STUDENTS' OPINIONS ON USING CLASSROOM TECHNOLOGY IN SCIENCE AND TECHNOLOGY LESSONS - A CASE STUDY FOR TURKEY (KILIS CITY)

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ABSTRACT
This paper intendes to explore the opinions of 9-13 year old students' perspective regarding the interaction with classroom technology (CT) in Science and Technology (S&T) lessons in Kilis city of Turkey. The issues discussed here can provide some ideas for educators to improve their teaching. Two types of students are used from private schools: from schools with high levels of teaching resources (HLTR), and from schools with low levels of teaching resources (LLTR). The students are surveyed in five general areas related to CT. The population of the study is 263 students (4. and 5 class) which belongs to four different primary schools in Kilis city. Subjects (participants) were chosen through random sampling. "Personal Data Form" and "Survey About Students' Opinions on Using CT in S&T Lessons" which were improved by the researchers were used as data collection tools. From this research, Some differences have been found in students' point of view on which it leads support on learning, drawing attention, increasing the research opportunities and the effects of computers on learning according to the school types by using CT in S&T lessons.
Key Words: Classroom Technology, Science and Technology lesson

1. INTRODUCTION

A newly integrated curriculum was implemented in primary and secondary schools of Turkey in 2004. This new curriculum reform explains not only how the curriculum should be changed and modified, but also how teachers would implement innovative teaching in their classrooms. Such reform will inevitably affect the design and instruction of teacher education courses in universities. New science teachers should be equipped with the ability to integrate and design the curriculum and aim for innovative teaching (Syh-Jong, 2008)

Educational Technologies and Materials, which offer additional opportunities for learning and putting what you know forward, provides different learning enviroments and maintains permanent and interactive learning.Especially with abstract concept lessons like Science and Technology, the usage of educational technologies anad materials are very currucial (Serin et all, 2009).

Technology in the classroom emerged as an issue for both teachers and students in the early 1980s. Since then, a number of studies have been done on how technology is used in the classroom, what advantages technology in the classroom may hold for teachers and students, and how technology is implemented in the classroom. (Plumm, 2008).

Many schools around the world have adopted different computer related technologies in learning and education, e.g., the use of multimedia in the classroom (Schmid, 2008) altough some researchers have defended that biases that have been pointed out and studied within the educational system have not been solved by the use of technology (as some had hoped) (Plumm, 2008).

Creating effective learning environments with technology remains a challenge for teachers. Despite the tremendous push for educators to integrate technology into their classrooms, many have yet to do so and struggle to find consistent success with technology-based instruction (Groff and Mouza, 2008).

Harlen (2000) identifies three main aspects of the teacher's role: (1) setting up the learning environment, (2) organizing classroom activities, and (3) interacting with students. Among these three aspects, the most important aspect is teachers' interaction with students during their teaching. A teacher has to help students in engaging them to think while performing the tasks given. Johnson (1997) also found that the teacher's role during his study on a technology-based learning environment was crucial (Saat and Bakar**,** 2005).

In today's world, when the usage of technology in education is mentioned, the first thing that comes to mind is the usage of technologies related to computer. Thus, it is clear that computers cannot replace teachers since teachers are the key to whether technology is used appropriately and effectively (Kumar, Rose and D'Silva, 2008). At this point, the most important thing to do is to change the wrong thoughts of the educators about CT.

Information technology (IT) has opened wide opportunities for educators to integrate technology-supported materials in the teaching-learning process and to improve the achievement of students (Jonassen, 1995). As computer costs decreased some classes began to be taught in computer labs where computers are available to students during class teaching (Harms 2007). The use of computer-aided technology in the classroom will, no doubt, inspire the teachers to approach their tasks with a greater sense of purpose and, more importantly, a sense of play to make the learning process fun for students. Using computer-based technology such as data-logging and simulations is important for modeling subjects such as science and mathematics. Furthermore, the availability of vast amounts of up-to-date information in the teaching and learning of different subjects are found on the World Wide Web. The internet provides far more up-to-date information than text books. Besides, looking for books and go in search for them and then discovering that it is not the one that has the kind of information you want can be time consuming and frustrating. The Net, on the other hand is very efficient. Up and above that, textbook can become obsolete with out off date information that could misguide students into believing that there is no further development after that discovery. It is also an undeniable fact that the multimedia and interactive nature of software programmes on CD-roms and on the World Wide Web assist with students' learning. The computer motivates and caters for different learning abilities. Students generally enjoy using the computer and with enjoyment come motivation. In particular, the presence of computer-based technology changes the way subjects such as science and mathematics is being taught. It is believed that the current era relate to computers as part of their up-bringing and being relevant in a technologically oriented society. In the homes of increasing number of students, computers play an essential role in students' recreation and learning (Kumar, Rose and D'Silva, 2008).

Recognizing the paramount of importance of CT, many countries including Turkey have formulated special projects to enhance the usage of information technology. Turkey is a developing country between Europa and Asia. In last years, Turkish schools have experienced a dramatic growth in the use of computer-based technology for education purposes. Moreover, the Turkish Governments had also allocated special budget for making computer technology classes to schools. For Example, the National Ministry of Education bought 12,000 computers (tought to be one of the CT tool) for middle and secondary schools, but no preparations were made to understand how to use these computers in an effective way. As a consequence the majority of the schools used computers for reasons other than education – such as keeping records and registration of enrolments (Alyaz & Gürsoy, 2002; Özmen, 2008).

In new Turkish Curriculum the teaching must be Student-centered and Turkish teachers have difficulty on changing their traditional teaching methods. This concern often centers on the perception that teaching across computers and other technological instruments might decrease the frequency of one-on-one student-teacher communication or increase the amount of time that teachers spend at their workstation. Recent research, however, indicates that the adoption of technology in the classroom can lead to qualitative and quantitative improvements in teacher-student interaction. Undoubtedly the recent advancement in information technology innovations and computer usage is rapidly transforming work culture and teachers cannot escape the fact that today's classrooms must provide technology-supported learning (Angers & Machtmes, 2005).

It is a widely held belief that many Turkish school teachers do not have a strong background with regard to using education technologies in daily-life, and especially in science education. In order for technology to be successfully integrated into the science curriculum, there are several factors that need to be in place. For example, teacher training is crucial for successful technology integration (Vrasidas & McIsaac, 2001; Şimşek, 2007). According to Papanastasiou, Zembylas, and Vrasidas (2003), it is only when teachers have the knowledge, skills, resources, and support available that they will be able to integrate technology in the science curriculum in order to maximize its effects on teaching and learning. The preparation of teachers to use technology continues to be a basic concern of teachers' educators in Turkey (Altun, 1996; Baki, 2000). Baki (2000) reports that when pre-service teachers complete their teacher education programs, they are often faced with the reality that their education did not prepare them to use technology in their teaching. Therefore, learning to teach science with technology is an important concern, and should be integrated into the teacher education curriculum. This means that technology teaching experiences should become an integral part of the pre-service curriculum (Özmen, 2008).

It is noted in the literature that a technology-based learning environment is complex and demanding for teachers for the following reasons (Fishman, Marx, Best, & Tal, 2003; Ladewski, Krajcik, & Harvey, 1994; Williams et al., 2004; Özmen, 2008):

(i) teachers need to understand the discipline or content well enough to allow students to ask difficult-questions,

(ii) they need to be familiar with the use of new representations of science content as a result of computers, such as using graphs,
(iii) understanding of technological and computer-related issues,
(iv) Although teachers are sent in courses for training to gain knowledge and skills in the actual usage of computer and technological equipments, many have returned only to fall back onto their traditional mode of teaching.

It is possible to benefit from CT effectively in S&T lessons to reach the objectives which have been determined. S&T lessons are rich in content in terms of its usage of CT. If the content of the lesson is supported by CT meaningful learning will be achieved. S&T lessons are applied lessons in terms of content. If these lessons are taught verbally, it can not be possible to achieve meaningful learning. In S&T lessons where the lessons are taught in an applied way and visually, students will be able to concretize what they have already learned in their minds and send them to their long-term memory. For this reason, it will be useful to get use of CT to make learners more creative and have a positive attitude towards S&T lessons. CT is not, and never will be, transformative on its own - it requires teachers who can integrate technology into curriculum and use it to improve student (Kumar, Rose and D'Silva, 2008).

2. METHODS

The aim of this research is to assign the views of 4. and 5. class students about using the CT in Science and Technology Lessons. Groff and Mousa (2008) reported that school level is a factor which influences the use of classroom technology. Therefore; the result of "The ratio of the students' opinions about the following problems or items using CT according to the school type in S&T Lessons" tried to find:

(a) Support on learning
(b) Expanding the research facilities
(c) Effects of the enhancement of the attention to the lesson
(d) Effects of the computer which is one of the important instrument
(e) Expanding the success

2. 1. Population

The research was conducted in four primary schools between the education years 2008-2009 in the city of Kilis in Turkey. The population of the study comprised 263 students which are 4. and 5 classes. Subjects (participants) were chosen through random sampling.

2. 2. Collecting The Data

"Personal Data Form" and "Survey About Students' Opinions on Using CT in Science and Technology Lessons" which were improved by the researcher were used as data collection tools.

In order to determine the questions which were used in the research, the students who study in primary schools are informed about the CT. Students were informed about the term of "technology" used in the questionnaire means the technologies including portable computers, probeware, projectors, digital cameras, VCDs, DVDs multimedia programs, and other specialized equipments. Their opinions on using CT in S&T Lessons were asked. In accordance with these opinions, question sentences are determined.

To examine the cultural differences in students' perception of the classroom technology, 2 private school and 2 state schools which one of them has high level teaching facilities (HLTR) and the other one has low level teaching facilities (LLTR) have been choosen. To collect the data, a questionnaire which have two segment is used. In the first section, there is an individual information form which has 10 items. The individual information form is for measuring their thoughts about using the CT in S&T lessons. The actual survey questions are included in appendix.

3. RESULTS AND ANALYSIS OF DATA

A. Individual informations about the students

There are 149 female students (%56.65) and 114 male students (%43.34) in the research. Their ages are between 9 and 13. It has been seen that 38 students have high financial conditions (%14.44), 76 students have good financial conditions (%28.89), 81 students have middle financial conditions (%30.79) and 68 students have bad financial conditions (%25.85). Between these students, 69 students have their own personal computer (%26.23). It has been seen that 74 students have high success (%28.13), 99 students have good success (%37.64), 65 students have middle success (%24.71) and 25 students have bad success (%9.50) in S&T lessons. 223 of them

enjoy during S&T lesson (%84.79), 40 students of them do not enjoy the lesson. 219 of the students (%83.26) like using the CT in S&T lessons, 44 of them do not like using the CT in S&T lessons (%16.73).

B-1. First Problem

The first problem of the research is "What is the ratio of the students' opinions about support on learning of using CT in S&T lessons according to the school type?" In the questionnaire, there are 7 items about being helpful CT in teaching.

The Outcomes Of The Facilities Of CT In Teaching According To The School Type

According to the outcomes of the research, it has been seen some differences between the students in private school and HLTR students and LLTR schools' students as illustrated in Table 1, 2 and 3. For all tables illustrated from Table 1 to Table 14, "N" represents the number of the students and the "Ratio" represents the ratio of the students who choose the item answer as alternative, respectively. When we compare the private schools with HLTR schools, private schools have better differences than HLTR schools. In this case, private and HLTR schools showed positive features to use the CT in S&T lessons.

Table 1. Results for Private Schools.

SECTION 1	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	25	%62.5	0	%0	15	%37.5
2. Item	20	%50	2	%5	18	%45
3. Item	15	%37.5	2	%5	23	%57.5
4. Item	1	%2.5	30	%75	9	%22.5
5. Item	2	%5	35	%87.5	3	%7.5
6. Item	20	%50	1	%2.5	19	%47.5
7. Item	2	%5	37	%92.5	1	%2.5

Table 2. Results for HLTR Schools.

SECTION 1	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	66	%56.41	0	%0	51	%43.58
2. Item	45	%38.46	21	%17.94	51	%43.58
3. Item	60	%51.28	12	%10.25	45	%38.46
4. Item	27	%23.07	84	%71.79	6	%5.12
5. Item	12	%10.25	93	%79.48	12	%10.25
6. Item	63	%53.84	15	%12.82	39	%33.33
7. Item	27	%23.07	87	%74.35	3	%2.56

None of the students choose the item "I disagree" in private and HLTR schools but %9.43 of the students in LLTR schools answered as "I disagree" about the hypothesis "Using of CT increase the intelligibility of the subjects in Science and Technology lessons"

% 75 of the students attending private schools; % 71.79 of the students attending HLTR choose the item "I disagree" and % 41.50 of the students attending LLTR schools choose the item "I disagree" about the hypothesis "Learning the lesson becomes difficult when CT is used in Science and Technology lessons.".

Table 3. Results for LLTR Schools.

SECTION 1	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	52	%49.05	10	%9.43	44	%41.50
2. Item	36	%33.96	10	%9.43	60	%56.60
3. Item	38	%35.84	10	%9.43	58	%54.71
4. Item	36	%33.96	44	%41.50	26	%24.52
5. Item	24	%22.64	64	%60.37	18	%16.98
6. Item	44	%41.50	14	%13.20	48	%45.28
7. Item	40	%37.73	48	%45.28	18	%16.98

While % 92.5 of the students who attend private schools, %74.35 of the students who attend HLTR schools choose the item "I disagree" for the hypothesis "I understand the subjects slowly when CT is used in Science and Technology lessons"; % 45.28 of the students who attend LLTR schools choose the "I disagree" item. The reason why students who attend LLTR schools give such answers may be their lack of knowledge about the CT and the result of this they become disposed towards CT. Using the CT, it is possible to expand the benefits of S&T lesson on children. In private schools, it has been seen that using the CT get positive attitude on teaching.

B-2. Second Problem

The second problem of the research is "What is the ratio of the students' opinions about expanding the research facilities by using the CT in S&T lessons according to the school type?". In the questionnaire, there are 3 items about this section.

The Outcomes Of The Views Of The Students In Expanding The Research Facilities By Using The CT In S&T **Lessons According To The School Type**

It has been seen in Table 4, 5, 6 that there are differences in the views of the students in expanding the research facilities by using the CT in S&T lessons according to the school type. There are some differences in private schools and HLTR schools students' favour. It has been founded that using the CT in S&T lesson has been helpful to orient the students to the research.

While none of the students attending private schools choose the item "I disagree"; % 5.12 of the students who attend HLTR schools and % 10.37 of the students who attend LLTR schools choose the item "I disagree" for the hypothesis "We can search more subjects by using to CT in S&T lessons.".

Table 4. Results for Private Schools.

SECTION 2	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	10	%25	1	%2.5	29	%72.5
2. Item	12	%30	0	%0	28	%70
3. Item	5	%12.5	0	0%	35	%87.5

Table 5. Results for HLTR Schools.

SECTION 2	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	45	%38.46	18	%15.38	54	%46.15
2. Item	42	%35.89	6	%5.12	69	%58.97
3. Item	57	%48.71	3	%2.56	57	%48.71

Table 6. Results for LLTR Schools.

SECTION 2	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	40	%37.73	17	%16.03	49	%46.22
2. Item	46	%43.39	11	%10.37	49	%46.22
3. Item	46	%43.39	13	%12.26	47	%44.33

While none of the students attending private schools choose the item " I disagree"; % 2.56 of the students who attend HLTR schools and % 12.26 of the students who attend .LLTR schools choose the item "I disagree" for the hypothesis "CT is helpful for us about the search in S&T lessons."

The fact that the students in private schools get the research skills by using CT can be effective in the reason which is favour of the private schools and the students who have no chance of using CT intensively study in HLTR and LLTR schools so HLTR and LLTR school students can't get the research technics by using CT are effective items in this result.

It is essential to make research by using new methods and technics. Using the CT in Science and Technology lessons will supply the students many opportunuties to make wide rate researches. Therefore, we need CT to orient the students to the research in education and instruction environments.

B-3. The Third Problem

The third problem of the research is "What is the ratio of the students' opinions about effects of the enhancement of the attention to the lesson by using the CT in S&T lessons according to the school type?". There are 7 items about this section in the questionnaire.

The Outcomes of the Views of the Students About the Effects of the Enhancement of the Attention to the Lesson by Using the CT in S&T Lessons According to the School Type

When Table 7, 8 and 9 are observed, there are some differences in the views of the students about the effects of the enhancement of the attention to the lesson by using the CT in S&T lessons according to the school type. According to the outcomes, we get a result as there are some differences among the students in private schools, HLTR schools and the students studying at LLTR schools.

Table 7. Results for Private Schools.

SECTION 3	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	10	%25	0	%0	30	%75
2. Item	5	%12.5	0	%0	35	%87.5
3. Item	2	%5	37	%92.5	1	%2.5
4. Item	5	%12.5	3	%7.5	32	%80
5. Item	10	%25	2	%5	28	%70
6. Item	6	%15	5	%12.5	29	%72.5
7. Item	5	%12.5	4	%10	31	%77.5

Table 8. Results for HLTR Schools.

SECTION 3	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	63	%53.84	6	%5.12	48	%41.02
2. Item	48	%41.02	3	%2.56	66	%56.41
3. Item	6	%5.12	108	%92.30	3	%2.56
4. Item	57	%48.71	24	%20.51	36	%30.76
5. Item	60	%51.28	21	%17.94	36	%30.76
6. Item	51	%43.58	27	%23.07	39	%33.33
7. Item	48	%41.02	36	%30.76	33	%28.20

Table 9. Results for LLTR Schools.

SECTION 3	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	40	%37.73	10	%9.43	56	%52.83
2. Item	38	%35.84	8	%7.54	60	%56.60
3. Item	14	%13.20	56	%52.83	36	%33.96
4. Item	30	%28.30	22	%20.75	54	%50.94
5. Item	44	%41.50	12	%11.32	50	%47.16
6. Item	34	%32.07	32	%30.18	40	%37.73
7. Item	40	%37.73	44	%41.50	22	%20.75

For the hypothesis; "I listen to lessons carefully when CT is used in S&T lessons.", while none of the students attending private schools choose the item " I disagree"; % 5.12 of the students who attend HLTR schools and % 9.43 of the students who attend LLTR schools choose the item "I disagree".

None of the students attending private schools choose the item " I disagree"; % 2.56 of the students who attend HLTR schools and % 7.54 of the students who attend LLTR schools choose the item"I disagree" for the hypothesis "I participate in lessons more when CT is used in S&T lessons."

% 10 of the students attending private schools choose the item "I disagree" but % 30.76 of the students who attend HLTR schools and % 41.50 of the students who attend LLTR schools choose the item " I disagree" for the hypothesis "Lessons become less noisy when CT is used in S&T lessons". According to the ratios, CT increases the interest towards the lesson most in private schools however it is less effective about this subject in LLTR schools.

B-4. The Fourth Problem

The fourth problem of the research is given as "What is the ratio of the students' opinions about the effects of the computers which are one of the important instruments according to the school type in using CT in S&T lessons?". There are 6 items in this section in the questionnaire but the students who are studying at LLTR schools have not given an answer to this section of the questionnaire as they have not got any computers in their schools.

The Outcomes of the Views of the Students About the Effects of the Computers Which are One of the Important Instruments in Using the CT in S&T Lessons According to the School Type

In private schools, students are assigned to utilize the positive effects of the computers on education much more than the HLTR and LLTR school students as seen in Table 10 and 11.

Table 10. Results for Private Schools.

SECTION 4	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	6	%15	0	%0	34	%85
2. Item	0	%0	40	%100	0	%0
3. Item	4	%10	0	%0	36	%90
4. Item	4	%10	0	%0	36	%90
5. Item	10	%25	2	%5	28	%70
6. Item	0	%0	40	%100	0	%0

Table 11. Results for HLTR Schools.

SECTION 4	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	39	%33.33	21	%17.94	57	%48.71
2. Item	6	%5.12	99	%84.61	12	%10.25
3. Item	57	%48.71	18	%15.38	42	%35.89
4. Item	36	%30.76	21	%17.94	60	%51.28
5. Item	42	%35.89	33	%28.20	42	%35.89
6. Item	21	%17.94	87	%74.35	9	%7.69

While none of the students attending private schools choose the item "I disagree"; % 17.94 of the students who attend HLTR schools choose the item "I disagree" for the hypothesis "I understand the lessons better when computer is used in S&T lessons."

While none of the students attending private schools choose the item "I disagree"; % 15.38 of the students who attend HLTR schools choose the item "I disagree" for the hypothesis "I can learn the subjects in a short time when computer is used in S&T lessons."

None of the students attending private schools choose the item "I disagree" but % 17.94 of the students who attend HLTR schools choose the item "I disagree" for the hypothesis "I can learn more easily the subjects which I have difficulty seeing computers."

Using computers in private schools increases the intelligibility of the lessons. Using computers in limited times in state schools can't be a real positive effect on intelligibility of the lessons.

B-5. The Fifth Problem

The fifth problem of the research is given as "What is the ratio of the students' opinions about expanding the success of using the CT in S&T lessons according to the school type?" In the questionnaire, there are 3 items in this section.

The Outcomes About The Views Of The Students In Expanding The Success Of Using CT In S&T Lessons According To The School Type

It has been seen that there are some differences between the numbers and the percentages when the Table 12, 13 and 14 have been observed. According to the outcomes from the questionnaire, the positive effects of expanding the success of using CT in S&T lessons have been seen much more in the private schools. When it is observed the HLTR schools and LLTR schools, it can be seen that HLTR schools have positive outcomes.

By means of using the CT in S&T lessons, many of the students' sensation organs can be addressed. The learnings which are realized in this way are more permanent and meaningful. This permanent and meaningful learning is helpful to gain the success. Especially, because the CT has drawn the students attention and interest, learning efforts and success will be gained.

Table 12. Results for Private Schools.

SECTION 5	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	12	%30	2	%5	26	%65
2. Item	12	%30	2	%5	26	%65
3. Item	1	%2.5	39	%97.5	0	%0

Table 13. Results for HLTR Schools.

SECTION 5	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	51	%43.58	15	%12.82	51	%43.58
2. Item	60	%51.28	18	%15.38	39	%33.33
3. Item	27	%23.07	87	%74.35	3	%2.56

Table14. Results for LLTR Schools.

SECTION 5	I agree		I disagree		I completely agree	
	N	Ratio	N	Ratio	N	Ratio
1. Item	38	%35.84	20	%18.86	48	%45.28
2. Item	42	%39.62	28	%26.41	36	%33.96
3. Item	26	%24.52	50	%47.16	30	%28.30

4. CONCLUSIONS

The results from this study indicated that there are differences in the student's perceptions of their learning environment associated with students' cultural background among the private schools, HLTR schools and LLTR schools in using the computers in S&T and it's effects to the learning, getting increased the interest and research opportunities by means of CT. This outcome has shown that CT has been using much more in private schools and HLTR schools compared to LLTR schools. In this way, the students who are studying at these schools have positive views on CT in many ways. Private schools are stated to use the CT much more than the state schools. Analysis of the data collected in this study demonstrated that students come from a range of different cultural backgrounds influences from their learning environments.

In the view of the students about using the CT expand the success, some differences has been seen about the students who are studying at the schools which have much more opportunities on CT have positive attitude to the CT.

When the CT is used in S&T lessons, rich stimulations are gained by the students. The more students have faced with the stimulations in the education- instruction atmosphere, the more their learning gets to be easier. The students who learn the S&T Lessons meaningful by using CT, will have positive attitudes to the S&T lessons.

The activities which are used in lessons have been positive effects of using CT to gain the skills like research, examination and questioning. By using these materials, students can be addressed to the researches and this helps them to be an individual person who thinks, ask and discovers. These materials have been made to feel positive effects on the success of the students.

Using the CT, it is possible to expand the benefits of S&T lesson on children. It has been seen that using the CT in private schools intensively, students get positive attitude to teaching. Naturally, this has derived from using the CT on S&T Lessons.

Using computers in private schools increases the intelligibility of the lessons. Using computers in limited times in state schools can't be a real positive effect on intelligibility of the lessons.

To have enough knowledge about the CT in terms of benefitting from them effectively can be helpful for students. As a result of this, students can understand the lessons better and they can be more successful at the exams, as the time passes, computers play an essential role on students' learning, so while this technology carries some potential benefits, it also carries some possible costs to the students and schools. For schools, many of

these costs are associated with the up-front time required to develop proficiency with the systems and the revision or development of materials to support pedagogical use of the system.

As a part of this investigation and other researches (Pedretti, Smith and Woodrow, 1999), with teachers using technologies in their classroom, provides a different picture. We have found that when technologies are thoughtfully integrated with a sound pedagogical vision, students' views of teaching and approaches to learning can be positively affected.

5. SUGGESTIONS

- As an instructional tool, as well as background in the new roles associated with student-centered classroom technology based S&T projects should be informed about using CT.
- Original softwares should be produced and developed for S&T course topics and this softwares should be used in all government and private schools to gain the meaningful learning in education process.
- Inadequate school culture must be changed in positive way to cultivate technology-based science lessons.
- Without knowledge and skills of CT, one would feel uncomfortable of learning with CT, or even feel intimidated by it so to benefit from CT, the students' attitutes, concerns, and experiences with technology should be iproved.
- Schools should be ornamented within CT with enough level to benefit from its' positive effects in education.

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APPENDIX.

A1. SECTION 1

Using of CT in S&T Lessons

1) Increase the intelligibility of the subjects.
2) I like Science and Technology Lessons.
3) The lessons are more enjoyable.
4) Learning the lesson becomes difficult.
5) I get bored.
6) I can learn the subjects quickly.
7) I understand the subjects slowly.

A2. SECTION 2

In S&T lessons,

1) We can determine the different research problems about the learning subject when CT is used.
2) We can search more subjects by means of CT.
3) CT is helpful for us about searching the knowledge.

A3. SECTION 3

When CT is used in S&T lessons:

1) I listen lessons carefully.
2) I participate in lessons more.
3) I am not interested in lessons.
4) I become unaware of effluxion of time.
5) I look forward to having lessons impatiently.
6) All of my friends listen to lessons curiosly.
7) Lessons become less noisy.

A4. SECTION 4

When computer is used in S&T lessons,

1) I understand the lessons better.
2) I have difficulty on learning the lessons.
3) I can learn the subjects in a short time.
4) I can learn the subjects more easily which I have difficulty in learning while studying on computers.
5) I learn the subjects better by using computer, therefore my success in the exams increases.
6) I do not understand the lessons when computer is used. For this reason I get bad marks in the exams.

A5. SECTION 5

When CT is used in S&T lessons,

1) I can answer the questions quickly and correctly.
2) I understand the subjects better, as a result I have good marks.
3) It is hard to understand the lessons so I am unsuccessful at exams.