

Feedback in Cumulative Coursework: Action Research in a Blended Course

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Abstract

Action research calls for the solution of practical problems in the classroom as well as the expansion of theoretical knowledge. In this study, feedback in cumulative work is explored as a strategy for guiding and improving the teaching-learning process. By following a feedback loop: initial draft, feedback on first draft, final draft, and marking, 28 students at the University Universidad Nacional Autónoma de México (UNAM) had the opportunity to receive guidance and demonstrate improvement in a blended learning, or b-learning course. The study lasted five weeks and engaged university learners as well as the educator in videoconferences focused on feed up, feedback, and feed forward.

This pedagogical action research involved observation, research and planning, implementation, and reflection. Data was gathered on students' access to technology and their perception upon effectiveness of remote learning based on their experience. Additionally, scores before and after treatment were registered and analyzed.

The findings showed a general improvement after feedback sessions and learners were able to present enhanced final versions of tasks. The study's main contributions are the confirmation of positive results on effective feedback as well as an opening to discussion, adaptation, and improvement of the practices presented.

Keywords: feedback, assessment for learning, cumulative work, action research

1. Introduction

Exploration of new education models to increase access to higher education is of great interest due to growing demands. Blended learning or b-learning has become a strategy to respond to the demands for more flexible models in teaching and learning. The COVID-19 lockdown also accelerated b-learning development by allowing universities, and schools in general, to uphold educational continuity.

At the Universidad Nacional Autónoma de México (UNAM) Facultad de Estudios Superiores (FES) Acatlán, a public university in Mexico, b-learning courses were offered as part of the strategy for the new normal and the transition from remote learning back to on-site classes after the COVID-19 pandemic. After a year of Emergency Remote Teaching educators were able to identify practices that required adaptation and modification. The teacher that presents this study turned to pedagogical action research to build a more comprehensive course and strategies which allowed the students to receive effective feedback and opportunities to demonstrate their learning and improved skills.

The strategy selected for this study was the implementation of feedback in cumulative work in a b-learning course that maximized the use of videoconferencing which allowed feed up, feedback, and feed forward to 28 university students. It is believed that by fulfilling a plan in which learners draft a task, receive effective feedback and rework on the task, they will be rewarded for that accomplishment, moreover, they will be able to focus on specific aspects in order to improve them along with guidance of a teacher.

It might be true that action research has limitations; however, as Cohen and Marion (2007) explained it, the scope of action research as a method is remarkable. It can be used in almost any setting which involves a problem with people, tasks and procedures that need a solution, or where some change can bring a more desirable outcome. This action research study implied the stages of observation, research and planning, implementation, and reflection as it will be

explained in the next paragraphs.

2. Literature Review

2.1 B-learning

It is important to start this literature review by defining b-learning, the model which underpinned this study. Martín-García (2020) describes blended learning as the model that pedagogically organizes the teaching-learning process incorporating on-site and online activities. It implies adapting and allowing more flexibility in both, classroom, as well as virtual environments. B-learning offers opportunities for group interaction, social collaboration, and efficient construction of knowledge. However, as Cleveland and Wilton (2018) warn, b-learning is more than just using technology. It requires the comprehensive combination of face-to-face and online environments, including interaction, resources distribution, learning facilitation, and direct teaching.

Courses implemented under b-learning are distinguished by the facilitation of learning through collaborative interactivity. Turpo and García (2020) analyzed the didactic interaction in b-learning and explain that strategies and resources that allow for continuous exchanges in the form of tutorial intervention, continuous feedback, critical debates, among others, can amplify and strengthen the teaching-learning process. They identified different didactic uses of interactions in b-learning courses, one of them is the periodical monitoring of the progress of an activity which was implemented in this study.

2.2 Assessment for Learning

A broad definition of assessment is provided by Shermis and DiVesta (2011). They conceptualize it as a set of procedures designed to provide information regarding learners' development, growth, and achievements so that it can be compared with a standard. Russell (2020) described assessment as the process of collecting evidence to support a claim about a student (or group of students) and the subsequent decisions. For instance, after a period of instruction, educators continually make decisions about whether a student's understanding is developing as planned or if there are specific elements that require clarification or additional work. Teachers also want to decide how much understanding the student has developed and how much of the new knowledge has been retained and if it can be used in new situations. Typically, these two phases have been defined as formative assessment and summative assessment.

Summative assessment has been used to describe the conventional assessment which aims to judge achievement in learning for accountability, ranking, or certification purposes (Yujie & Manzhen, 2021). Recently more emphasis has been placed on formative assessment which has been rephrased as "assessment for learning" to highlight the fact that it is used to provide information which assists and leads to the facilitation of learning.

Formative assessment, classroom assessment or assessment for learning takes place during all the teaching-learning process and implies a dialogue between teacher and learners in multiple interactions. It focuses on identifying students' needs to guide them towards achievement with an emphasis on feedback, support, and collaboration (Sánchez & Martínez, 2022).

Assessment for learning implies two main actions, first pinpointing a gap between a desired goal and learners' present state of knowledge or skill. This can be done by the student by means of self-assessment or by the teacher who perceives and interprets the gap and communicates a message in regards to such. The second is the action taken to bridge such gap in order to achieve the learning goal (Black & Wiliam, 1998b).

This type of assessment has been studied by researchers. Black and Wiliam (1998a) are two influential authors in the matter, they reviewed 250 practices regarding formative assessment and proposed strategies to incorporate it in the classroom. Their research showed that assessment for learning increases achievement in learning (William, 2018).

Yujie and Manzhen (2021) also studied the implementation of formative assessment in a university course in southern China. The results showed that students' writing skills in a second language were positively influenced by incorporating formative feedback and other assessment for learning strategies.

Assessment for learning greatly contributes to the teaching-learning process. As for the teacher, it offers information about the effectiveness of teaching methods and allows for remedial actions. In the case of learners, it provides guidance to achieve their full potential.

2.3 Feedback

Feedback is considered a critical component of assessment for learning. It refers to the information provided by an agent, it can be the teacher, a classmate, a book, or any other, regarding one's knowledge or skills (Hattie & Timperley, 2007). Thus, feedback is understood as the consequence of performance. It is the information given to fill

the gap between what the learners know or are able to do and what they are expected to know or be able to do.

As Henderson et. al. (2019) explain, without feedback learners would be limited in the manner in which they make judgements about their performance and how to make progress in the future. Therefore, the idea of feedback which imply just giving comments after completing a task is a misconception. The value of feedback is tied with its connection to improvement.

Hence, it is important to recognize that not all feedback is useful. Sánchez and Martínez (2022) warn that feedback can be counterproductive and even harmful when it is just a one-way action in which the teacher gives comments, and the student passively accepts the message without understanding it or without knowing what to do with such information. In order to help learners understand and make use of the comments, Archer (2010) explains that feedback must be provided through dialogue.

According to research published in Mexico by UNAM (UNAM, 2020), during Emergency Remote Teaching, feedback regularly took place once the tasks or activities were finished and submitted. It was provided together with a score, and it focused on mistakes, strengths, and weaknesses. Other strategies were identified in the study, for instance, some teachers reported that learners were able to receive individual and group feedback before the task was completed. In the paper published by UNAM, the role of feedback is emphasized as an opportunity to foster communication, support, and accompaniment to improve performance.

The importance of educators mastering feedback skills has been discussed by different authors. Hattie and Timperley (2007) in their “Model of feedback to enhance learning” state that effective feedback must answer three major questions 1) Where am I going? — that means, what are the goals? —, 2) How am I going? — that is, what progress is being made towards the goal? —, and 3) Where to next? — this means, what activities need to be undertaken to make better progress? —. Those questions correspond to three notions: feed up, feedback, and feed forward (p. 86-90).

Feed up entails to “raise the goals of the task and the expected standards of performance” (Cheng, 2018, as cited in Henderson, et. al. 2019, p. 170). Feedback on the other hand, involves providing information regarding a performance in a task often in relation to a standard. Finally, feed forward focuses not only on what the learners demonstrate in the present or have demonstrated in the past, but also on that which they can do in the future. Those actions which can be done differently in a second opportunity (Sánchez & Martínez, 2022). According to Hattie and Timperley (2007), feed forward can have the most powerful impact on learning as it involves enhanced challenges, more self-regulation, greater automaticity, more strategies to work on the tasks, and deeper understanding (2007).

2.4 Cumulative Classwork

Hounsell (et. al., 2007) identify different strategies to balance assessment for and assessment of learning. One of those focuses on introducing a form of coursework which is cumulative. The proposal involves shifting from planning for an assignment (project, portfolios, essay, etc.) to be handed in at the end of the term, to breaking the assignment into smaller tasks that are presented over the span of a term, semester or other. As confirmed in different studies (UNAM, 2020; Hounsell's, 2007; Batishcheva et. al., 2023) by means of ongoing feedback and feedforward the final version of the tasks is more likely to reflect the students' evolving learning and skills.

Smythe (2006, as cited in Hounsell et. al. 2007) proposes that cumulative work be planned around a feedback loop that follows the stages 1) First draft, 2) Feedback on first draft, 3) Final draft, and 4) Marking. His research at St. Mary's University in Canada reported that students had more time to reflect and work on constructive feedback, plagiarism was reduced, and the pressure to work last minute was lessened. Stefani (2002, as cited in Hounsell et. al. 2007) also reported a case study in which university students were asked to present a group project. The learners worked on a record of tasks and as a result they were able to present the assignment in a more professional manner.

Batishcheva et. al. (2023) also used cumulative work as a strategy to motivate and promote students' learning. They designed and implemented a 12-week module in economics at the University of Sussex. In their study they planned for formative learning opportunities by means of iterative feedback or feedback spirals, which refer to dialogical tutor-student interactions. The design allowed tutors to provide guidance so that learners became aware of the gaps in their performance and improve their work. The results of the study suggested that feedback had a significant role in students' formative learning given that a significant positive association between students' grades and the use of feedback was identified.

3. Method

This study is based on pedagogical action research which as Norton (2018) explains, implies the use of a reflective lens to look at a specific issue in the classroom and methodically take steps to deal with that problem. Its aim is to investigate practice in order to modify and improve it and contribute to theoretical knowledge (Burns, 1999). Cohen and Manion (2007 p. 297) attest its rigor and characterize action research as “a small-scale intervention in the functioning of the real world and a close examination of the effects of such intervention”. Stenhouse (1979, as cited in Cohen & Manion, 2007) states that action research contributes not only to practice but also to a theory of education which is accessible to other teachers, making educational practice more reflective.

The action research process in this study implied the following steps: noticing an issue that needed to be improved (observation); thinking of ways to address the problem and planning a course of action (research and planning); carrying out the change (implementation); and reflecting (reflection) on the effect the change made. As Norton (2018) explains, action research involves a theoretical understanding with practical applications; it implies research, data collection, analysis, and interpretation.

Qualitative methods are commonly used in action research studies; however, numerical measures can also be of use as it was done in this study in which a mixed-methods design was adopted.

3.1 Participants

The study took place at UNAM FES Acatlán, a public university located in the State of Mexico. It was conducted for a period of five weeks and engaged 28 students in their fourth year of the English Teaching Major, 15 female and 13 male. The sampling was non-probability based on convenience since the learners were enrolled in a mandatory Curriculum design course implemented under b-learning. The learners had already experienced remote learning due to the COVID-19 lockdown.

3.2 Procedures

This research was organized around action research intervention: observation, research and planning, implementation, and reflection as shown in Figure 1.

The first procedure was the design of a short questionnaire that consisted of 6 items. It was pre-tested by an assistant teacher to check readability, identify omissions, avoid redundancy, and gain feedback on its validity. Once corrections were made, it was administered online via Google Forms.

The aim of this instrument was to gather information regarding students' access to technology and their perception on effectiveness of remote learning based on their experience. The items were designed based on didactic challenges which emerged in the study “Transición de los profesores de la UNAM a la educación remota de emergencia durante la pandemia. Informe general de resultados” (UNAM, 2020). In the first item the learners had to identify themselves. The second question was multiple choice and asked students to confirm their access to a device and internet for the course. The third item focused on the number of hours the learners devoted to academic activities with the next options 1-3 hours daily, 3-5 hours daily, 5-7 hours daily, 7-10 hours daily, more than 10 hours daily. The fourth item posed a question about learners' perception of the effectiveness of remote learning based on their experience. The range of options provided were: Not effective at all, Slightly effective, Moderately effective, Very effective. The fifth item was multiple choice and it requested learners to choose, from a set of options, one aspect of remote learning that had been difficult to cope with in past courses. The learners had to choose only one answer from a list that included: Access to a device or internet to complete assignments, Time management, Lack of feedback, Lack of practice, Other (which). Based on that procedure, the teacher was led to the insight that enhancing guidance (feedback) was necessary. After a literature review, it was hypothesized that feedback during cumulative work was a strategy that could facilitate learning and the achievement of learning goals.

The planning phase took place by dividing the course project into three deliverables, designing checklists, and creating a feedback schedule to be carried out in videoconferences. The plan was completed in five weeks following Smythe's (2006, as cited in Hounsell et. al., 2007) feedback loop: draft, feedback on first draft via videoconference, final draft submission, and scoring. The treatment focused on feed up, feedback, and feed forward. The teacher concentrated on the three key questions proposed by Hattie and Timperley (2007) to provide effective feedback.

Finally, the quantitative results before and after the treatment, feedback, were collected in order to be compared.

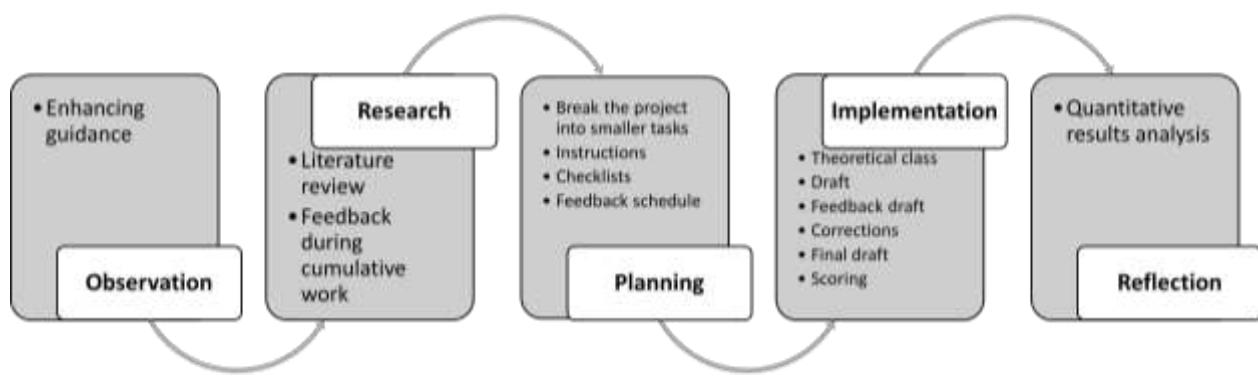


Figure 1. Pedagogical action research procedures

4. Results

The questionnaire findings in terms of frequency and proportion are presented in the next figures. Initially, as it can be seen in Figure 2. all learners had access to a device and internet for their courses; however, 14.29% had to share it with a family member or other people. This implies that access to a device could at times be limited.

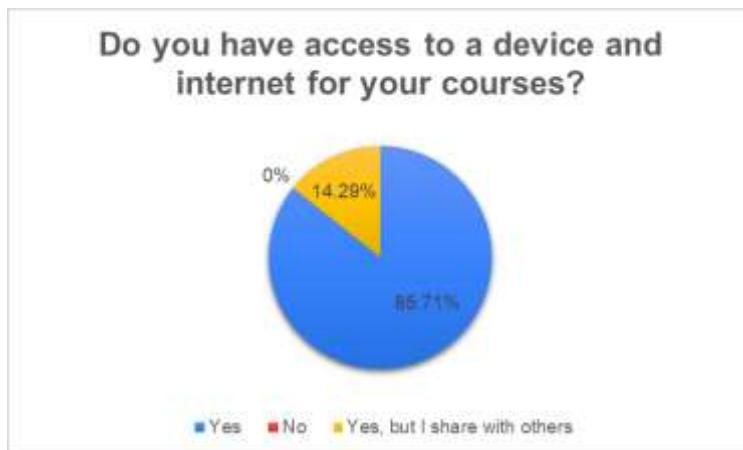


Figure 2. Access to a device and internet

As Figure 3 shows, most respondents, 42.86%, spent 7 to 10 hours daily on academic activities. The second most common answer was 35.41%, those students spent 5-7 hours. Interestingly, 14.29% of them pointed out that they spent 10 or more hours every day. This is a considerable amount of time given that learners usually take 6 hours of classes every day. This means that those learners spent an average of 16 hours a day on academic tasks.

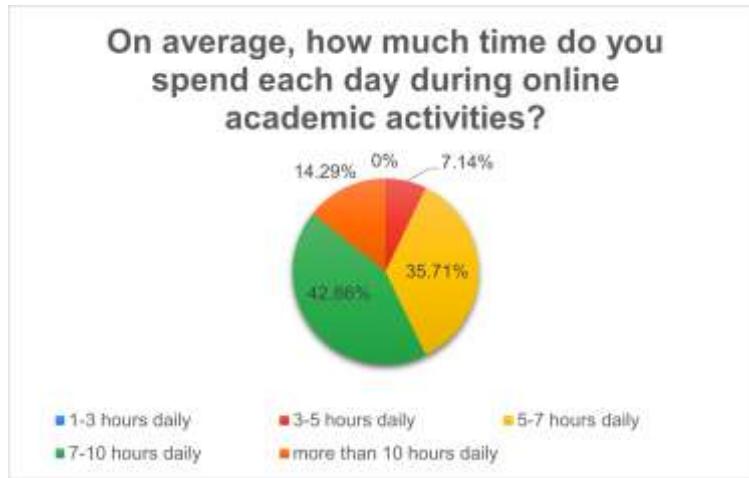


Figure 3. Time spent on online academic activities

The questionnaire data provided information regarding students' perception regarding effectiveness of remote learning based on their prior experience. Opinions were split. Half of the population felt that their learning had been very effective or moderately effective, 39.29% and 10.71%. The other half was less positive about it, 39.29% and said it had been slightly effective; and 10.71% believed it had not been effective at all. This data suggests that most learners perceived that there was room for improvement in the teaching-learning process.



Figure 4. Perception of remote learning effectiveness

The last question elicited information regarding one aspect of remote learning which learners had encountered difficulty in coping with. Respondents tended to choose the option "Other", 39.29%. The input provided in that option was categorized and it is presented in Table 1. The second most frequent response was "Lack of feedback" which represented 35.71%, while "Time management" was selected by 14.29%, and "Lack of practice" by 10.71% of the respondents.

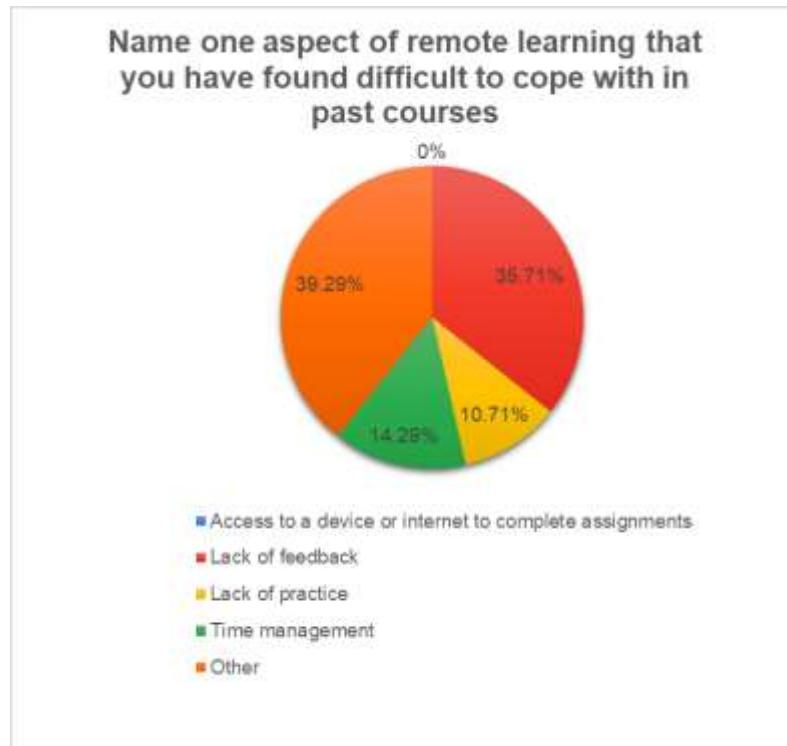


Figure 5. Challenges of remote learning

Table 1. Other difficulties learners had to cope with

	Frequency	Percentage
Lack of interaction	3	10.7 %
Difficulty to pay attention or concentrate	2	7.1 %
Difficulty to organize and complete group projects	2	7.1 %
Strenuous workload	1	3.6 %
Difficulty to get timely answers or help by the teacher or peers	3	10.7 %

The information which emerged from the analysis of the data showed that learners had the perception that learning could be improved with timely feedback. Therefore, after a literature review and careful consideration of teacher, feedback during cumulative work was selected as a strategy to address the problem. The planning and implementation phases took place.

As it can be seen in Figure 1, the project was broken down into smaller tasks and reorganized into three sections. The instructions for each task, three checklists that included the criteria to be assessed in each task, and a feedback schedule were designed.

Once procedures were prepared, feedback loop implementation took place. The teacher delivered the course content, provided clear instructions, and presented checklists. The learners worked on the task and submitted a first draft. The teacher assessed it and provided feedback via videoconference. The feedback session involved the teacher and learners in a discussion regarding the goals to be met based on the checklist, their achievements, as well as actions to be taken in order to improve their product. Corrections were made by learners after the feedback session and the final version was submitted to be marked. This process was repeated in order to complete the three tasks (sections).

In Table 2, The quantitative results (before and after feedback) are presented. As the table shows, there was a gain in most of the scores for the three tasks (sections). It can be seen that two tasks showed no improvement, in one case the learners did not edit the draft (section 1) after feedback and submitted it as a final version. In the second case, the score remained the same since it was the maximum grade.

Table 2. Results before and after feedback

Group		Before	After	Difference
Section 1	1	9	10	+1
	2	8	10	+2
	3	7	10	+3
	4	7.5	10	+2.5
	5	8.5	10	+2
	6	9	9	0
	7	9	10	+1
Section 2	1	6	9	+3
	2	9	10	+1
	3	8	9	1
	4	7.5	9	+1.5
	5	7	9	+2
	6	8	9	+1
	7	7	8	+1
Section 3	1	8	9	+1
	2	8	10	+2
	3	7.5	9	+1.5
	4	10	10	0
	5	8	10	+2
	6	9	10	+1
	7	8	10	+2

Tables 3 to 5 below exhibit pair means of the drafts and final versions. The results show consistent improvement. In the first section the score climbed from 8.286 ($SD=0.809$) in the first draft to 9.86 ($SD=0.378$) in the final version of the task. In the second section the mean went from 7.5 ($SD=0.957$) to 9 ($SD=0.577$). In the third section the mean score increased from 8.357 ($SD=0.852$) to 9.71 ($SD=0.488$). Therefore, results suggest that implementing feedback in cumulative work enhanced the students' performance.

Table 3. Paired sample, Section 1

	N	Mean	Standard Deviation
Pre (Draft)	7	8.286	0.809
Post (Final)	7	9.86	0.378

Table 4. Paired sample, Section 2

	N	Mean	Standard Deviation
Pre (Draft)	7	7.500	0.957
Post (Final)	7	9.00	0.577

Table 5. Paired sample, Section 3

	N	Mean	Standard Deviation
Pre (Draft)	7	8.357	0.852
Post (Final)	7	9.71	0.488

5. Discussion

Reflection is the last stage of action research and as Norton (2018) explains it. This is the characteristic feature which distinguishes it from many other types of educational research. In this pedagogical action research, reflection implied the reexamination of decision making, procedures, and results to draw inferences; the insight resulting from it is presented in this section.

The teacher that participated in this study identified that half of the learners perceived that remote learning had been slightly effective or not effective at all. The need for timely and effective feedback was selected as an aspect to be improved. After literature review, a plan for feedback in cumulative work was carried out. The plan implied different actions such as breaking down the assignment into smaller tasks which required the analysis of the learning goals and the creation of instructions and assessment checklists that allowed for objective and consistent assessment.

The treatment was offered in group sessions once the draft was handed in, the students were able to make corrections and submit the final draft for marking. The quantitative results from pre and post treatment tasks were compared.

The data showed that in general after the treatment there was improvement. The groups did better and were able to make progress in the final version of tasks. These results endorse Smythe's (2006, as cited in Hounsell et. al. 2007), Stefani's (2002, as cited in Hounsell et. al. 2007) and Batishcheva's (et. al. 2023) research, previously cited in this paper.

It is important to highlight two cases in which the results did not improve. This is noteworthy because it may suggest that more time was needed to work on the tasks after feedback sessions, as the final version of the task was turned in without corrections. The other case in which the result remained the same, represented a group of learners that were awarded the maximum score in the first draft.

Upon analysis of the results from post treatment tasks, the teacher realized that they ranged from 9 to 10, which is close to or represent the maximum score. We can infer that during feedback sessions the learners were able to get answers to the three questions posed by Hattie and Timperley (2007) Where am I going? How am I going? Where to next? As a result, they were able to focus their efforts on improving specific aspects discussed during feedback sessions. Moreover, it is believed that the review of checklists during feedback sessions granted greater transparency to the process and even allowed for self-assessment.

The teacher, based on this experience, concluded that an essential element to consider when planning for feedback is the organization of a second or even third opportunity to use feedback and perform. Only if students have the chance to demonstrate their learning, feedback will be successful.

The limitations of the study were also acknowledged by the teacher. In the first place, we shall remember that action research does not aim to obtain generalizable scientific knowledge, but it is more interested in knowledge for a particular situation or purpose (Richards & Nunan, 1990). The results of this action research process seek to suggest practices to approach feedback in b-learning courses. Nonetheless, the study is not as comprehensive as other published research.

It is important to mention that only one teacher assessed the drafts and final versions, and thus it is suggested that in future implementations two teachers carry out the process and results be compared to gain more insight about students' progress and achievement.

Additionally, retrospective comments during the reflection stage were made in the sense of the appropriacy of the design and implementation of a follow-up questionnaire to collect information about students' perception of the effectiveness of feedback and their learning after these specific procedures. Therefore, if a similar study is carried out, it is suggested that such instrument is included.

Despite its limitations, the practical significance of this action research study lies in the opportunity to improve the teaching-learning process in a b-learning course by means of effective feedback. It also stresses the importance of teachers mastering feedback skills to positively impact students' learning.

This study represents a modest contribution in the creation of knowledge by opening it to discussion and scrutiny. The results presented here echo effective practices for effective feedback proposed by influential authors and more comprehensive studies and it may be used as a reference in other pedagogical action research.

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