



Research Article

ISSN : 0975-7384  
CODEN(USA) : JCPRC5

**The survey and analysis of high school information technology course**

**Yongqiang Zhang\*<sup>1</sup>, Shuangyou Wang<sup>2</sup> and Cheng Feng<sup>2</sup>**

<sup>1</sup>College of Information Engineering, Handan College, No.560, Xueyuan Road, Handan, China

<sup>2</sup>Software School, Handan College, No.560, Xueyuan Road, Handan, China

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**ABSTRACT**

*The implementation of information technology of high school curriculum designed to teach information technology in practice and grasp the universal significance of the technology culture element, experience the information culture, promote information literacy, support the development of a comprehensive foundation. At present, most high schools have set up information technology courses, but in the process of implementation, there are some issues can not be optimistic. This paper studies that under the weight of the college entrance examination, high school students studying information technology curriculum's time allocation, energy distribution, the degree of course's interesting and attention, learning and teaching effectiveness, course content should be how to set up, how the role of information technology courses. The methods of questionnaire survey and individual case interview to the status of multiple school course are used for conducting a investigation, then the results of investigation are analysed to find our the reasons of issue arising. At last, the positioning of the courses of information technology were given, and to get a deserved teaching effect for setting such an information technology course.*

**Key words:** Information Technology; High School Course; Survey and Analysis

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**INTRODUCTION**

The State Education Commission has made the decision that all high school must make Information technology course as a required course from 2001. At present, the high schools of most area in China have set Information technology education, but under the pressure of college entrance examination, the situation is not optimistic during implement. The information technology education started late, and there is no mature education system, even though most schools respond to the call from State Education commission. Therefore, the Target for the course, training student's information technology attainment, have been deviated during implement. The information technology course hasn't been pay attention, and the development of information technology has been blocked seriously.

**THE ANALYSIS FOR INFORMATION TECHNOLOGY COURSE**

The analysis for information technology course includes the content analysis of the course, the Confirmation of teaching aims, the class hours arrangement of information technology course, Knowledge test etc. a series of contents.

**1. The content analysis of the course**

From the day of birth of this course, the content was changing. Therefore, the standard for the course is difficult to fix as other basic subjects. It depends on the features of subject itself. Now, Information technology course, which is supposed to be arranged in high school, is arranged by some experts in education system into primary school, junior high school, senior high school. The result is that the teaching content repeats seriously.

**2. The confirmation of teaching aim for information technology course**

The teaching aim of information technology course in common senior high school is to improve the student's information technology attainment, and to help the students in high school to become high information technology

attainments citizen to fit the requirement of information technology era.

### 3. The class hours arrangement of information technology course

According to the specification from the department of Education, <the guidelines for information technology course in primary and high school>, the class time of information technology course in senior high school should be 70~140 hours, but in most school, it's only exists for one year in Grade One, and only 1 class every week. Besides suspend classes for some reasons and holidays, actually there are only 30~35 classes in each semester(see Fig.1). even more, some school don't open such a information technology course. All these actions are far away from the specification by the department of Education.

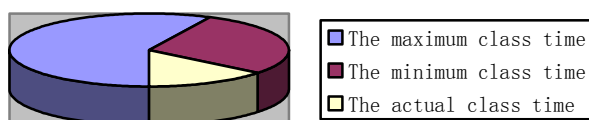


Fig.1 Class time comparison chart

### 4. The Knowledge test for information technology course

For information technology course is not exist in college entrance examination, there is not enough attentions on it. Some school although opened a information technology course, but there is effective methods for knowledge test and defined testing system. It became to that only important by words, and not necessary for learning, and no need for knowledge test. There is not any spaces for information technology course in the students' transcript.

## THE QUESTIONNAIRE FOR THE SITUATION OF INFORMATION TECHNOLOGY COURSE IN HIGH SCHOOL

### 1. The design of questionnaire for students and teachers

The questionnaire for students should be designed by 3 sides, the student's ability of Operating computers, the interesting and attitude to this course.

The questionnaire for teachers should be designed by 3 sides, the career development of the teacher, the identifying to this course, the teaching evaluation. The design of questionnaire for student and teacher are given in Table 1.

Table 1 Questionnaire design

Questionnaire types	Topic type		
Student	Computer operating ability	Course interesting	Course attitude
Teacher	Career development	Course identifying	Teaching evaluation

### 2. The implement of the questionnaire

The designed questionnaires for students are printed 300 pcs, the questionnaires for teachers are printed 60 pcs. The questionnaire should be delivered 50 pcs to students and 10 pcs to teachers with each version in 3 key high school and 3 common high school by random. The implement of the questionnaire for student and teacher are given in Table 2. The questionnaire should be answered by students and teachers seriously and then take them back after finished.

Table 2 Questionnaire implement

Questionnaire types	Printed copies	Investigation object	The number of investigation object	Distributed number
Student	300	Key high school	3	50
		Common high school	3	50
Teacher	60	Key high school	3	10
		Common high school	3	10

### 3. The data cleaning and analysis for questionnaire

The ratio of retrieving for the survey is 96%, the ratio of valuable student's questionnaire is 95% that for teachers is 98%.

#### 3.1 The statistics and analysis for questionnaire to students

The ability of operating computer, 18% students are very skilled at operating computer, 35% students are middle skilled computer. Among these students, mostly are from key high school in city, but no big difference between

different genders and grades. 22% students are common skilled at computer operation, 25% students don't know much at operating computer, the reason is that these students are mainly from country or towns (see table 3).

**Table 3 The statistics for student questionnaire (1)**

Survey content	Very skilled (%)	Middle skilled (%)	Common skilled (%)	Don't know (%)
Operating computer ability	18	35	22	25

The interesting for the course, all high schools have opened information technology course, 82 students thinks it's very important or important to open a information technology course in high school. 85% students have interesting at information technology course and hope to have opportunities to learn, but the current content and teaching methods of information technology course haven't meet their interesting and requirements(see table 4).

**Table 4 The statistics for student questionnaire (2)**

Survey content	Important (%)	Not important (%)	Interesting (%)	No interesting (%)
Course interesting	82	18	85	15

The Attitude for information technology course, the attitude can be found by performance in class, learning content, class time arrangement, teaching methods, teaching evaluation etc.

The result of the survey show that the general performance of students in class is not good. 52% students only listens to teachers at the beginning, and then to do homework of other subjects.42% students don't listen anymore. Only 6% students listen seriously. At the content of the course, 85% students can accept all the contents or mostly accept, and hope to learn more information technology knowledge. 20% students don't think it any helpful, and no plan for their career related to information technology. 12% students think no helpful at all. They haven't realized the information technology era is coming (see table5).

**Table 5 The statistics for student questionnaire (3)**

Survey content	Great attention (%)	Normal attention (%)	attention (%)	No attention (%)
Course attitude	20	48	20	12

For the last optional questions, some students gave simple answers. The various answers are enough to express their opinions. To the current situation of information technology course, most students think the information technology course should be opened continuously, and strengthen the position, even more, information technology course should be set as a required subject and should exist in college entrance examination. A few students think there is no necessary to open a information technology course in high school. It's only a time-wasting and they can't learn more useful knowledge. So, they think information technology course should be cancelled and that's good for the subjects in college entrance examination.

### 3.2 The statistics and analysis for questionnaire to teachers

**Emergency on teachers' career development:** Form the surey, we know that 57% teachers primary major is not computer science. 12% teachers are education technology majors, 20% teachers are electronic engineering majors, 11 majors are others. For the teachers at the position of teaching information technology course, 7% teachers have been over 15 years, 21% teachers are among 10~15 years, 42% teachers are among 5~10 years, other 30% teachers are less than 5 years, some are just graduated from school. At present, the teacher of information technology course in high school's primary major level and professional knowledge structure are weak then the teachers in other subjects. At mean time, the teachers whose primary majors are computer science are lack of education on teacher career and information technology subjects. All these factors have bad effecting on information technology course implement (see table 6).

**Table 6 The statistics for teacher questionnaire (1)**

Survey content	Computer (%)	Education technology (%)	Electronic engineering (%)	Other (%)
Teachers' professional	57	12	20	11

**Not optimistic at the identifying to this course:** The comprehend to new course is the foundation for teachers to implement the course. The Survey show only 12% teachers totally understand the concept of the new course. 88% teachers feels they don't understand the concept the new course completely. They all can't grasp the concept for course reformation, and puzzled at implement. They only are learning by teaching. The general feeling is that it sounds good, but hard to realize. For the class hours arrangement, 84% teachers select unreasonable, and it's not follow the specification from the department of Education. Only 11% teachers think it's well. For books used in teaching, 16% teachers think the books are suitable to the course. For the teaching way, every teacher has his or her style. 78% teachers think their teaching style can't get the attention of the student, they hope they can find a new interesting way to teach this course(see table 7).

**Table 7 The statistics for teacher questionnaire (2)**

Survey content	Understand (%)	Not understand (%)	Reasonable (%)	Unreasonable (%)
Course identifying	12	88	16	84

**Regulate on teaching evaluation:** There are always various ways and opinions on the evaluation for information technology course. At present, the evaluation to students are from unified study level examination and estimation from teachers. In the survey to the teachers of information technology course, we try to acknowledge the opinions of the y the teacher to information technology course evaluation by the questions" What do you think the evaluation to student on information technology course are from?" The questions have several optional answers for select, but the result is that we get back several answers from the teacher. This somehow shows the confuse of the teachers on the information technology course evaluation system.

For the last question, most teachers' opinions are same, they all think if the current situation of information technology course want to be improved, the specification must be followed, and set the information technology course to a required subject. The class hours need to be arranged reasonable. The teaching content need to be more and various, effective teaching ways, and strengthen the evaluation system etc. They all hope that the information technology course can be continue and reach to the teaching aim.

## THE MEASURES FOR IMPROVING THE POSITION OF INFORMATION TECHNOLOGY COURSE IN HIGH SCHOOL

### 1. The content of teaching should be serialization, all studying stages should be connected. Train the creative thinking of the students

Information technology education in high school should lead student's interesting on information research and analysis, realize that the information technology is a must tool for modern information society. For teaching contents, firstly, let the students learn how to resource the information according to actual issues. Secondly, they need to learn how to deal with mass data, get rid of fake information. Thirdly, Introduce the actual significance of familiar information model and their parameters, How to use the parameters of models recognizing information. Lastly, make the students know well the methods and skill of delivering and releasing information, and participant in activity of information society. During teaching, the task-drive method can be adopted, but the teacher should realize that the course is for transferring knowledge not for introducing how to use the software. During fulfilling the task, the student will use computer to collect information, create documents, charts, but this is not the teaching target but to solve some intelligent issues by computer, in order to let the students use both their hands and brains to improve both ability.

### 2. Import competing system and complete evaluation system

At present, information technolog education should become a formal testing subject in high school. The testing result can be classed by different grade, and then transfer to One-vote-vet step by step, that means the student can participant the college entrance examination only after passed information technolog testing. This also need the support by effective and complete evaluation system. The test should promote learning, it also should lead learning. There should be some completion activity about computer works regularly, to create some stages and environment for student's learning. Some good works from students should be get feedback, introduction, exhibition. This activity will make the students get the direction and target, then a competitive studying atmosphere will be spread out. A suitable evaluation will be one of the ways to change the awkward situation of information technology in high school.

### 3. Strengthen teaching research, innovate teaching model

Contrast to other subjects in high school, information technology education have its obvious features, Practical, comprehensive, applicability and innovation. All these features request the teacher must give up conventional

teaching model. From the request of acknowledge theory, they should create new teaching models centered on students, directed by teacher. On this teaching methods, the contents in teaching material is not for the teacher just transfer knowledge only, but for the students constructing significance. The teaching media is not the tool for transferring knowledge, but the tools for creating situation, studying cooperatively, discussion and communication, and emotion encouraging. This new teaching model has task-drive model, subject model, research model, discovery model, team cooperation model etc. Among them, the task-drive model is developed rapidly and have more good future. The information technology teaching material should be made based on this model.

#### **4. Strengthen integration with other subjects**

Information technology education can be combined with other subjects. It can solve some issues happed in teaching task of other subjects. During trained to master the technology, the understanding of the students can be strengthen and deep. There are 2 ways for course integration, one is integrating information technology to other subjects, another is introducing the contents of other subjects to information technology courser. Therefore, the students can learn some basics of information technology, then apply some software to other subjects. The teaching material including course integration will be a new teaching material model.

#### **SUMMARY AND PROSPECT FORECAST**

This research is a survey to the information technology course situation in high school by questionnaire methods. It aims to find the problems of information technology course in high school and a reference for information technology course construction. By this survey, we found, from the government and local area, from Education administration to school, from teachers to parents, it always said the ability of computer science and information technology is a passport to 21st century, everyone should have master it. But under the pressure of college entrance examination, the information technology course in high school is on an awkward situation. There are a lot of problems as delayed concepts, unsuitable class hours, the unsuitable contents, the boring teaching methods etc. the authors believe, the information technology course will be pay more attention in future. The government also request more for information technology course, set information technology course to a required subject. We expects more researchers paying more attention to information technology course in high school, and make the situation much better, benefit education performance.

#### **REFERENCES**

- [1] Meng Zhaobin(1999)Modern Course Design and Managemen, Yunnan Science and Technology Press
- [2] Wang Zhuzhu,Liu Yingqian(2005)A Research for Information Construction and Application in Primary and Middle School, China Educational Technology, No.10
- [3] Ding Bing(2008)A Survey for Information Technology Education of Primary and Middle School in Shanxi Province, *Journal of Ankang University*, No.4
- [4] Li Zhujun(2006)How can Information Technology go into College Entrance Examination, Information technology education in primary and middle schools, No.3
- [5] Yang Xiaodong (2010)A New Thinking for Information Technology Teaching in Class, Science and Technology Innovation Herald, No.2
- [6] Kyparisia A. Papanikolaou,Andrew Mabbott,Susan Bull,Maria Grigoriadou. Designing learner-controlled educational interactions based on learning/cognitive style and learner behaviour[J]. *Interacting with Computers* . 2005 (3)
- [7] Jia - JiunnLo,Pai - ChuanShu. Identification of learning styles online by observing learners' browsing behaviour through a neural network[J]. *British Journal of Educational Technology* . 2004 (1)
- [8] Stockwell Glenn.Computer-Assisted Language Learning:*Diversity inResearch and Practice*. . 2012
- [9] Hiltz,S. R.The Virtual Classroom: Learning Without Limits via ComputerNetworks. . 1994
- [10] LaRose, Robert,David Atkin.Understanding Cable Subscribership asTelecommunications Behavior. *Telematics and Informatics* . 1989.
- [11] Church,D.Textbook Specific Computer Exercise Foe Elementary French Students. MLJ . 1986