Effect of Vocational College Students Interested in Reading Professional Books in CAI Network

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Abstract.
In current higher vocational college, the computer aided teaching is widely used, but the students have low interest in reading the professional book. Aimed to this problem, the computer aided teaching platform is extended to the network, through the forum, micro-blog and e-mail and other means, the students can acquire teaching resources whenever and wherever possible. The three dimensional interactive teaching model is formed to promote the students’ interesting in professional knowledge learning. Through the analysis of the survey of 146 college students, following conclusions can be obtained: the computer aided teaching network platform can improve the interest of students in reading professional books, the interesting teaching courseware with rich content can improve subjective learning interest of students, it has good application value in teaching practice. The students accept expansion network teaching platform have higher interesting in reading professional books than the students accept reading paper books.

Introduction
In recent years, with the rapid development of computer and network technology, computer aided teaching mode is widely applied in higher vocational colleges. Combining the multimedia teaching mode with sound photoelectric and image processing technology, the sensory acceptence ability of students is stimulated, and the learning interest of the students is improved. The teaching efficiency is improved greatly in the past ten years. But at the same time, with the rapid development of science and technology, the higher vocational education is facing more opportunities and challenges, more and more students are using intelligent mobile phone and other high-tech products for reading books, the reading habits of students is changing[1], it puts forward higher requirements for the higher vocational education. The higher vocational education needs to provide a broad learning platform for students with richer connot ation knowledge and more vivid and colorful teaching methods. The teaching quality and efficiency can be improved. More space and time are saved for developing the independent operations and activities for students. In order to cultivate high-quality talents with modern consciousness, in this paper the computer aided teaching platform is extended to the network, through the forum, micro-blog and e-mail and other means, the students can acquire teaching resources whenever and wherever in possible[2]. The three dimensional interactive teaching model is formed to promote the students’ interesting in professional knowledge learning. Research results show that this mode has good application value in practice.
Computer aided teaching and network

Computer assisted instruction (CAI) is developed in this modern society, its development has made the teaching form and mode changed greatly, in order to improve the teaching quality and efficiency, CAI is integrated into the practice of teaching in all subjects through various forms of image and sound, CAI uses the open style teaching form, the dynamic electronic courseware, multimedia tutorials and man-machine interactive exercises and other means are used in the CAI system, students are defined as the teaching main body status in CAI, the enthusiasm of the students are mobilized and stimulated. The teaching quality is greatly improved. CAI overcome the problems of traditional such as teaching method is single, teaching content is too stiff, etc. So that students can overcome the limitation of space and time, their imagination and creativity are developed fully[3].

Computer aided teaching not only can reduce the unnecessary time, teacher imparting process cost is reduced, and improve teaching efficiency, but also has it has the characteristics of vivid expressing forming. The teaching content of computer aided teaching process is more simple and concrete, it can improve the efficiency of the students accept the teaching content, furthermore, the computer aided teaching also pay attention to combine chart and color, sound and images, dynamic and static. The form is novel with diversity. The current higher vocational teaching usually make the teaching content into an electronic courseware, courseware content is developed from easy to difficult step by step. Electronic courseware also can enlarge the text, change the color, the important contents are focused on and emphasized. It can deepen students' memories and impression. Electronic courseware can contain a large number of teaching contents, so it is able to span the boundaries of time and space, and the horizontal comparison is analyzed to strengthen communication and contacts between knowledge of different subjects[5].

The computer aided teaching can fully demonstrate its strong creativity and superiority, with the advent of micro-blog, blog and other communication platform, the computer aided teaching is faced with the problem of upgrading technology, platform extension etc.. In recent years, the number of vocational college students increased rapidly, the growing learning space requirements of students has contradictions to the existing education resources, our schools need to build more broad learning platform for students, and make more interesting courseware to meet the needs of students in Higher Vocational colleges.

According to the computer aided teaching based on network teaching platform, the computer assisted instruction is extended to the high-speed network, including network multimedia courseware system, multimedia classroom system network and the network distance education system. Existing multimedia classroom and teaching resources are limited in current vocational colleges, the network assisted teaching system platform should be constructed, it can enable students to acquire resources for learning professional whenever and wherever in possible throughout the network, also it can provide students with more flexible learning mode. The CAI teaching based on network teaching platform can enable students to use network access to the latest knowledge, and the students can use the computer, intelligent mobile phone and other equipment to download the latest software and professional knowledge in multimedia courseware system. The students can avoid in searching for a needle in a haystack like for collecting available data. So the new mode saves a large amount of data collection time for students. CAI teaching system based on network teaching platform not only can provide more res
sources for students, but also allows teachers to publish short learning resources by micro-blo
g and forums. Through the email system of class, interaction with students is obtained. Stud
eats use the email and forum and teachers to communicate and solve the problems in study.
All kinds of resources of network provided by the teaching platform can create a similar re
al environment, promoting active exploration in the knowledge of students. The active learnin
g and constructivism are completed.

**Model research of Network CAI aided reading teaching**

In this research, 150 questionnaire copies are developed. 2011 grade students are taken as the
study objects, the multimedia classrooms are constructed, the effective questionnaire are 146 copies. Correlation analysis is applied in analysis of influence of auxiliary teaching of computer network to
improve the professional books reading interest.

A. **Research assumption**

The rapid development of today's network, it provides a good platform for the dissemination of
knowledge. But the excess data and scattered storage space increase the time and the difficulty for
acquisition of appropriate data. Network computer-assisted teaching system can make the students
more convenient access to learning resources, and it enables students to save the collection and
screening time of the books, the interests are increased, so as to enable students to have more time
for reading and studying. More books and information can be obtained in the information network
platform, and the attraction for students is more. The students have higher interest in reading
professional books. We propose assumption 1.

Assumption 1: On the network platform, the number of books and resources students can be
obtained has positive correlation with the enhance interest of students reading professional books.

More and more researches think that computer aided teaching can improve the students' interest in
learning professional books, network teaching platform provides professional books covers more
knowledge, it can provide more help for students interested in ascension, the profound and more
practical theories in simple language can stimulate students' interest in reading. The assumption 2 it
proposed.

Assumption 2: The quality of professional books and students' interest in reading on the teaching
network platform has positive correlation.

The computer aided teaching based on network teaching platform in Higher Vocational Colleges
needs to build multiple system platforms on the campus network, such as multimedia courseware
system, multimedia classroom system, network distance learning system, etc. Network teaching
platform access speed is faster, it more can stimulate the students' desire of browsing, content
classification is more detailed, and it is more can cultivate students' reading habits. Thus, assumption
3 is proposed.

Assumption 3: Design level of network teaching platform and interest enhancement of students'
reading professional books has positive correlation.

B. **Set of variables**

a. **Students interest variables of reading professional books**
In this survey, the surveyed students' interest in the specified range of professional books, including professional foundation course books, professional skills and professional original books. The students' subjective professional books reading interest (SIT) is taken as the dependent variable, the authenticity of results is enhanced and ensured.

b. Parameters of network computer aided teaching platform

The parameters variables of network computer aided teaching platform are defined as the network source number, the speed of network access, network platform data classification and reading difficulty. The data availability are taken as regression variables.

c. Control variables

In this paper, the students characteristic variables are selected as the control variables, where S1 denotes the students' gender, S2 is shown as students grade.

B. Construction of research model

In this paper, EViews7.0 software is used for analyzing the relationship between networked computer aided teaching and improvement of students' interest in reading professional books. In this paper, multivariate linear models are taken for the quantitative analysis of the relationship, and the hypothesis testing are taken for the mathematical processing, the model is shown as:

\[ SIT_i = \alpha_i + \beta_i \text{CAIS}_i + \gamma_1 S_1 + \gamma_2 S_2 + \epsilon_i \]

In this formula, \( \alpha_i \) is the constant item, \( \beta_i \) and \( \gamma_i \) are regression parameters, \( \epsilon_i \) is the random disturbance term.

Networked CAI teaching effect on the students' interest in reading

A. Analysis of descriptive statistics

The parameters setting results are expressed in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIT</td>
<td>1.19</td>
<td>4.06</td>
<td>2.000</td>
<td>10.45727</td>
</tr>
<tr>
<td>CAIS_1</td>
<td>1.05</td>
<td>5.6424</td>
<td>3.107324</td>
<td>15.03382</td>
</tr>
<tr>
<td>CAIS_2</td>
<td>1.05</td>
<td>5.6424</td>
<td>3.107324</td>
<td>15.03382</td>
</tr>
<tr>
<td>CAIS_3</td>
<td>1.05</td>
<td>5.6424</td>
<td>3.107324</td>
<td>15.03382</td>
</tr>
<tr>
<td>S_1</td>
<td>0.0834</td>
<td>0.8216</td>
<td>0.349823</td>
<td>13.99959</td>
</tr>
<tr>
<td>S_2</td>
<td>0.50</td>
<td>2.00</td>
<td>1.500000</td>
<td>14.53247</td>
</tr>
</tbody>
</table>

146 questionnaires data are taken with descriptive statistical analysis, and the results are shown in Table 1. The sample descriptive statistics results are obtained. We can get the conclusions as
following: first, the enhancement fluctuation of the ability of students in the school is big, and the
gap between students reading ability is obvious. Second, the learning time of students use the
multimedia classroom is more than the single machine learning, network teaching platform is
facilitate to the students' spare time training reading ability. Third, although students come from the
same school, but obviously numbers of girls are more than boys. And girls learning time averaged is
more than boys, the test of students are more than boys. On the other side, girls average effort than
boys. Fourth, students are come from four different classes, the teachers from lecturer to Professor in
difference. The teacher's office level has an effect on the ability of students.

C. Networked computer aided teaching and correlation test of students' interest in reading

In this paper, the multiple linear regression method is used to test the relationship between the
model and the interest enhancement. According to the analysis as above, the results of multiple linear
regression estimation are expressed in Table 2.

Table 2 Results of multiple linear regression estimation

<table>
<thead>
<tr>
<th>Dependent Variable: SIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method: Multivariable Linear Regression Model</td>
</tr>
<tr>
<td>Date: 10/02/12   Time: 21:27</td>
</tr>
<tr>
<td>Sample: 1 146</td>
</tr>
<tr>
<td>Included observations: 146</td>
</tr>
<tr>
<td>Convergence achieved after 4 iterations</td>
</tr>
<tr>
<td>Covariance matrix computed using second derivatives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>12.624711</td>
<td>20.873959</td>
<td>1.838700</td>
<td>0.000000</td>
</tr>
<tr>
<td>CAIS₁</td>
<td>4.743978</td>
<td>2.368520</td>
<td>2.002929</td>
<td>0.045185</td>
</tr>
<tr>
<td>CAIS₂</td>
<td>2.661123</td>
<td>2.567735</td>
<td>1.036370</td>
<td>0.050030</td>
</tr>
<tr>
<td>CAIS₃</td>
<td>3.641078</td>
<td>2.520488</td>
<td>1.444593</td>
<td>0.048572</td>
</tr>
<tr>
<td>S₁</td>
<td>2.478035</td>
<td>2.585062</td>
<td>0.958598</td>
<td>0.067761</td>
</tr>
<tr>
<td>S₂</td>
<td>3.691586</td>
<td>0.566861</td>
<td>6.512329</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Mean dependent var 33.045977 S.D.depending var 26.151130
S.E. of regression 11.640598 Akaike info criterion 7.968462
Sum squared resid 27.260938 Schwarz criterion 8.365275
Log likelihood 22.628103 Hannan Quinn criter. 8.128246
Avg. log likelihood -3.823312

By analyzing the table 2, we can get a preliminary conclusion: The number of computer assisted
available instruction on platform is more, students has higher interest in reading professional books,
and there is statistically significant positive correlation between the two items. So we get that the
assumption 1 is real. The reason is that the computer aided reading teaching based on network
platform can temporarily alleviate the students for the professional books demand. Because the
school resource constraints, the students cannot get enough professional books, students can get the
books part of the chapter through the Internet platform, it enables students to read these books in
their spare time. Through the interaction between teachers and students with micro-blog and e-mail, the limit of time and space are broken through, so that the students' reading interest is significantly improved.

Through multiple linear regression estimation, the results show that the CAIS2 coefficient is 2.66, the network teaching platform provides enough books, and it can stimulate students’ interest in reading. This mode can enable students to spend more time and energy to read professional books. So the assumption 2 is ensured, at the same time, students have more convenient access to books, it provides more help for students and teachers. The micro-blog and emails of teachers can form the interactive network between students and teachers. The teachers can break through the limit of time and space to guide the students, so the quantity and quality of the students' reading professional books are greatly improved.

Conclusions

The computer has been applied in various fields, and the computer aided teaching has become an indispensable auxiliary teaching mode of education in the new century, it becomes the needs of social education development. Application and development of computer assisted instruction injects new vitality to the development of Higher Vocational Education in 21C. When higher vocational colleges use computer assisted teaching, we should think about the improvement of the computer aided teaching deeply, the computer assisted instruction platform based on network should catch up with the pace of the information age, and various colleges spend large amounts of time and money making electronic courseware. The education itself should be studied to meet the requirements of the information era. It can break through the limits of time and space for students, and it can provide a broader and more convenient learning platform. Research results show that the computer aided teaching network platform can improve the interest of students in reading professional books, the interesting teaching courseware with rich content can improve subjective learning interest of students, it has good application value in teaching practice.

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References