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# The role of teacher in web enhanced learning activities in primary school information technologies lesson: a case study

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**Abstract**

The paper describes role of teacher, engaging students of primary school actively to Web Enhanced Learning Activities (WELA) in terms of motivation, feedback and interaction. The study was carried out in second semester of 2007-2008 school year in an information technology (IT) lesson and took ten weeks. 120 seventh grade students from three different primary schools participated in the study. The students' engagement levels in WELA were analyzed through course logs and reports of a learning management system. Forums, questionnaires and observations of researcher were used for collecting qualitative data. The students who were directed by face to face and Unknown Online Teacher (UOT) engaged in the WELA much more. The study indicates that primary school students need to be directed by both face to face and online in WELA.


*Keywords:* Web enhanced learning; primary school; role of teacher.

## 1. Introduction

With the rapid development of the World-Wide Web (WWW), the increased popularity and ease of use of its tools, the World-Wide Web is becoming the most important media for collecting, sharing and distributing information. This important media can serve both teachers and students in teaching and learning activities. The schools which realized Web is a facilitating tool for students and teachers demand it more. However, this media is more likely in higher education because of students' levels; there also should be facilities for primary school students. They should be engaged in supplementary online course activities and learn how to manage WELE effectively from that level. However, teaching online is different from teaching face-to-face, and managing online learning is different from traditional classroom (Conceicao, 2007), because the learner is the most important element of the online learning environment (Moore and Kearsley, 1996) and there are some important skills such as basic

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computer skills and access to a working computer and Internet connection; time management, motivation to read, write, and participate in class activities and the ability to ask questions to clarify an issue in the class, learners should have in order to have a successful online learning experience. In addition to taking learners into account, teachers should know how to use the web to enhance their classroom instruction and successful technology integration in a classroom environment appears to require will, skill, and access to technology tools on the part of the teacher (Knezek and Christensen, 2000). Because, successful technology integration in a classroom environment appears to require will, skill, and access to technology tools on the part of the teacher.

## 2. Background

### *2.1. Web enhanced learning activities*

The most significant aspect of the Web for education at all levels is that it dissolves the artificial wall between the classroom and the "real world". Students can find original materials and collect first-hand information themselves. The second powerful aspect is providing an easy mechanism for students (and teachers) to make their work public.

Online learning presumes a high level of independence and motivation on the part of the learner, but in online teaching most of the teacher's energies may need to go into building and maintaining such independence and motivation even for students who have no other means of participation (Ham and Davey, 2005).

### *2.2. Role of teacher engaging students in WELA*

Teachers of the 21st century face the challenge of adapting themselves to the latest needs that consists in using of the Information and Communication Technologies (ICTs), not only in the traditional face-to-face teaching, using ICTs in class, but also in on-line teaching, named e-learning (Diaz and Entonado, 2005). Role of teacher in WELE is structuring the learning experience; guiding and facilitating; giving direct input on factual issues; supporting students in exploring and synthesizing their ideas (Pegrum and Spöring, 2003). Students should be encouraged by their instructors to construct their own knowledge with the assistance of available content experts and more experienced learners by scaffolding the mental models presented by these individuals. Many pre-set online instructions are static and limit the opportunities for interaction and knowledge construction (Lauzon, 1992; Garrison, 1993; Burge, 1988; Bullen, 1998). Online learning presumes a high level of independence and motivation on the part of the learner, but in online teaching most of the teacher's energies may need to go into building and maintaining such independence and motivation even for students who have no other means of participation (Ham and Davey, 2005).

### *2.3. Role of interaction engaging students in WELA*

Online learning technology should move away from the use of computer technology as presentation and storage tools and advance to the next level by using them as interactive tools. Keegan (1993) declared 'Without a medium of communication the concept "distance education" would not be an educational process. Only a minimum of the capacity and the capability of online technologies have been utilized to support learning. It is critical to take further steps to examine the issues of integrating online technology to encourage, stimulate and regenerate high quality interactions (Chih-Hsiung Tu, 2005).

The more interaction and communication there is in distance teaching, the more important and desired adaptation will be (Bernat, and Fichten, 1999). Students in these classes are required to read/watch lectures electronically, then conduct course assignments, integrating very limited instructor-learner and learner–learner interactions. Knowledge can better be defined as a dynamic process driven by each human being in a unique way. It should be realized that pure online learning is not suitable to acquire all the necessary attitudes and skills required for many fields of knowledge (Trindade et al., 2000).

*2.4. Role of motivation engaging students in WELA*

Motivating online learners is a key challenge facing instructors. Attrition rates and low participation levels in course activities are frequent instructor complaints about online learning environments (Bonk and Dennen, 1999). Martin and Briggs (1986) state that "motivation is a hypothetical construct that broadly refers to those internal and external conditions that influence the arousal, direction, and maintenance of behavior" (Cornell and Martin, 1997). Key problem learners encounter include not knowing participation expectations. Online courses often suffering from a lack of motivational elements, because instructors are unsure of how to manipulate this instructional medium and in part because adequate instructor support is not yet available. The effects of instructor modeling of desired activities and peer participation can motivate the reluctant learner to become more active (Dennen and Bonk, 2007).

*2.5. Role of feedback engaging students in WELA*

Feedback motivates online learners by letting them know how well their performance meets course expectations (Anderson, 2001; Dennen and Bonk, 2004). Whereas feedback points are typically built into all courses in the for of graded assignments, in an online class, students often feel the need for feedback at other, more formative points in time. This feedback helps them gauge their own performance and motivates them to either maintain or improve the quality of their work. Brown (2002), indicates that one minute reflection and muddiest point papers using e-mail or threaded discussion forums also are highly effective in providing formative course feedback.

Instructors should provide feedback to learners on their discussion participation. Evaluation of participation should be based on the quality of their postings. Expectations for the online discussions should be available for learners from the start of the course (Conceicao, 2007).

The purpose of the study is to explore role of teacher, engaging students of primary school actively to WELA with regard to motivation, feedback and interaction.

**Problem Statement**

The problem statement of the study is "What is the role of face to face and UOT in engaging different primary school students to web enhanced learning activities?"

1. What is the role of teacher engaging students in WELA?
2. What is the role of interaction in WELA?
3. What is the role of motivation in WELA?
4. What is the role of feedback in WELA?

## 3. Method

A qualitative descriptive case study looks intensely at an individual or small participant group, drawing conclusions only about the participant or group and only in that specific context (Creswell, 1998; Merriam, 1998; Yin, 1994; Patton, 2002; Tanner, 2007). Case studies tend to examine the interplay of all variables in order to provide as complete an understanding of an event or situation as possible. This type of comprehensive understanding is arrived at through a process known as thick description, which involves an indepth description of the entity being studied, the circumstances under which it is used, the characteristics of the people involved in it, and the nature of the community in which it is located (Merriam, 1998). Thick description also involves interpreting the meaning of demographic and descriptive data such as cultural norms and mores, community values, ingrained attitudes, and motives (Patton, 2002).

Case study research design was used in the study. The aim of using case study is to gather data from the three different groups in depth and make descriptions special to the groups. This study was carried out in second semester of 2007-2008 academic year and the WELA took ten weeks.

### *3.1. Participants*

A total of 120 seventh grade students; thirty Sakarya primary school pupils, thirty 23 Nisan primary school, and sixty Cumhuriyet primary school pupils of three different primary school participated in this study as shown in the Table 1.

Table 1. Information about the study groups

| | 1st group | 2nd group | 3rd group |
|---|---|---|---|
| School | Sakarya Primary School | 23 Nisan Primary School | Cumhuriyet Primary School |
| Number of students | 30 | 30 | 60 |
| Gender | 14 Female, 16 Male | 15 Female, 15 Male | 29 Female, 31 Male |
| Social-econimical level | high | Low | High |
| General Academic Success | high | avarage | High |
| Role of teacher | Only UOT | UOT and IT teacher (IT teacher= UOT) | UOT and IT teacher (IT teacher≠UOT) |
| Role of interaction | Only online | Face to face (with their teacher) and online | Face to face (with their teacher) and online |

The first group participated in the research voluntarily accepted to attend the information technologies lesson performing WELA along with UOT, however their real teacher did not prepared any web activities, UOT motivated them to use web enhanced learning environments. The second group engaged in web enhanced activities by face to face interaction with their teacher. The third group engaged in the web enhanced activities with unknown UOT while performing the lesson with the face to face interaction with their own teacher.

### *3.2. Process*

All the courses were delivered entirely over the Internet using open source course management system. The site had informative and guiding titles about the course such as suggestions about forum, forum rules, news about developments in information technology. In the beginning of the study, all of the participants were registered to the WELE.

The researcher is IT teacher of 23 Nisan Primary School (2nd group). She conducts the lessons in WELA by directing students engaging them in WELA. She also plays a UOT in the course but in the beginning of the semester the students were informed that all the web activities will be directed by a UOT supporting the lesson from Ege University. However, they were not aware of that the UOT was their own IT teacher.

In the first group, thirty voluntary primary school students accepted taking their IT lessons through WELA. There were no face to face interactions between the UOT and the students. Their IT teacher did not effort to engage them in WELA.

In the third group, sixty voluntary primary school students accepted taking their IT lessons through WELA. The IT teacher orients the students to accomplish WELA. She was not the UOT, but she supported using the www.e-bilgisayardersi.com/kurslar for the IT lesson during the activities in the lessons.

Figure 1. The Course Outline


As the course structure shown in the figure 1, students were given a set of tasks and they worked interactively to create artifacts to complete an assignment, and the all ten week activities were for supporting the 7th grade IT lesson curriculum.

### *3.3. Data collect*

The observations of the teacher, forums, questionnaires and students' tasks were used for collecting qualitative data. The study was carried out on a website "www.e-bilgisayardersi.com/kurslar" and the data collection phase of the study was performed via qualitative questions that were asked in the web site, on the course of 10 weeks activities. Besides, the data were collected via web tools such as e-mail, forum discussion boards and instant messenger from the students.

### *3.4. Data analysis*

Qualitative reports of the study were tabulated as percent. The students' engagement levels of web enhanced activities were analyzed through course logs and reports of a learning management system which was developed as web enhanced learning environment for the study

## 4. Findings

In the findings phase, the collected data were tabulated in tables and showed in figures as percentage of participation in the tasks in WELE.

Table 2. The participation levels of students in ten week WELA

| Weeks | Activity | 1st Group | % | 2nd Group | % | 3rd Group | % |
|---|---|---|---|---|---|---|---|
| 1 | Excel activity: calculation of average | Having problems contacting students. Only two students entered the site. | 7 | Registration and adaptation problems. | 90 | IT teacher oriented the students for WELA. Registration problems. | 50 |
| 2 | Excel activity: Using graphics in excel | Objectives of the activities explained via mail, but no attendance to the activity. | 0 | Most students found the assignment on Internet and sent it as it was. Face to face Informative directions helped students using WELE. | 77 | Students had problems such as forgetting username or passwords. | 33 |
| 3 | Excel activity: preparing study schedule Word processor: Discussing the lessons, good or bad and why?. | Objectives of the activities explained via mail, but no attendance to the activity. Messaging via e-mails did not help students participate in WELE. | 0 | Students gave complete attention and effort; however, students had problems while expressing themselves in forums The competent students helped the others in the assignments. | 90 | Low participation to the activities. UOT having problems contacting and motivating students. | 30 |
| 4 | Brochure : "April 23 Sovereignty and Children's Day" | Objectives of the activities explained via mail, but no attendance to the activity. Messaging via e-mails did not help students participate in WELE. | 0 | The passive students in the classroom are more active in the WELE. Students needs and levels reviewed, activities reshaped and varied. Feedback is very important. | 80 | Low participation to the activities. UOT having problems contacting and motivating students. | 32 |
| 5 | Presentation : "Computers and Future" | Objectives of the activities explained via mail, but no attendance to the activity. Messaging via e-mails did not help students participate in WELE. | 0 | Knowing students face to face assisted the teacher manipulating the WELE and motivating the students. | 57 | Students' participation decreases in the middle of the study. UOT having problems motivating students. | 17 |
| 6 | Poster : "Internet Week" | Messaging via e-mails did not help students participate in WELE | 0 | Without directions students do not pay attention to the activity. They are likely to play games. | 57 | The participants did not accomplish the activities as identified in the objectives. | 15 |
| 7 | Research: "ADSL, Wireless connection, intranet and www" | Messaging via e-mails did not help students participate in WELE | 0 | Students are likely to disorientate while researching. | 30 | The participants did not accomplish the activities as identified in the objectives. | 13 |
| 8 | Web site: your favorite book or author. | Messaging via e-mails did not help students participate in WELE | 0 | Some students had very original designs. | 50 | The participants did not accomplish the activities as identified in the objectives. | 7 |
| 9 | Presentation : An important event or person in your life | Messaging via e-mails did not help students participate in WELE | 0 | Students had their own discussion titles for the assignment. | 50 | The participants did not accomplish the activities as identified in the objectives. | 8 |
| 10 | Presentation : "What do you think and how do you feel about Web Enhanced Learning?" | Messaging via e-mails did not help students participate in WELE | 0 | At the end of the activities, students participation is lower than the first weeks. | 43 | The participants did not accomplish the activities as identified in the objectives. | 5 |

In the beginning of the WELA, all of the students have adaptation and motivation problems. In the first weeks, they are not completely able to register to the site and use the forums effectively. The groups frequently tend to

forget their usernames and passwords. The first group shows no interest to the activities despite the explanation of objectives via sent mails.

Second group shows the most participation through the face to face and online directions as seen in the percentage column. As observations of the IT and UOT of the second group, the students are able to use the WELE in case they have capability to use computer and have no problems about hardware or software. The finding of second group disorientation in researching activity in the seventh week should be taken into consideration as well.

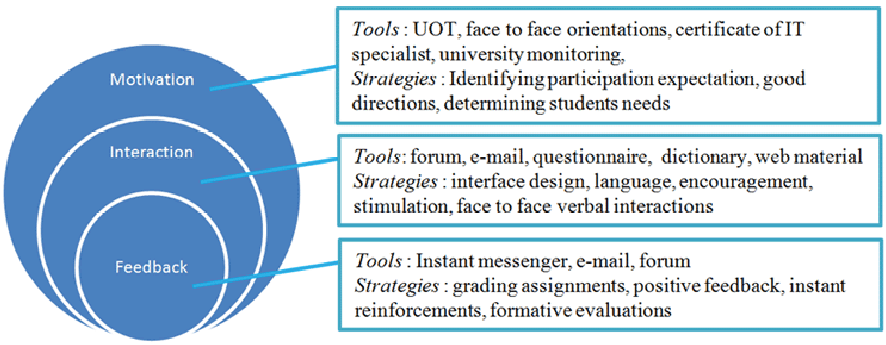
It is observed that primary school students without face to face directions did not participate in the WELA and they gradually had low level of motivation. By courtesy of IT teacher's orientation for completing the tasks of WELA, students of the third group partially participated in the activities. However, their engagement level starts to fall from the middle of the study period and students' participation decreases in the middle of the study, also UOT has problems motivating students.

Participation level of all of the three study groups shows a significant decrease by the end of the study period, on account of the other exams in their schools and students of all three groups were not graded in this lesson.

### *4.1. Motivation, Feedback and Interaction*

The UOT used various tools and strategies in the study to increase students' engagement in the WELE in terms of motivation, feedback and interaction as shown in Figure 2.

Figure 2. The relationship of motivation, interaction and feedback in WELE




Motivation of primary school students is important in WELE. After motivating students in face to face environments, students showed more interest in the WELA; however, the requirement of instant response to the students and hold their motivation was very difficult both for the face to face teacher and UOT. It caused the teacher to feel anxious about that the interest rate of students would decrease. Therefore, teacher is key role for motivating students in WELE. The interaction and instant feedbacks have important role in motivation of students. As shown in the Table 2. especially the first groups' IT teacher did not encourage students to use the environment and students did not participate in the activities.

## 5. Conclusions and Suggestions

The findings showed that the second group was the most concerned group on WELA among seventh grade pupils who completed activities. This finding can point out that teacher guidance is important while performing WELA in second grade of primary education school, and face to face interactions affect engagement level of web enhanced activities and motivate pupils to perform the activities.

Here are some suggestions corresponding to the findings of the study;

- Computer and Internet skills of students' should be considered; they should be taken to the distance learning environment providing that they pass some tests of Information technology competency.
- Students in primary school should be adapted to the WELE in order to get positive results. Adaptation in WELE implies being able to use environment components, control the environment, enter the site, send assignment, add new topic, respond a topic, take a survey, check e-mail, send e-mail.

- The primary school students can regularly engage in the WELA if they have pre-requisite skills for the activities, enough time, a working computer and Internet access.
- Even though the primary school students have enough time, hardware or suitable environment; it is hard to maintain distance learning especially owing to the lack of face to face interaction and their motivation.
- When the participant groups are reviewed, rather than the first and third groups, the most engagement in the WELA is performed by the second group which is supported by face to face interaction. The high level of participation of the second group shows that the more face to face interaction happens the more engagement increases.
- It is observed that face to face interactions and e-mail support increased the primary school students' attention in the WELE.
- Some of the students who are passive in the traditional classroom environments are more interested and active than the other students in the WELE.
- The same or similar assignments those were sent by the student's points out the unreliability aspect of distance learning. This situation leads the teacher feel uneasy while determining who the owner of the assignment is.
- The students who were oriented face to face and had low socio-economic status sent more creative and diligently prepared studies rather than the students who had high socio-economic status and high level academic success.
- Students may not participate in WELA because of preferring exams or other prior activities in the school to WELA. If some of the lessons conducted web enhanced, the students may have positive attitudes towards WELE.
- Providing instant feedback to the e-mails, assessments of assignments, informing the students about the activities, continuous and systematic update of the system requires a team work, hence the management of the process is effortful fort the instructor. The instructor may feel anxious about decrease of interest in the process, and it always causes him/her to be online.
- Lessons should be enhanced by WELA and assessment of students in WELE should be reflected to their report cards may affect students participation positively.
- Face to face interaction, no hardware, software and Internet access problems; increasing the number and variety of activities may affect students' participation and success in WELA. Particularly, the variety and number of activities in WELE is important for students in managing these environments.
- Extending the opening hours of school computer rooms for the needy students are some of the ways to solve the problem of developing IT skills of low level socio-economical students.

Finally, if the suitable environment is provided for primary school students they are likely to participate in the WELA. However, the most motivational elements for primary school students are face to face interactions and feedbacks. The role of teacher for providing motivational, interactional and feedback like environments is crucial in WEL. Besides, only one teacher in both face to face and online activities spends much more time than a teacher who gives a course only in-class environments. Therefore, designing of the environment and the maintenance of the teaching, learning process is important in a mix form course.

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