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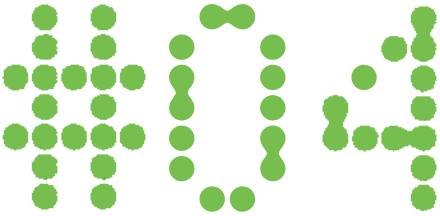

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FORMATIVE E-FEEDBACK IN COLLABORATIVE WRITING ASSIGNMENTS

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Formative e-feedback in collaborative writing assignments: the effect of the process and time

ABSTRACT

Writing is one of the most common activities in higher education, and is essential if we are situated in virtual learning environments based on written communication. However, the fact that it is a customary activity does not mean that it is specifically taught or that guidance is given to help students in the academic writing process (Lonka, 2003). In fact, the opposite often happens; students are already expected to know how to write in different contexts. Nevertheless, students require specific support from teachers and their peers to enable them to deal with the processes and products of academic communication. Feedback could be one type of support, seen as a joint activity which entails active interaction between students and the teacher, including how students receive and utilise the feedback (Dysthe, 2007), but not all kinds of feedback are effective.

This study thus explores the impact of formative e-feedback on students' texts written collaboratively in an online learning environment and also it explores when the e-feedback takes place in a way which contributes to the inclusion of more complex arguments in academic texts. A proactive reaction by the students was caused in response to feedback. This happened when they received messages questioning their work but also suggesting changes, in addition to correction. The pattern that seems to generate quality changes in collaborative text revision processes is initiated by teacher elaboration feedback, which generates

discussion among the students and, as a result, leads to contextualised changes to the text.

Proposing regular feedback that requires discussion among the students turns out to be an essential strategy to encourage high quality revision of texts written collaboratively in an online learning environment.

KEYWORDS

e-Feedback; Writing; Collaborative task; Higher education; Online learning environment; Timing of feedback.

INTRODUCTION

Writing is one of the most common activities in higher education and is essential in virtual learning environments based on written communication. According to Teberosky (2007), the text "is a construction of constructions, the result of an act of communication, whose discourse has the purpose of arguing with, convincing and persuading the scientific or academic community" (p.18). However, the fact that it is a customary activity does not mean that it is specifically taught or that guidance is given to help students in the academic writing process (Lonka, 2003). In fact, the opposite often happens; students are already expected to know how to write in different contexts.

Moreover, writing is a task which requires high cognitive skills, including the student knowing how to self-regulate their own learning process (Bangert-Drowns, Hurley and Wilkins, 2004). According to Dysthe (2001), "learning to become a better writer happens in the same way as learning to become a better thinker. Writing is thinking-made-tangible". Or as Professor Anna Camps explained (2007, p.10), "Listening to and monitoring students during their preparation of a research paper illustrates this coming together of tensions and enables us to understand the complex way in which knowledge is constructed through writing. Doing a thesis and learning to research a particular field of knowledge will not mean producing content and adjusting it to the characteristics of a type of text previously established by the scientific community, but will mean learning to participate in the exchanges typical of this community, appropriating the discourse genres inherent in it and, at the same time, learning to have a voice in this field of tensions involved in complex learning processes". We wish to place an emphasis on the epistemic function of writing and, therefore, on how to contribute to the construction of knowledge. Students therefore require specific assistance from teachers and their peers to enable them to deal with the processes and products of academic communication. This is one of the challenges faced by universities: equipping students with the appropriate knowledge and tools to communicate in academic and scientific contexts (Castelló et al., 2007). It is a challenge which is emphasised in the European Space for Higher Education.

However, writing is not necessarily associated with an individual activity; at many points of the academic process students are required

to face the task of writing collaboratively. It is one of the interdisciplinary skills which we must also help to develop in the university field.

Within the framework of the tasks of collaborative writing, producing a text with other people poses one of the most complex challenges, as writing activities are usually self-planned, involve personal initiative and constant effort. One of the objectives of collaborative writing is to encourage the exchange of thoughts and ideas with others and to make peer assessment with a formative function possible (Topping, Smith, Swanson and Elliot, 2000).

According to the socio-constructivist approach, we believe that argumentative strategies define the quality of a collaborative text. We therefore wish to highlight the contributions of Reznitskaya, Kuo, Glina and Anderson (2008), which are summed up in the description of the Argument Schema Theory (AST), in which during a discussion the participants organise the information (preparing relevant arguments) and then recycle this information in order to prepare new arguments. It is thus assumed that knowledge emerges from group debate during cooperative tasks, is fundamentally dialogical and makes reference to social influences on the development of reasoning.

Furthermore, being skilled in writing processes offers clear advantages in comparison with oral communication, as it requires and at the same time enables planning and reflection on the discourse itself (Garrison and Anderson, 2003). A teaching and learning environment based on written communication allows the difficulties posed by face to face environments for the collaborative construction of a text to be overcome. This circumstance can be exploited by the teachers and students collaborating in the writing.

As we have pointed out, the development of academic, and specifically collaborative writing skills, requires specific educational support, such as feedback. In this case we will take a look at e-feedback, the focus of this article. The concept of e-feedback makes reference to the feedback offered in a virtual learning environment. We define it not only as a response given to an activity but also as a joint activity which involves active interaction between the students and the teacher, including how students receive and utilise the feedback (Dysthe, 2007). Furthermore, our focus generally assumes that feedback is a type of support received by the student which should encourage learning regulation processes (Espasa, 2009). It is therefore considered that feedback must contain a formative component which focuses it on the improvement of the learning process. Authors such as Chickering and Ehrmann (2008), Gibbs and Simpson (2004) and Dysthe et al. (2010), underlined the necessary condition that feedback should be given immediately in order for it to provide a response to this formative and epistemic function. It is precisely this time factor which forms the focus of interest of this article. Along these lines, Gibbs and Simpson (2004) pointed out that one of the conditions for evaluation to contribute to learning is for "feedback to be timely, in that it is received by students while it still matters to them and in time for them to pay attention to further learning or receive further assistance".

More specifically, it can be defined on the basis of the idea proposed by Narciss (2008). This author identified three dimensions in relation to feedback: the function it performs (functional dimension), the characteristics it has with regard to the content it transmits (semantic dimension) and the characteristics it adopts on a formal level (structural dimension). For further details on the conceptualisation of feedback and the

development undergone by this concept see the article by Professor Espasa in this research paper series. Based on a previous study (Alvarez, Espasa and Guasch, in press), and taking into account the idea proposed by Wolsey (2008), we have characterised the teacher's feedback in relation to the type of content (semantic function) that it must transmit:

A) Clarification: elucidation of ideas, reformulations, completing an idea in relation to the content.

B) Affirmation/negation: stating whether something is true or not.

C) Argumentation: includes well-argued reflections, personal opinions or observations regarding the content in a well-argued manner, justifications, explanations, etc.

D) Personal Opinions: ideas or interpretations on the content, linked to their own personal experiences.

E) Correction: Comments regarding the rules to be followed, the assignment requirements, the content.

F) Question: request for explanation, clarification.

G) Suggestion: advice on how to proceed or progress. Invitation to explore, expand or improve the work.

The results of the aforementioned study, focused on collaborative academic writing activity in an online environment in a university context, make it clear that feedback given by the teacher is focused on content, over and above a focus on their interventions in the text structure (parts in which it must be structured) or the style (grammar, language, etc.).

However, for different reasons this educational support is not sufficiently shared among the teaching community, nor is it sufficiently adapted so as to contribute to the development of skills to collaboratively construct an academic text through the Internet. These reasons include, among others, a lack of empirical evidence to explain what this support should be like, an approach to teaching in virtual contexts which sees learning as an exclusively individual and independent process, or the fact that the method of teaching is simply transferred from a face to face environment to a virtual environment (Kirschner, Sweller and Clark, 2006).

This research is intended to answer the question of what it should be like and when e-feedback takes place in a collaborative writing task which contributes to the inclusion of more complex arguments in academic productions, giving special importance to the process and the time at which feedback is provided in a writing activity developed in a virtual learning environment.

METHODOLOGY

The study is focused on the analysis of a collaborative writing activity in an online learning environment. It involved 83 students of a two-year postgraduate course on e-learning at the Open University of Catalonia. This University has been fully online since its foundation (more information about its pedagogical and assessment models can be found on the university's website: http://www.uoc.edu). It can be seen as a

representative university where the whole teaching and learning process is on an online platform.

The educational activity is based on the development of several continuous assessment assignments (such as collaborative or individual essays, case studies, problem-based learning, discussions, etc.) through the virtual campus. As part of the course which forms the object of study of this research, collaborative learning case study techniques are frequently used.

The study took place during the second assignment of one of the courses, specifically during the evaluation of the results of the assignment, which consists of writing a critical essay on the in-depth study of a case based on innovative projects applying Information and Communication Technologies, over a period of two weeks.

The aim of this type of activity is for the students to submit a second version of the assignment being evaluated, presumably improved as a result of the feedback. In this study we also analysed the changes made to the second version of the work under review, with the objective of assessing the changes and/or improvements made to the arguments in the revised assignment.

CONTEXT

Teacher and students' feedback and their assignments have been analysed. For the analysis of feedback, the unit of analysis was defined as an episode, corresponding to an extract of joint activity (segment of interactivity), which shows a certain participation structure and maintains a discursive unity. The episode was made up of the teacher's intervention and the students' response to the feedback received.

The teacher feedback categories correspond to the characteristics presented in the introduction.

To establish the reliability of the coding system, one of the students groups was selected at random and evaluated by four external judges (researchers/teachers in a virtual university). One of the judges was the course teacher and was therefore familiar with the content.

To evaluate the quality of the texts, we used the categories proposed by Reznitskaya et al. (2008), which were produced to assess the quality of jointly-constructed arguments. In essence, attention is paid to how ideas are supported by relevant arguments, highlighting four different forms:

1) Textual: ideas are extracted more or less literally from previous readings,

2) Hypothetical: statements referring to probable actions,

3) Abstract: generalisations on causes and/or consequences of certain behaviours and,

4) Contextualising: statements that reframe the situation by considering the context, audience, etc.

With these criteria in mind, the teacher checked the students' assignments and later repeated this analysis with the second version of the assignment, taking into account that the evaluation was performed so as to offer an opportunity to improve the text (formative assessment). In order to analyse the changes made to the text, a tool from Microsoft Office Word was used. This software compares versions of the same document and identifies areas where differences can be found.

RESULTS AND DISCUSSION

The results presented here are just part of a broader study. For a more extensive and complete version of the results Alvarez, Espasa and Guasch (in press) can be consulted. Nevertheless, the key contribution highlighted in this article is the importance of the temporal dimension of feedback. Within the framework of a collaborative writing assignment in a virtual environment, if feedback, given immediately after the first version of the text has been handed in, also semantically has certain characteristics (which are explained below), it will entail improvements in the quality of the text.

Firstly, it would seem relevant to highlight the results which correspond to the teacher's feedback when the assignment is first handed in, and the response from the students to the feedback received (see table 1). As it is expected that this feedback will influence the student's learning and entail an improvement of the argumentative text, the teacher offers it within a short period of time after the text has been handed in. A formative function of the evaluation is thus facilitated as it will give students the chance to modify, correct and, in short, improve their arguments, revising the text on the basis of the content of the teacher's feedback, prior to its final evaluation.

The students' response was categorised as follows.

A) No response or comment on teachers' feedback.

B) Confirmation of feedback received.

C) Comment on teachers' feedback.

D) Suggestion to make changes in the text.

E) Discussion between students and with the teacher about the feedback received.

Table 1. Percentage of teacher feedback and student responses

		Estudent responses				
Teacher feedback	Episodes (N)	No Response	Confirmation	Comment	Suggestion for changes	Discussion of changes
Clarification/ Affirmation/ Negation/ Opinion	21	60%	5%	30%	0	5%
Correction	55	5%	45%	10%	30%	10%
Suggestion	57	9%	9%	12%	47%	23%
Correction and/ Or Question + Suggestion	14	0	0	20%	8%	72%

The results of the table show that the responses vary depending on whether they received informative feedback (i.e. correction, clarification or expressing agreement or disagreement with the ideas presented) or more complete feedback in which, apart from corrections there were also suggestions or questions by the teacher to encourage learning. In the case of informative and corrective feedback, most students either do not react to the intervention or merely confirm it. In relation to feedback which includes suggestions by the teacher (proposing the extension of a piece of information, or revising a concept, sentence or idea, etc.), students understand that they must suggest changes, improve their arguments and therefore propose modifications in the text. Lastly, when the teacher corrects, he or she also asks a question (i.e. Are you sure that this proposal is sufficiently clear?) and suggests how the error or problem could be addressed. The students react by discussing with each other how to improve the quality of the argumentative ideas in the text (72% of episodes).

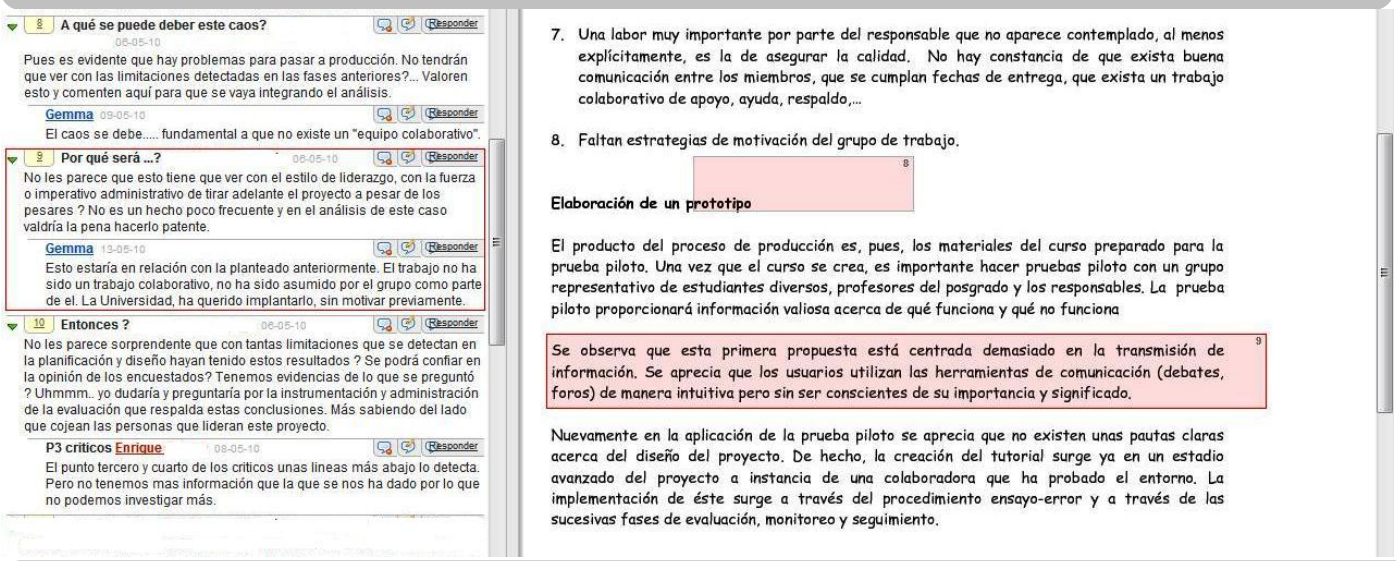
These results, beyond the interest in finding out the students' reaction to the teacher's interventions, would not have any implications for teaching or research, were it not for their impact on the changes which these types of responses cause in assignments written jointly by the students.

When the students' response to the feedback received and the changes made to the text are analysed, a significant relationship appears ($r=.341$, $p \leq 0.01$). This means that students' assimilation of feedback has an impact on the changes they make to the texts. When the request is for confirmation or a comment or suggestion for a specific change in the text, the students simply add the information that they are asked for (textual and hypothetical arguments). 63% of the episodes are made up of textual and hypothetical arguments, and any episodes with contextualising arguments. However, it is important to indicate the change which occurs when the students discuss with each other the suggestions received from the teacher. More than 50% of the episodes are made up of abstract and contextualising arguments (the highest levels in the categorisation by Reznitskaya et al.). In this case, there is a significant inclusion of abstraction and also more contextualised arguments. These results make clear the need for this type of feedback to be given immediately after the end of the collaborative online discussion, at the time when the text or report on the discussion is handed in and prior to its evaluation if this is the product which gives an account of the learning undertaken. Our results do not enable the benefits of immediate feedback to be confirmed. However, according to the literature in this field (Chickering and Ehrmann, 2008; Gibbs and Simpson, 2004), it can be said that in the case of a collaborative writing assignment, when the feedback is immediate and performs a formative function, improvements in the final version of the text are seen. It can thus be confirmed that the epistemic nature of feedback has a direct influence on the improvement of the texts and makes the task of writing easier, even more so if it is undertaken collaboratively.

Shown below is an example of how the teacher's feedback, based on comments and suggestions on the assignment produced jointly by the students during the critical study of a case, leads to a discussion on the content in the collaborative group, which ends up generating more complex arguments (the last level of categorisation) to improve their report (the argumentative text which is being revised).

Illustration 1. Example of the process followed by the teacher and students during feedback.

Teacher feedback Comments + suggestions	Students' text (The limitations of the text are highlighted)



Revised text by the students Inclusion of: information + examples / evidence + conclusions

7. Una labor muy importante por parte del responsable que no aparece contemplado, al menos explícitamente, es la de asegurar la calidad. No hay constancia de que exista buena comunicación entre los miembros, que se cumplan fechas de entrega, que exista un trabajo colaborativo de apoyo, ayuda, respaldo,...
8. Faltan estrategias de motivación del grupo de trabajo

A la vista, de los puntos débiles que hemos detectado en el equipo de producción, derivadas de la fase anterior de diseño, el fallo principal es que el equipo de producción no trabaja de forma colaborativo: no se ha establecidos los roles de los miembros, no tiene un plan fijado de actuación, ni una meta, es más no están motivados para este trabajo.

Elaboración de un prototipo

El producto del proceso de producción es, pues, los materiales del curso preparado para la prueba piloto. Una vez que el curso se crea, es importante hacer pruebas piloto con un grupo representativo de estudiantes diversos, profesores del posgrado y los responsables. La prueba piloto proporcionará información valiosa acerca de qué funciona y qué no funciona

Se observa que esta primera propuesta está centrada demasiado en la transmisión de información. Se aprecia que los usuarios utilizan las herramientas de comunicación (debates, foros) de manera intuitiva pero sin ser conscientes de su importancia y significado.

Nuevamente en la aplicación de la prueba piloto se aprecia que no existen unas pautas claras acerca del diseño del proyecto. De hecho, la creación del tutorial surge ya en un estadio avanzado del proyecto a instancia de una colaboradora que ha probado el entorno. La implementación de éste surge a través del procedimiento ensayo-error y a través de las sucesivas fases de evaluación, monitoreo y seguimiento.

En conclusión, podemos decir que se detecta que este proyecto no ha sido asumido como propio por el equipo completo, ni se ha valorado por partes de todos la canales de comunicación (por desconocimiento). La UPSA ha debido crear y motivar a este equipo, estableciendo un grupo colobarativo que asuma el proyecto como propio y dándole una formación básica previa sobre e-learning.

Adding information: Explains some background information which is important for the further development of the central ideas.

Contextualised idea: Adding a statement that reconstructs and synthesizes the idea, with regard to context, audience, etc.

These results corroborate and illustrate the initial presumption in relation to the value of the group context for the joint construction of meaning; in this case argumentation. Through their exchanges, and especially through discussion, the students are able to improve their argumentative schema, re-work the information and produce new ideas. Indeed, knowledge resulting from group discussion during collaborative assignments is essentially dialogical and reveals social influences during the development of reasoning.

CONCLUSION AND IMPLICATIONS FOR PRACTICE

This study explored the impact of formative e-feedback on students' texts written collaboratively. It was formative feedback because students had the chance to receive feedback during the writing process, and afterwards were able to make modifications within the stipulated time.

A proactive reaction by the students was produced in response to feedback. This happened when they received messages questioning their work but also suggesting changes, in addition to correction. When the message of the feedback is only corrective or simply expresses an opinion of the teacher, it does not seem to generate any responses in students other than, basically, confirmation. The pattern of activity which seems to generate changes in quality (Reznitskaya et al. 2008) in the revision processes of collaborative texts thus begins with elaboration feedback by the teacher, which generates discussion among the students and therefore ends up causing contextualised changes in the texts. Proposing requests which require discussion among the students ends up being a fundamental strategy for promoting a revision of the quality of texts produced collaboratively in an online formative environment.

This study therefore highlights the importance of student participation in the assessment process. In writing collaborative tasks, feedback designed as an interactive and communicative process promotes student involvement in the learning process. As a result, through the evaluation, they can improve their skills for writing together. Nevertheless, this design makes sense if the students are made aware beforehand that they will have an actual chance to submit a revised version of their text based on the feedback discussion. That is to say, the evaluation is seen as an opportunity for learning, with a focus on its formative function.

In relation to the temporal dimension of feedback, the results obtained in this research enable us to confirm that in order to facilitate the learning of writing associated with a collaborative discussion in a virtual environment, the time sequence of study activity must provide for immediate feedback at the end of the discussion, when the students include the knowledge produced during the exchange in a text. During this time, which forms part of the study activity, the students again take up the content of their discussion, reflected in the texts that they produced, and revise it with the help of the teacher's comments (feedback on the writing). This time lag enables students to reflect on their learning, particularly with regard to the quality of the ideas expressed in their texts. They can then make any appropriate changes in order to hand in a text which better reflects the constructed

jointly knowledge. The importance of allowing for a time in which students can revise the initial text and have the option of handing it in again is crucial to promoting the epistemic function of writing, particularly in collaborative work. In conclusion, the results obtained in this exploratory study confirm the initial theoretical presumptions in relation to the definition of feedback. That is to say, it includes an elaboration component which offers the students information which goes beyond mistakes and/or correct answers. It is a form of feedback that includes guidelines on how to improve the assignment. This type of feedback is really an educational support, as we could consider it as appropriate, timely and constructive feedback.

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