# Exploring Student-Writers' Views on Replacing Teacher Feedback with Peer Feedback and Computer-Based Feedback

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**Abstract**
In the last two decades, a large number of studies have emphasized the significant impact feedback (FB) has on students' writing. This emphasis has replaced the notion that teacher-based feedback (TBF) is the only source of feedback with the notion that there are other sources, such as peer feedback (PF) and computer-based feedback (CBF), that can be employed. It is commonly reported in the literature that writing teachers suffer from the burden of providing feedback, which gives rise to the need for finding alternative sources. Thus far, no studies have investigated the possibility of substituting TBF with FB that is jointly provided by peers and computer software. Therefore, the purpose of the study referred to here was to investigate foriegn language (L2) student-writers' views on whether or not peer and computer feedback can replace TBF, and how efficient these types of feedback are in a writing class. The study adopted a quasi-experimental approach that included quantitative (pre- and post-questionnaires) and qualitative (an open-ended section) methods. The participants in the study were 15 male English as a foreign lanaguge (EFL) undergraduate students undertaking a writing course in an English programme at a Saudi university. The duration of the study was 10 weeks, during which the participants went through four cycles of multi-draft essay writing. The intervention excluded the teacher from offering feedback and replaced the teacher's feedback with a systematic process that involved receiving feedback from fellow students and from a computer software application. The main conclusions of the study suggest that students are not yet ready to let go of teacher feedback, and that feedback provided by intermediate level learners can raise concerns on the part of the learners. Overall, the participants reported having a positive experience with the intervention. The implications and limitations of the study, and recommendations based on the findings are also presented.

*Keywords*: CALL, computer, feedback, learning, peer, writing skills

## Introduction

The relationship between feedback (FB) and language learning has attracted the interest of a large number of researchers (e.g., Cho & Schunn, 2007; El-Ebyary & Windeatt, 2010; Hasan, 2016; Hyland & Hyland, 2006a). It has been argued that there are several positive effects FB can have on learning: for instance, it promotes learning; it leads to improvements in linguistic proficiency, and it increases accuracy in learning. Over the past three or four decades, researchers have investigated teacher-based feedback (TBF) and effective ways of providing it. The results of these investigations were that research started to move towards creating more student-centred environments that would give learners more responsibility for their own learning with the aim of promoting learning (e.g., Albesher, 2011; Alhazmi & Schfield, 2007; Grimes & Warschauer, 2010; Hu & Lam, 2010; Kukich, 2000; Lundstrom & Baker, 2009; Paulus, 1999). This included combining TBF with other sources of FB, such as PF and computer-based feedback (CBT). A brief survey of such studies reveals the importance of writing skills to both teachers and learners. It also suggests the importance of becoming innovative in teaching and learning, and may encourage future researchers to explore other ways of improving current practices in language learning in general, and in learning writing in particular. The study referred to here, for example, explored an innovative approach to FB provision to student-writers. The aim of this study was to explore undergraduate students' views on being exposed to two sources of FB (PF and CBF), and not receiving any TBF on their written essays. This innovative approach, if preferred by the learners, would contribute to saving teachers' time, which would allow them to pay more attention to other issues in the classroom.

## Literature review

### The nature of writing

The writing skills of learners in many countries, including native-speaker writers, appear to be weak, which suggests that they possess only a basic level of writing proficiency (Cho & Schunn, 2007). The development of writing skills is valued by many learners since they believe that writing skills can help to improve other language learning skills. Writing skills can be used to demonstrate knowledge acquirement, and for learning and self-discovery (Gomez et al., 1996). It is argued that writing skills can help learners to become successful in many disciplines (Cho & Schunn, 2007), simply because most disciplines require knowledge to be demonstrated in the form of written essays.

In a writing activity, learners are asked to recall information and present it in the form of a written text; during this process learners need to become involved in a meaningful way that encourages learning. This can be accomplished by using appropriate techniques that will achieve the intended learning outcomes (Norton, 2004). Orsmond et al. (2002) support the notion of presenting learners with encouraging situations and describe these situations as environments that promote active learning. Some of the aspects of an active learning environment are as follows: they involve learners in searching for meaning; they give learners more responsibility, and they give priority to the acquirement of skills (Denicolo et al., 1992). It was hoped that the design of the current study would engage learners in active learning situations in order to make their learning meaningful.

*FB on writing*
With regard to learning writing, Phuwichit (2016) argues that FB is an integral part of writing development, as it can highlight learners' skill deficiencies and show them how to overcome them and become better writers. In the early 1970s, learner-centred approaches to teaching writing were developed and the importance of providing FB on students' writings was highly emphasized. Before that, FB took the form of teachers giving marginal notes, unlike the current form that includes oral and elaborated comments (Hyland & Hyland, 2006a). FB on written texts can have different emphases: for example, it can be focused on specific aspects of the written text, it can be very general, or it can be on the form or on the meaning level of a written text. Nevertheless, the way in which FB is given can have a significant impact on learners' attitudes towards learning writing and their motivation to learn and develop their skills (Grabe & Kaplan, 1996).

Another point to be considered is the importance of the FB being 'adequate', because it can then have a positive impact on learners' development (Tang & Thitecott, 1999; Zhu, 1995). Van Steendam et al. (2010: 319) describe adequate FB as "detailed feedback which addresses global concerns in a text, uses metalanguage to diagnose textual problems and suggests specific revisions". Additionally, Brown et al. (2006) emphasize the importance of providing timely FB to learners, which is FB that is offered immediately after an activity has been completed and before they have the chance to start working on a different task. Also, effective FB needs to be tied to explicit and detailed criteria that indicate to the learners exactly what is expected of them (OECD, 2005). The current study was therefore designed in a way that meant the learners would be provided with adequate, timely and effective FB.

*The peer feedback technique (PF)*
The literature suggests that effective FB has several modes that involve learners in interacting with other individuals and in responding to the prompts they receive (Hyland & Hyland, 2006b). In this regard, effective teacher FB is feedback that involves a writing conference, where the teacher sits with a student and discusses points of strength and weakness in his or her written text and gives the student an opportunity to respond and interact, thus providing more opportunities for learning development (Gielen et al., 2010; Hyland & Hyland, 2006a). However, if teachers were to employ this mode of FB in every writing session, it would consume a great deal of their time and oblige them to expend a large amount of effort in a short time. As a result, teachers are likely not to have time to allow learners to produce very many essays simply because they may not have the time to give their learners the individual attention they need.

To compensate for the lack of teacher FB in writing classes, several instructors have employed the peer feedback technique, which is seen as a method of learning and teaching (Gielen et al., 2010; Hu, 2005). In a peer FB session, learners are involved in a scaffolding, collaborative activity that includes critically analysing one another's texts with the aim of improving their quality (Hu, 2005; Rollinson, 2005). Sociocultural theorists argue that language learning is not limited to cognitive interaction with other individuals, but that social interaction is integral to language learning (Lantolf, 2000; Pica, 1996; Tuomey, 2014). From this perspective, associating FB with interaction in writing can lead to several positive impacts on learning. PF has the advantage of making students practise giving and receiving FB while interacting with their peers.

Several recent studies have investigated the technique within learning contexts and concluded that it can be beneficial for learning (Hasan, 2016; Phuwichit, 2016; Wong, 2015; Zareekbatani, 2015). Although the majority of PF studies are in favour of employing the technique, a few studies have reported some concerns regarding its use. For example, it has been reported that some learners may not accept the FB they receive from other peers owing to concerns regarding its reliability (e.g., Tsui & Ng, 2000; Yang et al., 2006). In an attempt to overcome this concern, some researchers have emphasized the importance of training learners in using the PF technique (e.g., Min, 2005; 2006). Taking all the above points into consideration, it may be concluded that, when used with care, PF can be a useful tool in L2 writing classrooms as it can develop learners' linguistic, social and cognitive skills.

*The computer as a source of FB (CBF)*
In recent years, there has been an increasing interest in integrating technology into language learning. One area that has attracted many researchers is the advances in computer-generated FB on written texts (Warschauer, 2002). It is argued that one way of motivating student-writers to improve their writing skills is by involving them in a process that requires making online submissions to CBF systems and receiving electronic FB that is useful (Grimes & Warschauer, 2010). This has encouraged several writing instructors to integrate CBF into their classes in order to allow students to benefit from the formative FB that is offered (Warschauer & Ware, 2008; Zakrzewski & Bull, 1998).

The nature of the FB generated by computer programs differs from one program to another. Basically, all programs start by scanning the entered text and then providing immediate FB. However, some of this software provides only simple FB that focuses on spelling and possibly comments on basic grammar (i.e., commenting on the surface level of writing features) (Liou, 2013; Warden & Chen, 1995), while other software provides detailed comments on all aspects of writing skills (i.e., commenting on the surface and meaning levels of writing features) (Burston, 2013). In other words, effective CBT software offers FB on the main aspects of writing: the organization, style, development, usage and grammar of the submitted essay (Burstein, 2003; Burstein et al., 2004). MY Access! and Criterion are examples of this type of software.

A few recent studies have investigated the impact of integrating CBF into learning and have found that it produced positive outcomes for both learners and teachers (e.g., Coniam, 2009; El-Ebyary & Windeatt, 2010; Hutchison, 2007). Moreover, some of these studies have reported the learners' positive views of using CBF in writing classes (e.g., El-Ebyary & Windeatt, 2010; Yeh et al., 2007). These software applications are seen to be very useful for writing instructors with large numbers of students who require individual attention on their essays and who need to receive useful FB on them.

*The rationale of the study and the research gap*
It is apparent that writing instructors all over the world suffer from the burden of reading and critiquing their learners' essays, especially when student numbers are high. As a result, instructors may become less motivated to have their students write numerous essays with multiple drafts, a situation which is unlikely to stimulate the development of writing skills. Owing to the complex nature of a written essay, analysing it and giving recommendations on how to improve its quality is time-consuming, and can sometimes be frustrating. This has encouraged instructors to look for

other sources of FB. Large numbers of studies have investigated the impact of integrating PF with TBF in writing classrooms, many of which have reported positive results. Other studies have investigated the integration of different types of CBF software into writing classes, and the majority of these studies have also yielded positive results. However, none of these studies has attempted to investigate student-writers' views on the possibility of combining PF with CBF to replace TBF in writing classes. So far, only two studies have integrated PF and CBF in writing classes (Lai, 2010; Luo & Liu, 2017); however, these two studies compared the effectiveness of CBF over PF, and vice versa, and did not investigate learners' views on whether or not the combination of these two types of feedback can stand alone in writing classes. Therefore, this area was seen to be a gap in the current literature that required our attention; investigating this area could result in obtaining deeper insights into the phenomenon and, therefore, provide useful recommendations for researchers and practitioners.

**Method**
The study investigated a new approach to FB provision on students' essays, the aim of which was to see if it would be possible to do without teacher FB altogether. It integrated a collaborative writing technique (PF) and a computer-based feedback (CBF) as the only sources of FB offered to students on their essays in writing classes. The study adopted a quasi-experimental approach to data collection that included quantitative and qualitative methods of data collection. The context of the study was an EFL department at a Saudi university. Since the focus of the study was on learners' views, only an experimental group was employed. It was decided that using a control group would not add to the findings of the study because the purpose was not to compare the new method with a traditional approach. The duration of the study was 10 weeks that included learner training and four cycles of writing essays on four different topics.

*Participants*
The researcher took over a writing class in the third level (second year) of an English programme. Unfortunately, there were no advanced writing courses offered at the time that could be used for the study. The number of registered students in the class was initially 23; however, this number decreased after the first two weeks for reasons such as students transferring to different departments or dropping out for a whole term. Also, the data of a few participants were excluded from the study since these participants did not complete all the tasks. Therefore, the total number of those who were included in the study, who completed all the tasks required for the experiment, was 15 male students. They had already completed the Preparatory Year (PY) (the first year of the programme), during which they undertook intensive courses on basic English language skills as well as other subjects. Before they joined the PY, they had studied English in public schools for eight years, where the level of the taught English materials was basic language skills.

*The research questions:*
The following questions were developed for the study:
**RQ1**: *In the view of learners, can the integration of PF and CBF exempt the teacher from having to provide FB?*
**RQ2**: *What views do learners have on the combination of PF and CBF as the only source of FB on their essays?*
*The intervention & the research tool*

The aim of the intervention designed for the study was for learners to develop essays, then practise PF and receive CBF in order to develop final draft essays of good quality. The instructor was forbidden to comment on the participants' essays at any stage (i.e., TBF on students' essays was forbidden during the experiment).

The research tools employed in the study were a pre-questionnaire administered before the intervention, and a post-questionnaire administered after the intervention. This would make it possible to see whether or not the learners' views had changed after the intervention. Both questionnaires were designed and developed by the researcher and revised by two other expert researchers in the field of applied linguistics. The pre-questionnaire had an introductory section that explained the purpose of the study, that their names and any personal details would be kept secret, and that participation was voluntary. Also, key words and abbreviations were explained. The pre-questionnaire also included a section that inquired about the learners' background and a section that included nine items asking them what they thought about employing a combination of PF and CBF as the only source of feedback on their essays. The post-questionnaire included a section with the same nine items as the pre-questionnaire and an additional open-ended section that inquired about their views on the experiment in general.

*Procedures*

After I had taken over the writing course, the students were told about the study and its purpose and that participation was voluntary (which was also stated in the pre-questionnaire). All the students agreed to participate. There were two, one-hour sessions a week. In the first two weeks, the instructor (who was the researcher) used the sessions to illustrate how to develop an essay; this included teaching the structure of an essay, cohesion and coherence issues, and so on. The participants looked at exemplar essays and then developed essays of their own, which were checked by the teacher to make sure they were following the appropriate essay structuring. The following week (week 3) involved training the participants in how to give and receive PF, using Min's (2006) in-class modelling. The training included the use of an already developed essay evaluation criteria form (which was borrowed from Alhazmi & Schofield (2007)). In week 4, the participants were trained in how to submit their essays to the FB software and how to respond to the feedback they were receiving.

The following weeks included four cycles of writing essays, during which the participants developed four multi-draft essays. Each multi-draft essay was developed in one cycle (one cycle lasted two weeks), and went through the following stages. First, the learners developed the first draft of their essays on the first topic, then exchanged it with a fellow student, who took it home and commented on it using the evaluation form (week 1 of cycle 1, first session). Second, in the following session, both students discussed the comments and made suggestions as to how the text could be improved. Third, the students went home with their classmates' comments and developed second drafts, which they then took to class so the teacher could ensure that the work had been done according to the explained procedures (week 2 of cycle 1, first session). Finally, the participants typed the second drafts into the FB software, which provided them with comments that they used to develop their final drafts (week 2 of cycle 1, second session). This completed the first cycle. The teaching of the text book materials was at the beginning of each session, and did not last for more than 10 minutes a session owing to the nature of the writing skills materials. It

should be pointed out that all the first drafts were developed in class to ensure that the participants performed their tasks without receiving any external assistance. The topics the participants wrote about were descriptive in nature. For example, one of the topics was: *Describe your favourite restaurant*. Other topics were similar.

## Results
*Analysis of background items*

Table 1*: Learners' background*

|  |  | Frequency | Per cent |
|---|---|---|---|
| **1-** How often did you receive TBF on your writing? | Never | 2 | 13.3 |
|  | Sometimes | 6 | 40.0 |
|  | Often | 7 | 46.7 |
|  | Total | 15 | 100.0 |
|  |  | Frequency | Per cent |
| **2-** How do you evaluate your writing skills? | Average | 12 | 80.0 |
|  | Good | 3 | 20.0 |
|  | Total | 15 | 100.0 |
|  |  | Frequency | Per cent |
| **3-** Have you received PF in the past? | Yes | 6 | 40.0 |
|  | No | 9 | 60.0 |
|  | Total | 15 | 100.0 |
|  |  | Frequency | Per cent |
| **4-** Have you received CBF in the past? | Yes | 4 | 26.7 |
|  | No | 11 | 73.3 |
|  | Total | 15 | 100.0 |

The results show that only two respondents had not received TBF on their essays in the past, six respondents had received it irregularly, and seven of them had received it frequently (see Table 1). Overall, the majority of the respondents were familiar with TBF and were likely to have some degree of awareness of the nature of FB given on written texts. Furthermore, most of the respondents described their writing skills as average, with three respondents describing their skills as good. This was expected, since the respondents were intermediate level students who were still in the process of developing their linguistic skills. It may also indicate that they were aware of the level of their linguistic skills.

With regard to receiving PF is the past, six respondents stated that they had received it and nine said they had not (see Table 1). On the other hand, only four respondents said they had received CBF and eleven of them said they had never received it (see Table 1). This suggests that the majority of the respondents had not been exposed to either PF or CBF, which also suggests that their experience with FB in general was limited to TBF.

*Analysis of pre- and post-questionnaire items*

  1- *I prefer to learn writing using PF and CBF.*

Table 2: *Preference for learning writing using PF & CBF*

|  |  | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
|  |  | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 3 | 20.0 | 1 | 6.7 |
|  | Disagree | 2 | 13.3 | 3 | 20.0 |
|  | Not Sure | 1 | 6.7 | 0 | 0.0 |
|  | Agree | 6 | 40.0 | 10 | 66.7 |
|  | Strongly Agree | 3 | 20.0 | 1 | 6.7 |
|  | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' preferences for learning writing using PF and CBF before and after they were exposed to the two sources of FB (see Table 2). No statistically significant changes were found in their responses after the intervention ($Z = - 0.437$, $p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that five respondents either strongly disagreed or disagreed with the statement, one respondent was not sure, and nine respondents either strongly agreed or agreed with the statement. After exposure to PF and CBF, four respondents either strongly disagreed or disagreed with the statement, and 11 respondents either strongly agreed or agreed with the statement. In brief, the majority of the respondents reported having a preference for learning writing through practising giving and receiving PF and receiving CBF. However, it was observed that their preference increased after they had been exposed to both types of FB. These results suggest that PF and CBF can have a positive impact on writing skills.

  2- *PF and CBF have a significant impact on developing writing skills.*
Table 3*: Impact of PF & CBF on writing skills*

|  |  | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
|  |  | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 0 | 0.0 | 2 | 13.3 |
|  | Disagree | 4 | 26.7 | 1 | 6.7 |
|  | Not Sure | 2 | 13.3 | 3 | 20.0 |
|  | Agree | 6 | 40.0 | 6 | 40.0 |
|  | Strongly Agree | 3 | 20.0 | 3 | 20.0 |

| Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views on the effect of PF and CBF on writing skills before and after they were exposed to these types of feedback (see Table 3). No statistically significant changes were found in their responses after the intervention ($Z = - 0.036, p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that four respondents disagreed with the statement, two respondents were not sure, and nine respondents either strongly agreed or agreed with the statement. After exposure to PF and CBF, three respondents either strongly disagreed or disagreed with the statement, three respondents were unsure, and nine respondents either strongly agreed or agreed with the statement.

In brief, although the majority of the respondents reported that the combination of the two types of FB had a significant effect on writing skills, a considerable proportion were either unsure about or disagreed with the statement. This could be the result of the respondents' reservations about both or one type of the provided FB.

   3-  *PF and CBF on my essays are reliable sources of FB.*
Table 4: Reliability of PF & CBF

| | | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
| | | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 2 | 13.3 | 0 | 0.0 |
| | Disagree | 0 | 0.0 | 2 | 13.3 |
| | Not Sure | 5 | 33.3 | 7 | 46.7 |
| | Agree | 7 | 46.7 | 6 | 40.0 |
| | Strongly Agree | 1 | 6.7 | 0 | 0.0 |
| | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views on the reliability of PF and CBF before and after they were exposed to them (see Table 4). No statistically significant changes were found in their responses after the intervention ($Z = - 0.289, p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that two respondents strongly disagreed with the statement, five respondents were not sure, and eight respondents either strongly agreed or agreed with the statement. After exposure to PF and CBF, two respondents disagreed with the statement, seven respondents were not sure about the reliability of the two types of FB, and six respondents agreed with the statement.

In brief, the data suggest that the respondents fell into two main groups, those who saw PF and CBF as reliable, and those who were unsure (had reservations) concerning their reliability. It

should be pointed out that it is possible that these reservations pertained to the reliability of only one of the two sources of FB.

    *4-  PF and CBF are a very interesting combination in learning writing.*
Table 5: *PF & CBF are a very interesting combination in writing*

| | | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
| | | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 3 | 20.0 | 2 | 13.3 |
| | Disagree | 2 | 13.3 | 2 | 13.3 |
| | Not Sure | 1 | 6.7 | 3 | 20.0 |
| | Agree | 6 | 40.0 | 5 | 33.3 |
| | Strongly Agree | 3 | 20.0 | 3 | 20.0 |
| | Total | 15 | 100.0 | 15 | 100 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views on combining PF and CBF in writing classes before and after they were exposed to them (see Table 5). No statistically significant changes were found in their responses after the intervention ($Z = 0.000$, $p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that five respondents either strongly disagreed or disagreed with the statement, one respondent was not sure, and none respondents either strongly agreed or agreed with the statement. After exposure to PF and CBF, four respondents either strongly disagreed or disagreed with the statement, three respondents were unsure, and eight respondents either strongly agreed or agreed with the statement.

    In brief, although the majority of the respondents said they found the combination of the two types of FB interesting, a considerable proportion said they did not. Additionally, the data show that the number of respondents who were unsure had increased from one to three, which may indicate that they had reservations about either both types or one type of the provided FB.

    *5-  PF and CBF complement one another in writing classrooms.*
Table 6*: PF & CBF complement one another*

| | | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
| | | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 4 | 26.7 | 2 | 13.3 |
| | Disagree | 0 | 0.0 | 1 | 6.7 |
| | Not Sure | 2 | 13.3 | 7 | 46.7 |
| | Agree | 7 | 46.7 | 4 | 26.7 |
| | Strongly Agree | 2 | 13.3 | 1 | 6.7 |
| | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views concerning whether PF and CBF complemented one another before and after they were exposed to the two sources of FB (see Table 6). No statistically significant changes were found in their responses after the intervention ($Z = - 0.272$, $p > 0.05$) (see Table 12, Appendix 1). In the pre-questionnaire, four respondents strongly disagreed with the statement, two respondents were not sure, and nine respondents either strongly agreed or agreed with the statement. After exposure to PF and CBF, three respondents either strongly disagreed or disagreed with the statement, seven respondents were not sure, and five respondents either strongly agreed or agreed with the statement. In brief, before practising the PF and CBF combination, the majority of the respondents had the view that the two types of feedback complemented one another, with only a small proportion disagreeing with the notion. However, after they had practised using the two sources, seven respondents reported their hesitation to agree with the notion, and the number of respondents who agreed with it had decreased. This may be because some of the respondents had encountered difficulties with regard to one or both of the FB sources provided that had influenced their views negatively.

6-  *PF and CBF encourage me to depend on myself when writing essays.*
Table 7: *PF & CBF encourage depending on myself*

|  |  | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
|  |  | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 2 | 13.3 | 0 | 0.0 |
|  | Disagree | 0 | 0.0 | 0 | 0.0 |
|  | Not Sure | 2 | 13.3 | 3 | 20.0 |
|  | Agree | 9 | 60.0 | 8 | 53.3 |
|  | Strongly Agree | 2 | 13.3 | 4 | 26.7 |
|  | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views on the notion that PF and CBF encouraged them to depend on themselves before and after they were exposed to the two sources of FB (see Table 7). No statistically significant changes were found in their responses after the intervention ($Z = - 1.611$, $p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that two respondents strongly disagreed with the statement, two respondents were not sure, and 11 respondents either strongly agreed or agreed with the statement. After exposure to PF and CBF, three respondents were not sure and 12 respondents either strongly agreed or agreed with the statement. In brief, the majority of the respondents reported that PF and CBF encouraged them to depend on themselves. This finding may be expected since they were involved in producing essays with the help of two types of FB and without any input on the part of the teacher, which resulted in their becoming more independent.

7-  *PF and CBF make me less reliant on my teacher's FB.*

Table 8: *PF & CBF lead to becoming less reliant the teacher*

|  |  | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
|  |  | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 3 | 20.0 | 1 | 6.7 |
|  | Disagree | 3 | 20.0 | 4 | 26.7 |
|  | Not Sure | 4 | 26.7 | 3 | 20.0 |
|  | Agree | 5 | 33.3 | 7 | 46.7 |
|  | Strongly Agree | 0 | 0.0 | 0 | 0.0 |
|  | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views on the idea that they became less reliant on the teacher when using PF and CBF before and after they were exposed to the two sources of FB (see Table 8). No statistically significant changes were found in their responses after the intervention ($Z = -0.900$, $p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that six respondents either strongly disagreed or disagreed with the statement, four respondents were not sure, and five respondents agreed with the statement. After exposure to PF and CBF, five respondents either strongly disagreed or disagreed with the statement, three respondents were not sure, and seven agreed with the statement.

In brief, the data suggest that the respondents in this study can be divided into two groups: those who did not think that using the two types of FB made them less reliant on the teacher, which may suggest they would prefer to work with TBF in writing classes, and those who did think that using the two sources of FB make them less reliant on the teacher, suggesting their satisfaction with the practice.

8- *There is no need for TBF when PF and CBF are offered in writing classes.*
Table 9: *No need for TBF when PF & CBF are available*

|  |  | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
|  |  | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 11 | 73.3 | 7 | 46.7 |
|  | Disagree | 1 | 6.7 | 5 | 33.3 |
|  | Not Sure | 2 | 13.3 | 2 | 13.3 |
|  | Agree | 1 | 6.7 | 1 | 6.7 |
|  | Strongly Agree | 0 | 0.0 | 0 | 0.0 |
|  | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views on the notion that TBF was unnecessary when PF and CBF were available before and after they were exposed to the two sources of FB (see Table 9). No statistically significant changes were found in their responses after the intervention ($Z = -1.185$, $p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that 12 respondents either strongly disagreed or disagreed with the statement, two respondents were not sure, and one respondent agreed with the statement. After exposure to PF and CBF there was no change in these figures. In brief, the results suggest that both before and after exposure to the treatment all the respondents, with one exception, felt they still needed TBF even if other sources of FB were offered. This finding suggests that TBF was appreciated and valued by the students and, unlike PF and CBF, they had no reservations about it.

   9- *PF and CBF can replace TBF in writing classrooms.*
Table 10: *PF & CBF can replace TBF*

| | | Pre-Q | | Post-Q | |
|---|---|---|---|---|---|
| | | Frequency | Per cent | Frequency | Per cent |
| Scale | Strongly Disagree | 10 | 66.7 | 5 | 33.3 |
| | Disagree | 2 | 13.3 | 8 | 53.3 |
| | Not Sure | 1 | 6.7 | 0 | 0.0 |
| | Agree | 2 | 13.3 | 1 | 6.7 |
| | Strongly Agree | 0 | 0.0 | 1 | 6.7 |
| | Total | 15 | 100.0 | 15 | 100.0 |

The Wilcoxon Signed Ranks Test was used to determine whether or not there were statistically significant differences in the respondents' views about the possibility that PF and CBF could replace TBF before and after they were exposed to the two sources of FB (see Table 10). No statistically significant changes were found in their responses after the intervention ($Z = -0.783$, $p > 0.05$) (see Table 12, Appendix 1). The pre-questionnaire results show that 12 respondents either strongly disagreed or disagreed with the statement, one respondent was not sure, and two respondents agreed with the statement. After exposure to PF and CBF, 13 respondents either strongly disagreed or disagreed with the statement, and two respondents agreed with it. In brief, the results suggest that both before and after exposure to the treatment all the respondents, with two exceptions, rejected the notion that PF and CBF could replace TBF. This finding may suggest that the respondents realized the value and importance of TBF, and that PF and CBF may have some limitations that can only be overcome by TBF.

*Open-ended section*
After the intervention the participants were given the opportunity to provide comments on PF, CBF and the combination of the two types of feedback in a writing classroom. Providing these comments was optional. They made several points that could contribute to explaining some of the results presented above (see Table 11). The questions they responded to were as the following:

1- *What are the advantages and disadvantages of using the PF technique in writing classrooms?*
2- *What are the advantages and disadvantages of using CBF in writing classrooms?*
3- *What are advantages and disadvantages of combining PF and CBF in writing classrooms?*

Table 11: *Learners' comments on the intervention*

| Disadvantages of PF | Advantages of PF |
|---|---|
| • FB provided by peers is not reliable (this has been reported by *5 participants*; therefore, *5Ps.*)<br>• Peers cannot help because of their lack of knowledge in writing skills (5 Ps.)<br>• Peers are not available all the time (1 P.) | • PF can be received in a timely manner (1 P.)<br>• Practising PF is enjoyable (1 P.)<br>• PF can improve text quality (1 P.) |
| **Disadvantages of CBF** | **Advantages of CBF** |
| • Encountering occasional technical difficulties (3 Ps.)<br>• Sometimes it can be boring (1 P.)<br>• Computers are not available everywhere | • Accurate and reliable (2 Ps.)<br>• Availability from different locations (2 Ps.)<br>• It is beneficial and has a lot to offer (knowledge) (4 Ps.)<br>• Provides logical comments (2 Ps.)<br>• Very beneficial, and the computer provides accurate FB (1 P.) |
| **Disadvantages of combining PF & CBF** | **Advantages of combining PF & CBF** |
| • Computers are reliable and peers are not (2 Ps.)<br>• CBF alone is enough (1 P.)<br>• The two types of FB can be mutually contradictory (1 P.) | • PF & CBF are the best combination (1 P.)<br>• They can compensate for one another (1 P.)<br>• They offer immediate FB (1 P.)<br>• They allow [us] to produce weekly essays and receive FB on them (1 P.)<br>• The encourages learning in a different, intensive way (1 P.)<br>• They help [us] to acquire better writing skills (1 P.)<br>• They help to increase the vocabulary bank (1 P.)<br>• Excellent experience, they make it possible to produce better essays (1 P.)<br>• It helps me to depend on myself (1 P.)<br>• It is the best learning method I've ever experienced in writing classes (1 P.) |

Comments on PF

The analysis of the comments shows that the participants had concerns regarding the technique in general. For example, five participants reported their reservations regarding the reliability of the FB generated by their colleagues. Further, five participants explained that their peers lacked the necessary writing skills, which may also have prevented them from being critical and producing useful comments. This suggests that the PF may have not been as effective as expected owing to participants' modest linguistic levels. One participant reported that classmates may not be available whenever they are needed, which is to be expected since they may have other business to attend to after class time, or because they are occupied with the requirements of other courses.

On the other hand, a few participants reported some advantages of practising the technique: it was described as timely (i.e., provided at an appropriate time); it can be an enjoyable practice, and it can improve text quality. Although these advantages were reported, however, the majority of the comments given on the technique were negative, indicating that the participants had reservations about it.

Comments on CBF

The analysis shows that some respondents encountered technical difficulties when practising CBF (this was reported by three participants) — in that access to the feedback or the submission of articles can be difficult. One participant reported that the process of CBF can be boring, and another participant reported that computers are not accessible everywhere. Encountering technical difficulties may be the most important concern, since it may lead to students' not receiving the electronic FB or even losing the work they have typed into the computer.

On the other hand, some positive comments were made with regard to the practice of CBF. Two participants thought that CBF was reliable and accurate, while four stated that CBF can produce beneficial FB and that it contains proper knowledge concerning writing skills. This suggests that CBF can influence writing quality and skills positively. This can be linked to the comments of two participants who reported that CBF provided logical comments on their essays. Moreover, two other participants pointed out that CBF can be accessed from any available computer. In general, it can be said that the majority of the comments provided on CBF reflected a positive learning experience, and the view that it was a beneficial practice.

Comments on combining PF and CBF

With regard to the participants' views on combining the two sources, all the reported concerns were linked (in one way or another) to the reliability of the FB generated by their peers (four comments were given, see Table 11). On the other hand, 11 comments were given describing the positive impact and experience that was associated with practising this combination. For example, PF and CBF offer immediate FB and can develop writing skills; they can increase the vocabulary count, and make it possible for students to generate more essays. In general, the responses suggest that PF and CBF can have a positive impact on learners; however, PF may have negatively influenced the effectiveness of the combination owing to its unreliability.

**General discussion**

The study investigated an innovative approach to writing instruction in an EFL higher education context. It integrated a collaborative technique in providing FB (PF) alongside computer-generated FB (CBT), without any involvement by the teacher. First, it appeared that the participants in this study were already familiar with the nature of FB and that they were all of average level in terms of their linguistic skills. With regard to their familiarity with PF and CBF, a considerable proportion had experienced receiving PF, and a smaller proportion had received FB generated by a computer. These findings suggest that teacher FB is the most frequent source of FB employed in participants' writing classes, and that most of their writing classes did not encourage them to raise their awareness about other available sources of FB.

The participants were exposed to two different types of FB for a reasonable length of time (8 weeks). Overall, it may be said that the majority of the participants appreciated the experience of practising the combination of the two types of FB (see Tables 2, 3, 5 & 7), in that the majority reported their preference for the combination, stated that their experience was interesting, and that combining PF and CBF had a significant impact on their writing skills and encouraged them to be independent. These findings suggest that this sort of intervention can have a positive impact on student-writers in developing their writing skills. However, it was observed that a smaller proportion of participants (an average of four) disagreed that the intervention had a positive impact on their writing and also disagreed that their experience with the two types of feedback was enjoyable. It can therefore be concluded that this group would not like to see this type of combination practised in the future. It appears that these participants had some concerns regarding the treatment, either about PF or CBF, or both. The comments that were provided in the open-ended section support this notion, indicating that a considerable number of the participants had reservations about the reliability of the FB generated by their peers (see Table 11), in addition to concerns regarding the limited writing skills of their peers. Additionally, when they were asked about the reliability of the PF and CBF, almost half of the participants were unsure about it. This could have been anticipated, since the participants were of intermediate level (linguistically speaking) and they were in the process of developing their writing skills. Therefore, some of the participants were probably under the impression that their fellow students had nothing to offer, which had given rise to their concerns about PF.

Interestingly, an average of 70% of the participants reported that the joint introduction of PF and CBF in their writing classes had encouraged their self-reliance in learning writing (see Table 7). During the writing sessions, the learners were engaged with their peers in critically analysing essays, negotiating meaning, and making recommendations to improve the essays, a process that in one way or another equipped them with some learning and interactive skills. Moreover, they had the opportunity to consult an artificial intelligence (i.e., computers and software) when seeking to develop their essays. During all these practices, the teacher provided no feedback at all. Having had this experience, the learners would have realized that there are other sources of FB they can access and utilize, in addition to that provided by the teacher. Another advantage of the two types of FB provided during the intervention is that they were given in a timely manner (unlike teacher feedback that normally requires a longer time to be provided owing to the large numbers of students in writing classes), which made it possible for them to develop multiple-draft essays in shorter periods of time, all of which could be done outside the domain of

the classroom. As a result, essays could be produced without the presence of the teacher (regardless of whether or not the learners had a preference for the presence of TBF).

Although the majority of the participants reported positive attitudes towards the intervention, their stance regarding teacher FB was very clear. That is to say they clearly rejected the notion that the treatment could replace TBF and that there was no need for teacher FB to be offered when PF and CBF are offered jointly (see Tables 9 & 10). These findings reflect the participants' desire for TBF in writing classrooms, and suggest that they realise the importance and reliability of receiving that type of FB on their written texts. It may also suggest that since there were some reservations about PF, the existence of TBF would ensure that student-writers would end up producing texts of good quality. In writing classes the teacher is of course the most commonly used source of FB, and the most traditional. Learners may have become accustomed to rely on the teacher during any stage of learning; therefore, the idea of preventing them from receiving TBF is likely to be rejected by them. This notion is supported by evidence from this study, in that the majority of the participants (both before and after exposure to the treatment) reported either disagreement with or hesitation to support the notion that the introduced treatment would make them less reliant on the teacher (see Table 8). Nonetheless, some of them supported the notion, indicating their willingness—at some point in the future—to become less reliant on the teacher.

Before exposure to the PF and CBF combination, the majority of the participants were inclined to agree with the notion that PF and CBF complemented one another. However, their views seemed to have changed (although the change is not statistically significant) after practice with the two types of feedback (see Table 6). Interestingly, the clustering of responses was around being hesitant about combining PF with CBF. As discussed earlier, some learners had concerns about PF in particular, and seemed to favour the existence of TBF, which explains the responses we obtained. It is possible that some of the learners wanted to exclude PF and, probably, replace it with teacher FB. Although these particular learners did not seem to appreciate the form of the introduced treatment, other learners described some benefits of associating PF and CBF. For example, it was stated in the open-ended section of the post-questionnaire that PF and CBF can: offer immediate FB; allow them to develop multiple essays; improve writing skills; increase vocabulary knowledge, and increase self-reliance (see Table 11). It is therefore possible to classify the learners in this study under two categories: those who had a preference for the introduced treatment, and those who would like to see some alterations in the construct.

*Pedagogical implications*

Learners' views in L2 classrooms can be of importance to their instructors, in that instructors may have a desire to provide their learners with the best learning experiences that will result in positive learning outcomes by exploring their learners' preferences. The current study attempted to provide learners with a unique learning experience in a context that is commonly known for its reliance on traditional approaches to language learning. Language instructors should become more innovative in their teaching approaches and explore their learners' views on what suits their learning and needs, and ways of promoting their learning. The teaching approach in this study was indeed innovative and yielded insights into both the design of the approach and the learners' needs. These insights will help me and other researchers to improve the current design of the intervention and then use it in L2 writing classrooms to more positive effect.

The findings of the study suggest that the integration of technology into writing instruction can be very useful. Not only that, but the learners did seem to have enjoyed and benefited from it, and reported that the FB they received from the computers was reliable and timely. Instructors need to keep up with the rapid developments in technology and artificial intelligence that could take some of the load off their shoulders, a load such as having to provide FB on every single essay written by their students. However, involving technology in learning contexts can be expensive, and some instructors may not be able to obtain funds from their institutions. This should not become a barrier that hinders making use of technology, however, and instructors may be able to find alternative sources of funding.

Furthermore, in order to develop learners' skills, such as critical skills, communicative skills and learning skills, their instructors need to promote active learning situations. The learners in our study were engaged in giving and receiving FB from one another, they were depending on themselves in submitting essays online and acquiring FB generated by the computer, and they were completing writing cycles away from the interference of teacher FB. Although the learners reported their desire for receiving TBF, the majority of the participants seemed to have positive views of the experience, which suggests that they may have acquired additional knowledge as well as other technical and communicative skills.

The findings of the study also suggest that PF as a technique is probably more suitable for use with more advanced learners. The reliability of the FB provided by peers was questioned, and it was reported that classmates do not have the necessary skills critically to analyse written texts (see Table 11). In our research the students were trained in how to provide FB and the criteria for critiquing essays were provided and explained to them; however, it is assumed that their modest linguistic skills in writing prevented a number of them from being able to produce effective FB, which leads us to conclude that PF as a technique is probably suitable for more advanced learners.

A final remark to make here is that the existence of teacher FB seems to be necessary for learners, regardless of the alternatives being provided. Some of the learners in our study reported having positive experiences with the combination of PF and CBF while not receiving TBF. However, they still stated their need for receiving teacher FB in writing classes. Learners everywhere put their trust in their teachers and are likely to accept whatever knowledge is given to them; thus, taking away what they trust the most in a learning context can make them feel less safe and less comfortable in learning. Throughout their learning journey (through elementary, intermediate and secondary stages in public schools), the traditional methods of teaching and learning have dominated, and therefore, they are likely to be accustomed to these methods. In light of this discussion, and given that this study excluded teacher FB, it can be said that for teachers who would like to experiment with excluding TBF from writing classes, a gradual tactic that involves a step by step withdrawal of teacher FB is recommended. This should make it possible for learners to accept the fact that FB can be obtained from sources other than the teacher.

## Conclusion

The study investigated student-writers' views on the integration of PF and CBF in the absence of TBF. The main findings of the study suggest that the combination was not as successful as we had hoped, in that it was found that teacher FB is viewed as an integral part of writing development, at

least for the present time. The study has revealed that learners at an intermediate level may have concerns about the reliability of PF, and that CBF is seen as more reliable. In general, the findings show that the combination of PF and CBF can be an enjoyable, beneficial and interesting experience.

With regard to the limitations of the study, it was not possible to include female students owing to cultural restrictions, in that male members of staff (such as the researcher) are not allowed access to them. Also, the study was not able to use a larger sample as there were no more students registering for the selected course. It is recommended that future studies explore other ways to lessen the burden on the teacher's shoulders in providing FB on written texts. It is also recommended that teachers should explore other ways of improving student-writers' attitudes towards writing and of encouraging their self-reliance in developing their own writing skills.

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**Appendix A**
*Table 12:* **Test Statistics[a]**

| | Post_Preference for learning W using Pf & CBF – Pre_Preference for learning W using Pf & CBF | Post_PF& CBF are very interesting combination in writing – Pre_PF& CBF are very interesting combination in writing | Post_PF & CBF have significant impact on Writing skills – Pre_PF & CBF have significant impact on Writing skills | Post_No need for TBF when PF & CBf are offered – Pre_No need for TBF when PF & CBf are offered | Post_PF & CBF can replace TBF – Pre_PF & CBF can replace TBF | Post_PF& CBF are reliable sources of FB – Pre_PF& CBF are reliable sources of FB | Post_PF & CBF encourage depending on myself – Pre_PF & CBF encourage depending on myself | Post_PF & CBF make me less reliable on my teacher – Pre_PF & CBF make me less reliable on my teacher | Post_PF & CBF complete one another – Pre_PF & CBF complete one another |
|---|---|---|---|---|---|---|---|---|---|
| Z | -.437[b] | .000[c] | -.036[d] | -1.185[b] | -.783[b] | -.289[d] | -1.611[b] | -.900[b] | -.272[d] |
| Asymp. Sig. (2-tailed) | .662 | 1.000 | .972 | .236 | .434 | .773 | .107 | .368 | .785 |

a. Wilcoxon Signed Ranks Test
b. Based on negative ranks.
c. The sum of negative ranks equals the sum of positive ranks.
d. Based on positive ranks.