

# Weblogs: Supporting the creation of learning networks in the technology classroom

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## Introduction

This study aims to determine the effectiveness of weblogs as a tool for collaborative learning in an online environment, with a particular focus on technology students. Some of the VLEs currently in use in third-level institutions restrict the way in which students interact with one another and with their tutors. The use of weblogs as a tool for collaborative learning provides a dynamic, user-friendly way for students to peer review one another's work and to communicate with their tutors and with one another.

## Background

A weblog (or blog) is a website that contains dated entries (called weblog posts) in reverse chronological order. There are several features of weblogs that enable learners to converse with and support each other as part of a learning community; these include permalinks, trackbacks (or backlinks) and commenting.

Weblogs are often part of a larger community, as they link together using the permalink, trackback and commenting features described above. In e-learning, these weblog communities can provide support for collaborative learning.

Collaboration is an important part of the learning process. Piaget (1928) identified collaborative argumentation as one of the key ways in which learners develop their cognitive processes. Vygotsky also believed in the importance of human interaction for learners, and proposed that social interaction profoundly influences cognitive development. He stated that a student could perform a task with the help of an adult (or a more highly-developed peer) that they would not have been able to accomplish alone (Vygotsky, 1978).

Current e-learning applications have several limitations in the way they allow students to interact with their peers (Bouras, Giannaka & Tsiatsos, 2005). It has been suggested that some Virtual Learning Environments (VLEs) may actually impede learning (Hotrum, 2005). Weblogs can offer new opportunities for the development of online learning communities (Farmer, 2004). A recent study by Efimova and de Moor concludes that weblogs serve as a true conversation tool, supporting fast and meaningful reactions, exchange of multiple perspectives and joint development of ideas (2005).

## Initial Pilot Study

In this initial study, each student was asked to set up his/her own weblog using as part of their networking studies, and to make a post to their weblog each week for a 10-week period. The tutor viewed weblog posts using an RSS aggregator. Students were encouraged to comment on one another's weblogs. Both the tutor and the researcher were actively involved in the learning community.

Students used weblogs to peer-review one another's work and to collect and share links to information relevant to class material.

Quantitative data collected from student weblogs includes:

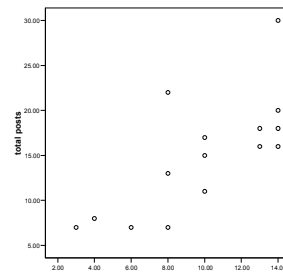
- Total number of weblogs posts per student;
- Total number of comments left by a student;
- Total number of comments received per student;
- Total number of links per student weblog.

## Results & Discussion

Quantitative data from weblogs was analysed using SPSS. There are several findings from this initial analysis, some of which are discussed briefly here.

### 1. Interaction with own weblog

There appears to be a positive correlation between total number of posts and attendance at sessions – see Chart 1 below.



A Pearson's Correlation Test shows that the correlation between number of sessions attended and total number of posts is a large one (.723) as defined by Cohen (1988). The correlation is also significant at the 0.01 level. Not surprisingly, this correlation shows that the better a student's attendance is, the more posts their weblog is likely to have.

However, several students often created posts to their weblog that were not related to the class material. If the posts which are not related to class material are discounted, there is a much stronger correlation between the attendance at sessions and number of posts. The Pearson's Correlation then becomes .826 (significant at 0.01 level).

This shows that there is a very strong correlation between attendance at sessions and the number of weblog posts related to class material. This suggests that, although some students were posting about non-class-related topics outside of class time, the majority of students focused on class-related topics when in class.

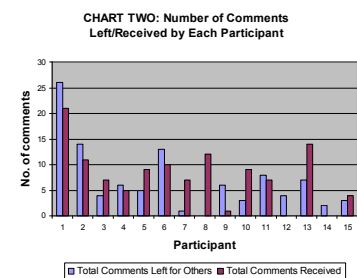
The levels of attendance at sessions appear to be an important factor in the level of interaction a student had with their weblog. Like many other e-learning tools, high levels of participation are required to achieve maximum benefits. The tutor should carefully monitor student attendance and participation levels.

## Results & Discussion

### 2. Interaction with Peers

Most of the interaction on the weblogs took place between peers. The average number of comments a student received from peers was 7, compared to only 1 from their tutor. This high level of interaction between peers may suggest weblogs are a suitable tool for collaborative learning and groupwork.

In Chart 2 below it can be seen that the number of comments a student left and the number of comments received were reasonably similar, suggesting that the more a student interacted with others, the more feedback they received in return.



## Conclusions & Further Study

This initial study focused on the use of weblogs as a tool for collaborative learning. Results show that the level of interaction a student has with their own weblog depends on their levels of attendance at class sessions. This suggests that, like many other e-learning tools, high levels of participation are required to achieve maximum benefits.

There was a higher level of peer-peer interaction on the weblogs than peer-tutor interaction, which suggests that weblogs are a suitable tool for groupwork. Also, results show that the more a student interacted with others, the more feedback they received in return.

A further study will focus on a group of students in a distance learning course, which may show higher levels of interaction than the face-to-face environment. Social network analysis may provide further insight into weblog communities of learners.

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