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THE ABILITY TO LEARN FROM FEEDBACK AND ITS IMPACT ON THE PERCEPTION OF LEARNING

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Abstract. The study described in this article is part of the PhD research work "Model to develop the ability to learn from feedback and improvement in the performance of students in higher education in Guatemala", conducted in a private university in Guatemala. It is important to highlight that this article is part of a series of articles. Several studies, such as Hattie and Timperley (2007) that emphasize that effective feedback is the most powerful factor to achieve learning, motivate the present study whose aim is to analyze the effect on the learning of professors when applying the Hope Model, proposed by the author as part of her PhD research. This model focuses on reducing the discrepancy in a task from its comprehension, its execution and the obtained performance, against the learning objectives and competencies to be achieved, through the feedback that the professor provides to the student in a planned and intentional manner. The Hope Model was applied in a virtual course with a group of volunteer university professors. Upon completion, they were surveyed to evaluate their experience with the Hope Model. The correlation between the different variables was analyzed. The highest correlation index is between the ability to learn from feedback and the perception of learning. There is evidence of a strengthening of the ability to learn from feedback, which is related to the perception of learning.

Keywords: Feedback information, ability to learn from feedback, learning.

LA DESTREZA DE APRENDER DE LA INFORMACIÓN DE RETORNO Y SU IMPACTO EN LA PERCEPCIÓN DEL APRENDIZAJE

Resumen. El estudio descrito en este artículo forma parte del trabajo de investigación doctoral "Modelo para desarrollar la destreza de aprender de la información de retorno y la mejora en el rendimiento de los estudiantes en la educación superior en Guatemala", llevado a cabo en una universidad privada de Guatemala. Es importante resaltar que este artículo es parte de una serie de artículos. Diversos estudios, como Hattie y Timperley (2007) que resaltan que la retroalimentación efectiva es el factor más poderoso para lograr el aprendizaje, motivan el presente estudio, cuyo propósito es analizar el efecto en el aprendizaje de los profesores al aplicar el Modelo Hope, propuesto por la autora como parte de su investigación doctoral. Este modelo se centra en la reducción de la discrepancia existente en una tarea desde su comprensión, su ejecución y el rendimiento obtenido, contra los objetivos de aprendizaje y

competencias a alcanzar, por medio de la retroalimentación que el profesor proporciona al estudiante de forma planificada e intencional. Se aplicó el Modelo Hope en un curso en modalidad virtual con un grupo de profesores universitarios voluntarios. Al terminar el mismo, fueron encuestados para evaluar su experiencia con el Modelo Hope. Se analizó la correlación entre las diferentes variables. El mayor índice de correlación se da entre la destreza de aprendizaje de la información de retorno y la percepción del aprendizaje. Se evidencia un fortalecimiento de la destreza de aprender de la información de retorno, la cual tiene relación con la percepción de su aprendizaje.

Palabras clave: Información de retorno, destreza de aprender de la información de retorno (feedback), aprendizaje.

Introduction

Through different consultations with authorities from Guatemala's Higher Education and other related institutions, there is a proneness in professors to use the teaching-learning model focused on themselves, based solely on summative assessments, with little or no feedback information favoring the student's learning. According to Killian (2017), the factors with the greatest impact in learning are those related with the professor's role in providing information feedback, and the student's behavior for evaluating such information, as well as the self-regulation and self-control elements for their own learning.

Barrios & Uribe (2017) consider that the SRLP (self-regulation of the learning process) is a psychological construct that refers to the process through which students configure their activity and organize their environment, seeking to achieve the objectives suggested from the feedback, or before an academic activity, in an autonomous and motivated way.

Torrano, Fuentes & Soria (2017) reported that *self-regulated learning* not only produces better academic results, but also greater autonomy and motivation, as well as the main idea in the learning process and a necessary capacity for transfer before different real-life situations.

A low cost feedback model, implemented by stages and easy to understand, is considered to have a tremendous impact on the student's academic performance within a short time, being useful for their professional future.

Studies that highlight the fact that information feedback enables students to self-regulate their learning and correct their plan of action in terms of achieving their educational intentions, as well as the professor being the one who regularly offers the information feedback to the student –as with Ferrell (2012)–, encourage the present study, whose aim is to analyze the effect of the professor's learning when the Hope Model is applied as a tool to guide students through feedback in order to achieve excellence in the performance of the different tasks requested to demonstrate their learning, since professors must learn to provide feedback in an efficient manner. This model focuses on facilitating professors with providing students the feedback that will enable them to reduce the existing discrepancy in a task, from its understanding, implementation and the performance obtained from it when it is executed, against the learning objectives and competencies to be achieved.

The study is intended to demonstrate the effect on the professor's learning perception as a result of the implementation of Hope Model as a tool for guiding students by using feedback in order for them to achieve performance excellence in the

different tasks requested to demonstrate their learning. To reduce this gap in the expected performance, the student will be required to work and look for new strategies to accomplish the corresponding task. The professor his/herself must make an effort in providing challenging goals, assistance through strategies and feedback for improving the student's performance. To this end, effective feedback must answer three questions: Where are they headed? How are they doing? What path are they following? When providing feedback, the professor must consider and keep each of the following levels in mind: Task, Process, Self-regulation and Personal Consideration.

What is the difference between this model and the existing ones? Why starting from this one? It is focused on understanding everyone involved in the process, students, professors and academic-administrative staff, of why it is important to provide effective feedback in order to produce true learning. In addition, the relevance of believing that everyone can improve and that there is always the possibility and opportunity of doing so. How to continue in it? It is not enough in knowing the reasons why feedback should be provided. That is why the model presents how to offer feedback, from the design of programs, careers and courses. It must be intentional. If we know our destination from the very beginning, everyone will focus on it. It will provide a driving force of intrinsic motivation for the community to achieve its goals and objectives. The model provides effective tools and techniques for feedback and self-regulation.

Research taken into consideration in the Hope Model

The competency that was sought to be strengthened throughout the course for professors was: Designing the course program based on the Hope Model so as to provide effective feedback of the learning process and the student's performance in higher education. See the appendix for the competencies and achievement indicators of the course.

One of the research with the greatest contribution included in the study is that of Hattie and Timperley (2007), which states that feedback is related to three questions and four dimensions; the questions are the following: Where am I headed? What are the objectives? How am I doing? How is my progress toward my goal? Where to? What activities should be taken into consideration to demonstrate progress? Each question has an impact on the level of the dimensions: Task performance, task comprehension processes, self-regulatory or meta-cognitive process, and the person as such. Based on the previous sentence, it is highly relevant to include the feedback dialog into the proposed feedback model: With the goals: Where am I headed?; With the progress: How am I doing?; With the improvement: What should I do? In each of the proposed dimensions. These comments help in reducing the gap between understanding the current performance and the learning's objective.

The study from Lake, Boyd, and Hellmundt (2017) presents a model of immediate feedback assisted by computer. The conventional feedback process model is presented, where the student has the support from the professor, the pedagogical mediation and the activity to carry out, so as to complete the learning process, and achieve competence in this way. It also presents the conventional delivery, which is supported by a feedback process for improvement. Lastly, they propose immediate feedback via computer assistance, which through a survey, includes a broadening of the classroom activity that enhances the student's understanding through a database, ensuring the implementation's success. The results of the study support that feedback is an important process, and that comments assisted by computer, which become

opportune for each question, help students to become more competent and confident, entrenching the self-assessment abilities of their own learning processes. Given these results, it is considered that the addition of immediate feedback makes it possible for the proposed model to provide a standardized way of feedback assisted by computer, when carrying out feedback based on the following questions: Where am I headed? How am I doing? What follows? For each moment of it.

Marchena and Martínez (2016) present a study that analyzed the students' perception in the use of survey-type gamification tools with mobile devices to enhance their learning, when used for facilitating feedback after having concluded their work sessions in the classroom. Its aim is to analyze the characteristics, advantages and possibilities offered by Kahoot and Socrative, two gamification tools.

Crommelinck and Anseel (2013) conducted a review of the literature, using a self-motivation framework. They concluded with six practical recommendations for medical educators on how to encourage openness behavior for feedback seeking behavior. In addition, they provided practical recommendations for medical educators on how to encourage behavior in the search for feedback. To get a better understanding of feedback seeking behavior, the authors applied a self-motivation framework. They defined feedback seeking behavior through this conceptual lens, and revised its antecedents and consequences. They provided an overview of the key findings and answered a series of unresolved issues in the literature. In the end, they presented six ideas based on evidence for encouraging feedback seeking behavior in practice. They also presented a self-motivation framework for solving these problems and stimulating future research. These six ideas were the keys to define the strategies for the model to encourage or strengthen the ability to learn from feedback, where feedback seeking behavior is essential.

What pedagogical principles should govern the proposed model? What are the didactic methodologies for its application? What is the conception of the teaching-learning process?

For Hattie and Timperley (2007), effective feedback is the most powerful element for achieving learning. Students focused on picking up those signals as to what will be included in the test and study accordingly, perform much better than those who do not. Students often realize that this form of study is not the same as studying as a professor, in other words, understanding and applying the course material. Students prefer courses that include a significant component, the feeling that these courses provide them with more practice and feedback and a more justly evaluated. The feedback is related to three questions and four dimensions. The questions are the following: Where am I heading? What are the objectives? How am I doing? What is my progress toward my goal? Where to? What activities should be carried out to demonstrate progress? Each question has an impact on the level of the dimensions: Task performance, task comprehension processes, self-regulatory or meta-cognitive process, and the person as such.

Mayer and Alexander (2016) propose the visible learning model that emphasizes mindsets, the value of encouraging students to see the power of teaching others.

Lake, Boyd, Boyd and Hellmundt (2017) reported that professors can choose a certain amount of learning activity evidence, which are basic for achieving the course competencies and so design an immediate feedback survey supported by computers.

The benefits identified by this study, will also enable the process of delivering the feedback information to be accelerated.

Morales (2010) presents a model focused on visualizing the professor and student role as a starting point, since it links the evaluation's power of conditioning.

Thomas and Arnold (2011) propose an algorithm for providing feedback. They likewise highlight the importance of determining the right amount of information, addressing how this affects the receiver and preparing a plan for the next steps. This is based on the effect of emotions and the difficulties of providing feedback, as well as the necessary communication abilities.

Stone and Heen (2014) present tools to provide and receive information feedback.

Cho and Heron (2015) explain how motivation –in particular, self-efficacy for learning– significantly contributed to explaining performance.

Shrivasta, Shrivasta and Ramasamy (2014) identified five key aspects for the behavior of openness in the search for information feedback: the method used to obtain feedback, the frequency of the feedback seeking behavior; the time and the characteristics for the feedback seeking behavior and the subject within which it is being sought after.

Crommelinck and Anseel (2013) proposed practical recommendations for medical educators on how to promote openness behavior toward feedback seeking behavior.

Anseel, Beatty, Shen, Lievens and Sackett (2015) in relation to the openness toward FSB (feedback seeking behavior) present strategies for encouraging feedback seeking behavior, for example: defining the learning and performance objectives, providing external and frequent feedback, applying well-established intervention programs so as to increase self-efficacy and self-esteem, and model a transformational leadership style.

Broquet and Punwani (2012) conclude that recognizing any anxieties that students may have, encourages a learning culture that values feedback as an important and expected part of all programming, ensuring that all students (and supervisors) are trained in feedback techniques and configuring the elimination of expectations, may improve the feedback reception experience.

Ferrell (2012, p. 7) points out the principles that reflect thought and have influenced projects within the REAP program (RE-Engineering Assessment Practices Principles). See their proposals with regard to the assessment tasks in Table 1.

Table 1
Proposals with regard to the assessment tasks

The student spends enough time and effort of study within and outside of class.	Facilitates the development of reflection and self-assessment for learning.
Distributes the student's efforts evenly through topics and weeks.	Delivers high-quality feedback to students: so that they may correct themselves.
Engages students in activities of profound learning and not just	Encourages dialog around learning (peers and student-tutor).

superficial learning.	
Communicates clear and high expectations for students.	Encourages positive motivational beliefs and self-esteem.
Provides information that professors can use to help shape their teaching.	Provides opportunities to act in accordance with the feedback information.
Clarifies what good performance is (objectives, criteria, standards).	

Note: Source: Ferrell (2012, p. 7).

Merrill (2002) handles five principles for promoting learning: 1. Students participate by solving real-world problems, 2. Knowledge is activated as the basis for new knowledge, 3. The new knowledge is demonstrated to the student, 4. The new knowledge is applied by the student and 5. The new knowledge is integrated into the student's world.

Gibbs and Simpson (2004) provide keys for being a better receiver of feedback information in their study: The amount and distribution of the student's effort, quality and level of effort, amount, timing and quality of feedback.

Contreras-Perez and Zúñiga-González (2017) assert that the educational system must have a standardized criteria for evaluating, designing and implementing an adequate system for collecting information and establishing information communication strategies for students to learn via a better way. They will therefore be considered in the proposed model.

Boud and Molloy (2013) compared the traditional model, where the improvement process was done by the professor through comments that provided the students with information about the gap between their performance's actual level and reference level, versus the feedback model as a sustainable model which seeks to involve the student as the center of the process, develop the capacity to assess their own learning, develop abilities that will help their continuous learning and implementing evaluation tasks to facilitate their commitment. To do this, the student's profile must be taken into account, as well as any prior knowledge that they have and integrate the study to promote a successful learning process. They also indicate that verbal feedback during practice deviates considerably from the principles of effective practice, and conclude that the feedback is often not well done in education, being it unlikely that ignorance of the principles of effective practice is the main cause for the reported deficiencies.

Nakanishi (2007) recommends stimulating feedback between peers, self-assessments and by the professor.

Nicol (2011) proposed co-evaluation between peers to develop or strengthen self-regulation abilities through the feedback made about the works of other colleagues.

Ion, Silva and Garcia (2013) proposed the use of a technological tool that not only enables professors the possibility of detecting errors to correct them, but also anticipate them so that they do not occur. Connecting as well the learning tasks with the general and specific professional abilities to achieve.

Sadler (2013) suggests establishing and revising the feedback and abilities vocabulary for them to evaluate themselves and understand the feedback information.

Martínez-Rizo and Mercado (2015) mention that a key obstacle for the successful implementation of the feedback process is the lack of weakness in the competences of professors to provide feedback that includes identifying the gap between actual and expected performance. They propose integrating the design of learning evidence tasks with a high cognitive demand to the proposed model; this enables an effective feedback process, which requires the professor's training for them to be able to provide it.

Cabrera and Mayordomo (2016) stated that in order for the feedback process to be transformed into an improved future performance, it must be a sustainable system where the students achieve to obtain quality results, develop their self-assessment abilities, the capacity to establish objectives and plan learning processes, becoming interested and committed to the assigned task to make of the model a sustainable system that includes technological support that ensures effective feedback.

Methodology

The study described in this article is part of the PhD research work, whose overall objective is to establish the design of a model for strengthening the learning abilities from feedback information. One of the specific objectives of the PhD research work is to implement, execute and validate the designed model. It describes part of the work carried out for implementing and executing the proposed Hope Model. It is important to note that this article is part of a series of articles, and for this reason, the conclusions refer only to the specific topic.

It was selected an intentional sample of 25 professors from the School of Education from the Mariano Gálvez University's Faculty of Humanities, with undergraduate and graduate students who met the input profile, out of a total of 71: 34 graduates and 37 undergraduate students. 25 professors were invited to participate in the Hope Model course, of which 19 accepted. 17 volunteer professors completed the course of five weeks' duration, in virtual mode to implement the HOPE model with their students. 18% of the sample were males and 82% were females. The majority of professors are within the age range of 51 to 60 years old (47%), in each of the ranges: of 21 to 30 (6%), 31 to 40 (12%), 41 to 50 (18%) and 61 to 70 (17%). Refer to Chart 1 for the distribution of professors by gender and age. All professors have at least a Master's Degree in Education.

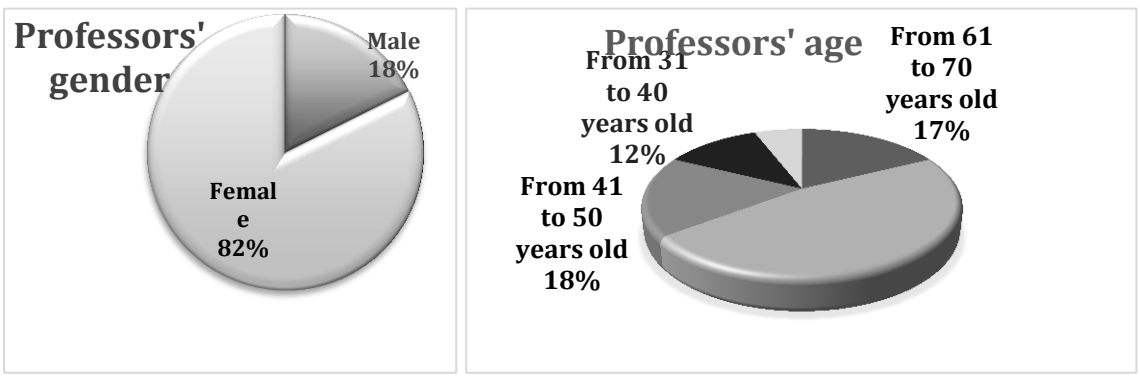

Figure 1: Distribution of professors by gender and age

Note: Source: Own source

The Hope model was the basis for the design and implementation of the course, and for the learning and application mediation with each group of students in charge of such professors. The model's implementation was worked through a project as a product of learning. Partial progress deliveries about the project were programmed in each week, corresponding to the course's design and the implementation of each of the model's stages.

When completed, a questionnaire was delivered to evaluate the professors' experience with the Hope Model, focusing on the feedback and feedback information received. This questionnaire consisted of 20 questions based on the Assessment Experience Questionnaire (AEQ) submitted by Núñez and Reyes (2014) and the definition as proposed by Crommelinck and Anseel (2013). To get a better understanding of the feedback seeking behavior, these authors applied a self-motivation framework. They defined feedback seeking behavior through this conceptual lens, and revised its antecedents and consequences. Two questions were added, one related to the satisfaction about their learning, and the other with their satisfaction with their performance. Review the questionnaires in the appendix, which used a Likert scale from Strongly agree (5), Agree (4), Neither Agree nor Disagree (3), Disagree (2), Strongly Disagree (1).

The questionnaire assessed two dimensions: the ability to learn from the feedback information, and the cost of the feedback information. This was measured through questions 1 to 9 of the questionnaire. See Table 2.

The cost of the feedback was measured through questions 10 to 16 of the questionnaire, with a negative weight, in other words, the scale was reversed. See Table 3.

The perception on learning was measured through questions 17 to 21. Refer to Table 4.

A grade was assigned (0 to 100) to the tasks carried out during the course of the Hope Model. Rubrics and different tools were used to evaluate the achievement levels for the competencies by way of the achievement indicators. The results obtained by the professors during the course of the Hope Model and in the feedback information experience questionnaire were subsequently statistically analyzed.

Table 2
Questions 1 to 9 measure the Abilities to learn from the feedback information

Num.	**Question**
1	I valued the feedback information received as a way for improvement
2	The feedback information I received reduced uncertainty in relation to the tasks and my learning
3	Carefully analyze the information received from the feedback information
4	I answered my doubts with regards to the feedback information as a way of improving my future performance
5	I planned for future actions based on the feedback information received
6	I acted in accordance with the plan to improve my task
7	I reviewed having covered all aspects to be improved upon reviewing the task

	again
8	I connected the feedback information received with my performance in future tasks and in my professional practice
9	I will apply the lessons learned from the feedback information received to my professional practice

Note: Source: Based on the Assessment Experience Questionnaire (AEQ) submitted by Núñez and Reyes (2014).

Table 3
Questions 10 to 16 measure the Cost of Feedback

Num.	**Question**
10	I believe that I can't change my performance
11	I think that it requires little or no effort to achieve good performance
12	I believe that asking for feedback damages my image before others
13	I am only interested in the grade
14	I believe that the grade is a good performance indicator
15	I found it difficult to accept negative comments about my performance
16	The feedback information was of no use to me

Note: Source: Based on the Assessment Experience Questionnaire (AEQ) submitted by Núñez and Reyes (2014).

Table 4
Questions 17 to 21 measure the Perception of learning

Num.	**Question**
17	I believe that my performance in the course was excellent
18	I believe that I learned a lot during the course
19	In general, I am satisfied with my performance in this course
20	In general, I am satisfied with what I learned in this course
21	I believe that I learned from the feedback information I received

Note: Source: Based on the Assessment Experience Questionnaire (AEQ) submitted by Núñez and Reyes (2014).

Results

Analysis of the Pearson correlation coefficient were carried out between the variables: The ability to learn from the feedback information, the cost of feedback information and the perception of learning during the course and the grade received, whose results are presented in table 5. An analysis on the groups by gender and age was also carried out.

Table 5
Pearson correlation coefficient between the variables

Variable x	***Variable y***	R^2
Ability to learn from the feedback information	Cost of the feedback information	0.08745726
Cost of the feedback information	Course grade	0.0936404

Ability to learn from the feedback information	Course grade	0.1295789
Course grade	Perception of learning	0.26518739
Cost of the feedback information	Perception of learning	0.27276445
Ability to learn from the feedback information	Perception of learning	0.47411825

Note: Source: Own source.

By way of analysis, the correlation is 0.087 between the ability to learn from the feedback information and the cost of the information feedback, which is why it is considered to be a positive correlation.

Between the cost of the feedback information and the course grade, the correlation is 0.093, by which it is considered a positive correlation.

There is 0.129 between the ability to learn from the feedback information and the course grade, by which there is a positive correlation.

Between the course grade and the perception of learning, the correlation is 0.265, by which there is a positive correlation.

Between the cost of feedback information and the perception of learning, the correlation is 0.272, by which there is a positive correlation.

Between the ability to learn from the feedback information and the perception of learning, there is a correlation of 0.474, by which there is a positive correlation.

We can conclude that the highest rate of Pearson's correlation occurs between the ability to learn from the feedback information and the perception on learning of 0.6886 and its square of 0.4741. Note chart 2, where we can see that both charts are almost identical.

As seen in chart 3 and 4, the course grade is not closely linked to the ability to learn from the feedback information nor with the perception of learning.

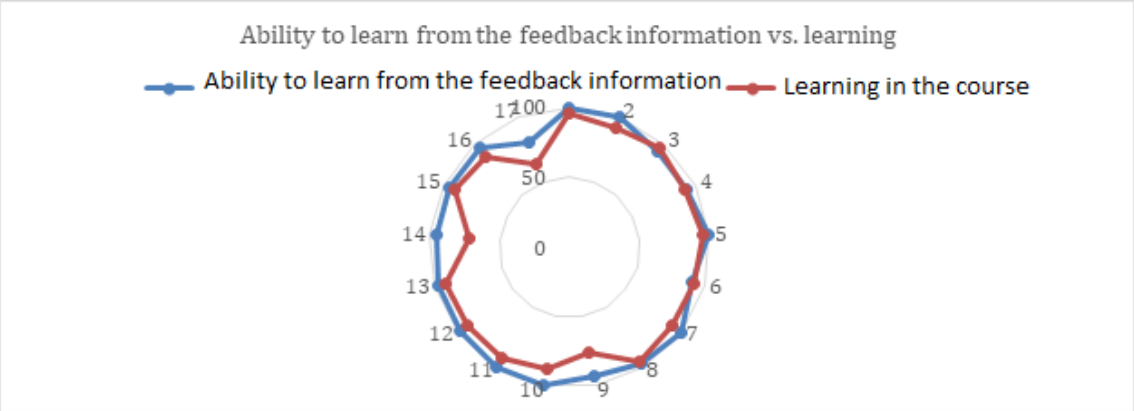

Figure 2. Ability to learn from the feedback information vs. perception of learning.

Note: Source: own source.

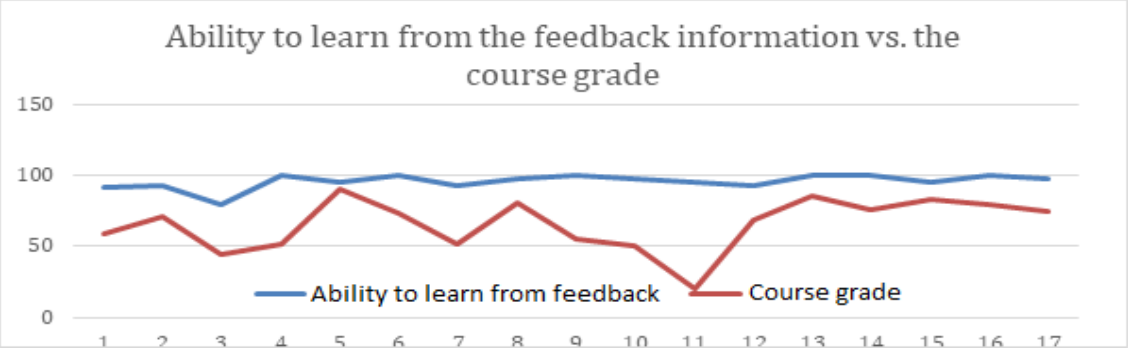

Figure 3. Ability to learn from the feedback information vs. the course grade

Note: Source: own source

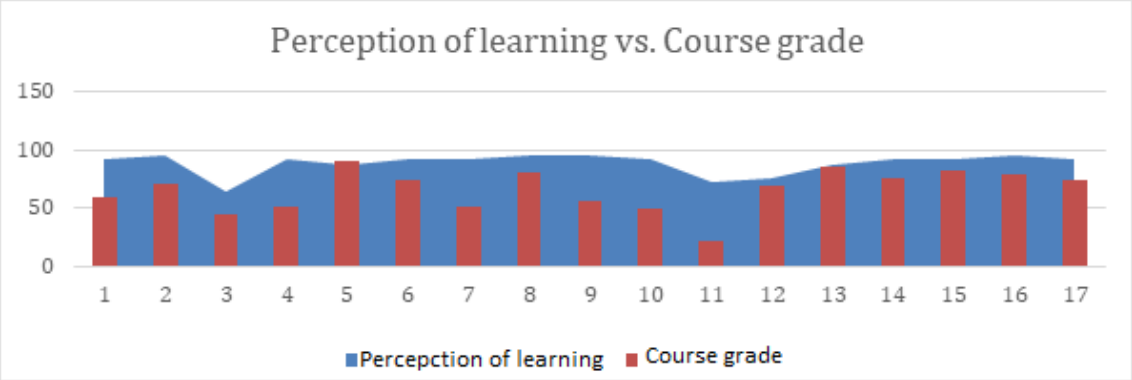

Figure 4. Perception of learning vs. course grade

Note: Source: own source.

It was therefore decided to determine the significance of the correlation coefficient between the ability to learn from the feedback information and the perception of learning, through the formula:

$$t = \frac{r_{xy} - 0}{\sqrt{\frac{1 - r_{xy}^2}{N - 2}}}$$

$$t = \frac{0.6886 - 0}{\sqrt{\frac{1 - 0.4741}{17 - 2}}} = 3.6774$$

We searched the t Student table, to determine the significance of the correlation coefficient for $\alpha = 0.05$ and 17-2 = 15 degrees of freedom, obtaining 2.131. Given that 3.6774 > 2.131 the null hypothesis is rejected with a risk (maximum) of error of 0.05. The correlation is not from a population characterized by a correlation of zero. It is therefore concluded that both variables are related.

Discussion and conclusions

Below is the analysis for the results of the questions that support the article. Refer to Table 6, which contains questions directly related to the ability to learn from the feedback information and the perception of learning. Questions 1 and 9 received 100%, that is to say, the maximum grade by all participants. It can be concluded that all participants appreciate the feedback received for improving, and wish to apply what they have learned into their professional practice. In addition, question 18 obtained a 98%, in other words, participants felt that they learned a lot during the course, and question 21, a 95%, for their perception of learning from the feedback received.

Table 6
Questions with the highest grades

Num.	Question	Average over /5	Percentage
1	I valued the feedback information received as a way for improving	5	100%
9	I will apply the lessons learned from the feedback received into my professional exercise	5	100%
18	I believe that I learned a lot during the course	4.88	98%
21	I believe that I learned from the feedback information I received	4.76	95%

Note: Source: Own source.

Refer to Table 7. Questions 12 and 13 received the lowest grade, 1.88 of 5 (38%). They are related to the cost of receiving feedback. This denotes that the participants valued the feedback information, but the cost for receiving it is low, demonstrating their ability to learn from the feedback information.

Table 7
Questions with the lowest grade (Cost of feedback)

Num.	Question	Average Over /5	Percentage
12	I believe that asking for feedback damages my image before others	1.8824	38%
13	I am only interested in the grade	1.8824	38%

Note: Source: Own source

In this group of professors, the grade from the course did not necessarily predict learning during the course, measured from the perception of learning by the same professor. In addition, it had no impact on the perception of their learning, in other words, those that perceived greater learning did not necessarily obtain higher grades.

The cost for the feedback information did not have a strong correlation neither with the grade for the course nor with their perception of learning. This might be

explained due to the fear of showing ignorance of a subject before their peers, or other fears.

We can see a development or strengthening of the ability to learn from feedback, which is related to the perception of their learning.

We analyzed the comments in the questionnaire made by the professors. To the question: What would you like to do with the way in which the feedback received was helpful in your learning during the course? 100% of the surveyed expressed their intention to apply it with their students.

To the question: What would you improve about your performance if you could retake the course? 53% of participants said they would devote more time. 30% indicated that they would improve aspects of their own implementation of the model, such as "Connecting the *feedback* and *feedforward* processes with the competencies, indicators, tasks and assessment tools."

Within the strategies that professors could apply to improve their performance for implementing the model, is for its implementation to be planned based on the course's design; this will enable them to strengthen learning through the feedback information, since they will have clear and focused learning goals.

It is evident that the participants feel fear of expressing a mistake, which they can strengthen through feedback focused on the development of the staff working on the model.

The concluding comments were aimed at personal reflection and the opportunity of reviewing their practices so as to improve the process of providing feedback to the students, and implementing it in all courses.

Multiplying the model so that other professors may benefit from this knowledge was demonstrated as being important, since it motivates them to become better, enabling them to achieve the evident high performance. They mention that they will seek further supporting information to improve the model's implementation and provide a more detailed follow-up of the learning processes.

The Hope Model is under construction, with other aspects having being worked on to better calibrate it, though this study shows its effectiveness to some degree.

In the implementation of a new virtual course cohort for professors, its duration should be assessed so as to enable enough time for its implementation, reflection and continuous improvement.

Conclusions

- The course grade does not necessarily predict the learning process.
- Participants value the feedback information received for improving their performance, and wish to apply what they have learned in their professional practice.
- The course in which they have participated and received feedback information from, enabled learning to be carried out in a better way.
- Participants value the feedback information because the cost of receiving it is low and also demonstrates their ability to learn from that feedback information.

- The results show a development or strengthening of the ability to learn from feedback, which is related to the perception of their learning.
- The participants showed motivation for better understanding the model so as to implement it in the best way possible in all courses.

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Annexes

Annex 1. Course objectives and content

Learning Competence

Designing the course program based on Hope's Model so as to provide effective feedback of the learning process and the student's performance in higher education.

Achievement indicators

Week 1: The professor:

- Knows the HOPE model.
- Applies feedforward as a part of the feedback process when executing the tasks assigned to the students, by which they may connect the student's present with their future.

Week 2:

The professor:

- Applies strategies to encourage the student's mindset growth.
- Uses appropriate language to perform effective feedback.
- Understands the language used in the feedback and acts accordingly.

Week 3:

The professor:

- Links the competencies and achievement indicators with the feedback process to achieve expected performances.
- Uses the assessment tools assigned to the course tasks as a fundamental part of the feedback and improvement guidance process of these, and in the student's performance.

Week 4:

The professor:

- Links the competencies and achievement indicators with the feedback process to achieve expected performances.
- Uses the assessment tools assigned to the course tasks as a fundamental part of the feedback and improvement guidance process of these, and in the student's performance.

Week 5:

The teacher delivers the final draft of the practicum developed during the training.

Contents

The contents worked on during these 5 weeks to embark on the path of the HOPE feedback model are:

- What is the HOPE model?, How do I connect the students' present with their future to motivate them to improve their performance? Feedforward

- How do I encourage growth mindset in my students? Growth mindset, Feedback Language
- Assessment and feedback (professors)
- Assessment and feedback (professors)
- Final project presentation
- Course closure

Distribution of hours per week for the student

This course will be carried out in virtual form and will require the student's participation of at least 12 hours per week, 2 daily from Monday to Saturday. This is the minimum time required for reading, reading tasks, participation in forums and preparing the practicum project.

Annex 2. HOPE Model: Contextualized questionnaire

Ability to learn from the feedback information questionnaire

Complete Name:
Professor Code: Gender: Age:
Select the column from each item in accordance with the learning assessment experience that was achieved in the course:

Num.	Item	I totally agree	I agree	Neither agree nor disagree	I disagree	I totally disagree
1.	I valued the feedback received as a way of improving					
2.	The feedback I received reduced my uncertainty in relation to the tasks and my learning.					
3.	I carefully analyze the information received from the feedback information					
4.	I resolved my doubts with regards to the feedback information received as a way of improving my future performance					
5.	I planned for future actions based on the feedback information received					
6.	I acted in accordance with the plan to improve my task					
7.	I reviewed having covered all aspects to be improved upon reviewing the task again					
8.	I connected return information received with my performance in future tasks and in my professional exercise					
9.	I will apply the lessons learned from the feedback information received to my professional practice					

Num.	Item	I totally agree	I agree	Neither agree nor disagree	I disagree	I totally disagree
10.	I believe that I can't change my performance					
11.	I think that it requires little or no effort to achieve good performance					
12.	I believe that asking for feedback damages my image before others					
13.	I am only interested in the grade					
14.	I believe that the grade is a good performance indicator					
15.	I found it difficult to accept negative comments about my performance					
16.	The feedback information was of no use to me					
17.	I believe that my performance in the course was excellent					
18.	I believe that I learned a lot during the course					
19.	In general, I am satisfied with my performance in this course					
20.	In general, I am satisfied with what I learned in this course					
21.	I believe that I learned from the feedback received					

Comments that you would like to make about the way in which the feedback information received was useful for your learning during the course, or what you would improve in your performance if you could retake the course.

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