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Impact of ICT on Argumentative Content and Vocabulary Usage

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Abstract

To be a good writer a person has to be well read. Effective reading skills are believed to in turn improve writing skills in terms of vocabulary and content. At college level, writing is the focal component of most ESL (English as a Second Language) courses as it reflects not only overall language proficiency but also the level of critical thinking and depth of maturity. To develop these skills, educators use traditional printed texts for better writing output based on that information. The current 'Net Generation' of students however, are tech-savvy and more used to faster and more interactive activities [1]. Therefore, to enhance writing skills, educators may consider implementing more suitable reading pedagogies. Since reading online is more interactive than traditional print reading [2], a comparative study based on the constructivist theory [3] on these two modes of reading, focusing on the quality of content and vocabulary used was conducted. In a concurrent experiment participants were asked to read a similar input text but in different modes; online and traditional print. The output writing task was analyzed, using a mixed methodology. The qualitative content analysis was based on Bloom's Taxonomy [4]. The quantitative component of our study, we used the online Vocabulary Profiler Web VP v3 Classic to assess the extent to which students integrated, into their own writing vocabulary from the input text. The results reveal that although online reading is the current trend, Gen Y is more receptive towards vocabulary online however; both groups had similar quality of content in their argumentative essays.

1. Introduction

Argumentative essay writing is an important component in any college English program as it is vital for students at this stage to be able to form their own opinions and develop thoughts on different topics. This genre of writing is relevant as it helps students become critical and reflective thinkers. However, it is most daunting as many 'students enter higher education with underdeveloped ability to think critically' [5] .As a result, they are unable to make individual judgments, make arguments, let alone, support them and reflect in their essays as it lacks content.

In addition to weak content, another obstacle to writing is weak vocabulary. Although many college students are fluent in spoken language, they lack appropriate, formal vocabulary for writing. Recent studies have proven that students were unable to express themselves in college writing due to poor vocabulary [6].

It is generally believed to be a good writer a person has to be well read; in the past, Krashen even suggested free voluntary reading as key to student improvement in reading skills, linguistic competence, vocabulary, spelling and writing [7] . Further, Noor it has been discovered that Malaysian students' barrier in the transition from high school to university was being 'spoon-fed'

and unequipped for the 'deep-approach' reading demands of higher education [8]. For this reason writing instructors provide their college students with printed reading articles from different perspectives to provoke thought and help forge their opinions before assigning argumentative essay questions, thus helping them with content generation and vocabulary selection; their two weakest areas of writing.

Even with this printed reading material to aid them in their writing; many students are uninterested and find this form of reading mundane. This generation of college students is commonly referred to as the 'Net Generation' or 'Gen Y': they are tech-savvy and a 'key part of who they are is technology' [9].Consequently, only a combination of speed, customization and interactivity are likely to keep Net Generation learners focused, if not, their attention is likely to flag.

In order to improve the quality of argumentative essay writing and its instructions, we have to tackle the two problems discussed above. One promising way of doing so is by enhancing and updating our current reading pedagogies. Since reading online is more interactive than traditional print reading and hence more likely to interest the Net Generation. As such, two general research questions guided this study; (a). The association between interactive online reading (IOR) and traditional print reading (TPR) on quality of argumentative content and (b). To what extent do the TPR and IOR groups receptive to the vocabulary used from these two reading modes?

2. Literature Review

The use of ICT in language teaching has long been studied, nevertheless the question that beckons is, 'Are new pedagogies emerging alongside the new technologies or are old pedagogies being adapted?'[10].This is pivotal in order to improve teaching and learning. However, the success of new innovations rests 'on the teachers' ability to recognize their learners' preferred style and this can be harnessed through a mediated, technology-rich environment' [10].

Studies on vocabulary suggest that an increase in L2 learners' academic vocabulary can contribute to higher ratings of their academic written texts [11]. Hence, an increase in the amount of academic vocabulary should contribute to writing improvement. Related studies have suggested that 'learners indicated that, in order to write better in academic and professional settings, they wanted to acquire more advanced/formal words and expressions and enlarge vocabulary'[6]. They have also concluded that students still find the most useful method to enhance vocabulary was by reading. Therefore, by making reading more enjoyable, students will enhance their vocabulary and improve their writing, thus creating a domino effect.

However, as seen above, assessing vocabulary knowledge is an intricate issue, but

Hyland and Tse have suggested that most precise method to gage this component is by evaluating it by identifying the category of the lexical items used[12]. Empirical research on lexical acquisition has categoried it into 3; firstly, K1 – consisting of the first 1,000 most frequent word families, secondly, K2- which is the following 2,000 word families and lastly, the Academic Word List (AWL) [13]. Therefore, breaking down the lexical items into these categories, best indicated the level of vocabulary knowledge.

As content is also the focus of this study, in a comparative study on online and print reading by Stakhnevich, whereby participants were required to answer comprehension questions in order to assess their understanding of content Consequently, this study found that using the online mode

resulted in better performance compared to print mode[14]. Thus supporting that online reading may improve students' comprehension of content.

Research in the area of online reading and print reading has been conducted for over the past decade and have all focused on the popularity, evaluation and the changing trends between these two types of readings [15-17]. Currently, studies in this field focus on the different reading strategies and reader behavior when reading online and reading in print [18-20] however, they fail to compare them based on output namely the quality of the piece of writing that these strategies may lead to.

Since a wide range of studies have been conducted comparing these two modes of reading, however, not based on an output. Therefore, by conducting this study, it will be beneficial for future expansions in this area.

3. Research Design

As the focal purpose of this study is two-fold and based on the effectiveness of Information Communication Technology (ICT) on the learning environment, the data was gathered in a format which enabled application of quantitative and qualitative analysis procedures. In addition the theoretical framework which governed this study was the constructivist learning theory initiated by Vygotsky which focuses on a rich, active learning environment for effective learning to take place [3].

3.1Method

Since this experimental study is comparing IOR and TPR modes the participants were randomly divided into two groups: Group A and B (n = 45) of the similar proficiency levels, and were given the similar reading texts but in the two varying modes i.e.; online and traditional print via the website www.nps.gov/history/museum/exhibits/alca/overview.html, Figure 1 below. The respondents were given I hour to read the text and type an argumentative essay between 300-350 words on the topic of 'In your opinion, should prison be turned into tourist attractions?'

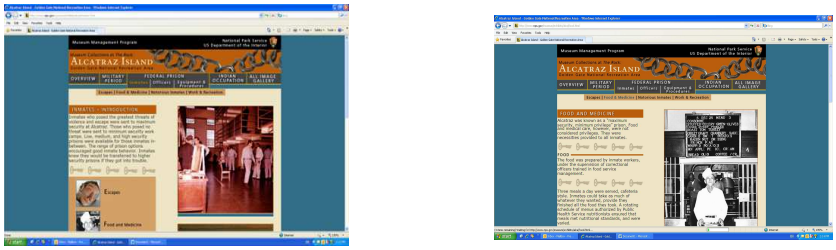

Figure 1: IOR Layout

3.2 Research tools

In order to answer the two research questions, the contents of the argumentative essay were assessment qualitatively using a modified rubric in line with Blooms Taxonomy[21], evaluating the main elements of argumentative writing; Thesis, Support and Counter-arguments ranging from' good', 'average' and 'poor. The vocabulary usages in the writing, essays from both groups were

assessed using the online "Vocabulary Profiler' software called Web VP v3 Classic (www.lextutor.ca/vp/eng) and the findings were tabulated quantitatively.

4. FINDINGS AND ANALYSIS

The most suited layout to report the findings of this study is in accordance to the primary objectives of this study; as such the first sub-section will provide TPR findings followed by IOR findings. Finally, the findings will be analyzed and supported by relevant studies.

4.1 TRP Findings

4.1.1 Quality of argumentative content

From this group of participants (n = 23) a majority of 65% wrote 'good' thesis statements, 26% consisted of 'average' and 9% were 'poor'. In terms of Support, 87% were capable of including 'good' support and 13% wrote 'poor' support. For counter-arguments 39% respondents wrote 'good' and 'poor' counter arguments respectively, whilst 22 wrote 'average' ones.

Therefore, it is evident that a majority of respondents from Group A here are competent in writing thesis statements and supporting their main ideas well, however, face a challenge making relevant and effective counter-arguments.

4.2 IOR Findings

4.2.1. Quality of argumentative content

In Group B a total of 22 participants (n = 22) read the similar text online via the Internet and assessing the essays based on the similar modified rubric. It was found that all the respondents were 100% able to write 'good' thesis statements, 82% supported points well and 18% wrote 'average support, whilst 77% wrote 'good' counter arguments, 5% 'average' and 18% 'poor' counter-arguments.

Parallel to findings from Group A (TPR), Group B (IOR) too wrote efficient thesis statements and were competent in providing sufficient support for their points and claims, however Group B also found it challenging making counter-arguments.

4.2.2: IOR: Vocabulary Usage

The essays from both groups were profiled using the online vocabulary software to enable a thorough breakdown of textual data according to overall vocabulary proficiency. Breakdown of the data is seen in Table 3 below.

Table 3: TPR & IOR: Vocabulary Profiler Findings

Words	Families		Types		Tokens		Percentage %	
	IOR	**TPR**	**IOR**	**TPR**	**IOR**	**TPR**	**IOR**	**TPR**
K1 words (1-1000)	497	479	756	763	6174	6855	76.90	78.84
K2 words (1001-2000)	125	121	174	172	885	985	11.02	11.33
1k + 2k	…	…	…	…	…	…	87.92	90.17
AWL words	145	135	192	180	421	404	5.24	4.65

Therefore, from the data above, it is evident that similarly both groups used a large amount of K1 and K2 words, 87.92% and 90.17% and a small number, 5.24% and 4.65% of AWL words. However, when assessed according to the specific target vocabulary, the findings indicated a vast difference in usage between the two groups. It is visible that a majority of the words from the online mode were used and incorporated well into the respondents' essays. The 20 types from the target vocabulary list yielded a total of 592 tokens whereas the traditional print group yielded 303 tokens.

4.3 Analysis

The findings from the data above indicates that the mode of input reading material in the ESL writing classroom does not make any difference to the content quality of students' argumentative essays: whether in print or shown online, the reading materials do not lead to noticeable differences in content. Therefore, this research finding identifies no significant differences in content ability between two similar groups.

Additionally, it was observed as in Wolfe et al. a majority of respondents 'excluded all other-side information from their written arguments' [22], showing that counter-arguments, refutation, and rebuttals are difficult for students to perceive and form.

Vocabulary choice and usage are an integral aspect of high-quality academic writing. The data above clearly shows that students are more inclined towards adopting words from the online resource as compared to the print text mode.

Therefore, it can be derived that the findings of this study suggest that technology-enriched environments produce mixed learning outcomes. The web-based constructivist learning strongly believes in the importance of the learning environment for effective teaching and learning improvements. Although the findings have indicated similar quality of argumentation for both groups, nevertheless usage of the target vocabulary was higher in the IOR group. Speculatively, if this means that the students effectively learnt more vocabulary, too, then this supports the overall constructivist learning paradigm.

5. Conclusion

The goal of an educational foundation for technology-enhanced education 'is to motivate students to engage in meaningful, constructive, active and productive learning' [23] but the reality is that it may not always be as effective. Although ICT, the Internet and all its resources are integrated into teaching and learning environments around the world, it is also crucial that educators recognize that the use of technology does not necessarily mean better teaching, let alone, better learning. The Internet clearly does not represent an alternative to replace all printed materials; rather, as the current study shows it represents a useful 'option' for teaching and learning. Nevertheless, overall, this indicates that we may be experiencing a change in teaching pedagogies as the pendulum sways back to more traditional teaching practices once again, and that many of them prove similarly effective.

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