy skills composed of multiple symbol systems. The traditional literacy ability with the advantage of text reading and writing cannot meet the needs of the multimedia age [19], so it is urgent to cultivate the English multi-literacy ability of non-English majors. In the process of cultivating multiple reading and writing abilities of non-English majors [20], college English teaching should be combined with all social symbolic means to construct a new multi-modal teaching mode of college English, which stimulates students'

interest in English learning with multiple senses and guides students to read effectively [21]. Multimodal discourse can improve students' creative thinking ability and critical reading and writing ability in the process of English multiple reading and writing, and achieve the teaching purpose of cultivating diversified talents [22]. For a long time, college English teaching in our country has focused on cultivating students' five abilities of listening [23], speaking, reading, writing, and translation. As far as the cultivation of reading and writing ability is concerned, the choice of modalities mostly relies on written language and printed page media. With the rapid development of computer [24].

2. THE PROPOSED METHODOLOGY

2.1 The Multiple Reading and Writing Information Fusion Algorithm

Multiliteracies was proposed by the New London Group in 1994, including traditional literacy and literacy in the modern information age, including visual, auditory, spatial and other modal literacy skills. Multiple reading and writing is a specific literacy ability and a new way of learning in the Internet age. The proposal of multiple literacy makes literacy learning no longer focus on the learning of language skills, but emphasizes its multimodal and multicultural characteristics. On the other hand, linguistic researchers should not just talk on paper. While conducting theoretical discussions, they need to conduct action research to apply the theory to real classroom teaching and examine its effectiveness.

The New London team pointed out that the development of multiple literacy skills involves language, vision, body, space, sound, and a design learning process that integrates these five categories of modal systems. Hu Zhuanglin believes that multi-literacy includes two aspects: cultural and technical literacy, and learners should learn and construct discourse meaning in the information environment. In general, the multi-literacy teaching framework reflects the new requirements of the global economy and cultural and linguistic diversity for language teaching.

In the teaching design of multiple literacy, they regard "design" as an important theoretical concept for realizing multiple literacy, and put forward the theoretical framework of existing design, design process and redesign, and also put forward the teaching of multiple literacy. Design steps, including real-world practice, explicit knowledge, critical framing, and translation practice. The publication of this paper has attracted widespread attention from scholars in the world, and it is recognized as the beginning of multi-literacy research and has a milestone significance. Among them, students' personal experience includes both known and new knowledge; conceptual theory refers to the prominent knowledge points in the textbook; analytical criticism refers to evaluating one's own or others' learning motivation, intentions, and viewpoints.

2.2 The Design of English Guidance Information System

The design resources of the English and American newspapers and periodicals elective courses are mainly language, supplemented by visual symbols and auditory resources. The most basic resource for teaching is textbooks, and the main medium is courseware PPT, which covers teaching objectives, teaching content and teaching steps. Based on the effectiveness and economy of modal selection, teachers organize the available resources as a carrier of meaning and present them in the PPT, and arrange images and language in space. Its content is mainly a meta-language system of multimodal design resources. The replacement of "grammar" by the concept of "design" in multiple literacy theory implies two important changes in pedagogy: first, from the "laws" of language to the "laws" of other symbolic systems (such as visual grammar), design The resources of meaning extend from language to multimodal symbols such as images and gestures; secondly, from grammar-centered to semantic-centered, that is, literacy training is not a repetitive exercise of grammar rules, but a clear guide on how to use real language in real language. creatively construct meaning in context.

The design process refers to the need for communicators to select appropriate symbolic resources from the available designs in communication, that is, to reuse old resources and convert them into their own words to complete the communication task. Everyone can use available design to generate meaning, translating what they read and hear into meaning based on personal interests and personal experiences. During this part of the design process, students not only transform their existing knowledge, but also improve their relationships and rediscover their own identities in collaboration with teachers and others. The teaching application of Rain Classroom needs to cooperate with face-to-face classroom teaching, that is, to carry out online and offline mixed teaching, give full play to the teaching advantages of Rain Classroom, complement the advantages of traditional classroom teaching, stimulate students' enthusiasm for independent learning, and improve classroom teaching. Teaching efficiency, cultivate students' multiple reading and writing skills.

2.3 The English Guidance Based on Multiple Reading and Writing Information Fusion Algorithm

Teaching content includes an introduction to multiple literacy, concepts of visual literacy, representation of visual images, interaction, and compositional meaning. On the one hand, the abstract concepts and difficult-to-understand English expressions in the text are matched with different visual symbols to help students understand, and then the relevant images are analyzed according to the visual grammar centered on "representation, interaction, and compositional meaning", and the author communicates. theme, exploring its sociocultural context and the artistic effect of visual symbol combinations. Teachers should follow the principle of linking theory with practice when helping students understand the meaning of various symbolic resources, and provide students with corresponding practical opportunities, such as debates, group discussions, reports, etc. Communicate more deeply to interpret various modal resources, convert these modal symbols into meanings, and propose their own interpretation methods.

3. CONCLUSIONS

To sum up, the teaching design for the cultivation of college English multi-literacy skills based on Rain Classroom should be based on the reality of college English teaching, give full play to the teaching role of Rain Classroom, improve the efficiency of language learning, and increase students' sense of new knowledge experience. Improve the efficiency and quality of college English teaching, and improve students' multiple reading and writing skills. In addition, in the process of college English teaching, it is necessary to use the rain classroom flexibly, prepare for the three stages of preview,

teaching and review, optimize the teaching design, and efficiently carry out online and offline mixed teaching.

4. REFERENCES

[1]Wang Liusha. Design of English Teaching Post Competency Assessment System Based on K-Means Clustering Algorithm [J]. Microcomputer Application, 2019, 35(7):3.

[2] Wei Yanxin. Design and Research of Intelligent Sports Evaluation System Based on Information Fusion Technology [D]. Beijing Institute of Fashion Technology, 2019.

[3] Su Genying. Teaching design of business English audio-visual course under the guidance of multiple reading and writing theory [J]. Business English Teaching and Research, 2020(00):42-48.

[4] Wu Ying, Chen Yuling, Wu Fangqin, et al. Healthy lifestyle guidance system and method based on multi-information fusion: CN110504034A[P]. 2019.

[5] Huang Junjuan. Curriculum Design of British and American Newspaper Reading Based on Multiple Literacy Theory [J]. Journal of Kaifeng Institute of Education, 2019, 39(9):2.

[6] Lu Yaowen, Yin Zhanqing, Shao Zonghan. Design of dynamic traffic information prediction system based on multi-source information fusion [J]. Automation and Instrumentation, 2019.

[7] Zhao Yongxia. Research on English Grammar Design Learning Mode Based on Rain Classroom and Multiple Literacy Theory [J]. New Generation: Theory Edition, 2019(10):2.

[8] Xing Shuning. Research on multi-source information fusion recommendation algorithm based on deep learning [D]. Shandong Normal University, 2019.

[9] Tian Ye. Design of Online English Speech Recognition System Based on NOSE Algorithm [J]. Modern Scientific Instruments, 2020(3):5.

[10] Wu Lingjuan, Zhang Delu. Research on the Design Learning Mode of General English Based on Rain Classroom*——Also on the Cultivation of Multiple Literacy Ability [J]. Modern Educational Technology, 2019.

[11] Yang Yongxu, Gao Zifan, Zhu Hui, et al. A Multi-source Conflict Evidence Information Fusion Algorithm Based on the Combination of Decision Distance Measurement and DS Evidence Theory [J]. Journal of Lanzhou University of Arts and Sciences: Natural Science Edition, 2018, 32(6) :6.

[12] An Weiyu. Research on the cultivation of college students' English multi-literacy skills——Based on the perspective of blended teaching mode [J]. Journal of Suzhou Institute of Education, 2018, 21(5):4.

[13] Xie Xiaotong. Maternal and infant information transmission method and system based on information fusion: CN110808071A[P]. 2020.

[14] Wu Kuihua, Wu Jian, Lu Zhaojun, et al. An accurate prediction method of saturated load spatial distribution based on deep learning and multi-source information fusion: CN108960488A[P]. 2018.

[15] Gong Peizhu, Liu Jin, Luan Cuiju. Text recognition method based on multimodal information fusion processing: CN111985525A[P]. 2020.

[16] Wu Ying. College English teaching design based on the cultivation of multiple literacy skills [J]. Journal of Guizhou Normal University, 2019, 35(2):7.

[17] Zhang Li, Xia Xia. Research on the teaching mode of media English reading course based on the cultivation of multiple literacy skills [J]. Journal of Changshu Institute of Technology, 2021, 35(1):6.

[18] Wang Si. Design of athlete training information fusion analysis system based on multi-sensor [J]. Computing Technology and Automation, 2020, 39(3):7.

[19] Ren Fei, Wang Shaowei. Design of athlete training information fusion analysis system based on multi-sensor [J]. Automation and Instrumentation, 2018(9):3.

[20] Liu Zhiqiang, Zhang Guanglin, Zheng Yuewen, et al. Multi-sensor fusion method based on detection unscented information fusion algorithm [J]. Automotive Engineering, 2020, 42(7):6.

[21] Liu Youfang. Research on Information Fusion Algorithm Based on Open Recognition Framework Evidence Theory [D]. Hunan University, 2018.

[22] Wen Yuhua. Design of automatic correction system for English pronunciation errors based on DTW algorithm [J]. Modern Electronic Technology, 2020, 43(10):3.

[23] Wu Ting, Zheng Jinjing. Classroom teaching design of multiple reading and writing based on English news materials [J]. Journal of Shengli College of China University of Petroleum, 2020, 34(2):5.

[24] Bai Jin Xin. Research on Recommendation Algorithm Based on Fusion of Various Auxiliary Information [D]. Inner Mongolia University, 2019.