A Study of Individual Learning Skills and Problem Solving Skills in Computer Class

by

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Eventually, I would like to express my appreciate to all Japanese and foreigner friends to give me a valuable life experience during stay in Japan.

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Acknowledgement

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Chapter 1 Introduction

Background of study

Recently, learning of students is not limited only in classroom or in school. Acquisition of knowledge could occur on any occasion, anywhere and anytime. Therefore, e-Learning becomes more important as the learning instrument for improving their life and work, particularly for students who learn in formal school or university. Computer technology is used as the facility to promote acquisition of that all broader knowledge to the students. The e-Learning enable to provide and respond the global interaction and latest expansion of knowledge to the aspiring people effectively, such as student in university or employers who cannot afford their money and valuable time on traditional education.

To improving the computer use ability to student for improving their independent learning skills is the most important because the developing individual study contribute the acquisition of lifelong leaning. Independent learning skills of students needs to be developed during in the classroom. The students who become self sufficient and responsible citizen have to be taught and trained to learn and work independently; that is they must learn how to teach themselves and how to put their self-teaching into practice. Children should begin to learn and practice individual study skills as early as kindergarten, and should continue the process during their school years and throughout the life (Hellmut R. Lang and others, 1995). The students should work on their own without paying attention to or interacting with classmates (David w. John and Roger T. Johnson, 1999, pp.154-155). The students have to understand what they have experienced and how to retain and use new information and idea.
Web Based Training, which is a pattern of distance learning via Internet, is taken to improve the individual learning, including development of self-teaching skills. It is easy to deliver on learning for students and opportunities for group training as well as individual training. Beside of this, when the students experience with the problem, they could study from provided materials for solving the problem.

According to the research background above the interested issues that should be studied are as follows; a) How about the current stage of individual learning of students’ particularity of the problem solving skills, b) Whether or not the students have computer skills to extend their knowledge by e-Learning, c) How to develop the individual learning skills to the student for contributing life-long learning. Therefore, this research initially requires to study the independent learning skills and problem solving skills of students when they experience with learning problems in computer class.

**The purpose of study**

The purpose of this study is as follows;
1. To study the individual learning skills of students in computer class.
2. To study the problem solving skill of students in computer class.
Research Definition

The research definition are used in this study as follows;

1. Individual learning skills mean patterns of learning behavior when students face with the problems in computer class, which consist of various patterns as follows: a) Ask to friends around them, b) Talk with friends near by, c) See around, d) Ask to teacher, e) Learn from textbook, f) Don’t understand and don’t do anything, g) Understand all, h) See G-FAQ\(^1\) page (second time)

2. Computer Based Learning skills mean the patterns of learning behavior of students concerning about how to operate the computer, use mouse and keyboard, including to access Web sites.

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\(^1\) G-FAQ: Graphic Frequently Asked Question, Mr. Hamano developed WBT system that generates graphic explanation, which captured from operation of student in computer classroom. He named this procedure as GFAQ, 2001.
Chapter 2 Review Related Literature

Nature of Individual Learning

Human being mostly learns language from environment surround them such as parents, friends and also currently technologies without formal instruction. The children, in a normal environment, develop the needed competencies for surviving by learning from their environment. Some children have learned to read and write with little formal instruction, and many have learned from parents or other children. In other words, most children learn quite well even if teaching is imperfect.

Much learning is incidental rather than formal. The children simply learn from the environment without formal instruction. The stimulus events in the environment elicit a constantly expanding repertoire of response as the children’s capacity for responses increased through growth. This maturational process results in a continuously new production of interactions with the environment, and their environment strengthens these interactions, and these interactions are strengthened by their environmental consequences. This natural or incidental process; the developing capacity of children, for eliciting events in the environment, the children’s resultant increase in behavioral respondent, and the shaping of these behaviors by their consequence results in appropriate incidental learning. Because of the nature of the growing organism and the major roles of incidental learning in the total education of the children, the educators have been allowed to deal in generalities about the processes of education. As long as the normal children’s intellectual processes make order out of irregularity and disorder in their environment, the teacher is spared the necessity of closing the gaps and improving the structure of teaching. Because most
children will learn by almost any method (or in spite of any method), the educators have avoided studying the process of instruction in scientific or systematic way. This lack of study has permitted the educators to be vague when describing the teaching-learning process. Maintaining that teaching is an art that a person either has or lacks, and which in any case defies description, the educators have managed to avoid systematic study of the instructional process.

Most teachers have to manage classrooms, teach children in groups and provide individual instruction; effective classroom teaching have to be more complex than individual instruction, because it includes individual instruction, group instruction, and classroom management. The analysis of teaching indicated that teacher should learn how to instruct one child before attempting to instruct a group first. Every component of the system of individual instruction is also a component of group instruction. The child who first attempts to learn how to teach by practicing with group may miss the opportunity to learn many important elements of teaching.

**Appropriate Individual Learning**

Appropriate individual learning must be without interdependent, separating the desks make space enough for each student. The assignment must be clear and avoid confusion. Each student perceive their goals and try to accomplish those goals by themselves, study and work without interacting with their classmates, self-responsibility and self-evaluation, the major roles of teacher are assistance, feedback, reinforcement and support. Set of material and instruction must be completed. Rules, procedure answers must be clear.
Essential Elements of Individual Situation

The appropriate situation for individualistic study are unitary, no divisible, simple tasks must be complete, the direction for completing the learning task need to be clear and specific, avoiding the confusion, the students have to motivate to cooperate the activities meaning to individualistic work. The teacher is the major source of assistance, feedback, reinforcement and support. Students must complete the work individually and separately. Programmed materials, task cards, and demonstrations can be used to facilitate the work. There is no interaction among students and work without interacting with classmate. The students’ role expectations should be complete the assignment individually, assess their own progress, and achieve the learning goals. Criterion referenced evaluation system is conducted to the individual learning. Each student can get “A” if they work individually and pass over the criteria.

Individual Learning and Importance

Individual study is independent learning, self-directed study and self-teaching

The object of individual instruction is self-improvement and the acquisition of life-long learning skills that include reflection, organizing, problem analysis and decision making. Individual study requires that teacher and students identify a topic, problem, or project based on a course objective. The student must research, analyze and make inferences and generalizations on the basis of the analysis, and than evaluate the outcome of the process. Some components of individual study are reports, observations, contracts, activity centers, seatwork practices, essays,
brainstorming, assigned questions, computer assisted instructions, individual inquiries, projects, homework and interviews.

Children must be taught and trained to learn and work independently that means they must learn how to teach themselves and how to put their self-teaching into practice. The children should begin to learn and practice individual study skills as early as kindergarten, and continue the process during their school years and throughout life.

Teacher’s roles are to provide a class room environment that encourages growing independence, including the atmosphere that is supportive, promoting self-confidence, curiosity, and desire to learn. The teacher need to organize classroom resources such as learning center, learning activity packet, computer assisted instruction (CAI), and correspondent study or distance education. The teacher has to achieve an appropriate teacher-student relationship and teach the students learning techniques and skills that they can use to act more independently in order to benefit from this form of seatwork, homework, creating models, writing report and papers.

**Strengths and Limitations of Individual Learning**

**Strengths:** Strengthen students’ motivation, maintain students’ interest in lesson, to pursue topics in greater depth and exercise more creativity in group learning, make students understand their studies as relevant and important, broaden students’ knowledge and skills, emphasize individual student and contribute to life-long learning, supplement curriculum to match the interests and needs of individual students. They adapted to virtually any subject and allow flexibility of time, place, and situational element, use many methods that are inexpensive and require only standard classroom equipment.
**Limitations:** Require work more than direct and indirect instruction strategies provide little social interaction. Not using this method for improving interpersonal and group skills. It cannot provide wholly predictable learning outcomes. Individual study is less effective in promoting acquisition of certain content, depends on the availability of adequate supplies of materials and resources, some student may neglect other work and develop negative attitudes toward teacher, fellow students, and school.

**Promoting Independent Study Skills**

Students must understand what they have experienced and comprehend what they have read so that they can retain and use new information and ideas. Skills for finding information needed to do an assignment and techniques for learning the material found. The teacher must to assess students’ skill levels in these areas. In case of the weakness in reading skills, the teacher should ensure that student know how they can retain the information.

Adjusting study according to the time available, complexity of learning material, identify the main ideas in new information, connecting new material to what the learner already knows, drawing inference the significance of new information, breaking learning activities into short sessions, appraising personal progress.

Mastery learning is the cycle of teaching, testing, re-teaching and re-testing. The differences in achievement result, come from difference in the length of time that learner need to learn a given appropriated assignment, active learner participation, reinforcement of earlier success, feedback and correction.
Online Education

Online Education is the way of imparting effective education to the aspiring people, residing anywhere in the world, to pursue and advance their learning process via Internet, without messing up their professional responsibilities and duties with education by presenting a variety of solutions and subjects beyond the scope of traditional. The aim of online education is to provide quality education to dropouts, employee, employers who cannot afford the time, money on traditional learning. Students can acquire knowledge without the inconvenience of going to the college and sitting in a classroom. They can have a delight interaction with their professor by chatting, e-mail, having net meeting without face-to-face interaction.

Technology-Related Instruction

Distance education could reduce the amount of time students and teachers need to be contact, and the costs of providing education. The teachers use technology as an aid to teaching and support presentations or provide practice for students. It offers options to teacher to present or teach the student reading, make of it to motivate learners, structure learning experiences for underachievers, and tailor learning materials to the needs of individuals.
**Computer Assisted Instruction**

Computer assisted instruction brings many interesting program to learning and provide more fun than usual seatwork, drill and practice sessions, provide immediate feedback, tutorial session or basic knowledge to advanced problem solving. Straight of computer instruction provide additional or difference ways of presenting information such as animation, photos, step-by-step demonstration of complex process, including to offer practice and drill, problem solving. It’s omits unnecessary instruction or practice or offering needed remediation. This method can improve research and writing skills and extend creativity. Interact with computers directly and receive instant feedback. Computer can provide compact storage and rapid retrieval of large amounts of information recording students’ learning progress. Limitations of computer instruction are to encourage an emphasis on facts and overuse of drill and practice at expense of higher-level learning skill, do little to promote affective outcomes, dehumanizing form of instruction and give students little opportunity for oral expression.

**Web Based Training (WBT)**

Web Based Training (WBT) is an innovative approach to distance learning in which Computer Based Training (CBT) is transformed by the technology and methodologies of World Wide Web, the Internet, and intranets. WBT provides live content and is media-rich training fully capable of evaluation, adaptation and remediation, all independent of computer platform. To deliver knowledge over public or private computer networks and displayed by a Web browser and controlled by the training provider. The Advantages of WBT are easily to deliver of training to users.
Group and individual training is asynchronous and synchronous. It’s easy updating of content, require less technical support, access is controllable. The disadvantages are the bandwidth or browser limitations, which means the restriction of instructional method and slower performance for sound, video, and intense graphics.
The method of this study used exploratory method. The essential purposes of study are to study individual learning skills and problem solving skills of students in computer class. The total sample consisted of 141 Japanese junior high school students in 1-4 class of computer class. Self-perceived questionnaire were employed to asses learning skills and problem solving skill after finishing class. All items in questionnaire derived from the previous study regarding with study the software for teaching materials in industrial arts and home-making education by Joichi Kirita, Tokuji Hayashi and Naomasa Sasaki. Structures of content are 3 terms; 1) Learning satisfaction, 2) Lesson understanding, 3) Learning and problem solving skills. Content that the instructor used in class concerning about how to operating the computer, using mouse and keyboard and weather Website searching on Internet.

The computer class was hold 2 times in a week on Tuesday and Friday. Each period have 45 minutes. Classroom area management is provided as the picture 1.
Chapter 4 Results

The results can be shown in 3 parts as the following:

**Part 1** Number of students who interested in computer lesson, understand computer lesson, and chose methods to solve their problems.

![Figure 1. Number of students who were interested in the computer lesson](image)

Most of students were interested in computer lesson both the first and the second time. Only few students had consciousness about “Not interesting” and “Less interesting”. Number of students in “Most interesting” sharply rose up from 50 (first) to 83 (second). At the first time 89 students felt interest and the second time the number of the students increased to 121 students. It is noticeable that number of students in “moderate” and “less” interesting decreased in the second time.
Distribution of students’ numbers about consciousness of lesson understanding is similar to the distribution of students about consciousness of lesson interesting. Most students understand computer lesson both in “fare” and “most” be understood. However, the number of students in “fare understand” at the first time is higher than the second time, but number of students in “most understand” at second time is higher than the first time. Only few students have consciousness about “Not understand” and “Less understand”.

Figure 2. Number of students who understand the computer lesson
Method 1: Ask to friends around me
Method 2: Talk with friends near by
Method 3: See around me
Method 4: Ask to teacher
Method 5: Learn from textbook
Method 6: Don’t understand and don’t do anything
Method 7: Understand all.
*Method 8: See G-FAQ page (the second time)

Figure 3. Number of students who chose methods to solve their problems

Most numbers of students at the first time and second time chose to ask to friends around them which it is shown obviously in different from the other problem solving. Only few students chose to solve their problems by learning from textbook. A comparison among problem solving methods it indicated that number of students chose problem solving methods differently both the first time and second time. It was also obviously shown that most students are interested in computer lesson
because only 7 students did not understand and not do anything and number of students also decreased to 1 student in second time. It was able to categorize the problem solving behaviors of students into groups as follows: Group 1 -solving by having questions with friends around whom most students used, Group 2 -solving by talking with near friends, seeing around and having questions with teacher and Group 3 -solving by learning from textbook, not understand and not do anything which only few students used. It was noticeable that number of students who chose the method 1 to 6 was slight different in the first time and the second time, however number of students who understood all computer lesson was sharply decreased from 40 in the first time to 1 in the second time. In the second time we added one more problem solving method. There are 41 students also selected this method to solve their problems.
Part 2  Number of students who interested in computer lesson and understand computer lesson, and chose methods to solve their problem

Table 1. Number of students are interested in and to be understood computer lesson

<table>
<thead>
<tr>
<th></th>
<th>Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not</td>
</tr>
<tr>
<td>Not</td>
<td>-</td>
</tr>
<tr>
<td>Less</td>
<td>-</td>
</tr>
<tr>
<td>Moderate</td>
<td>-</td>
</tr>
<tr>
<td>Fare</td>
<td>-</td>
</tr>
<tr>
<td>Most</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
</tr>
</tbody>
</table>

Most of students who are interested in computer lesson can also understand the computer content well. Only few students are not interested, however they can understand in mediate and fare level. No any students are not interested and not understand computer lesson.
Table 2. Numbers of students were interested in computer lesson and chose method to solve the problems

<table>
<thead>
<tr>
<th>Method</th>
<th>Not Interesting</th>
<th>Less Interesting</th>
<th>Moderate</th>
<th>Fare</th>
<th>Most Interesting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask to friends around me</td>
<td>0/1</td>
<td>4/0</td>
<td>11/2</td>
<td>21/26</td>
<td>27/43</td>
<td>63/72</td>
</tr>
<tr>
<td>Talk with friends nearby</td>
<td>0/0</td>
<td>1/0</td>
<td>5/10</td>
<td>10/9</td>
<td>14/16</td>
<td>30/26</td>
</tr>
<tr>
<td>See around me</td>
<td>0/0</td>
<td>2/0</td>
<td>5/1</td>
<td>14/11</td>
<td>12/14</td>
<td>33/26</td>
</tr>
<tr>
<td>Ask to teacher</td>
<td>0/0</td>
<td>1/1</td>
<td>3/2</td>
<td>11/9</td>
<td>15/18</td>
<td>30/30</td>
</tr>
<tr>
<td>Learn from textbook</td>
<td>1/0</td>
<td>0/0</td>
<td>1/1</td>
<td>0/0</td>
<td>1/0</td>
<td>3/1</td>
</tr>
<tr>
<td>Don’t understand and don’t do anything</td>
<td>0/0</td>
<td>0/0</td>
<td>1/1</td>
<td>4/0</td>
<td>2/0</td>
<td>7/1</td>
</tr>
<tr>
<td>Understand all</td>
<td>1/1</td>
<td>0/0</td>
<td>16/0</td>
<td>9/0</td>
<td>14/0</td>
<td>40/1</td>
</tr>
<tr>
<td>See G-FAQ page</td>
<td>0/0</td>
<td>0/0</td>
<td>0/6</td>
<td>0/7</td>
<td>0/28</td>
<td>0/41</td>
</tr>
</tbody>
</table>

*First time/Second time

Most of the “most” and “fare” interesting students selected to ask to friends around, talk with friends nearby, see around and ask to teacher for solving their problems both the first time and second time, including the number of students increased in the second time. Besides of these, it is
noticeable that no anyone of the “most” and “fare” interesting students chose to learn from textbook, do not understand and do not do anything and understand all, but 28 students of them chose to see G-FAQ pages for solving the problems.

Table 3. Number of students who understand computer lesson choose methods to solve their problems

<table>
<thead>
<tr>
<th>Understanding</th>
<th>not</th>
<th>less</th>
<th>moderate</th>
<th>fare</th>
<th>most</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask to friends around me</td>
<td>0/1</td>
<td>0/0</td>
<td>8/8</td>
<td>37/32</td>
<td>19/32</td>
<td>64/72</td>
</tr>
<tr>
<td>Talk with friends nearby</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
<td>20/11</td>
<td>9/11</td>
<td>31/26</td>
</tr>
<tr>
<td>See around me</td>
<td>0/0</td>
<td>0/0</td>
<td>6/6</td>
<td>21/10</td>
<td>6/10</td>
<td>33/26</td>
</tr>
<tr>
<td>Ask to teacher</td>
<td>0/0</td>
<td>0/0</td>
<td>2/7</td>
<td>20/8</td>
<td>8/15</td>
<td>30/30</td>
</tr>
<tr>
<td>Learn from textbook</td>
<td>0/0</td>
<td>0/0</td>
<td>1/1</td>
<td>1/0</td>
<td>1/0</td>
<td>3/1</td>
</tr>
<tr>
<td>Don’t understand and don’t do anything</td>
<td>0/1</td>
<td>1/0</td>
<td>0/0</td>
<td>4/0</td>
<td>2/0</td>
<td>7/1</td>
</tr>
<tr>
<td>Understand all</td>
<td>0/0</td>
<td>0/0</td>
<td>0/3</td>
<td>0/7</td>
<td>0/31</td>
<td>0/41</td>
</tr>
<tr>
<td>See G-FAQ page</td>
<td>0/0</td>
<td>0/0</td>
<td>0/3</td>
<td>0/7</td>
<td>0/31</td>
<td>0/41</td>
</tr>
</tbody>
</table>

*First time/Second time
Most of “the most” and “fare” understanding students chose to ask to friends around. Number of the “fare” interesting students decreased for every method in the second time, except for seeing G-FAQ page. In the other hand, number of the “most” understanding students increased in method ask to friends around me, talk with friend nearby, see around and ask to teacher. Besides of these, it was noticeable that the “moderate”, “fare” and “most” understanding students decreased in the second time.

Part 3 Enjoyment and impression, understanding and not understanding contents, and target in computer class today

The student mostly had an enjoyment and impression with searching for weather in many place. Beside of these, also enjoy and impress with opening Internet, how to use Internet, how to use the PCs.

The understanding content are the name of hardware, how to use mouse and PCs’ equipments, how to open the Internet, how to search for the weather, how to search for some information, how to put email address. There are many contents for not understanding such as some special technique searching for required information, how to open new windows, words on button, place of button, etc.

The target in computer class of today are enjoying and interesting. The students seem to want to learn more, searching for weather, have a chance trying on doing many things on internet, be good for themselves, etc.
Chapter 5 Conclusion and Discussion

Conclusion

The main purpose of this study is to study individual learning skills and problem solving skills in computer class. The sample is the 4 class student in junior high school, Japan. The self-perceived questionnaires were used to evaluate the achievement. Data were analyzed through SPSS Version 10 program.

It was found that; most of students were interested in computer lesson both the first time and second time. The greatest number of students understood computer lesson well both the first time and second time. There are 64 students in the first time and 72 students in the second time who chose method ask friends around to solve the problem. The number of students who chose method 2, 3 and 4 are comparable. Only few students chose method 5, 6 and 7 in second time. Most of students are interested in computer lesson and can also understand computer lesson well. Most of students who chose method ask to friends around, see around and talk with friend nearby are interested in computer class. A great number of student who understand computer lesson chose method ask to friends around, talk with friend nearby, see around and ask to teacher.

Most of students enjoyed and had impression with use computer, operating Internet, searching for weather. Those can understand the name of hardware, how to use mouse and PCs equipments, including how to operate the Internet and to search for information on Web page and to put e-mail address. Most of students doesn’t understand special technique to search for, word on button place.
The student’s target in computer class today is enjoyment and interest in computer class.

Discussion

It’s noticeable that most of student chose method-having question with friends to solve the problem. The result is consistent with previous study that the nature of learning of children usually learns from environment surround such as friends or parent (Laurence J. Peter, 1972). Children usually learn from informal instruction. If those environments cannot respond to their requirement or not able to solve the problem, children will chose to learn by asking to the teacher or getting information from textbook. If we consider and arrange learning materials: friends, teacher, and textbook. Most of student chose friend, teacher and textbook respectively. Most of students chose to resolve the problem by having question with friends. This issue will lead to administrate learning-teaching situation to motivate the student to acquire knowledge. The instructor should prepare appropriated learning material for learning. Eventually, students enable to accomplish the objective of lesson properly.

Considering the process of student’s problem solving it have a noticeable that when instructor put method to see G-FAQ pages. There are 41 students chose this method to solve the problem as well. It’s shown that most of student have computer skills and learn to solve the problem by select and using Web page rather than to asking and talking with friends, see around and ask to teacher. It’s suitable to use Web page to develop individual learning. It lead to further study to improve learning skill and problem solving skill by Web based-training and compatible with
individual instruction that learner must be independent learning and self-teaching (David W. Johnson and Roger T. Johnson, 1999).

When we give thought to interesting and understanding of computer lesson. Most of students were interested in computer lesson and can understand computer contents as well. For that reason, if the instructors need to use individual instruction, should be adaptable for generation of student.

The instructor must be ware of this result that individual instruction or computer based-instruction does not relevant to improve interpersonal or group skill because individual learning method to provide little social interaction and aim to improve individual learning skills (David W. Johnson and Roger T. Johnson, 1999). The instructor should consider the other appropriate teaching method for students.


Stuart R. Johnson and Pita B. Johnson, 1972, Developing individualized Instructional material, Westinghouse Learning Press, Palo Alto, California.
Part 1. Instructional Plan

1. Technological department methods and techniques of instruction idea

Higashi Johyo junior high school.
Teacher: Hamano Katsushi
Grade: Pupils each class

Date: Tuesday, June 11, 2002
Time: The 2-5th limit
Place: Computer room
Guidance: Class 1-4 class

Unit: Method of the Internet utilizing

Guideline:
* Concern about the Internet
* Internet-based method

2. Seeing guidance

Most students come to use the computer from the elementary school. The Internet, the practice of the keyboard, and the word processor are attended in the class. We seem to reconfirm content of the use of the Internet for this class. However, I require supporting students who have not been enough to understand of the Internet correctly performed.
3. Seeing students

The students entered the school at a current year, I have acquainted and I’m looking forward to meet them. The use of the computer is actively, and the chance of use the computer seems to be increased, and the students are interested in the class which the computer are also used in own house also and the elementary schools described from the questionnaires to the above-mentioned. It seems that the use of the computer in the elementary school has been increased when it is compared with the students who were guided last year. I think, the examination of the content of guidance, which cooperated with the elementary school in the future, is necessary at once.

4. Instructional plan

The Internet based method       1 hour
Examined by the Internet      1 hour
5. Instructional planning

<table>
<thead>
<tr>
<th>Study process</th>
<th>Study activities</th>
<th>Study form</th>
<th>Note in guidance</th>
<th>Evaluation and material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro. 20 min</td>
<td>Self introduction Students know the method of the use of the computer classroom. The computer is confirmed, and the start is confirmed and the end method is confirmed. Mouse's use is confirmed. Students know the mechanism of the Internet. Students know a internet-based purpose.</td>
<td>Together Individual</td>
<td>The computer room is available. The computers are available. They are correctly supported. To understand the Internet, I support students.</td>
<td>Textbook Computer Evaluation</td>
</tr>
<tr>
<td>Develop 20 min</td>
<td>Students know the use of the browser software. Students know the screen of a browser. Students know a basic operation of a browser.</td>
<td>Together Individual</td>
<td>Browser is helped, and guided availably.</td>
<td>Evaluation</td>
</tr>
<tr>
<td>Summary 10 min</td>
<td>The homepage is inspected. This time is brought together. Students know the problem at the next time. Students look for their target homepage by using the search engine. Questionnaire</td>
<td>Together Individual</td>
<td>To be interested in the Internet, I help. I look back to today's content of study by the questionnaire.</td>
<td>Experiment-tool Questionnaires</td>
</tr>
</tbody>
</table>

6. Evaluations

Students were able to be used the computer.

Skill

Students understood what mechanisms in the Internet were.

Knowledge

Students were able to inspect home page.

Knowledge, Desire
Part 2. Questionnaire

Questionnaire concerning about individual learning skills and problem solving skills of students

1. Is the computer class interesting today?
   ( ) most ( ) fare ( ) moderate ( ) less ( ) not

2. What are your satisfaction or impression in computer class today?

3. Did you understand in computer lesson today?
   ( ) most ( ) fare ( ) moderate ( ) less ( ) not

4. What are your understanding and not understanding

5. How did you do when you can not understand computer lesson?
   ( ) Ask friends nearby
   ( ) Talk with friends around
   ( ) See around
   ( ) Ask the teacher
   ( ) Learn from textbook
   ( ) Don’t understand and don’t do anything
   ( ) See G-FAQ page(second time)*
   ( ) Understand all

6. What is the target of your study today?
Student: Soonthorn Thienngam  
Nationality: Thai  
Research Title: A Study of Individual Learning Skills and Problem Solving Skills in Computer Class  
Term: April 1, 2002 - March 31, 2003

Mr. Soonthorn Thienngam is an officer, office of Rajabhat Institute council, ministry of education of the Kingdom of Thailand. In Thailand, he has been studying the educational research. After he came to study in Japan as a student, he is interested and began to study about the educational research about computer class and e-Learning / WBT in my laboratory.

This report aims to explain about the individual learning skills and problem solving skills researching about consciousness of students in computer classes. He is wishing to circulate his method widely by this report for the teachers and students of Thailand and all over the world.

Another of this report, we wrote the cyber thesis textbook for JICA ITEd project, etc; a lot of our achievements were made in 1 year in co-operation.

I hope that we will continue this co-operation after he returns, so our achievements will contribute for educational development and friendship between Thailand and Japan.