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Teaching Academic Writing Features through Literature Reviews (LRs)

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Abstract

This research is written with the belief that carefully reading and examining the LR sections in research papers published in academic peer-reviewed international journals warrants learning from others' practices, regardless of any shortcomings that might be there. Hence, it presents the researcher's practical teaching guidelines on how to use already published LR sections in helping tertiary level students learn about and acquire the academic writing conventions of LRs. It begins with a general discussion of the features of academic writing, how all these are all embedded in the LR sections, and then introduces the steps for sensitizing students to these features and their pragmatic uses. Adopting such strategies will, hopefully, bring about good understanding of the LR function, contents, structure, linguistic features, and will ultimately enable students produce informative LR sections for their research projects. This study utilized qualitative and quantitative tools to gauge the impact of the teaching method used. Results show improvements in students' post teaching written productions. The paper concludes with a discussion of how such an exercise impacted students' understanding of the LR writing process.

1. Introduction

In order to write a LR, some "text-external and text-internal features" (Johns, 1997, p. 125) should be known and reflected in the learners' produced written work. Writing is considered to be the core of English for Academic Purposes (EAP), and learners are usually assessed based on their writing especially in higher levels of education. EAP is defined by Hyland (2006, p. 2) as "specialized English-language teaching grounded in the social, cognitive and linguistic demands of academic target situations, providing focused instruction informed by an understanding of texts and the constraints of academic contexts".

Not a small number of tertiary level students, at both graduate and undergraduate levels, feel overwhelmed by the writing standard of LRs and the expectations the universities they study at expect and require of them. That is why the university the researcher works for offers a compulsory Advanced Academic Writing (AAW) course for all students. In this regard, Bruce (2011); Chandrasoma (2010) and Hyland (2006) view writing as an apprenticeship and for learners to produce well received academic writing, they need to imitate in context. That is, they need to write, be given feedback why and why not to use a specific feature and in what context. Furthermore, Dudley-Evans (1994) argues that genre analysis is particularly useful for the students with relatively little experience of academic writing. This will usually be in three stages, the first being the reading stage that precedes the writing stage. An awareness of the generic structure of the texts read will have a positive effect on future writing. The second is the immediate planning stage where the findings of genre analysis will help writers grasp what is expected in the genre they are proposing to write. The third stage is the draft stage in which an awareness of genre conventions will help in the ordering and re-ordering of text.

Indeed, genre analysis provides a way of introducing and discussing the expectations of the academic community in general and the discourse community that the students aspire to join in ways that are comprehensible to both the language teacher and the student. Therefore, the English for Aacdemic Purposes (EAP) teacher should be able to identify and analyse academic genres and the functional and rhetorical features of academic texts and train students to do the same. The basic philosophy of a genre approach is entirely consistent with the English for Specific Purpose (ESP) approach. It assumes that the focus on imparting certain genre knowledge is part of a short-cut method of raising students' proficiency in a relatively limited period of time to the level required of them by their departments and supervisors. The imparting of genre knowledge involves increasing awareness of the conventions of writing, and teaching students to produce texts that, by following the conventions, appear well-formed and suitably structured.

2. The utilization of published LR sections

According to Vahid baghban, 2011**;** Dakowska, 2016; EL-Sakran, in press; Shabani and Heidar, 2016, authentic materials may work as a motivating feature and as a link between students' general knowledge of language and their professional language needs. Further, Vahid baghban (ibid, p. 12) adds that "authentic materials, being a part of the real world, can serve as excellent resources for introducing language in its real form to ESP learners whose final goal in taking ESP courses is to communicate properly in real-world contexts". Along the same lines, Flowerdew (2000) and Cheng (2011) suggest that problems with features of academic writing may be solved by developing awareness through different means, for

example, by analyzing the function of a particular item in authentic texts. Worth mentioning that Swales' (2009) statement that "when there is no perfect text" (p. 5), practitioners resort to simulating texts for teaching purposes, albeit being true, should not deter academic writing specialists from using already existing samples for training purposes. In this regard, even if the examined texts contain imperfections, such shortcomings should be pointed out to students so that they avoid committing them in their own writings.

3. Objective of this research

Thus, this study aims at sharing the author's teaching method with colleagues in the academic writing field by demonstrating to them how authentic published and peer-reviewed research papers from the learners' respective academic fields can be utilized to introduce them to the academic writing features of the LR sections, with the viewpoint that doing so will enable learners produce their own LR sections. The focus was placed on the LR sections as discrete entities where they were carefully subjected to a move analysis procedure. That is, they were critically examined through a series of questions as delineated below.

4. What is a LR?

The LR is defined differently based on the perspective from which it is approached. Riley (1997), for example, looks at it from a writing process perspective, Machi and McEvoy (2009) view it in terms of its structure whereas Zorn and Campbell (2006) consider it in light of its status (i.e. standalone LR and LR sections/chapter in theses or research articles). Others (i.e. Hart, 1998) look at it from a contents perspective as containing a synthesis or summaries of related researches on the specific area of study being reported on. Consequently, various definitions are put forward for the LR (see Cisco, 2014, for more details). Anyway, for the present researcher, a LR is a section or a text chunk of a research article giving a synthesis of previously related studies on the research topic at hand with, critical appraisals of these studies to provide enough justification(s) for conducting a new study in the area. The other important forgotten issue is that the contents of the LR should be related to the discussion section in the research article that contains it.

5. Review of Related Studies

Despite the availability of a good number of guidebooks on how to write a satisfactory LR, (e.g., Garrard, 2011; Hart, 1998; Machi and McEvoy, 2009), they theoretically discuss the process of writing the LR, but not the actual production of a real one. Surveying some of these guidebooks and previous researches on LRs, there is indirect unanimous agreement (i.e., Bitchener and Banda, 2007; Cisco, 2014; Cooper, 1988; Duffy et al, 2009; Feak and Swales, 2009; Garrard, 2011; Hart, 1998; Kwan, 2006; Machi and McEvoy, 2009; Paltridge, 2002; Ridley, 2000; Swales, 2009; Swales & Feak, 2004; Zhu, 2004; Zorn, 2006) that writing a LR is a challenging task for students since it requires knowledge and mastery of academic writing style, knowledge of discourse functions and knowledge of relevant discourse community conventions. Although there has been some research on LRs, mainly on how to write them, the present writer is unaware of studies utilizing the existing published LR sections in contextualizing the teaching of the academic writing features of LRs.

Researchers who studied the LR sections focused on how these sections are structured and presented extensive information on the many ways a literature review section could be presented. Randolph (2009), for example, made available a detailed account on how to write a

LR section for a dissertation. Researchers also argue that the LR sections are useful tools in opening students' eyes to new research areas/topics in their field of study. For instance, Tedick (1990, p.138) found that the extent to which writers are familiar with subject matter has "dramatic influences on their writing performance''. This is also corroborated by studies such as that conducted by Adamson (1990) who concluded that '' academic skills are best taught in connection with authentic content material" (p.67). Zorn and Campbell (2006, p. 173) "present an exercise … developed for teaching the practice of writing literature reviews. The exercise involves integrating four pieces of research into a coherent synthesis of the literature, then providing students with examples that demonstrate the key features of well-written literature reviews." This exercise only focused on writing a coherent synthesis of a set of related text chunks; one of the skills needed for writing a LR.

There is also evidence (i.e., Huang, 2008) to suggest that non-exposure to academic writing represents a complex that may hinder embarking on any academic writing in the future. In this respect, Hernández (2011) notes that exposure to an input-rich environment combined with meaningful, task-essential practice is sufficient to promote language acquisition**.** It is also mentioned in the literature (i.e., Akakura, 2012) that both explicit and implicit instruction can benefit academic language acquisition. Perhaps this is the reason that led Swales and Lindemann (2002) and Pally (1997) to argue that the LR section can be taught as a discrete, for it provides an opportunity for sustained attention to critical appraisal through the evaluation and incorporation of sources into text to make an argument. Another related study is that by Cisco (2014), in which he rightly argues that explicit teaching in one-to-one sessions on how to write a LR has proven useful for learners.

6. Methodology

This section explains the sources of the utilized LR sections, the reasons and criteria for their choice and inclusion in the study. Besides, it shows how the LR sections exhibited most, if not all, of the features ascribed to academic writing. It also details the testing procedures for the proposed approach.

6.1 Teaching Materials

As students participating in this course belonged to various academic disciplines, the example LR sections were extracted from several peer-reviewed journals following the APA Style Manual from the academic majors the participants represented. The length of the selected text ranged from 225 words to 300 words. To guarantee ease and comprehensibility of the contents of the selected LR sections, they were selected from academic journals in the fields of education, psychology, sociology, business, and environment. The researcher read the LR sections before being introduced to students and made sure they were within the learners' general knowledge. Besides, they were carefully chosen to cater for all structural and contextual differences that might exist across the various academic disciplines. Furthermore, some of these texts were organized chronologically, whereas others were structured thematically. The instructor's selected LR sections were utilized in class, one at a time. A total of 5 LR sections were used throughout the whole semester.

6.2 Participants

The participants in this study, who will remain anonymous, were more than 400 undergraduate students, from all academic disciplines, studying a course with the title 'Advanced Academic Writing (AAW)' for a full academic semester. The researcher taught

this course to more than 20 cohorts of 20 students each over a period of four years. When these students were admitted to the university, they obtained a minimum score of 6.5 in the ELTS exam. In their first year of study, they were registered in a writing course with name 'Academic Writing'. This course tries to bridge the gap between school writing and university writing. Upon successful completion of this course, they proceed to a second three-credit-hour course with the title 'Reading and Writing across the Curriculum'. In this course, students are exposed to all functions of writing; that is, narrative, descriptive, etc, with an emphasis on how to quote, paraphrase, summarize and cite. Successful completion of this course allows students to register for the AAW, which is the playground for this research.

6.3 The AAW Course

This course is based on common core needs; that is, it is designed to satisfy the different academic writing needs of students from different disciplines. The main focus in this course is on writing a research paper on a topic selected by the student, or on a topic from a theme set by the course instructor. The course deals with writing as a process that goes through several production stages, the proposal, the working draft, the first full draft and the final research paper. This study focused on comparisons between the first three stages only, since the differences between the first full draft and the final research paper are not of great significance.

6.4 Data analysis

To measure the impact of the teaching method utilized here, this study employed qualitative and quantitative measure as explained below. At the end of the course, students were asked to rate the teaching method by responding to a survey comprised of 5 questions on a scale of five and one open-ended question as follows:

The use of authentic LRs was useful:

Strongly Disagree Disagree Neutral Agree Strongly Agree

This hands-on-analysis of LR sections helped me learn how write and structure a LR section:

Strongly Disagree Disagree Neutral Agree Strongly Agree

I think this was a good practice for my research project:

Strongly Disagree Disagree Neutral Agree Strongly Agree

The analysis of the LR sections was clear and understandable:

Strongly Disagree Disagree Neutral Agree Strongly Agree

Using the questioning technique made me more aware of the linguistic features of LRs and readers' informational needs from reading it:

Strongly Disagree Disagree Neutral Agree Strongly Agree

These were followed by the below given open-ended questions:

- Describe briefly your key learning from this teaching method:

Furthermore, since the AAW course follows a process writing approach, one hundred and fifty (150 samples, 50 from each category) LR sections those students produced for their research proposal, the first working draft and the first full draft were compared for the following:

- Lexical density (LD) and Lexical richness (LR)

These were tested through the free software Textalyser (http://textalyser.net/).

According to this test, LD was calculated as follows:

LD =number of lexical items x 100÷total numbers of words). In other words, it is the percentage of lexical words in the text, i.e., nouns, verbs, adjectives, adverbs, compared to the percentage of function words;

- LR is the different types of words used in a text
- Another computer software known as AntConc (http://www.laurenceanthony.net/software.html/) was used for examining 2-5 N-Gram structures. The focus was placed mainly on linking adverbials and gap and opinion expression structures
- Narrativity (texts that read like a story)

To measure the level of narrativity in the LRs that the students produced in the different stages of writing the research paper, another computer software with the name Cohmetrix (http://www.cohmetrix.com/) was used for this specific task. This measure detects differences, if found, between the levels of narrativity among the LR sections in the research proposal, in the consecutive working draft and in the irst full draft. Narrativity as used here means that the text is more or less-story like in the sense that the more information is given in the text, the more narrativity it demonstrates and the more easier it becomes to comprehend it and vice versa. This is also an indication to ease of readability (flow of the text and providing enough information for readers to make full sense of the studies being reported on). The readability index is calculated as follows:100 easy, 60-70 standard, 20 hard. The more a text index goes towards the right positive end of the continuum, the more detailed it is, and; hence, the more readable it becomes (Courtis and Hassan, 2002; Oakland and Lane, 2004).

It is hoped that the use of the aforementioned tools will help find answers to the following questions:

1. What is the participants' reaction to this teaching method?
2. Do their written LR sections reflect any improvements from the proposal stage, the working draft and the final research paper?

7 The Model and the teaching (procedures) process

The AAW course is built on the production of a research paper that should contain a LR section. The class session on the LR section started with an interactive dialogue between the course instructor and the students. After being introduced to the topic, LR; they were asked to mention all the different nominations/titles used for labeling the LR section, so that they acquire a variety of titles for the same section, depending on the preferences in their respective academic discipline. Then, they were presented with the above given definition of the LR, its purpose and what information it should contain. Immediately after, they were introduced to a simple model (see below) for analyzing and writing a comprehensive LR. After the above sequenced steps were introduced and explained, sample LRs were shown (see Appendix 1 for full text) and students were asked to apply the techniques to them, only one at a time. Color codes were used to divide the text into sentences according to their functions in the context. The sentences are numbered here for ease of reference.

Who? The who requires naming the writer of the source from which the information is gathered. According to the APA Style Manual, this always takes the form of mentioning an author's name, or sometimes more than one authors' names.

When? The when calls for a publication date that should be provided within brackets, sometimes, within the same brackets a page number is cited. This information, together with

the author's name, corresponds to a source listed in the references section of the research article.

What? The what calls for detailed information on the research focus of the source. In other words, tell the story.

How? How the research was conducted, what research tools were used, etc.?

Where? Was the research carried out: under controlled lab conditions, or otherwise, and in what part of the world, if deemed necessary.

Outcome? What results were achieved?

Your evaluation? What is your view? What is your stance from the results, or the methodology used? In other words, this is the critique part in which the writers have to evaluate the research being examined and "create a niche" (Swales, 1990, 141) for their research.

An examination of the sample LR text in Appendix 1 shows the following:

1. The review starts (S1) with an introduction that provides an overall view of the focus of the research area.
2. S2 provides specific examples of researchers in the area of the research. It is pointed out to the students here that the use of the noun 'researchers' sets some predictions on the readers' part. That is, academic readers, based on this word, would expect the occurrence(s) of samples of those researchers either in the same sentence, or in the immediately following sentence. The examples given here could have also been delayed to sentence final position, what is referred to in the literature on academic writing as weak author orientation.
3. In S3, the pronoun 'others' signals a shift from previously mentioned researchers to new ones. An example of those others is given towards the end of the sentence. The authors' names and publication date(s) could have also been inserted between brackets immediately after the word 'others'.
4. Then, from sentences from 4-7 more elaborations are given. On these, students were asked to comment on the following:
   - 4.1. What they did (S4).
   - 4.2. What reporting verb was used? This particular point has equipped students with a variety of different functional verbs, verbs with specific semantic load (see Appendix 2) that describe exactly what the authors did. For instance, using the verb 'define' when citing someone else's definition.
   - 4.3. How they did it (S5).
   - 4.4. What was the outcome (S6)
   - 4.5. The reporting author's stance from the study (S7). This is signaled through the use of the adversative linking adverbial 'however'. At this particular junction of the teaching, linking adverbials with their contextual meanings were introduced to the students. These were:

     Additive: including addition (*and*, *furthermore*), alternative (*or*), exemplification (*for example*, *for instance*) and similarity (*likewise*, *similarly*),
     Adversative: including contrast (*but*, *instead*) and concession (*although*, *however*),
     Causal: including cause/reason (*because*, *since*), result/inference (*therefore*, *thus*), purpose (*in order + to*, *so that*) and condition (*if*, *unless*),

Temporal: including sequence (*after, then*), simultaneity (*when, while*) and enumeration (*first, second*). (Adapted from Halliday and Hasan, 1976; Swales and Feak, 1994)

4.6. S8 marks a shift to another line of research. The following sentence (9) provides a specific example of this type of research. This particular sentence could have been fronted with the linking adverbial 'for example'. The very same adverbial could have also been inserted between to commas after the authors' names and the publication date. The reporting goes in the same cycle as the previous source.

4.7. Then, S12 heralds the introduction of a new study until the authors show its weakness in S 19. Immediately after this sentence, the authors present the aim of their study.

8 Results

Overall survey responses indicate that the simple steps offered were well received by the students. Responses were as follows:

Table 1: Responses to the Survey Questions

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The use of authentic LRs was useful	-	-	-	95	55
2. This hands-on-analysis of LR sections helped me learn how write and structure a LR section:	-	-	-	94	56
3. I think this was a good practice for my research project	-	-	1	89	60
4. The analysis of the LR sections was clear and understandable	-	-	3	97	50
5. Using the questioning technique made me more aware of the linguistic features of LRs and readers' informational needs from reading it:	-		5	92	53
Total	-	-	9	467	274
Describe briefly your key learning from this teaching method	- Common mistakes in reviewing the literature - Writing LRs made easy - Functional reporting verbs - Transitional adverbials for same/different points of view - Where you stand from reported ideas - What to critique a study for? - The example LR sections provided were excellent and helped me understand the whole concept. Very excellent for research paper writing. -Learned about the use of hedging devices when presenting my point of view				

As for the textalyser comparisons of differences between produced samples of LR sections before and after being exposed to authentic LRs, results demonstrated more total number of words, more lexical density and richness, a bigger and richer number of 2 and more N-Grams for linking adverbials and structures expressing opinions and a wide variety of functional verbs (see Appendixes 2, 3 and 4). This was coupled with more text narrativity, which resulted in greater ease of readability and more details given to prospective readers. For instance, the steady increase in the total number of words from the proposal stage to the working draft and the first full draft were 282, 443 and 458, respectively. Meanwhile, the gains in lexical richness were 57% for the proposal, 57.1% for the working draft and 62.9% for the first full draft. This had also resulted in a steady increase in the readability index from 20.2% for the proposal, to 30.7% for the working draft and 55.7% for the first full draft.

9. Discussion

Simplifying the analysis of the LR sections through the use of these simple steps, Who?, When?, What?, How?, Where?, Outcome?, Your valuation? What is your view?, has resulted in students' positive appraisals of the method as shown above. Furthermore, the use of authentic samples of LRs has provided a practical demonstration of the steps involved in the analysis. What is more important is the significant increase in the total number of words per text from the proposal to the first working draft through the first full draft. This increase has been accompanied by another significant increase in the different types of words used in the LR sections in the various writing stages. This may imply that students' productions have become more accurate, precise and academic. That is, carefully selecting concise and pure academic terminologies for the presentation of their ideas and arguments. Another significant improvement has taken place at the levels of readability from the proposal stage to the other two writing stages. This increase in the readability has resulted in more ease with which a reader can read and understand a text. This is in line with Oakland and Lane's (2004) argument that a text is more readable when it presents concrete issues rather than abstract ones, provides the "who," "what," "where," and "when" and is written in a genre familiar to the readers.

Moreover, the students' involvement in applying the above mentioned steps to the authentic LR samples allowed them hands on the analysis of the LR sections. Hopefully, such skills will be transferred to the process of writing the LR sections in students' future research projects. In this context, Boote and Beile (2005, p. 3) rightly argue that "… a researcher cannot perform significant research without first understanding the literature in the field". Thus, using authentic LRs from the students' academic disciplines could be a step in this direction. Related to this is Gall, Borg, and Gall's (1996) belief that the most frequent mistakes made in reviewing the literature are that the researcher:

- Does not report the search procedures that were used in the literature review;
- Does not consider contrary findings and alternative interpretations in synthesizing quantitative literature (pp. 161-162).

It is also believed that following the teaching steps described here will help change the learners' conceptions and understandings of what a LR is.

10. Conclusion

While this teaching method focused on the mechanics of writing a LR section, it has, at the same time, paid attention to its purpose, context, information contents and accessibility to prospective readers. It has also motivated learners, by offering them meaningful and

communicative writing analysis tasks that will, hopefully, culminate in the production of their own. Yet, the question that calls for an answer is: Will those students produce well-written LRs for their future theses/projects or not?, the answer requires a follow-up study and analysis of the LR sections those students write for their theses/ research projects (see El-Sakran, Ahmed and EL-Sakran, 2017). Another area of study is the analysis of the students' produced LRs in terms of informational content(s). That is, how informative the LR sections are for their intended readers (EL-Sakran, pp. 44-46, 1990). Another important question is: How accurate is the information reported in the LR sections? This type of question may require writing instructors to choose a random sample of sources cited in their students' writings and compare the information reported with the information in the original sources cited.

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Appendix 1

Related Work

(S1) Several research attempts have been conducted to try and benefit from computers and smartphones in diagnosing and monitoring respiratory diseases. (S2) Researchers (Hasan et al., 2015 Heijden et al., 2013) have used smartphones with health sensors to monitor and manage respiratory diseases at home. (S3) Others tried to mimic spirometer by using an external microphone connected to a computer or mobile as Abushakra and Faezipour (2012) reported in their work. (S4) They proposed a methodology of splitting the breathing acoustic signal captured using a microphone by applying voice activity detection (VAD) techniques and then computing the average time duration and energy of the breathing cycle. (S5) They used equations for both genders to estimate the lung capacity (FVC). (S6) The overall accuracy of their lung estimation methodology on the tested subjects was approximately 86.42%. (S7) However, they didn't use the built-in microphone in smartphone, but their results motivated other researchers to use the built-in microphone for lung capacity estimation. (S8) Other reported attempts tried to use the built in microphone in smartphone. (S9) Larson et al. (2012) developed an iPhone mobile application that performs spirometry sensing using the smartphone's built-in microphone. (S10) The processing of the recorded signal is carried out on the cloud with FVC, FEV1 and PEF lung measurements eventually being reported to the user. (S11) They evaluated their app and the mean error when compared to a clinical spirometer was about 5.1% for common measures of lung functions. (S12) Xu et al. (2013) designed and developed an Android mobile phone application for lung function diagnosis called mCOPD. (S13) The app is designed to diagnose COPD disease. (S14) It uses the built in microphone to record subjects' exhalation, the processing on the resulted signal is done on mobile and the app provides users with FVC and FEV1 lung measurements. (S15) They evaluated mCOPD in controlled and uncontrolled environments with random subjects. (S16) The average deviation of the data FEV1/FVC when compared to the clinical spirometer was approximately 3.9%. (S17) Stein (2013) designed a smartphone app that uses the built in microphone and sound analysis algorithms to test lung functions and reports FEV1 and FEF25-75% lung measurements. (S18) The app is designed to work with a distance between the mouth and arm set manually to 30 centimeters. (S19) Unfortunately, the app was tested on two patients only; however, it showed promising results.

Proposed Approach

The proposed system utilizes the built in MEMS sensors in an Android-based smartphone to perform spirometry, diagnose if a patient suffers from COPD, and assess the severity of the disease. In spirometry, patient's exhalation is analyzed to extract lung measurements FVC and FEV1. According to the structure of the MEMS microphone, the built in MEMS microphone in the smartphone is capable of sensing direct airflow of human exhalation (Xu et

al. 2013; Hua et al, 2009). In order to calculate lung parameters FVC and FEV1, we need the volumetric flow rates of the exhalation. Practically, we cannot directly extract the air flow from the recorded exhalation signal. However, we can extract time and frequency responses of the audio signal using mathematical processing techniques. Accordingly, we developed a model to find the relation between the response of a human exhalation recorded by mobile microphone and the actual flow rate. We next designed an application that records the patient's exhalation and makes use of the model to analyze the signal, extracts the lung measurements FVC and FEV1, diagnoses the patient, and assesses the severity of the disease.

Appendix 2

Table 2: List of Functional Verbs Learners were Introduced to

classify	define	depict	describe
evaluate	identify	interpret	show
develop	address	criticize	discuss
examine	acknowledge	admit	agree
argue	assert	focus/on	contribute
report	explore	believe	claim
conclude	decide	find	determine
discover	demonstrate	emphasize	mention
indicate	note	observe	point out
prove	reveal	say	state
suggest	think	recommend	review

Appendix 3: LR before Teaching

Literature review:

Fraud, the ability to deceive others in compensation for one's own good, is an activity which has the capability to illustrate the imperfection of the human race to the world. The selfishness which derives such an activity shows how our faults are built in our DNA, as humans tend to rob others from their rights when the opportunity presents itself, even when

the victim of the perpetrator is a trusted/loved one (Azam, 2018). But how has fraud been around for so long? The committers of fraud have adapted their ways to continuously deceive their victims, but recently, these perpetrators have expanded their ways to infiltrate the online world, mainly through phishing and pharming. In modern days, phishing and pharming are one of the biggest contributors of cyber-crimes, as according to a study conducted by Purkeit (2018), phishing and pharming attacks have been increasing at an uncontrollable rate over the past 10 years. This is a reliable study that was conducted in the English city of Bradford, UK, as Purkeit is a knowledgeable individual in his research field of information security. This knowledge is demonstrated by Purkeit's Ph.D. in data security by the Indian Institute of Technology Kharagpur in India. Even though Purkeit's study heavily depends on secondary research, the study still demonstrates its reliability through the use of as many as 209 scholarly sources to successfully complete the research. Many other studies that have been made on phishing and pharming are diverse. Most of these studies have been made as a result of the increase in awareness on phishing and pharming over the recent years. These studies have mainly shown its readers the precautions that one should take when surfing the internet through enhanced security measures, these security precautions include downloading antivirus programs and spam blockers to stop users from receiving malicious E-mails from online phishing frauds (Foresti, Young, & Martinelli, 2012). Nonetheless, the outcomes of these precautionary research articles have been negligible since phishing attacks still manage to be a great success for the offenders. According to the Government of Canada (2015) "80,000 Canadians fall for a scam every day and share their personal information". On the other hand, the impact that phishing and pharming have had on our society has not been touched upon thoroughly based on the reader's knowledge.

Appendix 4: LR after Teaching

Literature review:

Fraud, the ability to deceive others in compensation for one's own good, is an activity which has the capability to illustrate the imperfection of the human race to the world. The selfishness which derives such an activity shows how our faults are built in our DNA, as humans tend to rob others from their rights when the opportunity presents itself, even when the victim of the perpetrator is a trusted/loved one (Azam, 2018, p.59). But how has fraud been around for so long? The committers of fraud have adapted their ways to continuously deceive their victims, but recently, these perpetrators have expanded their ways to infiltrate the online world, mainly through phishing and pharming. In modern days, phishing and pharming are one of the biggest contributors of cyber-crimes, as according to a study conducted by Purkeit (2018, p.383), phishing and pharming attacks have been increasing at an uncontrollable rate over the past ten years. This is a reliable study that was conducted in the English city of Bradford, UK, as Purkeit is a knowledgeable individual in his research field of information security. This knowledge is demonstrated by Purkeit's Ph.D. in data security by the Indian Institute of Technology Kharagpur in India. Even though Purkeit's study heavily depends on secondary research, the study still demonstrates its reliability through the use of as many as 209 scholarly sources to successfully complete the research. Many other studies that have been made on phishing and pharming are diverse. Sample studies include research made by Ciampa in 2008, where security measures such as antiviruses where evaluated according to their effectiveness in stopping phishing attacks (as cited in Purkeit, 2018, p.386). Another academic study was conducted where individuals were

assessed based on their vulnerability to phishing attacks. These individuals were grouped based on their age, gender, education, and past phishing experience (Erola, Luga, & Nurse, 2016). Most of these studies have been made as a result of the increase in dangers that phishing has imposed on our society ever since the internet was introduced. Research on phishing and pharming has mainly shown its readers the precautions that one should take when surfing the internet through enhanced security measures. Security precautions include downloading antivirus programs and spam blockers to stop users from receiving malicious E-mails from online phishing frauds (Foresti, Young, & Martinelli, 2012). Other studies have also aimed to increase the public's awareness of the dangers of online scams such as phishing. This has been done with anticipations that the general public will be less vulnerable to online scams if they are more aware of them. Nonetheless, the outcomes of these precautionary research articles have been negligible since phishing attacks still manage to be a great success for the offenders. This is because, an increase in our society's awareness and the number of successful phishing attacks have proven to have no correlation (Purkeit, 2018, p.405). Additionally, phishing attacks are constantly getting more deceptive, which allows them to bypass spam filters and antimalware programs. This in turn allows more people to fall for online scams, as security software is unable to keep up with the constant advancement of online scamming techniques, since they are able to bypass security programs and filters (Schryen, 2017, p.52). The lack of improvement of the number of phishing cases is shown by a study conducted by the Government of Canada (2015), which has shown that as many as 80,000 Canadians fall for phishing scams on a daily basis. On the other hand, the impact that phishing and pharming have had on our society has not been touched upon thoroughly based on the reader's knowledge.