Feedback via Wikis: Revisions and Improvement

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Abstract: This paper reports on the findings of a case study which explored the impact of using wikis as a tool in developing ESL students' writing skills. Seventeen undergraduate students enrolled in a required final year course participated in this study. Data was triangulated using several data collection methods which included drafts written by students, feedback provided and the revisions done via wikis, and individual interviews. Findings showed that the students used most of the feedback they received via wikis to revise their reports. Revisions made resulted in writing improvement. Sixteen students showed statistically significant improvements in writing. The findings illustrates that wikis can be an effective tool for teaching writing because feedback and revisions can be easily reviewed and addressed using the facility provided by this editable, web-based tool.

Introduction

In the writing process, feedback provides learners input for reviewing and revising especially during the drafting stage where improvements can be made. During feedback sessions, students' ideas are reviewed, discussed, problems or mistakes are highlighted and often improved on with the help of the teacher, peers or people other than the teacher. The perspective of a reader can help students move from being a "writer-based writer to reader-based writer" (White & Arndt, 1991: 99). What this implies is that the dialogic nature of giving and receiving feedback can enhance each writer's zone of proximal development through meaningful interactions. Essentially, feedback activities and interaction provide the writer with an authentic audience and enhance their audience awareness especially for less skilled writers (Min, 2006). Research which examined feedback provided by the teacher, peers or others such as professionals, either face-to-face or through computer-mediated tools have been found to facilitate revision and writing improvement (Ashwell, 2000; Berg, 1999; Braine, 1997; 2001; Harris and Wambeam, 1996; Hewett, 2000; Hyland, 2000; Liu & Sadler, 2003; Min, 2006; Paulus, 1999; Sullivan and Pratt, 1996; Tuzi, 2004). In addition, computer-mediated feedback has the potential of increasing the number of feedback exchanged as well as revisions made by the students(Braine, 1997; 2001; Liu & Sadler, 2003; Sullivan and Pratt, 1996) and consequently improving the quality of learners' written work even more than face-to-face feedback (Hewett,

2000; Liu & Sadler, 2003; Tuzi, 2004).Thus, can wikis, an editable, web-based free authoring tool have a similar impact on students' revisions and written work?

The function of the feedback determines the type of feedback provided to students' written work. Corrective form feedback specifically focuses on highlighting grammatical errors and content feedback deals with adequacy, appropriateness, clarity and organization of ideas (Ashwell, 2000; Bitchener, et al., 2005; Guénette, 2007). Stern and Solomon's (2006) coding categories for feedback lists 23 types of feedback which are categorized into four levels which are global, middle, micro and other levels. For example, at the global level the types of feedback addresses the overall paper quality, structure, organization, creativity and voice. Micro level feedback focuses on providing feedback on word choice phrasing, grammar, punctuation, spelling and typing errors.

Revision plays a central role in developing good writing skills (Truscott & Hsu, 2008). It is thus essential to find out how good writers revise their work either as a result of feedback or otherwise. Faigley and Witte (1981) analyzed revisions by looking at how extensive is the revision made; does the revision change the meaning of the text? They have differentiated between revisions that affect the meaning of the text and those that do not which are termed as meaning and surface changes in their taxonomy. Some researchers who have used the taxonomy to evaluate ESL learners' types of revision and the impact on text quality claim that meaning changes would lead to improved text (Berg, 1999; Min, 2006). Others claim that it is not the type of revision but how successful are the revisions in addressing the problems in the text which is important; even though the revisions are mainly surface changes they could also lead to text improvement (Paulus, 1999, Stevenson, et al., 2006).

The Study

Wikis create a platform for feedback to be exchanged and revisions to be visible. Through its *History* facility any feedback provided or revisions done are immediately visible for both the writer and reader. These episodes can be easily analyzed for type and level of feedback and revisions, as well as effectiveness of revisions in improving text (See Figure 1). Hamp-Lyons (1991) suggests that evaluation of revisions can reflect ESL writers' writing development and "facets" (p. 248) of writing that they are in control of. Furthermore, the feedback and revisions via wikis are archived which makes in-depth analysis more feasible in comparison to face-to-face feedback and pen-and-paper revisions. The questions then should be: What types of feedback are provided via wikis? How much of the feedback via wikis is used? What types of revisions are made via wikis? How have the students' written work improved?
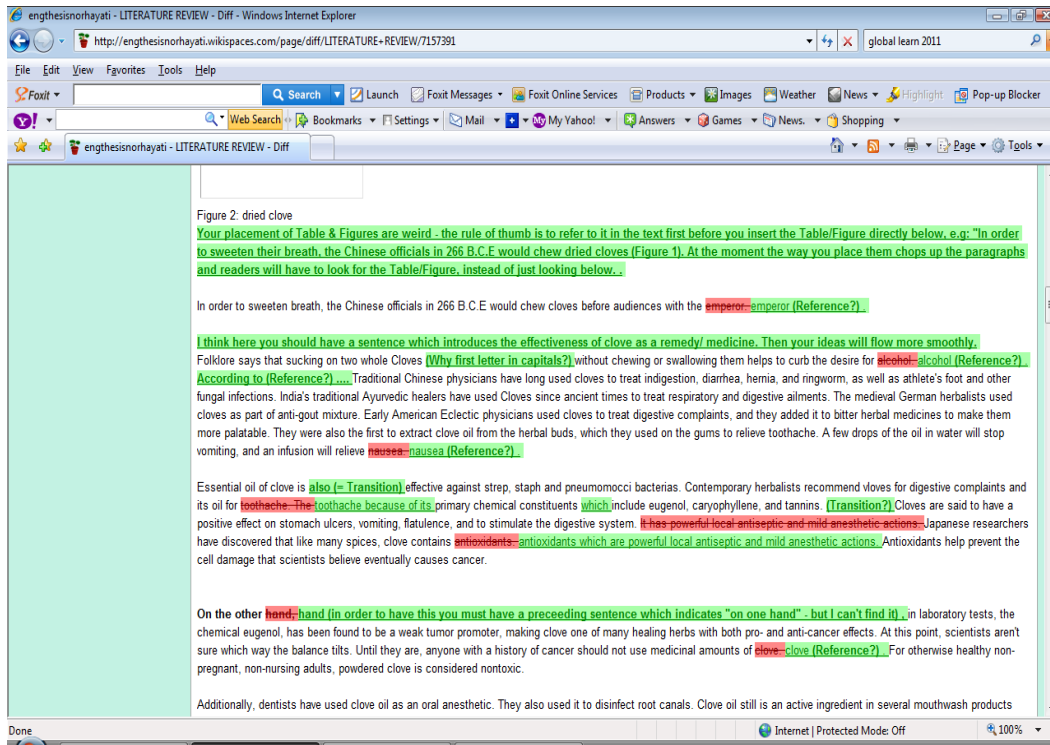
Figure 2: dried clove

Your placement of Table & Figures are weird - the rule of thumb is to refer to it in the text first before you insert the Table/Figure directly below, e.g: "In order to sweeten their breath, the Chinese officials in 266 B.C.E would chew dried cloves (Figure 1). At the moment the way you place them chops up the paragraphs and readers will have to look for the Table/Figure, instead of just looking below. .

In order to sweeten breath, the Chinese officials in 266 B.C.E would chew cloves before audiences with the emperor. emperor (Reference?) .

I think here you should have a sentence which introduces the effectiveness of clove as a remedy/ medicine. Then your ideas will flow more smoothly.
Folklore says that sucking on two whole Cloves (Why first letter in capitals?) without chewing or swallowing them helps to curb the desire for alcohol. alcohol (Reference?) . According to (Reference?) .... Traditional Chinese physicians have long used cloves to treat indigestion, diarrhea, hernia, and ringworm, as well as athlete's foot and other fungal infections. India's traditional Ayurvedic healers have used Cloves since ancient times to treat respiratory and digestive ailments. The medieval German herbalists used cloves as part of anti-gout mixture. Early American Eclectic physicians used cloves to treat digestive complaints, and they added it to bitter herbal medicines to make them more palatable. They were also the first to extract clove oil from the herbal buds, which they used on the gums to relieve toothache. A few drops of the oil in water will stop vomiting, and an infusion will relieve nausea. nausea (Reference?) .

Essential oil of clove is also (= Transition) effective against strep, staph and pneumomocci bacterias. Contemporary herbalists recommend vloves for digestive complaints and its oil for toothache. The toothache because of its primary chemical constituents which include eugenol, caryophyllene, and tannins. (Transition?) Cloves are said to have a positive effect on stomach ulcers, vomiting, flatulence, and to stimulate the digestive system. It has powerful local antiseptic and mild anesthetic actions. Japanese researchers have discovered that like many spices, clove contains antioxidants. antioxidants which are powerful local antiseptic and mild anesthetic actions. Antioxidants help prevent the cell damage that scientists believe eventually causes cancer.

On the other hand, hand (in order to have this you must have a preceeding sentence which indicates "on one hand" - but I can't find it) , in laboratory tests, the chemical eugenol, has been found to be a weak tumor promoter, making clove one of many healing herbs with both pro- and anti-cancer effects. At this point, scientists aren't sure which way the balance tilts. Until they are, anyone with a history of cancer should not use medicinal amounts of clove. clove (Reference?) . For otherwise healthy non-pregnant, non-nursing adults, powdered clove is considered nontoxic.

Additionally, dentists have used clove oil as an oral anesthetic. They also used it to disinfect root canals. Clove oil still is an active ingredient in several mouthwash products

Figure 1: Feedback and Revisions Visible through Wikis' History Facility

This study was conducted at an engineering university and the participants were ESL final-year undergraduate students. They were enrolled in a compulsory course which required them to conduct a research and consequently produce a research report. The duration of this study was for 10 weeks of which one hour was conducted face-to-face with the researcher and the rest was via students' wikis hyperlinked to the researcher's wiki. The face-to-face sessions were strictly for input such as on how to write their introduction or literature review whereas wikis were used by the researcher to post feedback. As wikis are web-based tools, there is a possibility that feedback would be given by people other than the researcher (who was teaching the class). The researcher and the students set up individual wiki accounts which were hyperlinked to all the students' wikis through the *My Account* facility on wikis. This facilitated easy and immediate navigation from the researcher's wiki to the students' wikis and vice versa.

The validity and reliability of this qualitative study was ensured through the triangulation of various primary data sources (Mann 2006; Stake, 1995; Wiersma 2000). Students' drafts via wikis were analyzed for the frequency of feedback and revisions. Coding categories were used to analyze the types of feedback for example global level, middle level, micro level and other types of comments (Stern & Solomon, 2006). Revisions were evaluated using the *Taxonomy of Revision Changes* (Faigley & Witte, 1981) which categorizes revisions into surface and meaning changes. Surface changes are revisions which do not change the meaning of the text such as changes in spelling, tenses, punctuations as well as meaning-preserving additions, deletions or substitutions. On the other hand, meaning changes which are at microstructure and macrostructure levels are made to change the meaning of the text through elaborations, explanations and restructuring of the text. The first and final drafts were assessed by two experienced raters using a multiple-trait marking scheme which was aimed at evaluating the

content, language, organization, vocabulary and mechanics of the students' reports. Inter-rater reliability was Cronbach alpha α = .82.

Findings

A total of 1553 feedback were given via wikis. Majority of the feedback were micro-level comments that addressed errors in the mechanics (punctuation, spelling), lexical choice (word choice/ phrasing, missing words) and reference style (references, citations) of the reports. The students received other types of feedback too such as middle level (addresses the quality of ideas, support/evidence and coherency at paragraph/sentence levels), global level (addresses the overall paper quality) and other types of feedback. 98 % of the feedback was provided by the researcher even though the web-based tool makes it possible for feedback to be given by multiple audiences. However it was interesting to observe from individual students' wiki statistics that their wikis were visited by visitors from various countries without providing feedback (See Figure 1 below). This had a positive impact on the students because it increased their motivation to write better reports. In general, the students were receptive of the feedback they received via wikis.
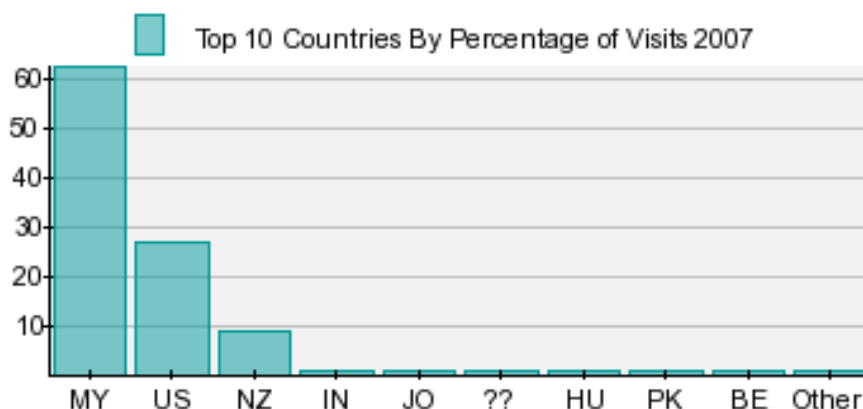
Figure 2: Visitors to a Students' Wiki according to Country

Revisions made to the drafts were essentially surface changes (82.6%) while the rest were meaning changes. More than half (51.2%) of the students' surface changes were generally formal revisions (spelling, punctuation, morphological changes). This means that the changes did not alter the meaning of their texts. Majority (11.2%) of meaning changes were macrostructure changes which are global revisions that affect the text's overall gist such as its global meaning and coherence. Interestingly, the ESL students' in this study revised most at two extreme levels, graphical and text levels.

The students' use of the feedback ranged between using 57 − 94% of the feedback given via wikis. One student (S3) claimed that the feedback helped him reflect on the errors in his writing:

For me, if my reader cannot understand my writing, I like the way they criticize like put in details and state what sort of process (errors) like format and things like that. Although it (is) supposedly technical report, if the message is not   delivered, how can I write a good article, right?

Another student (S14) used 85% of the feedback she received via wikis but at times she found it difficult to revise. She said that she sometimes started out wanting to revise according to the feedback given but finally did not because most of what she wrote were from someone else's research, She was afraid that the actual meaning of the text would be lost if she made too many changes:

At first I want to change it, but I receive so many comments. So delete the first draft and put a new one. Like I said before, many of sentences that I copy and rearrange it back. So maybe when I arrange the sentence, it goes wrong.

The revisions the students made to the drafts resulted in improved texts. A Wilcoxon test was carried out to evaluate if there was significant improvement between the students' first and final drafts when marked using the marking scheme. Table 1 shows the results of the test.

N	Mean Rank	z	p
a. Negative Ranks 1 b. Positive Ranks 16 c.Ties 0Total 17	5.00 9.25	-3.385^{a}	.001

a.   Based on Negative ranks: Final draft < First draf
b.   Positive ranks: Final draft > First draft
c.   Ties: Final draft = First draft
        Significant at $p \leq 0.05$

Table 1: Difference in Scores between first and final drafts

The results show a significant ($p \leq 0.05$) improvement between the students' first and final drafts where the mean rank for negative ranks was 5.00 and the mean rank for positive ranks was 9.25 ($z = -3.385$, $p = .001$). It could be concluded that 16 students improved in their written work whereas one student did not improve.

Conclusions & Recommendations

This study has illustrated how wikis can be utilized as a feedback tool in developing report writing skills. The students found it to be conducive for immediate, continuous and authentic feedback between one-to-one or many-to-one due to its editable features. A majority of the feedback they received via wikis were micro-level feedback which dealt with the students' language errors. Nevertheless, the students also received other types of feedback: middle and global level as well as other types of feedback. Many of the students used most of the feedback received via wikis to revise their reports. The quality of revisions made by the ESL undergraduate students' to their reports via wikis was similar in nature with the ESL students in a number of other studies. In spite of the difference in the writing genres and medium of feedback used in the other studies, the results were generally the same: ESL students made more surface than meaning revisions to their written work.

The students' revisions in this study were mostly surface changes at formal/ graphical level. In contrast, the meaning changes made by the students were more extensive, at text level, and involved students making revisions that changed the gist or focus of their reports. The changes reflected the way in which the students used the feedback they received via wikis. When they received language feedback they made various surface changes but when they received for example feedback that asked for clarification of content they made mainly macrostructure changes. Even though there were fewer meaning changes than surface revisions made by the students in this study many of their revisions resulted in improved text quality. Their predominantly surface revisions at graphical level lead to writing improvement for a majority of the students. However, there was a student who showed negative improvement. One factor observed influencing this student's revision success was the time she revised her drafts. The student who showed negative improvement did not revise throughout the study but revised only when she had to submit the drafts or stopped revising towards the end of the study. This affected her report as there were fewer opportunities for continuous feedback to be given and revisions to be made.

This case study suggests that the use of wikis as a feedback tool to develop the students' report writing skills was generally successful. The feedback received via wikis was well-accepted by the students and used in their revisions. The revisions the students made to their reports were effective in most cases in improving text quality. This supports much of the literature on the effectiveness of using wikis in the writing classroom. In the literature it is stressed that wikis is a suitable computer-mediated tool for the process writing classroom whereby feedback and revisions are clearly visible on the web pages. However, few empirical studies have explored this in detail. This study has to an extent contributed to the body of knowledge on how wikis can be used effectively to provide feedback, encourage revisions and lead to improved texts. Further studies which look into the efficiency of wikis as a feedback tool over a longer period of time is recommended because wikis' potential is vast and relatively under-explored.

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