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Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Introduction

Writing is an important part of the engineering course and is an area where students often need training. After studies they practice as engineers and scientists and work on technical projects. They have to convince their co-workers of their worth and transmit the ideas understandably and influentially both verbally and in writing. They must present themselves effectively in competition and possess good writing skills because engineers in the work place are considered professional people. The technical professionals should write clear and concise sentences and should follow the conventions of the mechanics of writing

Many engineering students have problems with writing in the early stages of their course at least. Therefore, developing engineering students' writing skills has significant benefits for students, lecturers, universities, graduates and employers.

Language in India www.languageinindia.com

12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

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The purpose of this research was to explore the usefulness of Google Documents as a collaborative writing tool (Todd Vens, Ch 3, 2010) and blogs, a website that allows users to easily publish or post-writing to the internet (R.A.Sebastian,Ch.1,2008). Collaboration benefits students' instructional needs through positive influence on learning and thereby enhances teaching-learning process.

This paper briefly describes the research material that was used by the researcher to improve the technical English writing skills of the first year engineering sample subjects. Questionnaires, pretest, continuous assessment tests, posttest and also tasks were designed and administered using Google Documents and Blogs, thereby giving language learners some control over their learning and by exposing them to authentic language experiences at different levels of interactivity.

Aims of the research

The aim of the research was to help improve the technical writing skills of the sample students and help them learn to use the web as a tool for exposing themselves to English. Sample students were to be taught writing using internet and they had to complete their tasks outside class time using either the computer labs at the University in the presence of the researcher or their own computer at home.

Research questions

The research questions that guided this study are:

1. What steps do students progress through while writing, using Google Documents and Blogs?
2. What are students' reactions in using technology in learning to improve writing skills?
3. How can internet be used in the future to enhance teaching-learning process?

This research can be best described as action research. Nunan (1992) points out three characteristics of action research: It is carried out by practioners; it is collaborative; and it seeks to make a change. As part of the research, the researcher integrated technology in teaching writing, and sought to bring about change in the way writing is taught traditionally. This research required that students maintain a Gmail id, use Google documents and create

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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

blogs. Data was analyzed qualitatively based on pretests, continuous assessment tests and posttests.

Subjects

There were 34 students who fully participated in the research out of the 115 chosen as samples. They were first year engineering students aged 18-19 and majoring in Science. They were from urban and semi-urban areas. Subjects were at a pre-intermediate level of English proficiency with least knowledge on Technical English. They were taught Technical English for 4 hours a week with a duration of 50 minutes each. The questionnaire was administered in the middle of the first semester, after eight weeks of study. By then, the students knew what is Technical English and why it is useful for engineers.

Research instruments

The research involved a pretest, treatment and a posttest. A pretest was administered before the allocation of students to the experimental group. Immediately after the treatment was over, a posttest was administered to subjects. The purpose of this test was to measure the achievement of the students in the related units of Technical English.

Procedure

For the purpose of this research, two questionnaires were used. The first questionnaire was administered in an effort to assess the students writing skills. The second questionnaire was administered to elicit their familiarity in using computers and its related uses.

Results for Questionnaire 1 and Discussion

The first questionnaire revealed that while about 50% of the students felt that Technical English has helped them improve their writing skills, nearly 65% were **not** familiar with many types of technical documents like memos, minutes, agenda, technical reports, proposals and so on. On the other hand all of them (100%) were familiar with formal letters and note-making. The reason is they learn notemaking and formal letters at the school level. It is evident from the questionnaire that only 55.5% involved themselves in writing only twice a week and 65% did not spend more than two hours for writing. It is clear that the students spend less time to hone their writing skills. To a question on how writing could be improved

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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

nearly, 65.5% said that regular assignments in writing can help them learn the basic nuances of writing skills.

Table 1. Summary of the Results for Questionnaire 1.

Questions	Percentage of students
Technical English helps in improving writing skills	50
Familiarity with the formats of all types of Technical English tasks	65
Write formal letters and note-making	100
Involvement to improve language skills	55.5
Spend time on writing	65
Assignments in improving writing skills	65.5

Results for Questionnaire 2 and Discussion

In the second questionnaire, only 60% of the students reported that they often worked on computers. Almost all of them had used a computer before to send e-mails, for the purpose of social networking and for educational purposes. Nearly 90% of them do not submit their assignments online and 65% rated their skills in using internet as advanced. It is noteworthy to observe that 80% of the students were not aware about the other features of Google other than as a search engine. Interestingly only 2.8% were aware of blogs but not that it could be used in an academic setting too. Moreover 78.6% expressed interest to publish their ideas in web as it would motivate them, and could be useful for practicing grammar, writing, reading and vocabulary.

The results of both the questionnaires indicate that the students are desirous of improving their writing skills and majority of them were already familiar with the use of computers and surfing the web before they were chosen as sample subjects..These results are indicative of the latest trend among teenagers worldwide. (Table 2)

Table 2 Summary of the Results for Questionnaire 2

Questions	Percentage of students
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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

Work in the computer	60
Do not submit assignments online	90
Skills as an internet user	65
Unaware of other features of Google	80
Awareness about blogs	2.8
Interest in publishing in www	78.6

Despite the fact that the majority of the students had computer skills and web surfing experiences, they did not surf the English language sites to improve their writing proficiency. It is the aim of the researcher to train students to surf English websites, use blogs and Google Documents and equip them with strategies to cope with authentic Technical English writing skills.

Data collection and Training materials

During the experiment two different treatment patterns were applied to the experimental group using the computer and the internet. The subjects underwent training online, using Google Documents and Blogs. The experiment continued for 10 weeks. The treatment was designed into 11 units on the Technical English tasks that the subjects were learning in a traditional setup in the English classroom. Each Unit consisted of general objectives to justify the reason for designing the tasks and objectives for the subjects as to realize what they intend to learn and the outcome when they complete the task.

The subjects were taught to create blogs and Gmail id to work in Google Documents. The tasks were designed from the simple to the complex. For example in Unit 1, (Appendix A) the subjects were motivated to use general and technical vocabulary effectively in real life situations. Pictures were given as prompts to elicit answers and then write as a paragraph. Similarly in each unit, definitions, tense forms, adjectives, note-making, recommendations, instructions, checklists, interpretation of pictorial representations (bar chart, flow chart, pie chart), memos, minutes, fire accident reports and job application were assigned to the subjects. In each unit there was a repetition of tasks to enable the students to recollect what they had studied in the previous unit. This served as a revision and helped them to do the tasks better. From Units 2 to 11, the URL and the links from the web were given below the exercise. The students followed the links and the URL to complete the tasks. Again this was Language in India www.languageinindia.com

12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

very different from the conventional English class as some additional inputs and information was given which was learnt using technology. In Unit 9, **listening skills** were also integrated into writing skills as subjects were required to listen to the news in www.bbc.co.uk/news/ to complete the tasks. In another task they had to listen to an audio file and write recommendations. Another task required them to watch the video on the **you tube** , listen to the process description and write in about 100 words. During the training period, sufficient samples and explanation for each task was given in the training material itself. Some tasks were done in Google Documents (Appendix B) and some were done using blogs (Appendix C). Subjects were encouraged to use both for effective training. For each completed unit, feedback and comments were given by the researcher online.

After every four units, a Continuous Assessment Test was administered to measure the achievement of the sample students. A total of three continuous assessments were administered and all the three assessments showed steady improvement in the writing skills of the subjects. The pretest scores served as data for the experimental group, while the continuous assessments and posttest were administered to measure achievement of the students as result of treatment.

Posttest results

The posttest results showed a sharp difference in the performance level of the achievers compared to the pretest (Figure 1). It was administered a week after the subjects had completed the three continuous assessments. The continuous assessments were conducted after the completion of every four units. The questions were related to the units taught. A considerable improvement was observed in all the three tests.(Figure 2).The pretest was composed of a paragraph question and multiple choice test items. The posttest comprised of sentence definitions, recommendations and a formal letter. These test items were based on the eleven units that the subjects were trained in. These eleven units were administered using Google Documents and Blogs during the experiment to the experimental groups and were intended to measure their learning outcomes.

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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

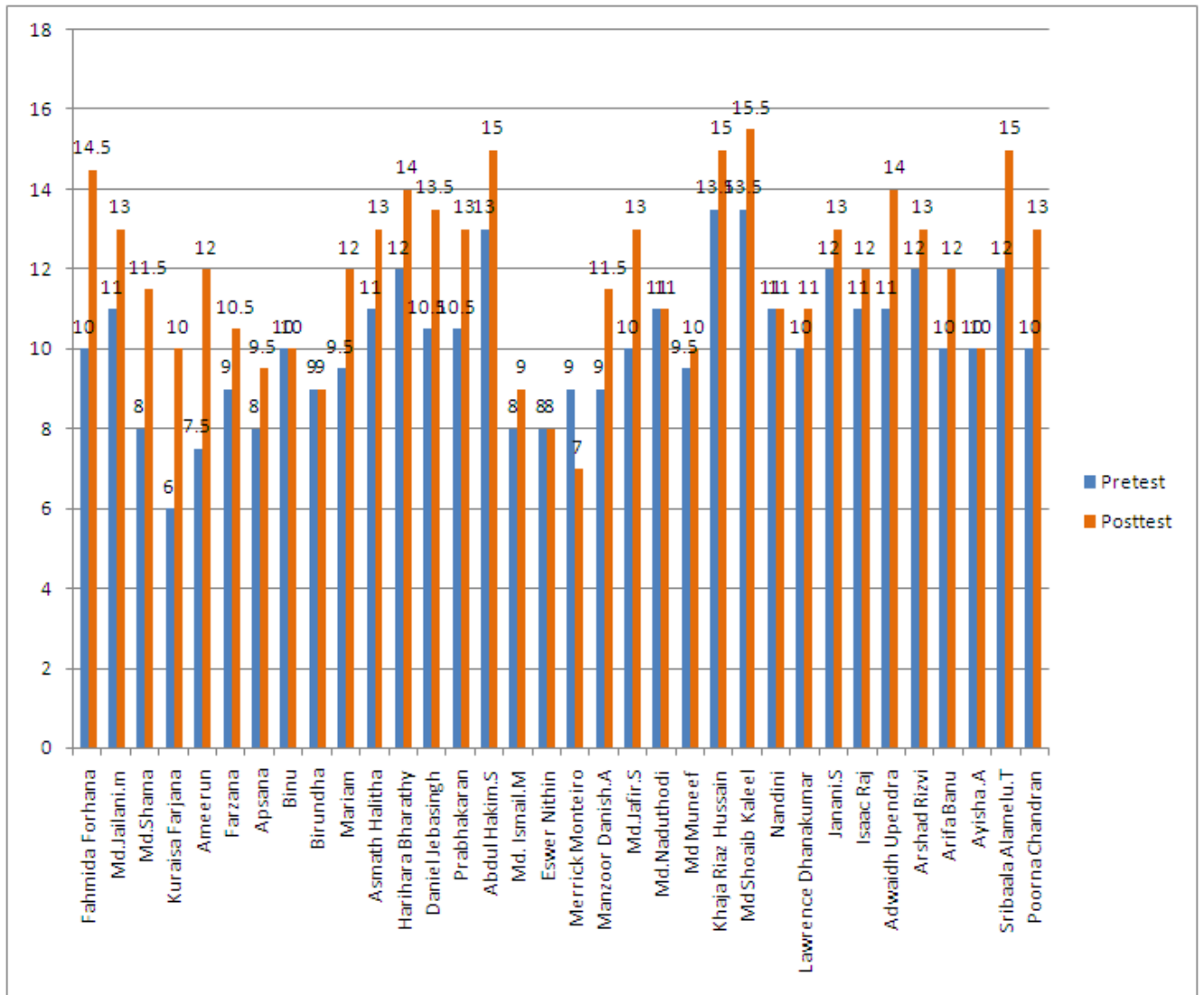


Figure 1 Results of Pretest and Posttest

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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

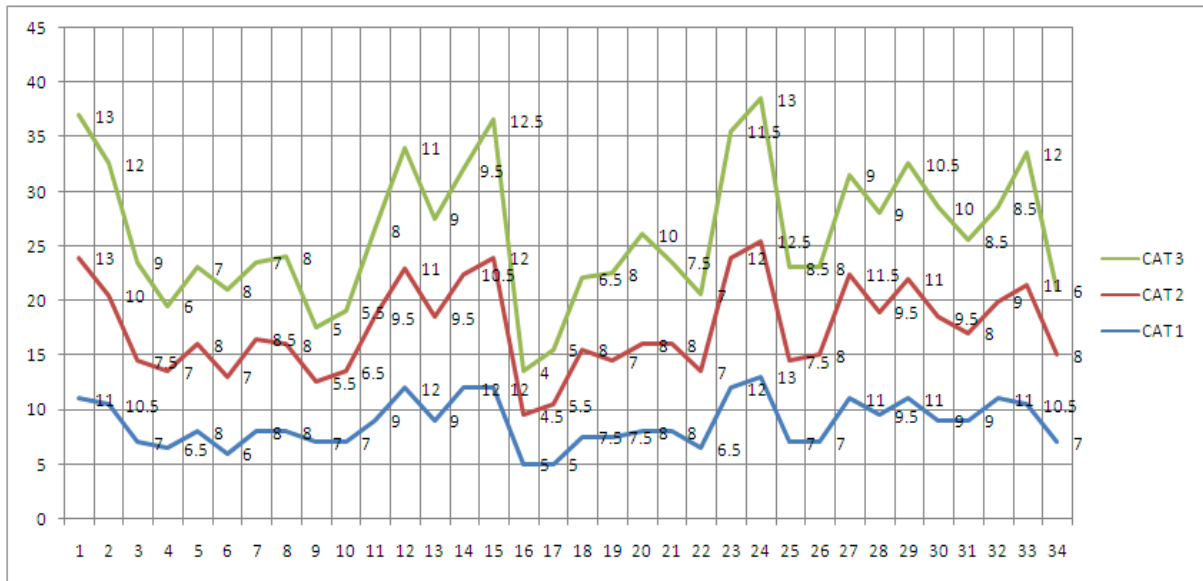


Figure 2 Results of Continuous Assessment Tests

The following formula was used in doing statistical analysis

SPSS 17- (STATISTICAL PACKAGE FOR SOCIAL SCIENCE)

Paired Sample T-Test

Formula: $t = \frac{T_1 - T_2}{SE(T_1 - T_2)}$

Hypothesis: Average test scores of Pretest and Posttest are equal

SE (T₁-T₂) SE=standard error

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	10.1667	34	1.74851	.30438
	Posttest	11.8636	34	2.15157	.37454

Table 3. showing the Paired Sample Statistics

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	34	.737	.000

Table 4 showing Paired Samples Correlations

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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

Paired Samples Test

Paired Differences					t	df	Sig. (2-tailed)		
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1	Pretest – Posttest	-1.69697	1.46276	.25463	-2.21564	-1.17830	-6.664	32	.000

Table 5 showing Paired Samples Test

Result

The aim of the researcher to integrate technology in improving the writing skills of the students was successful as indicated in the graphs (Figure 1 and 2) and the statistical analysis in the Tables 1.2and 3.

Students’ comments

Students were asked to comment and give feedback in their blogs, their reaction in using technology in learning to improve writing skills (Appendix D). They wrote that they had a lot of opportunities to surf the web, follow the link in the URL (which was a totally new concept for most of them), complete the tasks, share and collaborate with their peers and the researcher online. They enjoyed learning online which was very different from their regular classwork. They learnt that Google Documents can be used like any other word document and blogs can be used in publishing their writing..

The students also liked learning English and computer skills at the same time. This was a gratifying comment since the computer -based component was done outside the class with the Language in India www.languageinindia.com

12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners’ Technical English Writing Skills with Google Documents and Blogs -A Research Study

presence of the researcher. Surfing English websites , listening to audio scripts , watching videos and other additional information they gained by using the URLs was also well-taken by many students.

On the other hand, majority of the students complained that their homework and assignments in their regular course, gave them less time to complete their web-based training. Moreover there were other limitations like the sudden hang-up of the computer or lack of network connectivity. Some of them did not have computers and Internet connection at home. Students' involvement and interest was also a matter of concern.

Conclusion

The research study explored the effectiveness of using web 2.0 tools for the improvement of Technical English writing skills. The results indicated that the students had a positive and rewarding experience in using Google Documents and blogs. Without a doubt the combined use of these two technological tools offered promising benefits to ESL learners, as they collaboratively wrote on the Google Documents and blogs and showed remarkable improvement in their writing skills. Also the students gained invaluable experiences in using the internet and surfing the web,

The study concludes that technology can be successfully integrated to improve the Technical English writing skills of ESL learners .Carefully designed tasks and effective strategies for online collaboration between teachers and among learners are essential to boost technology enhanced learning and teaching in a meaningful and productive way.

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APPENDIX A

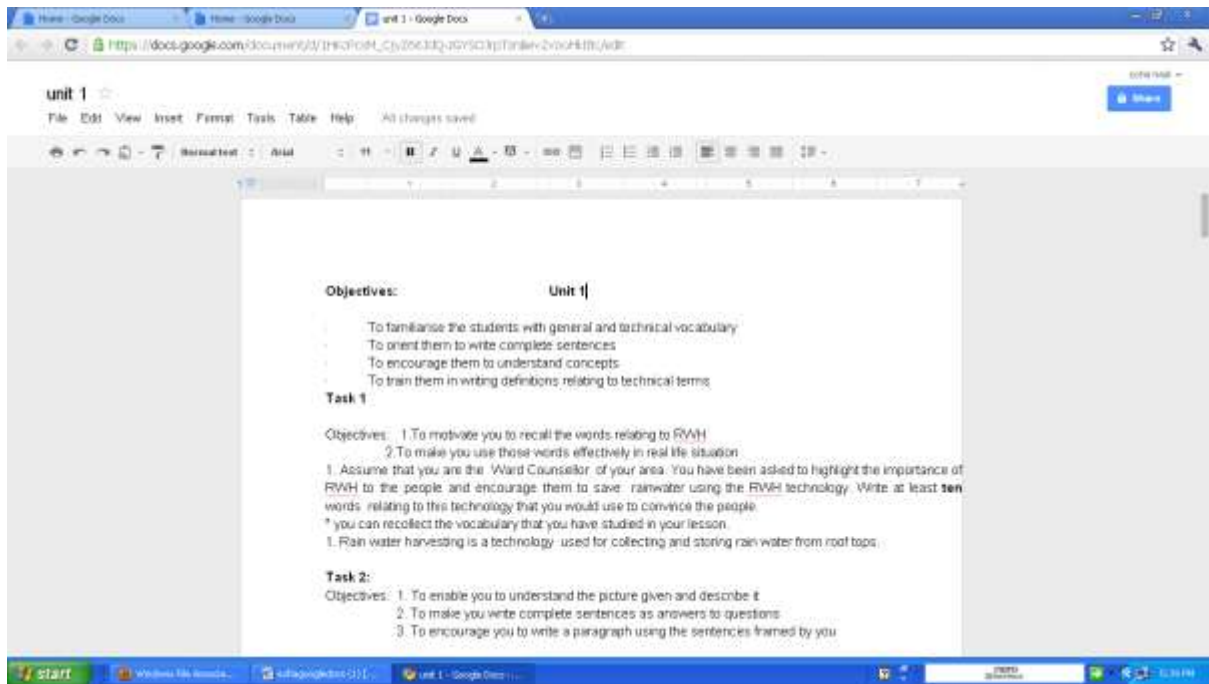
The use of Google Docs in the research to teach Technical Writing

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12 : 4 April 2012

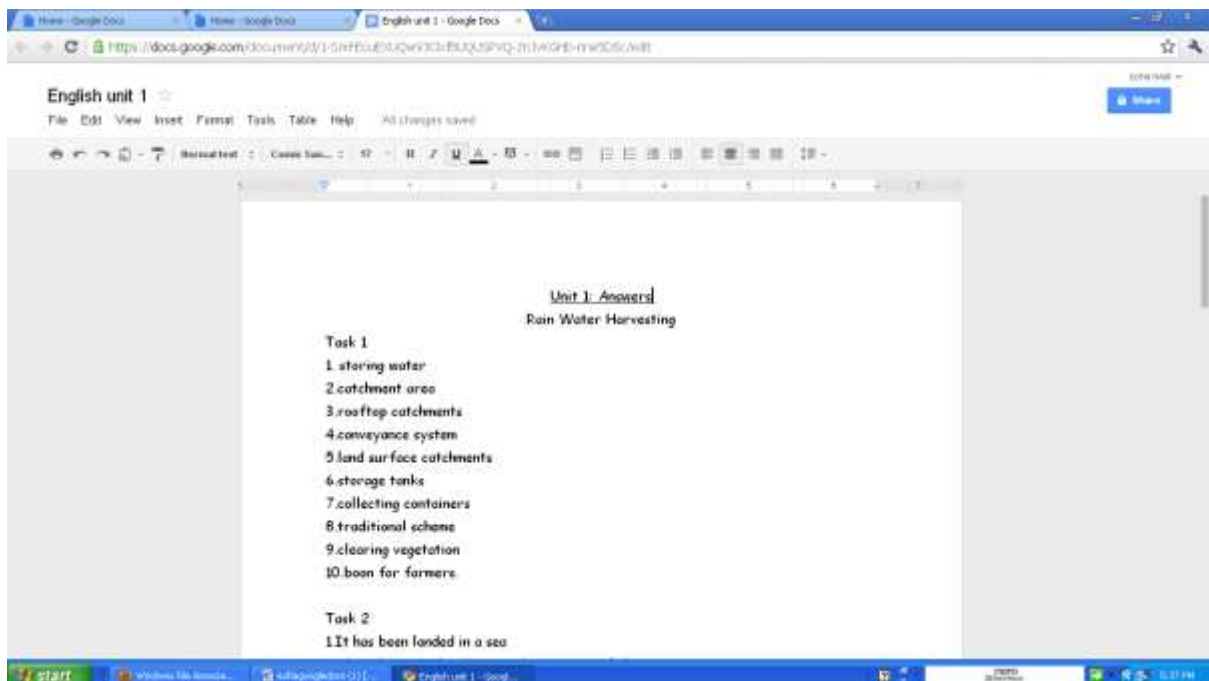
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Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study



APPENDIX B

A student's answer in Google Docs page



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12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study

APPENDIX C

A student's answers in a blog



APPENDIX D

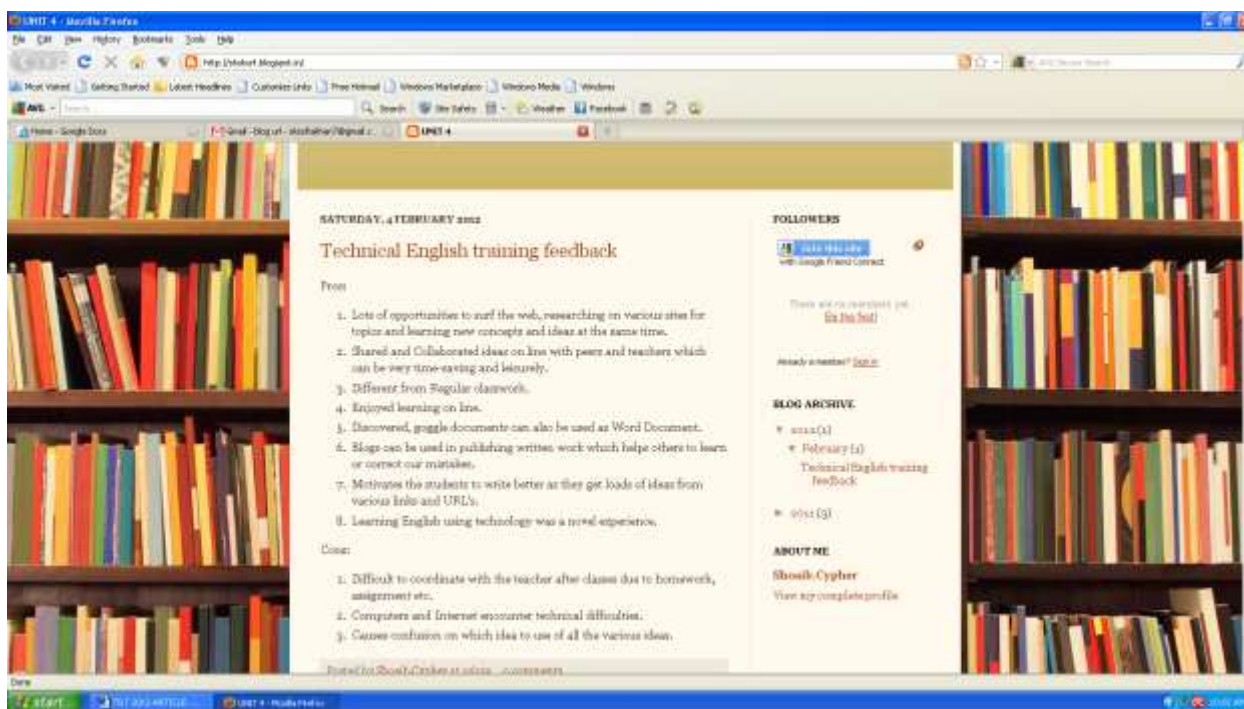
A student's feedback on the use of technology to learn Technical English.

Language in India www.languageinindia.com

12 : 4 April 2012

H. Sofia, M.A., M.Ed., M.Phil. (Ph.D.)

Enhancing ESL Learners' Technical English Writing Skills with Google Documents and Blogs -A Research Study



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12 : 4 April 2012

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