Are Review Skills and Academic Writing Skills Related? An Exploratory Analysis via Multi Source Feedback Tools

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Abstract
Because students learn from each other as well as lecturers, it is important to create opportunities for collaboration in writing classes. Teachers now benefit from access to plagiarism detectors that can also provide feedback. This exploratory study considers the role of four review types, open and anonymous, involving the students themselves, peer and tutor reviewing, and anonymous digital review by means of plagiarism detectors. Eighty-seven freshmen from Canakkale Onsekiz Mart University, Turkey, participated. Throughout the term, feedback was provided by four sources: the tutor, peers, software, and by students themselves. At the end of the term, written assignments were self and peer reviewed, and graded by the course lecturer. Results indicated that higher-scoring students could manage both self and peer review tasks more effectively. The study suggests that academic writing and reviewing skills are related, and that integrating review skills into evaluation procedures may result in a more reliable assessment.

Key words: academic writing, anonymous peer review, digital feedback, digital technology, plagiarism detectors, self review

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Introduction

Peer review is receiving help to accomplish a writing task and benefits from the social constructionist theory of learning (Hanjani & Li, 2014). A growing body of research affirms that peer review should be extended to language learning extensively. Although it is difficult to measure its impact (Kleijn, Mainhard, Meijer, Brekelmans & Pilot, 2013), peer review is usually considered beneficial (e.g., Hu, 2005; Hu & Lam, 2010; Zhao, 2014). As students may learn from each other, especially in societies with a collaborative-working culture, as well as their teachers, it is useful to create opportunities for interaction with peers. Such interaction and collaboration is described by Vygotsky’s (1978) Zone of Proximal Development (ZPD) as a powerful way of developing skills through the process of scaffolding, as termed by Weissberg (2006). If students can manage peer review tasks successfully, this may improve their own writing skills.

Peers may draw a student author’s attention to problematic aspects of a paper that had been overlooked (Ruecker, 2010). The reliability of peer review is considered by some researchers questionable (Aghaee & Hansson, 2013), and several studies (e.g., Paulus, 1999; Rinehart & Chen, 2012; Rollinson, 2005; Ruecker, 2010; Saito & Fujita, 2004) warn against the potential risks, such as students with limited abilities misleading each other due to their own deficiencies; leading to lack of trust in their peers’ feedback. Aghaee and Hansson conclude that peer evaluation is a valuable experience both for authors and reviewers; however, the benefit for the reviewer may be greater than for the author (Lu & Law, 2012). Storch (2002) highlights that subsequent applications of ZPD enable both asymmetrical and symmetrical considerations; whereas the former signals feedback from an expert to a novice learner and the latter deals with feedback between learners of equal ability (Hanjani & Li, 2014). Bearing all this in mind, integrating the review element into writing classes would appear to be beneficial, especially for the reviewer.

Peer Feedback and Turnitin

Researchers have been engaged in an on-going debate regarding the impact of digital technology in the classroom. However, if we consider that the benefits of digital technology outweigh possible disadvantages, writing lecturers should be encouraged to make use of them.

Two reasons for incorporating digital technology into writing classes may include (a) checking student papers for plagiarism, and (b) providing timely and more effective feedback. To achieve this, students submit their assignments online and create virtual classes using plagiarism detectors and online graders. This study considers the impact of several feedback tools in terms of developing higher quality academic writing.

Benefiting from peer review is considered so influential that digital technology aims to provide opportunities for its practical administration in the classroom. "Turnitin" introduces itself as a pioneering brand in evaluating and improving student learning. Although its original aim was simply detecting plagiarism, recently Turnitin has gone further and focused on improving its peer review feature. Thus, Turnitin’s service provides two additional features: GradeMark, for online marking, and PeerMark for peer reviews. These facilities, in addition to reducing instructors’ workloads, increase opportunities for students to improve their writing. However, since this is a fairly new phenomenon, researchers have not yet reached a consensus on the superiority of online feedback over traditional modes (Elwood & Bode, 2014).

PeerMark offers lecturers several opportunities; it may distribute papers automatically, remove student identification for anonymous peer review, and provide a set of review tools and metrics to students themselves. This would not be possible without the help of digital technology. Managing the peer review process online also eliminates the social constraint of face-to-face feedback (Ho & Savignon, 2007). All in all, the various options provided by Turnitin in administrating the peer review process should, in theory, contribute to more effective feedback.
Although the relevant literature reports the impact of open peer review, it has so far lacked detailed descriptions of the impact of anonymous peer review on undergraduate writing skills. However, encouraging students to take part in anonymous peer review helps them better understand the characteristics of academic writing (Robinson, 2002). The basic assumption in the present study, of retaining anonymity in the peer review process is underpinned by Liou and Peng’s (2009) study where students were reluctant to highlight their friends’ errors. In this respect, anonymity may help in exchanging more effective feedback and, in turn, may contribute to better academic writing skills. Furthermore, anonymity is accepted practice in refereed journals, as academics are well aware.

Research Studies

Although impartiality cannot be vouched for, Turnitin (2010) provided a scientific basis for their services by reviewing 21 independent studies of pedagogy and practice in writing in which, overall, teachers were encouraged to integrate writing processes, benefit from peer review, and apply technology to enhance writing among other factors. Recently, Turnitin (2014, p. 9) released another report providing evidence for their educational gains “facilitating electronic submission and helping instructors reduce the amount of time spent grading, while increasing the quality of feedback they give and the level of student engagement”. These reports aim to communicate that when students are provided with feedback about their writing, and have access to plagiarism detectors, they are able to develop better writing skills.

Although research on peer review highlights its contribution to students’ writing development, Rollinson (2005) cautions that teachers need to consider different student groups carefully and give precise instructions about the peer review task. The principles of classroom-based assessment (CBA) provide guidelines for avoiding problems. Ultimately, a combination of self, peer, and tutor review is needed “to help students make informed decisions about how to revise their early drafts and how to reflect upon the strengths and weaknesses of their writing development” (Lam, 2013, p. 446).

In spite of the body of research focusing on plagiarism and peer review, there is little research considering the impact of anonymity in peer review. The scarcity of studies including the use of digital feedback provided the impetus for the present research. One study conducted in a science class by Robinson (2002, p. 190) investigated the impact of multi-reviewer anonymous peer review and indicated the problems of managing such a process without digital technology by concluding that “[a]nonymous peer review is not a panacea for eliminating subjectivity in marking or for increasing the amount of feedback students receive”. By going one step further, the present study reports the implementation of anonymous peer review, this time in an English for academic purposes (EAP) setting, and incorporating reports from plagiarism detectors. The relation of review skills with academic writing is considered. The study introduces a new 4-source approach for scoring student papers by comparing lecturer’s scores with those of students, either their own or peers, plus digital feedback.

Methodology

This study is underpinned by the assumption that CBA—a combination of teacher-mediated, self and peer feedback—is beneficial for improving writing. In addition to these common types of feedback, it introduces a new type of feedback provided by plagiarism detectors, namely, digital feedback. Relevant to these discussions, the impact of proficiency in writing an academic paper on the quality of reviewing was the main concern of the present study. The research questions (RQs) were:

RQ1 Is there a connection between students’ academic writing and reviewing skills?
RQ2 Does success in writing an academic paper have an impact on self review skills?
RQ3 Does success in writing an academic paper have an impact on peer review skills?
Setting. The study was conducted in the English Language Teaching (ELT) department of Canakkale Onsekiz Mart University (COMU), Turkey in the second semester of the 2012–2013 academic year. The ELT department was an appropriate choice because of the participants’ proficiency in English. As mentioned by Gleason (2014), there is very little research on advanced level EFL learners, an omission which contributes to the importance of the present study. In addition, these students were familiar with peer review since COMU holds an institutional Turnitin licence allowing for student assignment submission.

Participants. Eighty-seven participants were chosen from 243 students, who were teacher candidates, registered on the day and evening Advanced Reading and Writing Skills course. Repeating students and the ones who did not submit a 3,000-word review paper at the end of the term were excluded. The researcher, also the course lecturer, pre-screened assignments handed in and excluded extensively plagiarized ones. The plagiarism threshold level was held to be 20%, excluding quotations and references. Since the ELT department is customarily female-dominant, female learners (n = 64) outnumbered male learners (n = 23). Their ages ranged between 18 and 36 with an average of 21.

Instruments. To score student papers, the Transparent Academic Writing Rubric (TAWR, Razi, 2013) was used. This includes 50 items, each worth 2 points, organized into five groups: Introduction (8 items); Citation (16 items); Academic writing (8 items); Idea presentation (11 items); and Mechanics (7 items). Razi reported Cronbach’s alpha reliability of .89 for TAWR. Since this study aimed at comparing lecturer’s scores with those of students, either their own or peer scores, intra- and inter-rater reliabilities were essential. Razi reported high intra-rater [Pearson’s r(55) = .99, p < .001] and inter-rater [Pearson’s r(55) = .97, p < .001] reliability for the instrument.

Data collection. Advanced Reading and Writing Skills is a two-semester course. The lecturer followed the course content suggested by Razi (2011). During the first semester, freshmen submitted five academic writing assignments, each approximately 500 words long. They reviewed one peer paper openly, using five detailed rubrics provided for each assignment. Peer review experience in the first semester aimed to familiarize students with the steps involved (Aghaee & Hansson, 2013; Hu & Lam, 2010).

In the second term, while students marked both their own papers and peers’ papers, the contribution of anonymity in the peer review process was considered with emphasis on the role of Turnitin in supporting anonymity. To ensure anonymity, random students were assigned a co-student’s paper one week after submission and provided with a copy of TAWR. Each student first reviewed and scored his or her own paper, then they peer-reviewed and scored another student’s paper using TAWR. Students were informed that their self and peer review scores would be compared with the lecturer’s and would influence their course scores.

At the beginning of the second term, students were given their academic writing assignment for that semester. The topic was different for each student. They attended five-minute individual tutorial sessions on six occasions, and received feedback on brainstorming, outlining, writing first and second drafts, revising and proofreading to enhance the writing process. Towards the end of the semester, they were again provided with a copy of TAWR, which was by now familiar to them. Such familiarization is also regarded as beneficial by Carless (2006). Sample assignments from the previous year were used to illustrate declarative, procedural and conditional information about using TAWR to score papers. More practice opportunities with the rubric naturally result in better performance during the review process (Lu & Law, 2012). The students then proofread their peers’ papers using TAWR as a guide. The process-writing model followed in the course encouraged the development of autonomous skills such as integration of planning, monitoring, and evaluating. Awareness of the model’s contribution was essential for the researcher since EAP writing teachers are expected “to have a better understanding of how instruction can assist students to achieve their goals” (Wette, 2014, p. 60). Figure 1 illustrates the process-writing approach followed during the second semester.
Figure 1. Illustration of process-writing approach and types of feedback given during second semester.

Before marking, assignments were screened to determine whether further TAWR evaluation was required. Pre-screening started with examination of the assignment outline, first and second drafts, and revised and proofread versions. Assignment length was considered and scores adjusted for papers of inappropriate length, i.e. too long or short. Following this, Turnitin reports were used to identify the quotation ratio. More than 10% was regarded as excessive and penalized accordingly. Finally, the Turnitin similarity report was used to detect plagiarism. These reports were used with caution and isolated instances of similarity were not regarded as plagiarism, for example, short portions of copied expressions in a single sentence that required citations. More than 10% similarity was regarded as excessive and penalized by deducting the over-run figure from each paper’s overall score. Such a process enables tutors to continue scoring papers even when plagiarism is noted.

Data analysis. SPSS 20.0 was used to analyse the data. Descriptive statistics analysed students’ demographic information. Pearson’s correlation was used to identify relationships between the lecturer’s and the students’ self and peer scores. ANOVA was used to evaluate differences related to the student raters’ and authors’ abilities in academic writing. Post hoc Scheffé tests identified the sources of these differences.

Limitations of the study. The study has several limitations. First, Turnitin similarity reports may be inaccurate when students use sources not featured in their databases. In such cases, similarity reports do not report plagiarism. Second, results may not be generalizable to a broader population as data were collected from a single university in the Turkish tertiary context.

Findings and Discussion

Administration of the anonymous peer review runs smoothly using Turnitin. Managing the process without Turnitin is far less practical since undertaking the procedure manually is time-consuming and requires great effort (Robinson, 2002). In addition, quotation and similarity ratios for each assignment are quite helpful to obtain a preliminary idea about the quality of the assignment. The exact ratios cannot be retrieved without a digital tool. Turnitin has recently launched an anonymous peer review feature available for all users. Benefiting from digital technology was also regarded as beneficial as it
encourages better concentration (Bester & Brand, 2013). Online access to a lecturer’s rubric for either self or peer review is also crucial to obtaining maximum benefit developing academic writing skills.

**RQ1.** To answer the three RQs, lecturer scores on students’ 3,000-word assignments were considered. *RQ1* asks whether there is a connection between students’ academic writing and reviewing skills. First, the gap between students’ self scores and lecturer scores was calculated. Second, the gap between students’ peer scores and lecturer scores was calculated. Mean values (*N* = 87) of these scores indicated large gaps both in lecturer-self (*M* = 14.93; *SD* = 13.07) and lecturer-peer (*M* = 21.79; *SD* = 18.70) scores. In the relevant literature, a gap up to 10 points over 100 is acceptable between raters to ensure inter-rater reliability. However, the mean scores indicate larger values in both instances. In the case of peer-review, the gap increases to almost 50%.

To cross-check the results, correlation values between student raters’ and lecturer’s scores were also considered. The expectation was that students who received higher scores from the lecturer would provide scores similar to the lecturer, both for their own and peers’ papers. Conversely, students who received lower scores for their own papers from the lecturer were not expected to provide scores similar to the lecturer, either for their own or peers’ papers. In this case, the correlation between lecturer score and self and peer scores for all participants should not reveal strong correlations due to inclusion of less successful students.

Therefore, the two scores provided by each student (self, peer) were analysed in terms of correlation with the lecturer’s scores. In the first phase, lecturer scores were checked against self scores and this revealed a positive weak correlation value, Pearson’s *r*(87) = .24, *p* = .03. Correlation coefficient squared reveals only 5.8% of variation (*R*² = .06). In the second phase, lecturer scores were checked against peer scores. This manifested again a positive weak correlation value, Pearson’s *r*(87) = .38, *p* < .001. Converting this value into a percentage by means of the correlation coefficient squared indicates that it accounts only for 14.4% of variation (*R*² = .14).

As expected, the two correlation values indicate a very weak relationship between academic writing and reviewing skills. To put these values into perspective, the first correlation leaves 94.2% and the second 85.6% of the variability still to be accounted for by other variables. This implies that only a limited number of students have similar expectations to the lecturer either for their own or peers’ papers. Weakness in academic writing skills appears to result in lack of correlation between lecturer’s and reviewers’ scores.

**RQ2.** To answer *RQ2*, whether success in writing an academic paper has an impact on self review skills, students were categorized into three groups (good, acceptable, poor) in accordance with their assignment scores. The good group (*n* = 52) consisted of freshmen who received between 80 and 100 points over 100; the acceptable group (*n* = 25) between 50 and 79 points; and the poor group (*n* = 10) below 50 points. The rationale for such a grouping was to reveal any differences due to capabilities in writing an academic paper. Later, students’ self scores were taken into consideration.

For the mean difference between lecturer and self scores, ANOVA indicated significant differences between these three groups, *F* (2, 84) = 70.40, *p* < .001. Post hoc analyses using Scheffé post hoc criterion revealed that the good group (*M* = 8.77, *SD* = 5.93) varied significantly (*p* < .001) from the acceptable group (*M* = 17.08, *SD* = 9.10). The good group was also significantly (*p* < .001) different from the poor group (*M* = 41.60, *SD* = 13.78). As the mean values reveal, the gap between lecturer score and self scores was narrow. Moreover, the acceptable group was significantly (*p* < .001) at variance with the poor group. The mean value of the difference between lecturer and self scores was smaller than 9 in the good group. Thus, consistency between raters (lecturer and freshmen) was over 91%. Consistency decreased to 83% for the acceptable group and up to 58% for the poor group (Figure 2).
To sum up, these results indicated better self review performance for those who were better writers. An examination of the process of writing may reveal the reason for this success. In a previous study, the researcher (Razı, 2013) investigated the impact of individual tutorial sessions conducted for the same course (Advanced Reading and Writing Skills). Results highlighted a moderate positive correlation between attendance at tutorials and students’ scores for their written assignments. In this case, success might be related to the development of autonomy, since individual tutorial sessions were designed to accelerate metacognitive writing strategies as students were required to explain their efforts to the tutor. Through this, they became aware of their strengths and weaknesses in each step of the writing process. Encouraging students to review is beneficial for the development of academic writing skills. A skilled reviewer relies on self autonomy. In other words, to identify either self or peers’ strong and weak points, students need to develop metacognitive skills. To manage the review process successfully, one specifically needs to master two essential components of metacognition, namely monitoring and evaluating. Encouraging students to review written work results in development of academic writing skills. As identified in Grosser and Nel’s (2013) study, developing academic language skills requires the involvement of critical thinking skills as components of metacognitive skills.

Because feedback contributes to the development of learner autonomy (Hu & Lam, 2010), providing feedback from multiple sources may assist students to develop metacognitive writing strategies needed to reflect on, criticize, and redraft their own papers (Lam, 2013). Such strategies support the development of learner autonomy, an essential goal for university students. Humphreys and Wyatt (2013) note that development of autonomy is culture-specific. In countries where students tend towards dependence before university, as in Turkey, encouragement of learner autonomy is essential.

RQ3. To address RQ3, whether success in writing an academic paper has an impact on peer review skills, the lecturer’s scores were again considered following the procedure as for RQ2 with similar criteria. Mean differences between the lecturer and peer scores were calculated. ANOVA indicated significant differences of $F(2, 84) = 9.91, p < .001$. Post-hoc analyses using Scheffé post hoc criterion revealed that the good group ($M = 18.51, SD = 18.18$) was not significantly ($p > .05$) different from the acceptable group ($M = 19.67, SD = 12.16$); however, it was significantly ($p < .001$) different from the poor group ($M = 44.30, SD = 20.43$). The acceptable group was significantly ($p < .001$) different from the poor group. Figure 2 illustrates the gaps between the lecturer's score and student scores considering both self and peer review results.

![Figure 2. Gaps (out of 100) between lecturer and student scores.](image-url)
The findings here again suggest that better writers gave better peer reviews. It is clear that developing academic writing skills enables better self and peer review skills. RQ3 dealt with an anonymous peer review process that was more challenging as not all students were familiar with the topic of the paper they were given to review (assignments were different for each student); however, it could be inferred that better writers can overcome this challenge since they are more autonomous, yet this is not the case for those with less well-developed writing skills.

Conclusions

The findings in this study suggest that success in writing an academic paper and reviewing skills are correlated. Each contributes to the development of the other. The following conclusions can be drawn. First, effective review cannot be provided by every student. Reviewing could be problematic for less accomplished writers.

Second, freshmen’s success in writing an academic paper is an indicator of their success in self reviewing and scoring. Those who received higher scores for their academic assignments demonstrated inter-rater reliability at an acceptable level but those with lower scores could not manage the review process as capably.

Third, freshmen’s success in writing an academic paper is an indicator of their success in peer review and scoring, parallel to their self review skills. Those who received higher scores managed the review process more successfully. It should be noted, however, that freshmen in the good group performed better self than peer reviews. Familiarity with their own topic seemed to facilitate identification of their own strengths or weaknesses. Those who received lower scores lacked essential academic writing skills and experienced difficulty with self review. In other words, weak students struggle to identify their own errors since they are not aware of them and the task becomes more complex when they work on unfamiliar topics for the peer review process.

Fourth, anonymous peer review can be integrated in EAP writing classes easily with the help of Turnitin. In this case, reviewers had no expectation from the paper with reference to its author. The task forces the reviewer to focus only on the strengths and weaknesses of the paper as it stands. This does not imply that self- or peer-revision is the outcome variable rather than the academic writing performance, since Turnitin’s review features are tools to help improve writing skills in the first place.

Implications

The findings of the present study highlight that success in writing an academic paper is related to the success in reviewing skills. Moreover, Black and William (1998) provide evidence on the impact of Assessment for Learning (AfL) which calls for “closer alignment between assessment, teaching and learning” (Mak & Lee, 2014, p. 74). Thereby, self and peer scores should be incorporated in the marking procedure. This then functions as one of the essential principles of Hattie and Timperley’s (2007) AfL-oriented writing classes. This does not necessarily mean a student’s final score will be a combination of lecturer, self and peer scores. However, self and peer scores should make an indirect contribution. Mean differences between the three scores (lecturer, peer, self) should be considered. The following formula may function as a model: $Final\ score\ (out\ of\ 100) = (lecturer\ score \times .60) + ((100 - (difference\ between\ lecturer\ and\ self\ score)) \times .20) + ((100 - (difference\ between\ lecturer\ and\ peer\ score)) \times .20)$. Although such assessment can be carried out manually, plagiarism detectors calculate such scores automatically and may be more practical. This may contribute to recent interest among writing researchers who aim to enable automated writing evaluation (e.g., Li, Link, Ma, Yang & Hegelheimer, 2014; Phillips, 2007). This feature may also encourage tutors who have little knowledge of eLearning and are resistant to the integration of digital devices into their work. As a final word, this approach may fulfil the expectations of Bayaga and Wadesango (2013), as they encourage eclecticism in the assessment process.
The incorporation of review skills into assessment procedures allows student work to be evaluated from different perspectives. Moving beyond mere consideration of academic writing skills might result in more valid and reliable assessment. Such an approach to the assessment of writing takes reviewers’ scores into consideration—not to mark peers’ papers but to have an impact on the reviewers’ own final scores. Effective reviewers are rewarded for their strengths in reviewing.

Feedback is different from scoring. As an alternative, anonymous peer review might be used as a vehicle for proofreading (i.e., receiving peer feedback) prior to submitting the assignment to the lecturer. In addition, to provide richer feedback, multiple reviewers could be used for the same paper. Going one step further, to maximize the impact of self, peer, and tutor reviews, students may be asked to submit all drafts through Turnitin. Enabling peer review in addition to tutor review for each submission will provide valuable feedback, especially for those who are weak in academic writing skills.

Providing effective feedback may not be accomplished by every student. Specifically, the feedback provided by novice students seems to be ineffective. Then, the solution might be matching multiple peers for each review. Turnitin enables matching each student paper with several reviewers. In this case, teachers can give importance to matching reviewers with papers, as each paper needs to benefit from at least one expert reviewer.

The present study proposes a new feedback type, namely digital, based on the reports of plagiarism detectors such as Turnitin. Multiple feedback sources assist students in developing self-reflection skills related to autonomous practices, as identified in ZPD (Vygotsky, 1978). Feedback practices can be problematic when learners misinterpret the feedback (Kleijn et al., 2013). Providing multiple sources of feedback may help address this problem. As peer feedback is said to more beneficial for the reviewer than the author (Lu & Law, 2012), multi-source feedback may readdress the balance by increasing the impact for the author.

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References


