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# Application of Computer Science and Technology in Teaching

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**Abstract:** Computer science and technology have been widely used in teaching. We can design exquisite PPT courseware, make full use of audio, video, text, pictures and other rich online teaching resources, carry out accurate quantitative teaching research, and carry out scientific teaching evaluation.

**Keywords:** Computer; Courseware; Resources; Quantitative; Evaluation

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## 1. Introduction

In 1946, the United States successfully developed the world's first computer. Since the advent of computers, development has been very rapid. Nowadays, computer science and technology are widely used in all walks of life and people's lives. Computer also plays an increasingly important role in teaching. Computer aided teaching has been deeply studied. Computer-assisted instruction is a teaching mode that uses computer as a new teaching media, and applies computer technology to classroom teaching, experimental teaching, student individualized teaching and teaching management to improve teaching quality and teaching efficiency<sup>[1]</sup>. Chinese language and literature course is an important course to improve students' literary quality and comprehensive quality. Not only Chinese majors need to learn, but also other majors need to learn. Chinese language and literature course teaching naturally need to introduce computer aided teaching. The teachers of Chinese language and literature course should not only have solid Chinese professional knowledge, but also adapt to the requirements of the development of the times, and use computers well in teaching to achieve better teaching results.

## 2. Design Exquisite PPT Courseware

The full name of PPT is PowerPoint, which means to express your views strongly. PPT courseware making has become the basic skill of teachers and plays a very important role in teaching. Good PPT makes the classroom ef-

fect more wonderful, students remember deeply, easier to learn, knowledge faster and firmer. Some teachers can not do without PPT in class, leaving PPT will not be in class, showing how important the role of PPT.

Pay attention to the overall layout and planning of courseware. PPT courseware is mainly composed of cover, catalogue page, text page, back cover, etc., including text, picture, color, audio, video and other elements. These elements are scientifically and rationally matched to design a beautiful PPT courseware. Cover design to highlight the main title, weaken the subtitle and the author, beautiful picture generous, give people a deep memory, a good first impression, so that students have a strong desire to listen to good lessons. The back cover design should echo the cover design, and the style should be consistent to express gratitude. The title column should be simple, eye-catching and impressive. The font, position and style of the same level title should be consistent. The titles of different levels should have regularity and reflect hierarchy. The overall layout of the text page should be reasonable, beautiful, vivid and intuitive to present the classroom content, with visual impact, improve students' interest in listening to the class, not make them tired, attract their attention, make them focus on listening to the class, and enhance the classroom effect.

Scientific and reasonable selection of colors. Different colors create different classroom atmosphere. According to the different teaching content, choose different colors of the page. Choose warm colors, give a warm, pleasant,

relaxed feeling, so that teachers and students more harmonious feelings, better interaction. Choose cool colors, so that people psychologically calm, refreshing, distant, open feeling, can make students calm and sober learning, deep thinking. The choice of neutral tone, no praise, no personal color and emotion, can be more objective and true to teach and learn knowledge.

Page should be simple and beautiful. It is necessary to select fonts and font sizes scientifically and reasonably. The font size, word spacing and line spacing should be appropriate, not too large or too small, and should be uniform. The font color should be matched reasonably, the page margin should be set appropriately, and the characters and figures should be matched reasonably. Use more pictures, less words, no redundant words and pictures, and reduce cognitive interference factors. Think about the keywords, words, and sentences. Highlight the point. Each slide highlights a theme.

Master the production skills. All walks of life have their own skills. PPT production also has skills, and we must continue to learn, and gradually master the production skills, making courseware easier, faster, easy to use. PPT production techniques commonly used to set the default text box, delete the picture background, a key to replace the full text font, screen editing tools, the use of the presenter view. When making PPT courseware, the font of each slide does not need to be adjusted one by one, and there is a convenient way of operation. On the font of the set format, select the text box, and right-click to select 'Set as default style box'. When used again, the mouse double-clicks the blank position of the page, and the default text box will appear<sup>[2]</sup>.

### 3. Make Good Use of Audio and Video Resources

At present, with the development of multimedia technology, audio and video production and dissemination have become more and more convenient, which provides favorable conditions for the use of audio and video in teaching. Audio and video have also been widely used in teaching, and also play a very important role. Compared with the boring explanation of teachers, the classroom effect will be much better.

Teachers should master certain audio, video production technology. Audio, video production tools increasingly popular, everywhere, mobile phones, cameras, cameras, cameras can be used as production tools. You can also carefully collect some audio and video resources through the network, carefully selected, their own voice, the use of sound and video, Premiere, Vegas, editors and other

software for editing. Because of the various teaching environments, some multimedia devices in the classroom do not support the playback format. It is best to use MP3 and MP4 formats in a unified manner. General devices will support MP3 and MP4 formats. Record audio, video, should ensure that the environment is quiet, no noise around, good lighting conditions, good quality microphone, recorded a clear picture without noise audio, video. If conditions are limited, noise during recording can be reduced using the audio processing software Audition. To achieve better results, short video production can be added such as subtitles, background music and other auxiliary content<sup>[3]</sup>.

Select audio and video resources carefully. At present, the Internet audio and video resources are very rich, the quality is uneven, teachers need to carefully select, carefully selected. In teaching practice, the survey, some teachers on audio, video teaching resources did not check, resulting in some from the teaching sense of 'unqualified' audio, video resources into the classroom, affecting the quality of teaching and effectiveness. Some audio and video may mislead students in their thoughts and even make them go to extremes<sup>[4]</sup>. Teachers should have a strong sense of responsibility, in line with the principle of serving the teaching objectives, to enter the classroom audio and video resources. Audio, video material selection teaching content generally prominent theme, pointing to a clear, easy to understand. Each audio and video explain a key and difficult point, show an important teaching link, help teachers achieve breakthroughs in teaching key and difficult points in the classroom, and can solve the problems encountered by students in learning in the shortest time.

Scientific use of audio and video resources. Appropriate use of audio and video resources can enhance the attractiveness of teaching, appeal, and enhance the effectiveness of traditional classroom teaching. As an auxiliary teaching method, it cannot be overused. If overused, more than half of the time in playing audio, video, easy to make students pay too much attention to the audio, video itself, can not capture the key content of teaching, can not think deeply about knowledge, weakening the leading role of teachers and the main role of students, teachers' theory teaching is not sufficient, students' thinking is not deep, reduce the teaching effectiveness. Teachers should have their own analysis and thinking of the problem. Audio and video should serve the teaching content to make the teaching content easier to understand. Playing audio and video should not only broadcast but not comment.

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Teachers should comment on audio and video, strengthen teacher-student interaction, and not make students passively accept audio and video playback. Teachers should be careful to use the way of playing, suspending and commenting to interact. After the suspension, teachers ask questions and comment more than twice, and some students will feel impatient and resist.

#### **4. Make Good Use of Rich Online Resources**

The human brain, knowledge capacity is limited, some knowledge is easy to forget. Nowadays, the information on the Internet is as vast as stars, only to think about, not to find, online information is too rich. The development of computers has solved some problems in traditional teaching methods, such as teaching is no longer limited to books, no longer overly dependent on teachers, and the overall teaching quality has been improved. The computer network system has rich teaching resources, different administrative organs, institutions, schools, enterprises and other units have their own special resource library, and these resources can be shared online.

Make full use of online resources. Students can use the Internet to complete extracurricular learning and increase their knowledge reserves. The current classroom, no longer limited to class time, has already extended to extracurricular activities, using spare time to supplement knowledge. The way students learn now is also very different from the past. In the past, they could only learn through newspapers, magazines, and books. However, due to the spatial limitations of these objects, students cannot access information anytime and anywhere. At present, most of the institutions of higher learning lack of library collection, subject information is relatively lacking. Library opening time is limited, and it is difficult to meet the reading needs of students. The development of computer and network technology makes up for this defect. Students can access information anytime and anywhere through the network, not limited by time and place, which will greatly improve students' reading volume and improve students' literacy in all aspects. Benefit not only students, teachers can also continue to broaden their knowledge through the network, in-depth study of knowledge points, improve the quality of teaching itself, improve the level of teaching. According to the teaching needs, teachers can arrange students to consult online materials and preview the courses. For example, Chinese courses allow students to collect relevant materials on the Internet, such as authors, works, ideological content, artistic achievements and so on. In the next class, students

will be easier to understand the content of the lectures, and learning will become easier. After class by reviewing online information to consolidate, learning will be more solid<sup>[5]</sup>.

Mastering online information retrieval technology. Teachers should learn online search technology, skilled use of online search tools. There are many different large search engines on the Internet. In order to improve the retrieval efficiency of online database, each database provides a variety of retrieval functions. Some databases also provide a hierarchical refinement of subject term retrieval, provide pre-screened feedback information, filter search terms, re-search function. We want to choose data quality, convenient retrieval, reasonable price retrieval system. To be familiar with, master the knowledge and skills of online information retrieval, learn to use different types of knowledge information database. Understand the publishing methods of various databases and the various search methods and functions provided. Master the knowledge of retrieval strategies and some tips<sup>[6]</sup>. To improve online information retrieval skills, better use of online information.

#### **5. Precise Quantitative Research**

Qualitative research and quantitative research are two methods of research. Quantitative research can be simply understood as a research method to explore the changing rules and characteristics of things through quantitative means, classify the research objects, and conduct statistical analysis. Quantitative research is characterized by a strong scientific and logical, the resulting conclusions are usually very accurate<sup>[7]</sup>.

Quantitative research needs to process a large amount of data, which requires a large number of personnel to process data. Manual processing of data is prone to errors, which will affect the effect of measurement work. If there are errors, it is necessary to start from scratch, and the work efficiency is very low. The traditional measurement work mode can no longer adapt to the current social development.

Computer science and technology since its inception, the rapid development of rapid upgrading of very fast. Computer inherently has the advantage of data processing: data processing speed is very fast, and data processing accuracy is very high. At present, computer science and technology have been applied to various fields of economic and social development. In scientific research, there are a lot of data and management work. Data technology and software programming technology

in computer technology can process a large amount of data and realize the automation of measurement management. Database technology and automatic data processing technology in computer technology solve the problem that traditional measurement methods can not meet the requirements of modern measurement. There are also many quantitative research works in teaching.

In linguistics teaching, I did a statistical survey. ‘During the activity, participants reached an average of 8000 steps per day as the standard, and those who reached the standard can get a beautiful souvenir. Every day to 30,000 steps, 20,000 steps, 10,000 steps can be won first, second, third prize.’ After a survey of 88 people, different people have different understandings of this sentence. 68.2% think it is ambiguous and 31.8% think it is not ; 43.2% of people think that the ‘First, second and third prizes are also average, reaching an average of 3, 2, 10 thousand steps per day’, and 56.8% of people think that the ‘First, second and third prizes are not average, every day to reach 3, 2, 10 thousand steps’. Whether those who believe that there is ambiguity or those who believe that there is no ambiguity, they have different understandings of the award conditions. Among those who think that there is ambiguity, 41.7% of them think that ‘the first, second and third prizes are also average, reaching an average of 3,2 and 10,000 steps per day’, and 58.3% think that ‘First, second and third prizes are not average, every day to reach 3, 2, 10 thousand steps’. Among the people who think that there is no ambiguity, 46.4% think that the ‘one, two, three prizes are also average, reaching an average of 30,000 steps per day’, 53.6% think that the ‘First, second and third prizes are not average, every day to reach 3, 2, 10 thousand steps’. On the whole, this sentence must have problems, ambiguity, and expression is not rigorous.

## 6. Scientific Teaching Evaluation

Teaching evaluation is an important part of teaching process. Computer science and technology can be widely used in teaching evaluation. The educational administration department can issue online questionnaires for teachers and students to fill out, automatic statistical analysis of data, save paper, improve work efficiency. A teacher-student interaction platform can be established to evaluate the teaching situation at any time during the class, strengthen the interaction between teachers and students, and adjust the teaching progress and teaching methods at any time according to the students’ opinions.

A large number of digital, text, pictures, audio, video and other data will be produced in the process of education and teaching, such as students’ basic information, students’ academic test scores, activity track, learning behavior and teachers’ basic information, teaching design, curriculum plan and so on. The collection of these data can be called educational big data. Educational big data is massive and diverse, with profound educational and teaching analysis value. These data cannot be processed manually. Computer science and technology and big data technology will be able to scientifically analyze and process these data, evaluate teaching activities, provide guidance for teaching activities, provide scientific basis for educational decision-making, and promote educational reform and teaching quality improvement.

In short, with the development of computer science and technology, scientific computing ability is higher and higher, the operation speed is faster and faster, the function is more and more powerful, more and more widely used in social production and life, in education and teaching will also play a more and more important role, we must adapt to the requirements of the new situation, take

**Table 1.** Sentence ambiguity survey statistics table

option	Proportion of personnel	option	Proportion of personnel
A.Ambiguous	68.2%	First, second and third prizes are also average, reaching an average of 3, 2, 10 thousand steps per day	41.7%
		First, second and third prizes are not average, every day to reach 3, 2, 10 thousand steps	58.3%
B.No ambiguity	31.8%	First, second and third prizes are also average, reaching an average of 3, 2, 10 thousand steps per day	46.4%
		First, second and third prizes are not average, every day to reach 3, 2, 10 thousand steps	53.6%

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the initiative to learn, master the new computer science and technology, improve the quality of education and teaching to a new level.

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