

# Research on Adult English Teaching Platform of Modern Distance Education Technology Based on Semantic Web

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**Abstract:** As a network that judges according to semantics, semantic web relies on ontology to summarize and structure the domain situation to a great extent. The application of modern distance education technology to adult English teaching can further promote the reform and development of adult English teaching and improve the efficiency of adult English teaching. Compared with traditional teaching methods, it has its advantages, but it also has some disadvantages. Applying semantic web and ontology technology to the distance education system will make the existing distance education system semantic, and the system can have better communication with students, to a certain extent, improve students' learning efficiency and promote students' learning enthusiasm. The construction of adult English teaching mode based on modern educational technology of semantic web can change the traditional computer-aided adult English teaching mode and promote the reform of adult English teaching.

## 1. Introduction

In Teaching Activities, Knowledge Base Construction Provides a Way to Accumulate, Spread, Use and Pass on Knowledge. Social Semantic Web Has Technical Advantages in Solving the Defects of Virtual Learning Community [1]. Therefore, the Prospect of Semantic Web is Very Wide, and It is Bound to Have a Significant Impact on the Field of Education. the Proposal of Semantic Web Provides Unprecedented Support for Semantic Query, Human-Computer Interaction, Meaning Construction, Knowledge Acquisition and Sharing, Collaborative Learning, Etc. in Network Teaching. At the Same Time, It Also Provides Support for Semantic Description of User Features in User Models and Makes It Possible for User Models to Be Shared among Systems [2]. Adult English Teaching Should Be Carried out According to the Learning Needs of Different Students, Respect the Dominant Position of Adults in English Learning, and Create a Suitable English Learning Environment for Them According to the Characteristics and Needs of Adult English Learning [3]. in the Semantic Web, Ontology Can Clearly Describe the Theories, Methods and Rules of Domain Operation, So the Semantic Web Relies on Ontology to Summarize and Structure the Domain Situation to a Great Extent. This Paper Mainly Discusses the Application of Modern Educational Technology in Adult English Teaching and Proposes a New Model of Adult English Teaching.

## 2. The Model of Semantic Web

Berners-Leet Proposed the Semantic Web Architecture At the Xml2000 Conference. he Divided the Semantic Web into Seven Layers [4]. the Goal is to Establish a Connection between the Semantics Understood by Computers and Human Beings, So as to Satisfy the Effective Access and Retrieval of Heterogeneous and Distributed Information on the Internet by Intelligent Software Agents. as Shown in Figure 1 .

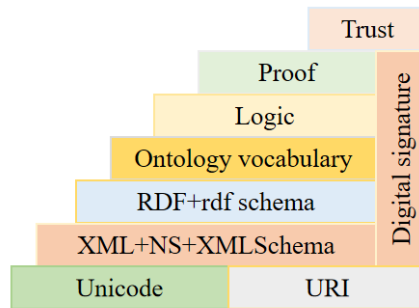


Fig.1 Semantic Web Architecture

XML enables everyone to create their own tags to label web pages or parts of their text. They arise from specific activities in the field of distance education, and can be widely used in distance education practice as well as in distance education research. The digital signature and assurance in the semantic web structure in the figure are designed to ensure the security of information exchange. It inspects a concept from many different latitudes, and it is often necessary to focus on a certain aspect in the process of use. The knowledge mirror completes this function. The knowledge mirror forms a convergent view in the concerned knowledge field while suppressing irrelevant content. It acts like a convex lens in the knowledge management field to improve the efficiency of knowledge retrieval.

### 3. Characteristics and Advantages of Distance Education Technology

#### 3.1 Characteristics of Modern Distance Education Technology in China

Modern distance education technology is based on modern communication technology. It can fully utilize satellite broadcasting technology, computer network technology and cable television network technology to meet the learning needs of students in distance education. This technology allows individuals to create and publish corresponding information. In addition to audio files, video files can also be published via podcasting. They play a supporting and deciding role in the development of various activities in the field [5]. Knowledge in the field of distance education has its unique characteristics in types, morphological characteristics and forms of existence. Students can achieve non-real-time communication with teachers through data acquisition. Secondly, with the help of the transmission function of the Internet, through the video conference system, students can realize real-time two-way audio and video real-time communication with teachers. At present, the question answering systems provided are all based on keyword search technology, which often brings a lot of useless information, and the interactivity of the existing distance education system is not ideal, which brings great inconvenience to students' learning and also virtually attacks the enthusiasm of students. However, the modern distance education technology remote station can download the data directly or through the data receiving card on the Internet, and store the data in the LAN server. Students can obtain the data through the courseware on demand system on the LAN.

#### 3.2 Advantages of Modern Distance Education

##### 3.2.1 The Forms of Education Are Flexible and Varied

Adults' motivation in learning English is diversified. Distance education can bring together students from different places and different English learning needs through the network, so that students can learn on the same platform. Institutional knowledge comes from various activities in the operation of an institution, involving the organization, management and operation of the institution, and is the basis for ensuring the normal operation of the institution. In adult English education, students can choose different levels of learning according to their own situation, for example, courses at the primary, junior and even postgraduate levels can also be learned through

distance learning, and majors can also be chosen according to students' wishes and interests. Learners can copy the audio or video files of the corresponding courses to modern mobile communication equipment, such as mobile phones or laptop computers, so as to realize anytime, anywhere, autonomous learning and break the traditional learning mode limited by time and space [6].

### **3.2.2 There Are Various Forms of Teaching Resources**

Compared with traditional classroom teaching methods, modern distance education based on the development of information technology can provide more diverse forms and richer contents for students' adult English learning. Every person or organization that has contacts with the actions or business of the organization needs the knowledge of the relevant organization, which is an important guarantee for the members of the organization to normally carry out their own work and obtain personal development opportunities. Students can immediately respond to current problems and communicate with others. Students communicate with others' agents through their own software agents [7]. English learning needs to involve many skills such as listening, speaking, reading and writing. The support of modern distance education teaching resources can provide more possibilities for English learning. The knowledge of service is generated by distance education institutions in the service for internal and external personnel and institutions. The quality of service determines the survival and development of distance education. Therefore, attention should also be paid to the management of service knowledge. Exchange learning results, put forward their own views and opinions, and jointly find and sum up the answers to problems, so as to cultivate their ability to analyze and actually solve problems in the collaborative learning mode.

### **3.2.3 Can Achieve Targeted Teaching**

With the help of network media, teachers can establish a more effective interactive communication mechanism with students and maintain close contact with students through the application of e-mail, microblog, QQ, especially WeChat and other network communication platforms developed in recent years. The cultivation and improvement of communicative competence depend on the coordination of various factors, and the adaptability to context is one of the important aspects. It includes not only the knowledge of conventional pedagogy, but also the own teaching and learning knowledge in the field of distance education, such as the knowledge about the theory, technology and methods of distance education. Help students make targeted adult English learning plans according to their English learning needs and English learning level, and reduce the interference of other factors on students' English learning [8]. Teachers can be asked anytime and anywhere, and teachers can also answer students' questions anytime and anywhere. Therefore, the teaching mode can not only enable teachers and students to have instant interaction, but also promote students' autonomous learning.

## **4. Adult English Teaching Based on Modern Distance Education Technology of Semantic Web**

According to the semantic web and Ontology mentioned above, this paper puts forward a model of distance education system (as shown in fig. 2), which is based on a certain Ontology and performs corresponding functions through several agents.

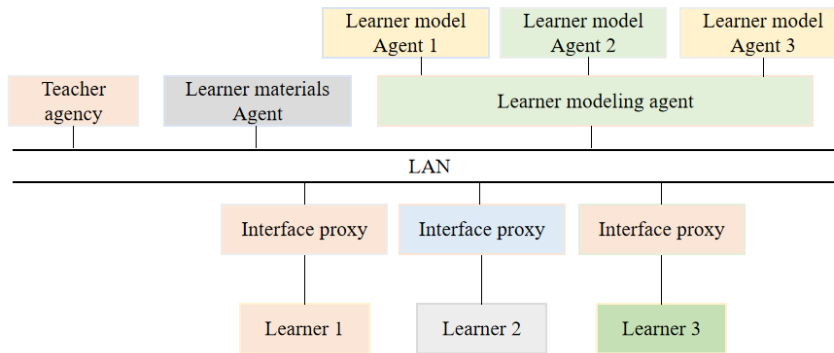


Fig.2 Semantic Distance Education System Model

This model is built on the basis of educational Ontology in a certain field. Through this educational Ontology, knowledge sharing and smooth communication can be realized in this system, and knowledge sharing and communication can also be carried out with external systems.

#### 4.1 Teachers Should Make Good Preparations Before Teaching.

Teachers should guide students to set up the concept of distance education, through lectures, success guides and other teaching channels to tell students about the characteristics and requirements of adult English learning, guide students to adapt to adult English learning as soon as possible, and enhance the enthusiasm and initiative of adult students in English learning. Through teacher-student cooperation, student-student cooperation, man-machine cooperation and other forms of collaborative inquiry learning. Teachers should pay attention to the understanding of the overall content of the article. Every paragraph or even every sentence in an article has a certain connection with the central idea of the article. Any partial correct understanding cannot be separated from the overall understanding of the article. Students are also required to make their own learning plans according to their own conditions and adult English teaching plans. Different people have different understandings of the same explicit knowledge and have their own experiences and methods for the same work, which forms their own tacit knowledge. The semantic web will be as flexible as possible, thus forming an effective collaborative content management mode. Under such circumstances, the learning content is more authoritative.

#### 4.2 Pay Attention to the Study of Adult English Groups

Group learning is an important supplement to adult English classroom teaching. In order to improve the effect of adult English learning, teachers can arrange the time and form of group learning for students before adult English teaching. Teachers can provide relevant network link information resources for a specific teaching content to guide students to carry out inquiry learning, and students can discuss a specific learning problem through the network. Pay attention to the polysemy of words. Let students understand the universality of polysemy in English and the restrictive effect of context on semantics, and be good at determining the meaning of words in relation to context. Teaching students certain rhetoric knowledge, so that students understand that words have both literal meaning and rhetoric meaning. Its identity, background, etc. form the conditions for defining the required knowledge, helping it to lock the required target knowledge in the knowledge base on the knowledge that meets the limited conditions. Teachers can use the most mainstream QQ and WeChat network communication platforms to group students. After the teacher assigned a learning task, each group used QQ and WeChat video functions to conduct face-to-face communication and learning, and to answer students' doubts in real time. Domain knowledge ontology needs to describe the applicable population, applicable activities and use targets of domain knowledge, so as to facilitate systematic identification, selection and transmission of knowledge, and promote the improvement of knowledge application and management efficiency.

### 4.3 Make Full Use of the Network for Remote Teaching

Due to work and life reasons, adult students are often unable to take part in face-to-face teaching and learning. They can use PC or tablet computers to conduct remote centralized teaching, which is also a more convenient and effective teaching method. Encourage students to carry out a large number of reading practices, expand reading volume, and increase their understanding of the national background knowledge of the language they are learning. If one of the domain knowledge clearly explains the purpose, applicable population and purpose of use, it can be expected that the tutor will soon acquire the required domain knowledge. In the process of teaching, teachers should guide students to solve various difficult problems in English learning. At the same time, teachers should classify and summarize the collected problems concerning adult English teaching.

The education system model shown in fig. 3 is based on a specific Ontology library, so it is necessary to first build an Ontology library in a certain field [9]. When building this Ontology library, we first extract the related concepts in a certain field, and then use RDF to model the marked content to make it semantic and easy for the machine to understand.

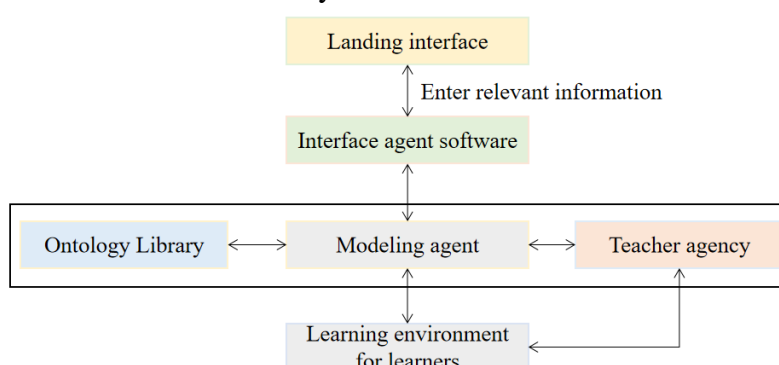


Fig.3 A Stand-Alone System Model of Distance Education System Based on Semantic Web

Users can decide the content according to their needs and reach their own goals. In Semantic Web, users often search for learning materials through personal agents according to their own needs. This function is realized through Ontology. In the operation of distance education institutions, there are many practical work around teaching. The development of these activities requires strong practical skills. For example, the same word with different intonation will form different sentence patterns and express different meanings. Different positions of pauses in the same sentence will also affect the transmission of meaning. Modern distance education technology based on semantic web has created a communication platform that can span time and space and rich modern network education resources for modern education.

### 4.4 Strengthen the Monitoring of Adult English Teaching

Teachers need to carefully read adult students' English learning reports and other relevant information, and fully grasp the actual learning situation of students by understanding these information. These formal basic characteristics are the attribute descriptions of the required knowledge that users must provide when using knowledge, just like the role of the most basic characteristics of human gender, name and height in social life. The distance education system based on semantic web provides students with greater flexibility and stronger interactivity. It increases the degree of individualization in distance education and meets the requirements of students themselves. And through practical language communication, students can use their English language to improve the practicability of English learning. In adult English teaching, teachers can organize and guide students to watch English movies online and carry out English corner activities. The context formed by the factors such as society, culture, style of writing and the individual characteristics of the communicators, which have an auxiliary form and influence on communication activities. They are the background factors of communication activities. The sub-categories and attributes directly equivalent to the knowledge ontology and the document ontology have the same annotation, thus enabling the knowledge ontology to complete partial annotation of

raw materials. There will be an automatic answering system and an automatic tutoring system that understand semantics, as well as customized learning courses and learning schedules for students, which will bring intelligent and convenient learning environment to students.

## 5. Conclusion

Adult English education is an important part of English education and teaching in our country. Through adult English teaching, we can further promote our country's foreign exchange and improve the basic quality of our citizens. Based on the characteristics of semantic web and Ontology technology, after analyzing the problems existing in modern distance education, this paper applies semantic web technology to distance education system, and constructs a semantic-level distance education system based on Ontology in the field of education, so as to better understand the needs of learners. It can help to realize the change from a teacher-centered teaching idea that only teaches language knowledge and skills to a student-centered teaching idea that not only teaches language knowledge and skills but also pays more attention to the cultivation of language practical application ability and autonomous learning ability. The application of Semantic Web and Ontology to distance education system will really promote the development of distance education and make distance education show vitality. Applying the latest scientific and technological achievements to provide more support for the development of adult English education and teaching, thus training more high-quality talents for the development of socialist economic construction.

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