

Teacher's Journeys From the Laboratory to the ESL Classroom: Training Students in Peer-Assessment

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We will relate how we have structured our academic writing workshop assessment model for third year university students, based on incentives used to train interns in a molecular biology laboratory; a former workplace for one of the teachers involved.

Background

The Academic Writing Workshop at our university is a third year elective course that was originally aimed at higher intermediate and advanced students. There was a TOEIC 450 or higher requirement for enrollment. However, because of administrative problems and scheduling issues, that requirement was eventually dropped. This resulted in a very mixed-level class. We had people who needed a lot of work with punctuation and spelling alongside students who were already familiar with the basics of process writing and could construct longer and more complex passages.

To make the matter more complicated, the class was scheduled at a popular time and often as many as 32 students would sign up. This made it difficult to effectively monitor everyone, and it felt like we were teaching two or even three classes at the same time. The lower level students felt overwhelmed, while the more advanced level students felt frustrated and bored. Taking a closer look at the assignments throughout the semester, it was apparent that the students were repeating the same mistakes again and again, and there was no evidence that learning was occurring.

Because the higher level students had already been introduced to the basics of process writing, we thought it would be a good idea to pair them with the lower level students, hoping that they will help and learn from each other. Prior to doing this, we did a review of the academic literature, to see how others had conducted group work and peer-assessment in particular.

Van Zundert and collaborators conducted a literature review and concluded that because of the wide methodology employed for conducting peer assessment, it is hard to draw any overarching conclusions (Van Zundert et. al, 2010). However, their meta-study narrowed down the following factors: 1) training and experience of peers; 2) students are shown to develop domain-specific skills through peer-assessment based revisions; 3) prior training has a positive impact on students' thinking styles and academic achievement, and 4) students develop a positive attitude towards carrying out this collaborative task as fostered through training and practice.

A look at the literature revealed different methods employed for training in peer-assessment. Some utilized emulation: a DVD was shown to the students where a group of peers were engaged in peer-assessment. Other studies utilized hands-on

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practice sessions monitored by the instructor, while some investigators introduced the concept of peer-assessment, followed by discussion of interaction strategies, and appraisal criteria formulation for guidance.

The types of errors that should be targeted by peer-assessment also varied among studies. Truscott has argued that correcting grammar errors in the writing workshop is not only ineffective, but also harmful for learners because it detracts from a new and complex task that the student is trying to master; that of process writing (Truscott, 1996). According to Truscott, assessment should be focused on issues of styles, content, and organization in process writing. Other researchers have categorized errors into different levels, such as lexicon, syntax, spelling, and style. Diab (2016) has narrowed down the error correction criteria to reducing pronoun agreement and lexical errors. Allen and Mills created a coding scheme for suggestions for surface errors and text errors (Allen and Mills, 2016).

Researchers have also argued about the most effective way for providing corrections: Should they be explicit and direct, or indirect (Chandler, 2003)? While students prefer direct corrections because they are faster to incorporate and lead to more accurate revisions, students actually learned more from indirect corrections (their errors were underlined, but not explained).

Application of peer-assessment

The training consisted of correcting texts with errors in groups of two or three peers. A coding scheme was created for errors and students were shown how to apply it to texts. Throughout the semester we monitored the students to make sure that the coding scheme was used correctly and that the students revised the errors. Overall, the students received three training sessions.

The coding scheme we used included grammar errors (e.g. singular vs. plural, subject-verb agreement, verb tense), mechanics (text formatting, capitalization, spelling), register related changes (change but to however, use of academic vocabulary, etc.), and stylistic errors (correct topic sentences, logical progression of ideas). We used this coding scheme because some of our students needed basic training in proper sentence writing first. We introduced more items for process writing into the coding scheme later, as we progressed through the course.

We faced several problems in the beginning. Mainly, the students were reluctant to engage in peer-assessment and criticize each other. The lower level students seemed intimidated by higher level students, and the higher level students were frustrated with the lower level students, who weren't giving much input. The lower level students were also less likely to revise and incorporate error corrections successfully.

At this juncture we decided to use something Cristina had seen in her previous job as a technician in a biology lab. The interns in the Hematology lab had also engaged in peer-assessment, but the stakes were much higher. The interns had three months to design an experimental protocol based on the techniques they had learned. They worked in groups of four: two college kids and two high schoolers. The four students had to help and critique each others' designs. The best design won a scholarship for the next academic year. The students kept a log of their meetings and the suggestions they had received from peers, and these logs were also used in deciding which student was the most deserving.

The laboratory interns were highly motivated, and most of them had never met their peers before, and would most likely not have had to interact with the other interns on a daily basis after completing the internship, so they were not reluctant to engage each other in feedback. The Japanese students however were pretty familiar with each other, having studied at the same university for the two previous years. Therefore, we decided to add an element of extrinsic motivation to the interaction. We changed the curriculum so that the advice given to peers was not just part of the grade, but a highly significant part of the grade (i.e. 40%).

We also tested different types of interactions: a) oral feedback from writers at the same proficiency level (Expert-Expert, Novice-Novice), b) oral feedback from mixed proficiency levels with at least one Expert, and c) anonymous written comments via a software program from unknown peers. For the last option we secretly set up mixed proficiency groups to

see if the lower level students would be more likely to interact with higher level students if they were not aware of who their peers were. The software we used was WinBird, which allowed us to control which users could access and share data.

We then surveyed the students to see which method of collaborative feedback they preferred. As you can see from this table, the higher level students, or the Experts in this case, indicated that they found face to face feedback with other Experts to be most useful. The lower level students, we called them Novices, seemed to find the anonymous feedback via computer to be most useful. It also appeared that the Novices were more likely to correctly revise errors that they were advised about in this interaction. Additionally, the Novices gave more comments in the interaction via computer. It is hard to make any generalizations from such a small sample of students, but for this particular class, we decided to continue using the anonymous mixed level groups utilizing the computers to give feedback.

There is an art to setting up successful interactions, and so many things can affect quality. According to the Socio-Cultural Theory of Human Learning, which was developed by Soviet psychologist Lev Vygotsky, it is best to give corrections to a learner that are appropriate to their knowledge and ability (Vygotsky, 1934). Think of a learner's knowledge and ability as a range. Vygotsky called this range the Zone of Proximal Development.

So how would this theory apply to our peer groups? Imagine a Novice, a lower level student who is struggling with punctuation and spelling. This student is paired with an Expert, a higher level student who is mainly giving him corrections on writing proper topic sentences. Even if the advice is spot on, the Novice may not understand it and it would be very unlikely that it would lead to him changing his topic sentence.

To avoid this situation, we started with a very simple error correction guide, which was built onto gradually as new concepts were introduced during the course. We also trained the students to focus strictly on the particular points being introduced in our lessons. Even for the Hematology lab interns, we found it impractical to keep pairing up the high school students with the college students. Initially, the medical doctor running the lab had imagined that the college students would act like mentors to the high schoolers, but as we later realized, most of the younger interns simply lacked the knowledge and training needed to successfully participate in the collaborative feedback groups.

It took over two years of tinkering with the way we taught the course to get to a point of satisfaction. We started introducing training in peer-assessment earlier on, in second and even first year communication and reading & writing courses, to make it easier for the students to engage in this activity in their third year.

Conclusion

Overall, we think it has been a worthwhile effort to implement peer-assessment into our academic writing classes. Over the course of these years we've noticed certain trends that are very encouraging. Firstly, after receiving training in peer-assessment in their second year, a large proportion of higher level students were then able to successfully engage in collaborative feedback without training or prompting from their instructors in their third year writing workshop.

Another success, in our opinion, was tying peer-assessment to their final grade. We noticed that after basing 40% of the course grade on the comments they gave to peers, the frequency and quality of the feedback comments increased significantly. This took quite a bit of effort on the instructor's part, and it took a lot of drafts and revisions for the students to begin to understand what was required of them. After one year of continuous training and constant monitoring, a good number of students were more likely to correctly identify errors and make meaningful suggestions for corrections. The lower level students were still less likely to revise their stylistic mistakes (write good topic sentences, use a guide for the introduction, etc.); however, a good number of them got better at using correct punctuation and made fewer grammatical errors.

Based on our findings, we believe further detailed research into student improvement following implementation of peer-assessment programs is required to fully understand the effectiveness of such a system. Also, we believe there is room to further streamline the implementation and teaching process. Possible changes could include a written guide for students, including Japanese translations, and implementation of the system into a specialized software application to more accurately monitor student progress.

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