USE OF MOTIVATION, SAME-AGE-TUTORING AND EVALUATION AND LENGHTY EXAMINATION TO LEARN AND TEACH COMPUTER SKILLS TO VOCATIONAL SCHOOL TEACHERS TO MAKE THEM "COMPUTER TEACHER"

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Abstract

Because of the restructuring of the health education and services there was a severe shortage of manpower and teachers who were competent in using and/or teaching of computers and information technology. This was the first emperical study explicitly focusing on instructional strategies to influence learners' emotions; focusing on fear, envy, anxiety, sympathy, and pleasure, to teach basic computer skills to the vocational school teachers to a level which they can also teach basic computer skills to their students. A total of 48 (65% of 75) teachers from the study group started to teach basic computer skills to their students in addition to their normal teaching duties when they returned to their previous posts.

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Key words: *lengthy assessment, assessment-based teaching, teacher motivation, content-driven, teacher-directed learning, classroom learning, persistence learning; motivation; deep information processing; achievement; higher education, same-age-tutoring*

1.INTRODUCTION

1.1.Background

The primary, secondary and tertiary education systems have been undergoing changes in Turkey because of adaptation to the European Union (EU). Previously, there were three year polytechnique institutes admitting students after high schools, after 11th grade. It used to take 3 years to get a diploma from these institutes to become teachers. The graduates of these institutes were no longer accepted as university graduates. There is no longer a three year institute. They were all changed to five year Education Colleges as part of universities due to adapting the Bologna process in the last 8 years.

There used to be three year-health vocational schools in polytechnique status, called Health Education Institute. All the three year Health Education Institutes were changed to four year Health Education Faculties as part of the adaptation to the EU project.

All the high school level nursing and midwifery, paramedical and other health technician training schools were changed to two year vocational schools of universities and now are considered a part of higher education. Some previous high school level nursing vocational schools were changed to four year Nursing and Midwifery Colleges. The instructors have been required to hold a university degree in order to teach at these vocational schools now.

A special agreement was signed between the Ministry of Health (MoH) and Marmara University Health Education Faculty (MUHEF) to contribute to the quality of recent health personnel employed by the MoH via the supplementary courses. Since most of the health personnel were graduates of previous three year health education institutes, they were given an additional chance of coming back to the university and get one academic year of additional training to be awarded a university diploma from the MUHEF. These students were either teachers working from 2 to 15 years in the field or administrators in charge of hospital administration or serving in other areas within the MoH.

The MUHEF administered an admission test to those former three year health education institutes graduates to admit them for further study, the 4th year of the college, in order to give them a university diploma under the agreement signed between the university and the MoH. The ones with good scores would be admitted for one academic year of intensive training to make up the differences between the old and new graduates. All the teacher-students would come to the college leaving their posts for one academic year and go back to their posts, mainly teaching, upon completion of the program.

1.2. Rationale for the study

Because of the restructuring of the health education and services there was a severe shortage of manpower and teachers who were competent in using and/or teaching of computers and information technology. Therefore, many computers purchased by the MoH were kept in the rooms because there was no one who could use them. Most of the students who were coming to the Health Education Faculty to complete a special supplementary program said there were computer labs in their schools with some computers, but the labs were closed because there was no one to teach basic computer skills to the students. There is already a well established "Computer-Formator-Teacher" program designed by the Ministry of Education to train high school teachers to enable them to teach badly needed basic computer skills to high school students in the country. There is already a big demand for such teachers. The learning objectives of such program is also well known to all of us.

1.3. Peer-mediated learning

Students of similar skills and age may help each other mutually, if they are offered the structure within which to do so. The requirement is that students learn to dominate the structured interaction format, which the teacher offers them. If they show themselves to be competent in the process of assistance, it is possible that they can then use these skills to promote the learning of given curricular content, without the prior need of being experts in such content (Duran & Monereo 2005)
The continuity of the role of the tutor or tutee may give rise to two types of tutoring: fixed and reciprocal. The first of these is certainly the most well

known. Reciprocal tutoring has more recent origins, linked to the spread of same-age practices, and was originally developed by (Fantuzzo, King, & Heller, 1992). The explanatory mechanisms of its effectiveness had not been prevously investigated (Sutherland & Topping, 1999; Duran & Monereo 2005) and therefore, I wanted to study its potential superiority with respect to fixed tutoring.

1.4. Hypotheses

Since the majority of the students were already teachers themselves with some years of teaching experience I wanted to test the hypothesis that

a) whether students like hard challenging work as opposed to easier assignment,
b) learners can vary in their certainty that they will succeed in understanding the task. This factor is called *mastery confidence*,
c) learners can differ in their anxiety about failing in the task. This factor is called *incompetence fear*,
d) learners may vary in the degree to which they perceive this task as a *challenge.*

Based on the hypothesis and considerations above, I hypothesized that

e) explicitly focusing on instructional strategies to influence learners' emotions (focusing on fear, envy, anxiety, sympathy, and pleasure),
f) motivating teachers/students to become “Computer-Formator-Teacher” and

g) the same-age-tutoring and evaluation and content-driven, teacher-directed learning method, and lengthy assessment can be used to teach basic computer skills based on the defined learning objectives of the course to the teachers/students to a level which they can also teach basic computer skills to their students when they return to their posts.

This was also the first emperical study of the first theoretically guided approaches explicitly focusing on instructional strategies to influence learners' emotions, the FEASP-approach which focuses on Fear, Envy, Anxiety, Sympathy, and Pleasure (Astleitner, 2000) since it had not been empirically evaluated before (Zikuda , Fuß , Laukenmann , Metz & Randler 2005).

2. METHODOLOGY

Three year Health Education Institute graduates were admitted to the one academic year intensive training program in groups of eighty students according to their scores on the admission test given by the college. The ones with higher scores were admitted in the first groups, the others were admitted in the later of the program. There were a total of 6 groups of 80 students each. Officially there was a one hour lecture and two hour lab session allocated for the basic computer skills course in their intensive training program. The course was taught to the first 2 groups of 160 students as required in their program, one hour lecture and two hours of very superficial lab practice sessions and they served as control groups. There were a total of 18 computers in the lab. They were all multimedia and a mixture of PentiumIII and Pentium4 processor computers.

2.1 Sampling

2.1.1. The control group

The first two groups of 80 students, totaling 160 in all, were admitted to the program in the 1997-1998 and 1998-1999 academic years and served as control groups. They were taught basic computer skills such as writing of a simple article using Word®, making a very simple diagram using Excel® and few DOS coommands etc. as one hour lecture and two hours of practice at the lab as the course was originally designed and taught by a different instructor.

2.1.2 The sample group

The third group was admitted to the program in 1999-2000 academic year. There were a total of 80 students of which seventy five were teachers, three were working as administrators in the district hospitals, and two were working at the Ministry of Health as consultants. They were 25 to 42 years of age, 60% female, 40% male, and had teaching experience of an average of 2 to 15 years. I sought the appropriate consultation with the dean and vice dean and got their approval before talking to the students about the projects. Because of the ongoing education of these "teacher-students" on a diploma program, it was

impossible to divide the students into two groups from the very beginning, one for the control group which will receive standard training which means the writing of a simple article using Word®, making a very simple diagram using Excel® etc., the other as a sample group which will receive very extensive training in basic computer skills. However, I talked to the students about the project and also offered those students who were only intereseted in a very superficial learning of basic computer skills as a separate group. None of the students wanted to be in this so called control group. No one wanted to be out of the study whether due to pride or the incentives or the self-satisfaction he/she could gain by participating in this project. They all wanted to take part in this study. Therefore, the 3rd group of students were all included into the sample group. The Dean of the Health Education Faculty
asked me to use the entire 3rd group as the sample group and compare the results with the previous groups.
Then, the students were divided into 5 groups of 16 each according to their registration number. The students were given a pretest about their basic computer skills, mainly some hardware such as the meaning of a Central Processing Unit (CPU), the definition of a hard disk, describing how the process takes place in the CPU, some operating system questions relating to the copying of a file to a floppy diskette, the ability to change the background wall paper, how to change the date and time and how to add a printer. In addition, some DOS operating system questions were asked in regards to how to make a copy of a file, how to change directory, how to backup, how to format a diskette, creating a new directory, etc. I also asked some questions about Microsoft® Office Programs such as Word®, Excel®, PowerPoint®, FrontPage®, Access®, etc. and the Internet just to get to know the basic computer skills level of the students.
There were two students who were relatively knowledgeable in basic computer skills, one of them; a female was a “Computer Teacher” in her school, the other male was a self-learned computer enthusiast. Of the remaining students, only one knew a bit about the DOS operating system in relation to making a copy of a file, etc. The rest of the students did not have any computer skills previously and were said to be afraid of the computers. Most of them said there were computer labs in their schools with some computers, but the labs were closed because there was no one to teach basic computer skills to the students.

At the beginning of the class I got together with all of the students and made my goal and objective very clear to everyone. I told them that I was very determined to train this group so well that they all would be "Information Technology Teacher" when they got back to their schools and start to teach "Basic Computer Skills" to their students instead of/or in addition to what they were already teaching. I also made it very clear that since there was a shortage of skilled people in Information Technology, they all could start to work in the local "Private Computer Skills Training Centers" and make extra money. I also talked about the opportunities of opening an "Internet Cafe", opening their own "Computer Skills Training Centers", a shop to make PowerPoint slides, charts, writing thesis, posters, etc. They were all aware of what they would be able to do if they knew the "computer". Those who were working as administrators all said they would open the box containing computer and start using it and show their peers that they accomplished the most difficult task in their lives: "computers". I also told them not to worry about anything when they would be working with the computers; nothing would be deleted or disappear from the computer if they push a wrong buton. This was the myth about the computers which needed to be overcomed. I also told them that I would show them how to reinstall a computer if any of them breaks. They would not be held accountable for it. I also intentionally switched off the computers several times in front of them to prove that nothing serious would happen to the computer and they should feel comfartable when working with the computers. I also showed them one computer which was intentionally infected with virus and cleaned the computer from the virus in front of them using an anti-virus program. I requested that no file in flappy diskettes from outside should be brought into the lab to protect the computers from getting infected by a virus. I also showed them how to install Windows® Operating System and Microsoft® Office Programs to a computer. They all felt comfartable working with the computers when they were convinced that nothing would happen to them. Later I gave them the list of learning objectives of the course and told them they would be required to master everything on that list. The learning objectives were made clear to every student, therefore, everyone was ready for the challenge. Most of them admitted that they were afraid of computers, but they trusted me since I knew exactly what I wanted to do and I was so confident in myself. They said they would be appreciated at their workplaces and promoted easily and would be looked up to by their coworkers if they were successful. At the very

beginning, I explained that I was going to administer a difficult lenghty final exam and I planned to spend 2 to 3 hours with each student so that I could cover all the topics in detail to make sure that every student learned the objectives that were to be learned in the course. I also told them that their only chance was to work very hard and even though they themselves were teachers with some years of teaching and assessment experience, they would see a very different kind of exam. I would use the exams as an opportunity to teach them the computer skills as well. In this way, they should be ready for the toughest exams they would ever to take in their lives. I was sure that they could not foresee how difficult the final exam was going to be. But every one of them learned that they would sit in for the test one by one and I would spend 2 to 3 hours for each student to cover just about everything.

2.1.3. Design of the course

There were only 18 computers in the computer lab and no other computer lab was available to practice their computer skills. We all had to do the course teaching and practice using the same lab. I had two classes of 4 hours each for each group in a week. For example, one group, group A, would have 2 classes, Monday 08:00-12:00 and Wednesday 13:00-17:00. Group B, Monday 13:00-17:00 and Wednesday 08:00-12:00 etc. I even had classes on Saturdays and Sundays mornings. I was always available in the lab, even after 5 p.m. I would go home and eat supper and return to the lab an hour later. The students knew when they could also practice. I was in the lab till 01:00 a.m. and sometimes we even worked till 03:00 a.m. Everyone was determined to succeed and everyone was working very hard. The Dean came to the lab one day at 03:00 a.m. to check whether what was said about this “unique computer course” was true or not. The students were talking about how hard they were working, even till 01:00 or 03:00 am, but not complaining about it. Even though the course was designed for 2 credits, 1 hour lecture, 2 hours of lab, not one student complained about the long hours of hard work in the lab. I made eating and drinking free in the lab which was kept open 24 hours a day including the weekends. From time to time, I even brought food and drink for the students who were working late during the night to boost their morale and to show my appreciation of their hard work which was something they had never seen before. They themselves were teachers and they had never done anything like

that before. It was the first time in their lives they had to come to school on the weekends and work very hard for a course.

I had all the courses in the lab. I did not have a separate lecture and practice lab. I always used the computer to show them. I had my PC used for teaching and a LCD projector to project the computer screen to the white wall.

2.1.4. The Course Learning Objectives

Every student was expected to learn Windows® operating system, Word®, Excel®, Power Point®, Outlook®, FrontPage® and Access® in detail so that he/she could teach them their students when they returned to their schools. They were also expected to surf the Internet, send and receive e-mails, subscribe and unsubscribe to list servers, etc. These were the minimum attributes they were expected to have at the end of the course. Because these were the attributes they should have to pass the test given by Microsoft to receive certification to become an authorized trainer. Besides, these were also taught to the teachers who were undergoing "Computer Formator Teacher" courses to become certified to teach basic computer skills to high school and vocational school students. There was no separate computer lab to install Linux and office products for Linux to teach the students other operating systems and its related products. The students were not interested in learning the DOS operating system so we did not waste time teaching DOS except for a few DOS commands, such as copy, del, cd, rename, format, md, dir, etc.

2.2. Evaluation

2.2.1 The Exams

One very quick exam comprised of one or two practical questions, a midterm and a lengthy final exam were given to the students.

2.2.2. The conduct of the lengthy final exam

Once more I gave the students a list of skills they were expected to have learned and were instructed to come to the exam well prepared. They were expected to do self-assessment and self-study on every topic they learned and to make a copy of their study files (as I called them) to floppy diskettes or to the computer they worked on in the lab. The students were allowed to take the test on any computer they had worked with in the lab in order to make him/her comfortable. They were expected to show the charts, diagrams, articles, flow charts, mail-merge studies, Power Point presentations, web pages, created address books, programs in Excel, etc. in every topic we covered during the lab sessions. As for peer-to-peer learning is concerned, the students were allowed to make a copy of their friends' work to learn how to do the same thing by asking his/her peers. He/she was expected to demonstrate to me and as well as to the observing students from the same group any of his/her work and how he/she had done it step by step to make sure that it was his/her own work. I would ask them to make some minor or major changes in any of his claimed work. I made a copy of all their studies under name directories and everybody would see each others' work on my computer in the lab. Therefore there were no secrets about anyone's work. Everybody knew what everyone else was doing. I would compare the work of a student with a similar project to that of another student immediately if I felt that the student had made a copy of his friend's work and had tried to cheat. Therefore, it was very clear to everyone that cheating was not possible. Even if he/she had made a copy of his/her friends' work, he/she knew the procedures had to be learned. This encouraged peer-to-peer learning and learning by learning how the copied work has been done. One of the purposes of the study was to make the students learn no matter which way he/she tried.

I always took at least two students as observers and peer-to-peer evaluation of each student during the exam. The observer students were accepted as the best students in their group. He/she was also the witness for his peers' performance as well as peer-to-peer evaluating them. Therefore, no student had the opportunity to leave the lab and say I did it right, but the instructor failed me. It was like taking an oral exam in front of their peers which was very stressful. The minimum requirement for passing the exam was 65 out of 100 points. Most of them were teachers themselves and had given many tests to their students before, in the form of multiple question exams, etc. However, this was the first time they were sitting in a one to one, face to face exam right in front of their peers as observers. It was very stressful for all of them, but I used the exam as an opportunity to teach them more about computer skills. The most important part of the project was that all the students had taken all the exams of the other courses and already passed them before taking the basic computer skills course final exams. None of them failed in any of the exams of the other courses before the basic computer skills final exam. They were excellent students and were ready to take the most difficult exam of their lives which was how they described the final exam. None of them was expecting to fail the exam.

The computer enthusiast student got even better and helped his peers during the lab practices. All the students and I unanimously made a decision that he was not going to take the exam and be given A++. The first student passed the exam and she was very happy. It took 3 hours to ask her every detail and did not leave anything untouched. It was an alarming signal sent to the rest of the students that the final exam was really going to be very tough. The second student sat in the exam and failed in 2 hours with a unanimous decision made by the observers. He admitted that he was not as good as he should have been and he deserved to fail. I told the students it might take days to give them the final exam and I was ready to do so. They did not believe that I could spend 1 to 3 hours for each student for the exam. The third one also failed the exam after 2 hours. The exam lasted well after 12 p.m. but I continued. After the second student's failure, the rest of the students came to me and asked to postpone the final exam for 2 more weeks. They did not expect the final exam was going to be this difficult and they wanted extra time to study. It was exactly what I had expected. I told them once more what attributes I expected them to have in

order to pass the exam. There was no room for chance because there were no multiple choice questions.
The Dean agreed the postponement of the basic computer skills course final exam for two weeks. All the students went back to the computer lab and I was in the lab as well helping them with their questions. They really started to work very hard, especially peer-to-peer teaching and learning took place more during this period. They always had their best students in their groups with them and asked these students to show them the parts they had problems with, such as mail merge, or creating address databases in Word, etc. I spent an average of 1 to 2 hours to assess each student. I had to spend more than 2 hours for those students who were determined to get A++. There were really bright students who were ready to challenge me. They were even asking me very tricky questions during the exam to show off and I was very proud of them. Those students had known nothing about computers before and now they were asking me very difficult questions. Some of these students were determined to get A++ and I gave them A++. Some of them were competing with each other and were very self confident and became very cocky. The Dean stopped by the lab during the exam. Once he came into the lab during the final exam period at 3 a.m. and saw me in the lab working with the students. He made the comment that he had heard a lot about the final exam and he could not believe it. He came to the lab to see it for himself. He congratulated all of us including the students and boosted our morale. He made a statement to the students that they were making history in their college. It took me 10 days to complete the first round of the final exam. The grade was given to the student by a unanimous decision made by students themselves and the observer students. In fact, every exam was a kind of self-assessment and peer-to-peer evaluation. I was the observer when they were deciding about whether the student should pass or fail and what grade should be given. The assessment of students was also the assessment of the observers and an opportunity to learn to be very objective, rather than subjective. A total of 34 students failed at the end of the final exam. They were given additional 2 weeks to take the exam again. It took me and the other observer students another one week to complete the second part of the final exam. Only one, 42 year old, who was working at the MoH as an administrator-consultant could not make it. He had to take the exam in 2 months time again. The rest all made it at the end. They all learned that they had to work very hard and there was absolutely no place for luck in order to pass the exam. They all

changed their attitudes about giving and taking exams. Some of them made remarks about never giving easy exam to their students anymore. He learned the hard way of working for and passing the exam, he would do the same to his students for his classes.

3. RESULTS

I took every student's address, telephone number, etc. to reach them for the follow up study. I sent a survey to the students and their school administrators 3 months after their graduation about what they were doing upon return to their posts. I also sent the same survey to the students of the previous control groups and their school administrators. I asked the very simple question of whether they were teaching the same subjects as they had been teaching before coming to the program or had started to teach basic computer skills to their students**.** All of the third group students responded to the survey as they had promised. Close to 50% of the control group students also responded. A total of 48 (65% of 75 teacher-students) students from the 3rd group, the sample group, said they started to teach basic computer skills in addition to their normal teaching duties. They all said they were very proud of the training they had received and were willing to teach their students what they had learned with a similar method I had used. Six of the 3rd group students said they also started to teach at the Microsoft Authorized Training Centers in their cities. Two of them said they were planning to open a private computer training center in addition to their official duties at the state schools. One student said she opened a computer shop together with a photographer to write a thesis, make Power Point slides, scan pictures, books and journals to make teaching materials for the teachers, make acetate copies from the Word or Power Point documents, etc. in addition to the teaching of basic computer skills to her students. There was no difference between the gender and different age groups in terms of being able to teach basic computer skills. The relatively old teacher-students used this opportunity to prove themselves to their peers. They later confessed that they were terrified when they first entered the "computer lab" because of the myth about the computers they had believed that even if you made a smallest mistake everything would be deleted from the computer or would just disappear. Therefore, they were scared to touch the computers before the course and my introductory speech. They said my own confidence and enthusiasm made them

feel comfartable and all trusted me. The control group students all said they were doing the same thing they had been doing before coming to the program since they did not feel confident enough to do any kind of teaching of basic computer skills. They saw no benefit of having a university diploma, did not learn anything extra as did their 3rd group peers.

4. CONCLUSION and DISCUSSION

Enthusiasm of the instructor, myself, and motivation of the students together with assessment method used to evaluate the students affected the outcome of the course. The students learn about the teacher's behavior and expected outcome of any course by word of mouth. It is true that the assessment determines the quality of education. The students did not realize how difficult the final exam was going to be at the beginning of the course. They all expected that since they had been teaching for many years that I would not be tough on them during the exam out of respect to fellow teachers. They were not aware of the fact that even though they were teachers, I accepted them as students, in fact, they were senior year students at the MUHEF and all were part of a project.

4. 1. Student motivation

Student behavior and motivation were found to depend upon the meaning and interpretation they give to their learning experiences (Urdan & Maehr, 1995). Student perceptions regarding their work on particular learning tasks and regarding the achievement goals emphasized by their academic institutional setting were considered to play a large role in determining their motivation to learn (Shacharand & Fischer 2004).
In this study, I found the following aspects of learning; (1) enthusiasm of the instructor, (2) motivation of the teachers/students and mastery confidence, (3) the same-age tutoring, (4) providing high-quality learning environments, (5) illustrating the meaning and the purposes of the course and indicating the reasons for learning, (6) lengthy assessment procedure, (7) the same-age evaluation in the final examination, (8) incompetence fear and (9) the difficulty of the task as the most important factors played a role in our success.

Becoming a "computer teacher" and to be well respected among their peers when they return to their posts were the most important reasons to work very hard to attain the goal in our study. However, of these nine aspects of learning, I found mastery confidence and incompetence fear were the best predictors for the learning process.

4.2. Emotions and learning

Emotions have an effect on learning and achievement, mediated by attention, self-regulation, and motivation (Pekrun, Götz, Titz & Perry 2002). Emotions, such as interest, facilitate activities that provide novelty or challenge, and are closely linked to all self-determined activity (Zikuda, Fuß, Laukenmann, Metz & Randler 2005).

4.3 Incompetence fear and assessment procedure

Biggs (1996) suggested that if students need to learn deep information processing strategies, they should be assessed on these strategies and not on surface learning strategies (Bruinsma 2004). Therefore, I used lenghty examination held in unrestricted time and the same-age evaluation to determine whether each student mastered the subject matter or not. However, I found the presence of at least two well respected and competent same-age students as observer and evaluator in the final exam equally important to having lenghty exam. The presence of their peers in the exam put an extra pressure on the students. This high incompetence fear led learners to study even harder because no body wanted to make a fool out of himself/herself in front of their peers. Obviously, this kind of anxiety caused learners to persist in striving for a given specific goal. This is not a desirable incentive for learning, of course, but it seemed to work in our situation. Students-adult learners were convinced that the instructor and two observer-evaluator students would evaluate their performance face-to-face in the final exam. Regardless of the quality of this incentive, so many of the students later confessed that this was one of the main reasons why they had persisted to learn and be successful.

4.4. Difficulty of Task

The difficulty of the goals, or the level of task proficiency required determines the amount of effort to attain a goal (Austin & Vancouver, 1996; Schunk, 1990; Bruinsma 2004). If a task is not challenging, people lose critical incentives for learning and it becomes hard to believe that students will be motivated enough to work on the task until they are compensated for their initial knowledge deficits. Therefore, we can limit the scope of our results to tasks that have a high challenge for learners such as learning computer skills to become "computer teacher". With less challenging tasks, other activities might become more attractive (Vollmeyer & Rheinberg 2000).

4.5. Student behaviour and reputation of the course and importance of assessment method

The teachers were also the students in the course at the same time and behaved like students too. Some of them asked me not to be tough on them during the final exam since they were already teachers and adults. Therefore, I strongly recommend to use lengthy assessment method for teaching of especially skill based courses such as basic computer skills. There is no doubt that reputation of a course is based on the assessment method used to evaluate students and assessment method very much determines the quality of education. During the exam nothing should be left untouched for each student and this should be seen by all the students. Otherwise, they study very superficially just to pass the exam given as multiple choise or in other forms which usually take about an hour. As a result of the assessment procedure I used, the reputation of the MUHEF changed and the students of the previous groups complained to the Dean about not having received such a good training course enabling them to become "computer formator teachers." The most important outcome of the project was the message sent to the incoming group of students, the 4th group, by the 3rd group of students. The 3rd group students all knew who the next group of students would be and they had known each other since they all were working in the same schools. I was told that the majority of the 4th group students had already bought "computer books" and started to work with someone who knew "computers" or were working in their local "Internet Cafe".

The 4th group of students was getting ready for the most difficult course they thought they would ever take in their lives.

4.6. The same-age tutoring

In a study they found that students in vocational school list many socio-emotional goals among their most salient personal goals, such as being respected, being supportive, sticking to an agreement, being treated fairly, having harmonious contacts with peers, maintaining confidence in public, and getting valued for effort. These goals were salient in and out of school. Surprisingly, two interpersonal goals, namely 'be ready to help anyone' and have 'harmonious contacts with peers' were considered more valuable in and out of school context than at school. Remarkably, two higher order goals that bear directly on academics, namely 'learn new content/skills' and 'achieve well' were more valuable to students in relation to their practical classes than in relation to academic subjects (Boekaerts 2002) In our study, the students accepted the same age student's tutoring, provided that they considered the student as competent in the subject-matter area concerned. It was also interesting to see that some groups performed better then the others. I found the groups with well respected, competent and highly motivated same-age tutors did better than other groups with less competent and motivated same-age tutors.

Peer-mediated learning receives different names. Thus, apart from the term "cooperative learning", Peer-Mediated Instruction and Intervention or Peer-Assisted Learning have also been used. The term collaboration was used as a general concept (Kneser & Ploetzner, 2001) and others who still distinguish between cooperation and collaboration (Duran & Monereo 2005).

The difference of age between the components of the pair gives rise to tutoring known as cross-age, without doubt the most common type in school practices, due to the fact that it approaches the widespread conception that associates the tutor student with the figure of the teacher. However, the available studies indicate that, rather than the difference in age, the important factor is the difference in aptitudes between the tutor and the tutee (Verba & Winnykamen, 1992). This reasoning have contributed to the spread of the experience of peer tutoring of the same age or same course, known as same-age tutoring. Duran

and Gauvain, 1993, comparing diads of students having different ages with others of the same age, conclude that the most effective diads are those composed of students of the same age, but with different levels of skills.

In conclusion, putting the students into groups and allowing them to work as groups helped as well, as has been published elsewhere (Drew & Vaughan 2002). As expected, success oriented persons attributed positive events (Haugen & Lund 2000). Peer-led team work showed significant improvements in student performance, retention, and attitudes about the course (Tien, Roth & Kampmeier 2002). Student behavior definitely affects teaching (Wills 1997). Test length significantly affect the reliability of the examinations. A particular concern has been the demonstrable need for long examinations if high levels of reliability are to be achieved (Newble 2004).

In the next study, I plan to teach the same course entirely based on the same-age-tutoring and evaluating and lenghty final examination. I will train the trainees (the same-age tutors) first and assign a group of students to the same-age tutors to learn and teach basic computer skills. The same-age tutor/trainee and the entire group will be held responsible for the learning and mastery of the subjects for their group. They will evaluate each other first before the final exam and when they all are ready to sit in the final exam I will just sit in the lenghty final exam as an observer as I did in this study. The group and the same-age tutors will either pass or fail as a group. This will increase the team work and cooperation and collaborative learning. I will spend most of my time and energy just for assessment of the students in the final examination rather than teaching each student. I would like to see similar studies to be conducted elsewhere and later compare the results.

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Acknowledgements:The work was carried out at Marmara University Health Education Faculty, Istanbul, Turkey. The author wishes to thank Prof.Dr.Osman E. Hayran, the Dean of the Health Education Faculty of Marmara University for encouragement and making this study possible by taking the full responsibility in bureaucracy related issues, such as the postponement of the final exams and allowing the exams to be given during a long period of time.
The editorial support of Linnette Erocak is most gratefully acknowledged.