

# Efficacy of Blog to Improve Multi Level Interactions in a College Setting

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## ABSTRACT

Blogs have been recognized as one of the most important tools for socializing and networking. However, in recent years it has also become an important tool in e-learning. Malaysia as an education hub regularly draws large numbers of foreign students who seek to pursue transfer degree programs whereby they transfer to western universities after a few semesters in the country. It is observed that there are interaction problems among the transfer students due to the differences in culture and the lack of real-life opportunities for them to blend into the social environment. This paper examines the efficacy of blog in improving multi level interactions among transfer students in a college based in Malaysia. A case study was conducted in an e-learning environment using academic blog, in cooperating collaborative learning methodology for a programming course. Fourteen students from a transfer program were involved in the present study. Results of the research demonstrated a positive improvement in the multilevel interactions among peers and lecturer. However, the vertical interaction showed a better improvement compared to the horizontal interaction. Students seem to interact better with the lecturer using the blog rather than with their peers. The findings suggest that blogs improve the multilevel interactions among the transfer students in Malaysia.

## Keywords

Blog, E-learning, Multilevel Interactions

## 1. INTRODUCTION

Internet has changed the way we learn and connect in the field of education. Interactions play important roles among the transfer students in Malaysia who are in a new country for a short duration of time approximately 2 years. During their short stay, these students are more inclined to interact via the Internet rather than engage themselves in face-to-face interactions with their peers and lecturers. Therefore, a suitable learning platform is needed to aid the lecturers and students interaction so that the content of the subject is delivered accurately. E-learning is becoming increasingly popular in the education, whereby both students and lecturers gain benefits in this teaching learning environment (Xu, 2008). In the recent years, research on blogs has rapidly increased. It is believed that e-learning tool such as blogs, provides flexibility in learning. Hence, blog is implemented as an instrument to test how it improves multilevel interactions among the transfer students.

Classroom interactions enable students to connect with the peers and lecturers well because it creates a sense of belonging among the foreign students and the local students. Blogs function as a platform not only for information interchange but also for the exchange of ideas and thoughts (Yan, Min & Ruan, 2010). Hence, blogs can be used as a medium to help students from various countries to blend in to the local culture and accept the delivery of knowledge positively. Blogging facilitates learning by allowing students to post or share their views online using its powerful commenting tools. On the other hand, it is important for the

students to feel connected to each other as they are pursuing the same degree program.

Blogs are a new form of communication tool, which act as a kind of publication mode to express thoughts online (Yan, Min & Ruan, 2010). Therefore, blogs can be used as a tool to promote any form of interactions. Blogs encourage multilevel interaction which can be classified into two; the horizontal interaction and the vertical interaction. In this research, horizontal interaction refers to the communication among the peers. This occurs when students communicate with their peers by posting comments or exchange views among themselves. The vertical interaction refers to when the student communicates with the lecturer for further clarifications on the course outside the contact hours. Figure 1 and Figure 2 depicts the two different types of interactions in this research.

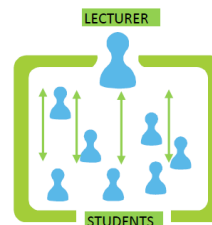


Figure 1: Vertical interaction

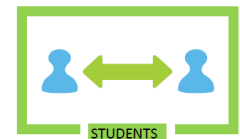


Figure 2: Horizontal interaction

## A. Problem Statement

It is noticed that many transfer students from various countries have difficulty to adapt to the new environment due to the differences in culture and background. However, they do realize that Malaysia is a multiracial country because there are 3 major races in Malaysia; Malays, Chinese and Indians. Another contributing factor is time, as the transfer students are only here in a particular college for less than 2 years or approximately 6 semesters before they transfer to western universities. During their short stay here, they have very less face-to-face communication and contact hours with their lecturers and peers. Therefore, due to the limitation of time and cultural boundaries, they do not take the initiative to communicate and improve their communication skills. An interaction only occurs when the necessity arrives especially with the lecturers.

For courses which are more technical such as programming courses, the foreign students find it difficult to understand the theory aspects due to the complexity of the programming language itself. They have different level of understanding and most of them learn at their own pace. These students fail to participate in any discussion and to share their opinions with the others. As a result, they fail to voice their opinion during lectures and perform well in their quizzes, tests and assignments. Besides this, there is no variation in answering techniques as they become more monotonous and less creative. There is little room for brainstorming ideas among peers to promote creative thinking.

At times, students do approach lecturers outside the contact hours for extra guidance and personalized attention to assist them. Therefore, blogs play a good role as communication medium to both lecturers and students.

## B. Objectives

The objectives of this research are as follow:

1. to identify whether blog improves the multilevel interactions among the transfer students and the lecturer concern.
2. to determine the efficacy of blog in the classroom.

## 2. LITERATURE REVIEW

Over the years, many researches related to e-learning tool such as blogs have been conducted. This is because blogs are one of the emerging technologies and has been widely used in education. Educators are implementing blogs to facilitate learning as they find blogs to be user friendly. According to Ping (2010), blogs function as a tool for sharing, also has powerful information sharing capabilities, which is published and released to learners and learning communities. The author also found blogs to be a network carrier, with zero skills and zero cost structures display of self, communication, and knowledge sharing platform. The quality of education will improve drastically if the lecturers and students take full advantage of blog (Ping, 2010).

In addition, Valentine (2001) found that students are free to express their ideas online rather than in the classroom. The author also mentioned that students valued the collaborative learning that took place on-line in the context of group discussion or forums. Therefore, blogs promoted collaborative learning among peers. A study by Yan, Min and Ruan (2010) concluded that it is worth attempting to implement blogs in educational fields, for it is an important learning tool of lifelong learning and knowledge management. Adding on, they also found that blogs are still in the early stages of development and extensions in the educational fields should be accelerated.

Xu (2008) researched on the implementation of an e-learning tool and the effectiveness of such tools on collaborative learning. The author found that the success does not merely depend on students' active involvement but also on the interaction between the lecturers and students. Therefore multilevel interaction is essential for a successful effective learning process. Another research by Chuang and Shen (2008) concluded that the knowledge-sharing blogs based on e-learning is not superior compared to the traditional classroom learning method. The findings depend on various factors such as learners, instructors, technology, methods production values and the course content itself.

Most of the past researches highlighted on the advantages of blogs usage in education. However, very little was mentioned on the efficacy of blog as a tool for interaction in higher education. With this in mind, blog was implemented in this research. The focus of this study is on investigating the multilevel interactions and the efficacy of blog. The efficacy is measured using the assignment scores of the students before and after the blog implementation. Grades or scores are considered the rewards for a successful learning.

Based on the literature review, two hypotheses are formulated as follow:

- H1. There is a positive improvement in multilevel interactions after the development of blog.  
H2. The blog has promoted creative learning.

## 3. METHODOLOGY

A research was conducted using the e-learning tool, the blog. A blog is designed and implemented for the Computer Science 1 course. This course is offered to the Computer Science and Engineering major students in a transfer program. The Visual C# programming course is offered by the American Degree Transfer Program in a college located in Malaysia. It is a 4 credit hours course and the lectures are

conducted in computer labs to facilitate the hands on approach. The course consists of understanding the principles and techniques of C# programming and the development of simple programs.

Delivering a programming course is not an easy task for the lecturer, due to the differences in language proficiency and the level of understanding among the foreign students. As a solution, the blog that incorporates the collaborative learning methodology was implemented. Collaborative learning encourages sharing and interaction among peers and lecturer. A total of 14 registered students participated in this research study which is divided into two different phases.

The first phase is very conventional whereby the lecturer or instructor conducts lectures in the computer lab without using any e-learning tool. Students learn from the notes and text given by the lecturer and have their own discussions outside the contact hours. The lecturer is not aware of the interaction level among the students. Special consultation hours are allocated for the students to approach the lecturer for consultation purposes. This traditional method was carried on for 7 weeks of the semester.

The second phase focuses on the interaction among the peers and lecturer. The lecturer creates a blog for Microsoft Visual C# programming (Figure 3). Then, all students who have enrolled for the course are asked to design and maintain their individual blogs. The students post comments and take part in discussion with the peers and lecturer. On the other hand, they work together and collaborate with each other to assist the teaching learning process. During this stage which was implemented for 3 weeks, the lecturer post various subject related matters such as the course outlines, current standings of students, array assignment question, method revision exercise with sample solutions, final examination tips and other personalized posts. The lecturer also discusses related issues with the students, answers the questions, provides further clarification and also motivates them using the blog.



Figure 3: Computer Science 1 blog

Thus, students can frequently update themselves and revise their learning process. Students are given equal opportunity to voice out their opinion and thoughts and to learn from the various posts and comments in the blog. The multilevel interaction among peers and lecturer via blog engages students in an active learning process.

The implementation of Computer Science 1 blog has provided more freedom for the students to communicate and to voice out their opinion. Foreign students and local students use this blog to interact with each other well. The occurrence of interaction is justified with the feedbacks and comments from the peers and the lecturer in the blog. The consultation hours

and lecture hours are used as a measurement unit for the conventional teaching method. As for the e-learning environment, the frequency of posts and lecture hours are measured. The frequency of interaction is then tabulated to support the research. The frequency of interaction via blog is then converted into percentage and compared with the conventional teaching learning environment. On the other hand, students' assignment scores are used to investigate how the blog has promoted creative learning.

#### 4. ANALYSES AND RESULTS

The active participation from the students enables better understanding on the subject itself. Ultimately, the students post at least 2 feedbacks in the blog. The lecturer guides the students to understand the topics better and assist them with their assignment question posted in the blog. The results of the research indicate that there is an improvement in multilevel interactions among the peers and the lecturer. The vertical interaction shows an encouraging improvement of 38 % on the average. Table 1 shows the results for the vertical interaction mentioned. Students are keen interacting with the lecturer via blog rather than face-to-face interaction. However, for the horizontal interaction, the difference is not very prominent. Though there is an improvement as shown in Table 2, the values are not very satisfying. There is an average increment of 0.25 % in terms of frequency of interaction after the implementation of blog compared to the conventional teaching environment. Therefore, hypothesis 1 is accepted. Table 1. Vertical Interaction before and after blog implementation

	Student1	Student2	Student3	Student4	Student5	Student6	Student7	Student8	Student9	Student10	Student11	Student12	Student13	Student14	Average
Conventional Method	7.94%	0.00%	7.94%	14.29%	0.00%	21.43%	7.94%	7.94%	21.43%	0.00%	21.43%	7.94%	7.94%	14.29%	10.29%
E-Learning via Blog	33.33%	100.00%	0.00%	66.67%	50.00%	50.00%	16.67%	33.33%	33.33%	16.67%	50.00%	33.33%	36.67%	33.33%	48.83%
Difference (%)	26.29%	100.00%	-7.94%	49.24%	50.00%	28.57%	9.52%	76.29%	61.90%	16.67%	28.57%	26.29%	9.52%	19.04%	38.83%

\*The international students are shaded in the results table.  
 Table 2. Horizontal Interaction before and after blog implementation.

	Student1	Student2	Student3	Student4	Student5	Student6	Student7	Student8	Student9	Student10	Student11	Student12	Student13	Student14	Average
Conventional Method	7.94%	0.00%	7.94%	14.29%	0.00%	21.43%	7.94%	7.94%	21.43%	0.00%	21.43%	7.94%	7.94%	14.29%	10.29%
E-Learning via Blog	7.94%	0.00%	7.94%	14.29%	0.00%	21.43%	7.94%	7.94%	21.43%	0.00%	21.43%	7.94%	7.94%	14.29%	10.29%
Difference (%)	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%

\*The international students are shaded in the results table.  
 Scores for the assignment after the implementation of blog shows a clear improvement for many; as there was active discussion in the blog related to the assignment question. Students are keen helping each other by stating the problem solving method for the programming question. Therefore, the blog has promoted collaborative learning among peers and indirectly increased the classroom interactions. It is also observed that students have variation in the answering techniques. They have started to think out-of-the box, and creatively. The discussions or the multilevel interaction helped them to improvise their thinking skills and their performance. A total of 6 students or 42.85% of the registered students managed to improve their assignment marks, with the assistance of the e-learning tool. Table 3 shows the difference between the scores before and after blog implementation. Therefore, hypothesis 2 is accepted.

Table 3. Score for assignments before and after blog implementation

	Student1	Student2	Student3	Student4	Student5	Student6	Student7	Student8	Student9	Student10	Student11	Student12	Student13	Student14
Score before blog (%)	4.00%	3.88%	3.50%	4.75%	3.75%	5.00%	4.38%	4.63%	4.38%	4.63%	4.88%	3.00%	4.63%	4.75%
Score after Blog (%)	4.50%	4.50%	4.00%	4.50%	4.00%	4.50%	5.00%	4.50%	4.50%	3.50%	4.50%	3.00%	4.50%	4.50%
Difference (%)	0.50%	0.62%	0.50%	-0.25%	0.25%	-0.50%	0.62%	-0.13%	0.13%	-1.13%	-0.38%	0.00%	-0.13%	-0.25%

\*The international students are shaded in the results table.

#### 5. DISCUSSION AND CONCLUSION

This study show as in Figure 4. The transfer students in e-learning environment improved their interaction with the peers and lecturer. The blog developed as an instrument has improved the scores for 6 students compared to when the conventional method environment. E-learning has become an alternative to the conventional classroom learning, and using them helps the learning community to move towards a vision of life long and continuous learning (Zhang, Zhao, Zhou, Nunamaker, 2004). The previous studies show that e-learning has a better advantage of delivering knowledge creatively. However, this study is more focused on the level of interaction among the peers and lecturer. Many students reported that the blog had made their lectures more interactive and it is easy to use.

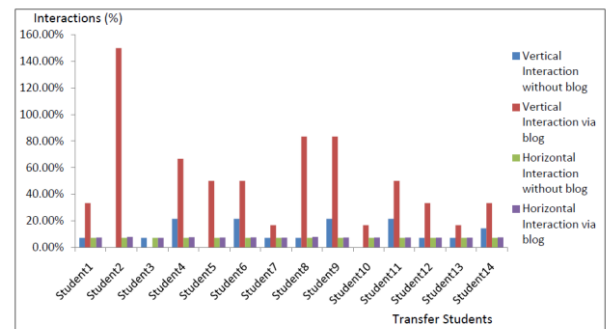


Figure 4: Interaction Comparison via Blog and Conventional Method Learning

Comparing the vertical interaction and the horizontal interaction, the vertical interaction shows a better improvement. This is because students feel it is easier to communicate via blog rather than waiting for an appointment from the lecturer. They get personalized attention when they ask for clarification from the lecturer concerned in the e-learning environment. Time was never a constraint. The interaction occurs at any time. For the horizontal interaction, it is very minimal probably because students meet their peers almost every day in different lectures. This enables face-to-face interaction among peers.

There are some limitations encountered during the research. With the advancement in the technology, one cannot deny that the mobile computing encourages faster communication. Blogging was optional for them as it is more time consuming. A few of them commented that they could not access the network at all times to post comments or feedbacks. Given the results and the limitations of this research, further studies that examine the other dimensions of e-learning to improve the horizontal interaction would be necessary. More studies can be carried out to improve the multilevel interactions among the transfer students in Malaysia.

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