# Research on new English teaching mode based on informatization

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**ABSTRACT**

*The aim of this study is to make a probably clear analysis of the new English teaching mode based on Informatization at college nowadays. With the development of modern science and technology, especially the computer and internet technology, Informatization has a greater and greater impact on the daily life in recent decades, and in education the whole atmosphere is influenced a lot more than in other areas. English teaching and learning mode faces profound challenge and is definitely going to change under such environment. To catch up with the trend of the times and make itself more efficient, the college English teaching and learning mode needs to transform its style to adapt itself to the rapidly-changing society. This paper uses relevant data analysis from several investigations and build a comparison analyzing model to make clear what the new teaching and learning mode will be with Informatization and how the Informatization affect the college English teaching, involving the teachers' performance and the students' reaction presented in the investigation results.*

**Keywords**: Informatization, English teaching, cyber source, comparison analysis
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## INTRODUCTION

As known all over the world, 21st century is full of information revolution and technology innovation. Thus, under the condition that development of Informatization and globalization is altering from day to day at a higher and higher speed, education Informatization is imperative and urgent [1]. Such viewpoint includes three key factors as follow: firstly, education Informatization means the application and popularization of information and information technology in education, both teaching and learning; secondly, information and information technology will change the role of teachers and colleges in teaching and learning process, that is, the profound change is going to happen on both education mode and administrative management application; thirdly, the teaching activity is specific educational activities with certain space-time limit, some form of organization and participation of teachers, teaching is the most important one kind of education form is the most common, which means teaching time limit in time arrangement, space limitations embodied form of organization in the classroom teaching, as the primary school, middle school, university, vocational school or short-term training in a variety of forms [2]. Education information should be emphasized in the whole field of education and the department of education and promotion of information and information technology at the same time, attention should be focused on teaching, including the application and popularization of teaching process, teaching resources, and teaching evaluation and so on [3]. Without these points, education Informatization will have its order reversed and lose the right direction, with a bad consequence that neither the students' learning nor the teachers' teaching can achieve remarkable results. The basic connotation of only a profound understanding of education Informatization and the above three points, to firmly grasp the content and key direction of education Informatization.

The objective of the study is to clear out the progress Informatization contributes to the teaching effect of college English education by comparison analysis of related investigation, emphasizing the importance of modern computer technology when it is applied to education field, as well as setting the new teaching and learning mode.

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**2. The related work**
The education modes, both the teaching way and the learning way, are gradually developing into more and more diversification in the present environment which is filled with modern technology, so the reform of the teaching methods is getting urgent day by day under the background of global science and technology progressing [4]. With the more and more obvious fact that the country has been paying attention to the promotion of education and information policy, information literacy of teachers continue to improve the application of educational technology and teaching English to fusion presents inevitable requirement. Therefore, education Informatization has been a common concept in today's education field [5].

The popularization of computer and related technology makes it possible to promote the Informatization in education at school and college, where there are teenagers who are very quick to learn new things. With the steady progress of education Informatization construction of China, the integration of information technology and university English teaching has attracted more and more attention [6]. The foreign language world, especially many scholars university English teaching area of a large number of demonstration for the feasibility and necessity of integrating information technology into teaching, will establish a new model of language teaching and learning mode. The University English Curriculum Requirements 2004 which is put forward by the national Ministry of Education has promulgated the following practice: colleges and universities should make full use of multimedia and network technology to improve the original and single mode with teacher-centered teaching by using new teaching methods. All above shows that information technology and Informatization in education has been or will bring about profound change in university English teaching field [7].

The basic structure of a network working in the Informatization of college education is shown in the figure below. The cyber resources go from the outer network of campus to the network within campus through the internet, filtered by the firewall and get into the web server of the campus, with the user ID and database server, the students and the teachers can obtain the resources according to their own need when their computers are linked to the campus network.
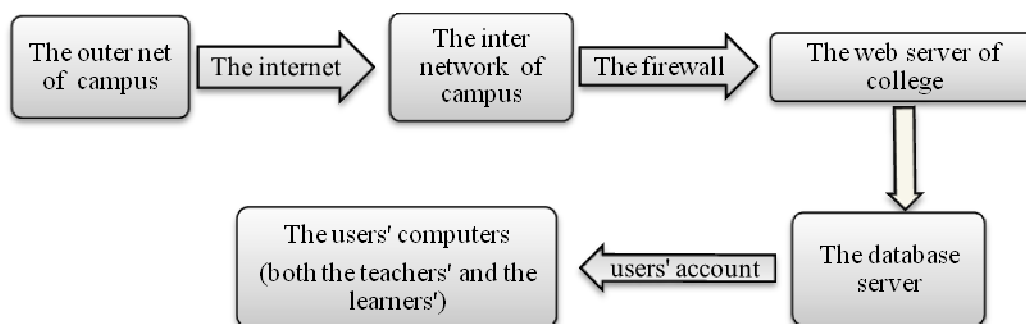


**Figure 1. Network structure in college education Informatization**

**Table 1. Projects and areas using information technology in education**

| Projects | Areas<br>(the ones with obvious issued notice) | Starting time<br>(approximately) |
|---|---|---|
| English education in colleges | Beijing, Shanghai, Fujian, Guangdong, Zhejiang, Jiangsu, Shandong | 2002 |
| English education in junior high schools | Beijing, Shanghai, Fujian, Guangdong, Zhejiang, Jiangsu | earlier than 1998 |
| English education in junior middle schools | Beijing, Shanghai, Zhejiang, Jiangsu | 1999 |
| English education in primary schools | Beijing, Shanghai, Fujian, Guangdong, Zhejiang, Jiangsu, Shandong | 2001 |
| English education in kindergartens | Shanghai, Beijing, Zhejiang, Jiangsu, Fujian, Guangdong, Shandong | 2002 |
| English education from kindergartens to colleges | most provinces of China except some of the western and northern ones | 2003-2004 |

From the table above, we can see that most of the east China started the Informatization in education earlier than 2003, when the most parts of the country take related actions, which makes sense that the advancement in education comes up with the pace of economy development. The two make a beneficial cycle in the whole procedure of the society development [8]. As to the one take Informatization into English education, the junior high school may be considered as the first one, possibly with the reason that the junior high schools in China shoulder maximum pressure to confront with the college entrance exam so the students have to learn as more as possible in the three years and Informatization education can effectively short the teaching and learning time without reducing the learning quality. Therefore, the teachers may welcome the management system of Informatization and the teaching mode to the greatest extent in all of the school grades.

In some a sense, the information of educational technology has become the key point of reform and development in university English teaching. However, at present, most schools are still undertaking the traditional single teacher-centered teaching mode; educational information technology has not yet gained enough popularity within the teaching field [9]. In addition, from the actual situation of the application of Information technology of university teachers, regardless of the information technology knowledge and skills, or about integrating information technology into the teaching of knowledge and skills, the level cannot meet the effective integration of various requirements. To find the reason, an investigation is made to answer some questions about the teachers' capability of computer technology. From the investigation, the ability of teachers' computer and Informatization technology is also inspected by listing a series of related questions. The result is shown in the table below.

**Table 2. The teachers' computer and Informatization technology ability investigation (2010)**

| Questions | Choices | Frequency |
|---|---|---|
| How often do you use the computer and internet technology in your teaching? | quite often | 20% |
| | Sometimes | 68% |
| | Never | 12% |
| What do you think is the most important factor influencing the Informatization in college English teaching? | Insufficient conditions | 45% |
| | Weak awareness of teachers | 61% |
| | Low ability of teachers' computer | 70% |
| How do you think about your computer ability, is it enough to adapt the Informatization innovation? | Totally capable | 23% |
| | Basically capable | 49% |
| | Not capable | 28% |
| Have you ever been trained to upgrade the ability of Informatization of education? | yes | 67% |
| | no | 33% |
| Does the training you take can meet the needs of Informatization of education? | Totally capable | 41% |
| | Basically capable | 43% |
| | Not capable | 16% |

*Notes: The one with the most important factor influencing the Informatization in college English teaching is a multiple choice question of which more than one answer can be chosen so the data listed in the table is according to the results of the total times each answer has been chosen.*

First of all, a lot of people think that the use of the hardware environment construction; hinder information technology. Because of limited financial resources, the school cannot meet the basic conditions for the application of information technology education required, such as adequate multimedia network classroom, suitable software, courseware, and other hardware facilities. In addition, cultural factors, such as school leadership, policy support, and coworker attitude and classroom culture factors, including students, syllabus, curriculum, textbooks and popular teaching method, constraints cannot be ignored [10]. However, more viewpoints think, lack of teachers' information concept weak and its information capacity is two resistance factors for English curriculum implementation of information in university, outstanding performance in the following areas:

On the teachers' information consciousness, lack of understanding of the importance of many teachers on the application of information technology in language teaching, and some even hold the attitude of fear and doubt. They think, this kind of teaching mode to more non face-to-face manner, thus the lack of emotion is very important in the process of language learning, is not conducive to learning continues to study effectively. Some teachers have some exclusion of information technology. They mistakenly thought, integrating information technology and language teaching is by machine instead of teachers, so that the role of teachers will be weakened. Under the university English four, six level of test pressure, some teachers prefer to stick in the mud, long-term adherence to traditional teaching methods. They worry that, implementation of information technology teaching model has slightly carelessly will affect the pass rate, responsibility.

On the other hand, due to their own low computer ability, some teachers are the integration of information technology and curriculum teaching lack of confidence; some even have a "computer phobia". They are afraid of that because of disoperation, his interruption of teaching, or because the soft fault cannot process equipment and make it embarrassing in front of students, so often on information technology to produce reverse psychology. In addition, the information technology integration of large amounts of time and effort required for teaching that many teachers are not interested. Research on English teaching mode of teaching resources information from the actual needs of universities and colleges, a following effect is going to be explored according to the law of education teaching resources service mode on the campus network or the Internet as the foundation.

An important factor in university English teaching Informatization is to make full use of modern information tools in the process of teaching, such as computer, network, and database etc. The leading role of the teacher in the teaching activity determines the ability of information-based education teachers must have strong awareness and use of information tools. In the process of teaching, teachers would like to use, whether can use, can make the best use of information technology, is the key to realize the information of language teaching.

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The survey showed that, low Informatization education awareness of teachers, education of information technology exhibit a negative, passive, or even inconsistent attitude seriously restrict the construction, implementation and promotion of the new mode of university English teaching based on information technology environment.

**3. The proposed mode**
**3.1. The application of Internet in college English teaching and learning: cyber source**
The openness, autonomy, cooperation and interaction of network education makes the development of the network teaching platform become quite meaningful and many domestic scholars have proposed the establishment of university English network teaching platform [11]. The main part of the Informatization and network education is the abundant resources from the Internet: the cyber educational resource. The cyber resources compared to most of other kinds of resources are less expensive, even some of which are free for the users to obtain.

The integration of the information technology and curriculum teaching refers to the teaching methods under the guidance of modern education theory, information technology, information resources and curriculum teaching organic, which is indeed a combination of various types of teaching methods [12, 13]; this integration is the one of information technology and computer science culture knowledge, accomplishment, which has three of the elements in it, and it is also a kind of information technology to the media teaching mode; meanwhile, the mode of operation paradigm can reflect the diversity, comprehensiveness, and other personalized features of such teaching methods [14]. With the rapid development of education Informatization, many schools have built the multimedia classrooms, network classroom, and formed a campus internal network connected to the internet. These are the objective for the integration of information technology and curriculum teaching provides conditions. To make these resources into full play, play a leading role in the teaching activities. To achieve the goals, teachers must improve the information of educational technology ability of their own. Neither the students nor the teachers should be left behind the technology, that is, the users should equip themselves before the tools.

In process of Informatization of college English teaching, the emergence of a lot of network teaching platforms has come with the teacher with own development, software development company, and a management department of education development. At present, the use of university English teaching platform widely and have certain influence from four leading platforms: "New Era Interactive English" of Tsinghua University press, "University Experiencing English" from Higher education press, "new concept of university English network teaching system" from Shanghai foreign language education press, and "New Horizons  University English" from foreign language teaching and research press. At present, the Wenzhou University introduced a " New Era Interactive English ", " the new concept of university English network teaching system " two teaching platform and are in use, at the same time, teachers also self-built English exquisite course website 14 university. With the reform of teaching English online university unceasingly thorough, for English network teaching platform and the course website will continue to increase. According to the use of teachers' and students' feedback, these English teaching platform, there are some problems to be solved in use.

**3.2. The management system of college English teaching with Informatization**
Along with the technical progress of Informatization in English teaching, the networking unceasing advancement is currently happening, the number of a single university's English teaching platforms or the sites is approaching 20, and there is still an increasing trend [14]. Therefore, based on system engineering theory, the architecture of the platform is designed website group, University English teaching network unified management, also known as Portal platform, convenient network university English teaching [15]. The system architecture is shown in the figure, is divided into five levels: information security layer, client access layer, data layer, interface layer, function module layer.

Information of language education based on the computer and network technology is an effective way of university English teaching reform. However, information education concept of teachers is weak, lack of capacity of information technology in education, which has become the bottleneck problem of restricting the development of information technology in English education in university. Therefore, teachers should have a correct understanding of the information technology in language teaching, the formation of a positive attitude on the information language education; we must continue to strengthen the integration of information technology in language teaching consciousness, consciousness to improve their information technology education practice ability. At present, the research on applying computer and network technology in the university English teaching has a lot of, but, the information of educational technology ability for language teachers and its training is not getting too much research or study [16]. If the problem of teacher's abilities of mastering education Informatization technology cannot be solved, it is difficult to achieve a comprehensive reform of university English teaching.
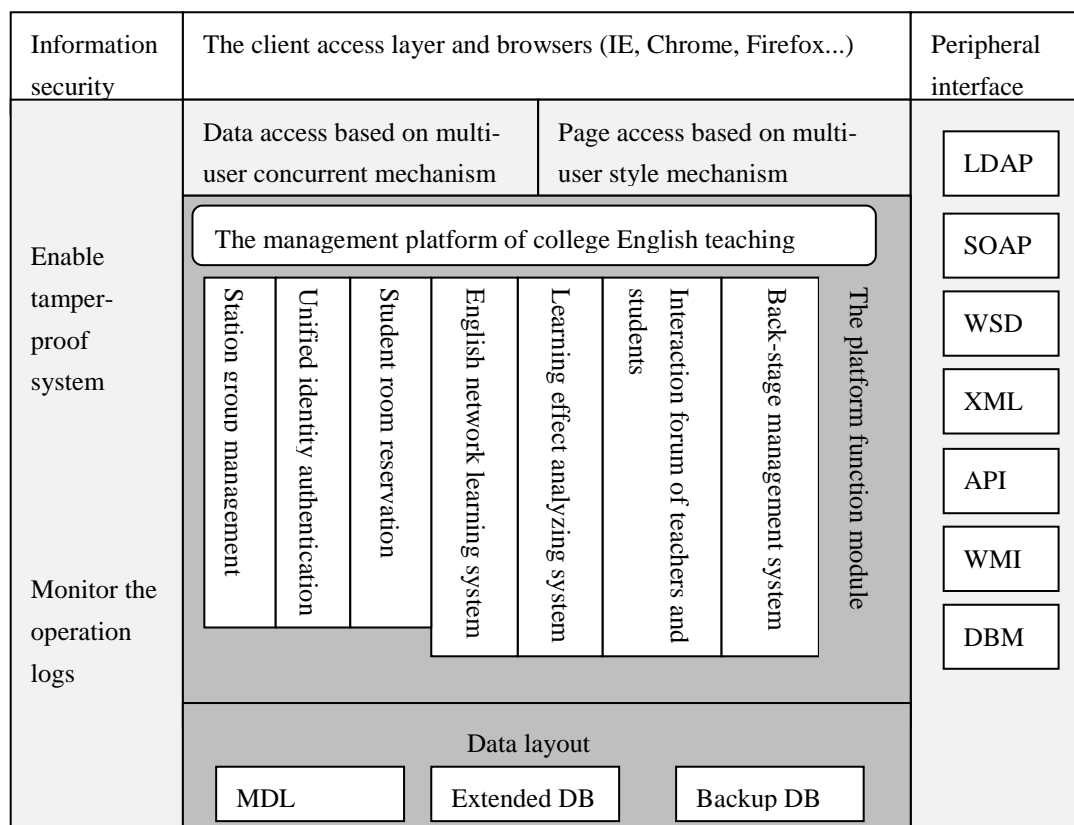
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**Figure 2. The platform construction of college English network teaching and managing system**

With the promotion in Informatization of English teaching, unceasing advancement of network management is currently developing, as main part of the technology, and there is an increasing trend. Therefore, based on system engineering theory, the architecture of the platform is designed as website group, like teaching network unified management, also known as Portal platform, which makes network in university English teaching more convenient and time-saving. The system architecture is shown in the figure as below, which is divided into five levels: information security layer, client access layer, data layer, interface layer, and the most important one-the function module layer, as shown in the figure above.

**3.3. The difference between the traditional and the new mode**
Before discussing the problem how to play the advantages of information technology, the introduction of English teaching, the formation of new English teaching model, the difference between the traditional mode and the new mode should be clarified. The table below will show briefly the difference between the traditional college English teaching and learning mode and the new one, which is based on Informatization, before the experiment of comparison is taken out.

**Table 3.  The difference between the traditional and the new mode**

| Items | Traditional mode | New mode |
|---|---|---|
| Teaching content | The knowledge from textbook | Extension of the social topics according to students' interest, emphasized the humanities and the tool function of a foreign language |
| Teaching tools | Simple combination of traditional media | Besides the traditional media, the mostly support of computer multimedia technology |
| Teaching resources | From teachers and textbook | From multimedia, the internet and the all the resources that can be used |
| Teaching information | Prepared by the teachers | Prepared by the learners |
| Teaching form | Static teaching by books or traditional media | Interactive teaching by class learning, group discussion, situation imitation, and conversation learning |
| Teaching process | Drum repeatedly by the teachers | Students learn and use the language on their own initiative |
| Class assessment | Only by exams and tests in class | Both exams in class and reports as well as the other works outside class |

By the simple comparison in the table above, we can see clearly that the traditional mode of teaching is teacher centered, by teaching, writing on the blackboard and adopt traditional media assisted methods, the teaching content delivery or instill in students. The teacher is the active teaching, students are passive recipients of the indoctrination object, the media is to assist teachers to instill in students the tools, materials, content is taught. Students' passion to participate in teaching activities is passive. The organization of the classroom mainly depends on teacher led students complete step by step. This teaching method is conducive to play the leading role of teachers, for teachers to organize the classroom teaching, management and control!, but it neglects the cultivation of the initiative, creative ability, can't make the students' cognitive main role well reflected. Students lack of reflection and Exploration Initiative, autonomy and enthusiasm to play. This teaching method is not conducive to cultivate the students' ability of independent learning and innovation.

With the support of information technology teaching mode in every dimension reflects the incomparable advantages. English Teaching in information technology support reflects the student as the center, in the teaching process the teacher role of organizer, instructor, helper and promoter, play the literary language and tools of the humanities, the elements of context, collaboration, conversation and other learning environment and give full play to student's initiative, enthusiasm and initiative spirit, make students to master knowledge, to form a reasonable knowledge structure. Moreover, the rich, the network information selection, update fast, can be extended to the classroom knowledge capacity, provide a large number of new knowledge available to teachers. Multimedia and network technology can provide friendly interface, an interactive learning environment, has the independent study and consultation session to stimulate the students' interest, make the class extension, maintain the continuity of students, improve students' ability of acquiring information and use English.

## EXPERIMENTAL SECTION

### 4. The Experiment Comparison
#### 4.1. The experiment design
To show the higher efficiency of Informatization teaching mode, compared to the traditional mode, an experiment is designed in this part to compare the students' performance under the two modes. The feedback of the students' learning effect, both the examination grades and the skills of using English, is important manifestation of the influence of Informatization on college English teaching. This part uses a simple comparison between the Informatization mode and the traditional teaching mode and tries to make a formula to express the influence of Informatization. In the experiment, data from a series of recent investigations involved in the project of research on college English teaching quality, including several universities and colleges where the project has been being carried out for nearly 2 years, when there are 4 times of written examination and extra oral tests (unified final English exams including listening, reading and writing for different colleges with Informatization or just traditional mode).

**Experiment design:**
The students will be separated into two groups, the first one with colleges using the modern computer technology in teaching process and the second one with those using the traditional classroom education mode. Then after 4 terms' learning, exams grades and oral test results will be compared to investigate the teaching effects respectively. This experiment intends to use the flow charts and data analysis to build a formula reflecting the students' learning effect as well as the teachers' teaching effect.

**Experiment Results Hypothesis:**
The first one should take higher grades in both the written exams and the extra oral test thanks to the more efficient teaching mode with Informatization as well as the network teaching mode. Application of information technology teaching innovation theory, model and method, within two years, through face-to-face, lectures, class, individual guidance, online teaching, online discussion, evaluation and organization, regional and national intercollegiate exchange and discussion and other methods, to ensure that the core demonstration school is greatly the teaching quality and students' comprehensive quality ascension.

#### 4.2. The comparison of feedback in terms of students' examination performance
In order to investigate the test on representative of all involved in the test students' English ability, namely the content validity, the test using the correlation method, with the same group of test, final test score correlation coefficient two tests represent the content validity in the trial, at the same time validity coefficients were tested for significance in this paper, to make the test valid. The statistics description below, mainly using the total scores' related statistics, is shown to prove the comparison is effective.

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**Table 4. The statistics description of samples in the investigation**

| Items | | N | Median (total) | Mean (total) | Std. Deviation (total) | Std. Error Mean (total) |
|---|---|---|---|---|---|---|
| Test1 | G1 | 451 | 92 | 80.9 | 13.5682 | 0.3122 |
| | G2 | 529 | 98 | 89.4 | 16.7812 | 0.2677 |
| Test2 | G1 | 462 | 88 | 81.7 | 15.8652 | 0.7621 |
| | G2 | 530 | 87 | 92.6 | 12.3621 | 0.3221 |
| Test3 | G1 | 598 | 82 | 83.3 | 9.0062 | 0.4287 |
| | G2 | 611 | 96 | 91.9 | 17.5791 | 0.5611 |
| Test4 | G1 | 513 | 85 | 84.7 | 16.3371 | 0.3781 |
| | G2 | 607 | 97 | 93.1 | 21.0905 | 0.4782 |

As to each statistic, the calculation formulas are listed below:

$$Mean = \frac{1}{n}\sum_{i=1}^{n} X_i$$ , which means the average scores of the students

Median is the score in the right middle of the scores progression.

$$Std.D = \frac{1}{n}\sum_{i=1}^{n} (X_i - \overline{X})^2$$ , which means the measure of the dispersion of a collection of values. It can apply

to a probability distribution, a random variable, a population or a data set.

From the 4 times of final English exams, the students' performance during the 2 years' learning can be seen clearly and objectively, which is also well inflecting the teachers' performance of teaching. The grades of students from different colleges are shown in the tables listed below.

**Table 5. The average grades of written and oral tests with Informatization mode**

| Parts | Listening | Reading | Writing | Oral | Total |
|---|---|---|---|---|---|
| Test1 | 22.3 | 23.1 | 21.1 | 21.5 | 89.4 |
| Test2 | 23.5 | 22.8 | 20.8 | 23.1 | 92.6 |
| Test3 | 24.1 | 25.3 | 19.9 | 22.3 | 91.9 |
| Test4 | 23.8 | 24.7 | 22.3 | 24.1 | 93.1 |

Notes and explanations:

1. All students of the chosen colleges in the investigation take the unified exams at the end of each term involved in the Informatization and computer technology procedure investigation.
2. The colleges referred to are from different areas all over the country.
3. The grades distribution: listening-30 points, reading-30 points, writing-30 points, oral-30 points.
4. The grades listed here is the average level of all students taking the exams of the colleges investigated in this experiment.

**Table 6. The average grades of written and oral tests with traditional mode**

| Parts | Listening | Reading | Writing | Oral | Total |
|---|---|---|---|---|---|
| Test1 | 19.2 | 20.1 | 19.8 | 18.9 | 80.9 |
| Test2 | 20.1 | 21.5 | 19.2 | 21.3 | 81.7 |
| Test3 | 19.8 | 22.9 | 21.6 | 20.9 | 83.3 |
| Test4 | 21.3 | 24.4 | 23.9 | 21.6 | 84.7 |
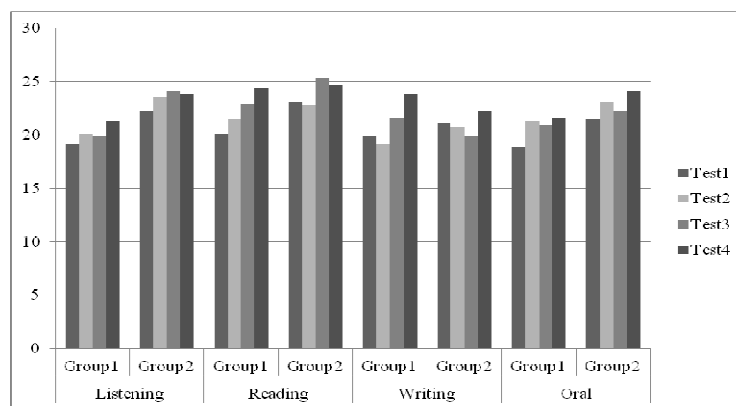


*Group1= traditional mode, Group2= Informatization mode*
**Figure 3. The average grades comparison of the two teaching modes (different parts)**
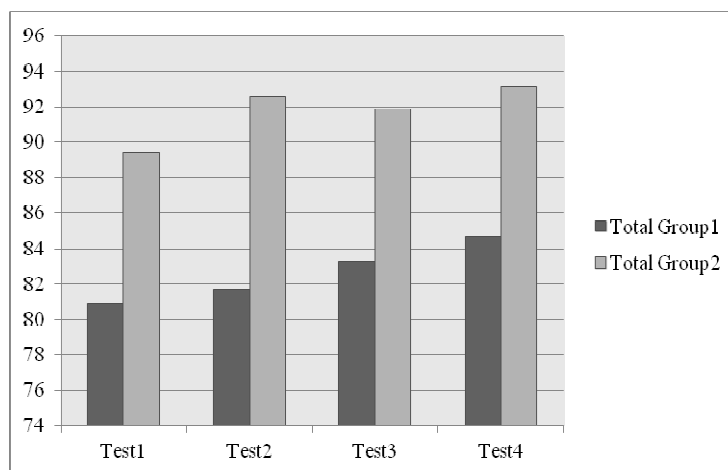
**Figure 4. The average grades comparison of the two teaching modes (total scores)**

Seen from the tables and the figures above, it can be approximately known that almost all the grades in Table 4 is higher than those in Table 5. The detailed comparison analysis will be elaborated in the next part expressed by more figures with personal performance of each student.

To the personal scores of the students, like the highest and lowest, the Informatization mode is getting more polarized than the traditional mode, especially in the oral test and listening part. That is, the teaching effect is more notable in the two parts of English training.

## CONCLUSION

Education Informatization essentially is the combination of all characteristics within the technology of multimedia, network and computer intelligence. Therefore, all levels of training should be carried out in the environment equipped with multimedia, network and information system, by making full use of technical advantages of computer network in such supportive environment provided. To build up a teaching environment mentioned above is the key factor in the process of promoting the Informatization of college English education. As to the other way, that is, the problem how to enhance the teachers' corresponding ability, through discussion, demonstration and exchanges, realize high-quality teaching resources sharing, so that the trainee teachers feel the wonder and the network information technology world, and stimulate their curiosity and interest in information technology education. Through the new teaching resources sharing mode, the English teaching activity can develop better in a new environment, by improving both the teachers' and the students' English level and thus the whole education teaching resource and Informatization will play even better role in the foreign language teaching and learning.

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