GRAMMAR? WHO'S INTERESTED? USING ONLINE RESOURCES TO TEACH GRAMMAR

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To help students with writing skills, the School of Computing and Information Technology at Griffith University introduced a self-paced web-based subject using existing Internet resources. Students quickly complained that they "got lost" in the site. It was decided that a site should be designed that was simple to navigate and that engaged students. It was felt that an engaging Flash site could be developed with a simple layout requiring no scrolling and with animated features under the user's control. However, the development of such a site would be costly and time consuming. Perhaps a simple text HTML site would do just as well. While literature comparing web, lecture, and correspondence courses exists (Collins 2000; Liu, Walter & Brooks, 1998; Smith & Taylor, 1995) there appears to be no literature comparing simple text sites versus more dynamic sites. It was therefore decided to conduct an experiment comparing students' performance on, and preferences for, an animated Flash site versus a simple text HTML site.

METHOD

SUBJECTS

There were two groups of subjects. One consisted of 36 subjects who were studying Natural Language Processing (NLP) and the other consisted of 39 students studying User Interface Design (UID).

MATERIALS

A pre-test and post-test on pronouns were designed. Both contained 18 sentences with a pronoun that required completion. The structures of the tests were the same, differing only in wording and example order. An example of a test item is:

The company did not increase it__ profits.

Two web sites about pronouns were developed containing the same information. One was a text HTML site containing three pages, two of which required scrolling. Color was used to provide contrast between headings, informational text, and examples. The other site was written in Flash and contained animated buttons, rollover "hot spots" that gave more information, and animated examples with pronouns of the one type falling into their appropriate position. Color was used to highlight examples, differentiate different types of buttons, and to indicate text that could be rolled over to reveal more information.

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Each subject first completed the pre-test. After the pre-test, half of both groups was directed to the text HTML site and half to the Flash site. Each subject was asked to learn about pronouns using the site and then inform the instructor as soon as they had finished. Subjects spent about 10 – 20 minutes using the required site to study the lesson. As soon as each subject was ready, they were given a post-test. On completion of the post-test, each subject was directed to the other site and given a questionnaire asking which site they would prefer to use and why. The UID students were directed to the sites immediately after completing the pre-test. Most of the NLP students were directed to the sites a week after completing the pre-test. This different arrangement was simply due to differences in timetabling for the two groups.

RESULTS

One subject achieved full marks on the pre-test. He also achieved full marks on the post-test. Of the remaining 74 subjects, 63 improved on the post-test, 4 got worse, and 8 stayed the same. Subjects with different pre-test scores obviously have differing chances to show improvement. To allow for this, the average degree of improvement for subjects achieving each pre-test score was calculated and then each subject was classified as improving more or less than the average for people with their particular pre-test score. Four subjects achieved outlying scores that did not allow the calculation of an "average" improvement score for a person with their pre-test score. These four subjects were therefore eliminated.

Of the remaining 34 Flash subjects, 62% showed better than average improvement, while of the remaining 36 text HTML subjects 47% showed better than average improvement. The results showed, too, that the NLP students tended to improve more than the UID students. For the NLP students, 70% of the Flash subjects and 55% of the HTML subjects showed greater than average improvement. For the UID students, 55% of the Flash subjects and only 39% of the HTML subjects showed greater than average improvement. It appears that the Flash site tended to lead to greater than average improvement for both the NLP and UID students, but the NLP students tended to improve more than the UID students.

An analysis of which site the subjects preferred revealed that 60% preferred the Flash site. Of the UID students, 64% preferred the Flash site. For NLP students, the preference for the Flash site was 56%. Further analysis revealed that there was a tendency for preferences to be affected by which site was used first. For the NLP students, 65% of those who used the Flash site first preferred it, whereas only 47% of those who used the HTML site first preferred the Flash version. For the UID students, 70% of those who used the Flash site first preferred it, whereas only 58% of those who used the HTML site first preferred the Flash version.

The reasons subjects gave for their preferences were also analyzed. The subjects who preferred the Flash site tended to give multiple reasons for their choices. The top eight reasons given by the 45 subjects who preferred the Flash site, together with the number of subjects giving each reason, are presented here:

More interesting, fun, keeps attention *21*   Information in bite size pieces *20*
Visually appealing *14*   More interactive, dynamic *10*
Navigation was easier *9*   It's not linear *7*
Animated pronouns show similarities *6*   The rollovers were good *4*

The top eight reasons given by the 30 subjects who preferred the HTML site, together with the number of subjects giving each reason, are presented here:

Comparison of pronouns is easy *9*   Less button clicking required *8*
Navigation is clear and easy *5*   More information is presented on a page *5*
It's clearer *4*   It's faster to get through *4*
Flash pronoun animation too fast *3*   It's easier to remember things *2*

DISCUSSION

Given the results of the study it has been decided to continue with the development of the Flash site. The subjects' improvement tended to be better using that site. This was true even for the UID students who, given their background, were more interested in looking at the interface rather than learning about pronouns. Also, the subjects tended to prefer the Flash site and those who preferred it were more enthusiastic about their choice than were those who preferred the HTML site. The concerns of the subjects who preferred the HTML site must, however, be taken into account. In the development of the Flash site, more care will be taken to limit the number of required button clicks, rollovers will contain comparative information, and the animation of words or sentences will be slowed down. The concerns of those preferring the HTML site will also be considered in the future development of dynamic presentations for the Flash site.

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