



REPÚBLICA DEL ECUADOR

UNIVERSIDAD ESTATAL DE MILAGRO

VICERRECTORADO DE INVESTIGACIÓN Y POSGRADO

**ARTÍCULOS PROFESIONALES DE ALTO NIVEL PREVIO A LA OBTENCIÓN
DEL TÍTULO DE:**

**MAGÍSTER EN ENSEÑANZA DE INGLÉS COMO LENGUA
EXTRANJERA**

TEMA:

Peer Assessment Improving Writing Skills In EFL Students

Autor:

**Larrea Llerena Priscila Asunción
Macías Pino Bruno Fabio**

Director:

MSc. Frans Recalde García

Milagro, 2025

Resumen

El siguiente estudio analiza el impacto de la evaluación por pares en la mejora de las habilidades de escritura académica. Dicha evaluación permite a los estudiantes revisar las tareas de otros compañeros en un ambiente controlado por el uso de una rúbrica, brindando retroalimentación de cada actividad y usando el proceso como estrategia de aprendizaje. Esta investigación examina cómo las sesiones controladas y estructuradas de revisión por pares mejoran la capacidad de los estudiantes para escribir mejor y desarrollar sus actividades de escritura. Los participantes fueron incluidos en dos grupos de diferentes clases de alrededor nueve estudiantes del mismo nivel, que participaron en actividades diarias durante una semana. El estudio utilizó un enfoque de métodos mixtos, combinando el análisis cuantitativo de las puntuaciones de escritura previas y posteriores a la intervención con datos cualitativos de una encuesta de los estudiantes. El resultado indica que los estudiantes participantes demostraron mejoras en la organización, estructura de los párrafos y precisión gramatical en comparación con aquellos que sólo recibieron comentarios de su maestro en el aula.

Dentro de los desafíos encontrados tenemos la desconfianza en el criterio de otros pares y la necesidad de recibir únicamente retroalimentación positiva. Se concluye que, la evaluación entre pares es una herramienta que puede conducir a un mejor aprendizaje y que podría ser incluida al diseño curricular para que los maestros permitan que los estudiantes exploren esta habilidad de aprendizaje innovadora y cambien el esquema de una clase centrada en el docente a uno más colaborativo.

Palabras claves

(habilidades de escritura, evaluación, evaluación en pares, rúbrica)

Abstract

The following study analyzes peer assessment's impact on improving academic writing skills. Peer assessment allows students to review tasks from other classmates; this is a controlled environment where students can evaluate each other's work to give feedback on each activity, working in class as a learning strategy. This research examines how controlled and structured peer review sessions improve students' ability to write better and develop their writing activities. Participants included two groups of around nine students of the same level

but from different classes, who engaged in daily peer assessment activities for over a week. The study uses mixed methods to reach the result, incorporating quantitative analysis of pre-and post-intervention writing scores with qualitative data from a students' survey. The outcome indicates that students who participated in peer assessment demonstrated improvement in organization, paragraph structure, and grammatical accuracy compared to those who only had feedback from their teacher in the classroom.

Furthermore, peer assessment helps students learn how to follow a rubric format. However, there were some challenges, such as mistrusting the criteria of other peers and the need for positive feedback. This research concludes with recommendations for adding peer assessment into curriculum design so that teachers feel encouraged to let students explore this learning skill in class. By making students think outside of the box and changing the aim from a centric class focus on the teacher to a more collaborative one, peer assessment is a tool that can lead to better learning.

Keywords

(writing skills, assessment, peer assessment, rubric)

Introducción (objetivo del artículo)

Learning English is a field that is expanding greatly throughout countries. As the world's lingua franca, English is used for academic purposes and diplomatic talks. Consequently, people need to learn the language appropriately to communicate with others. (Achieng, 2023) Different skills are used in the language, such as listening, reading, and writing. This research concentrated on applying peer assessment to provide meaningful feedback between peers and improve writing skills.

Working with peers allows students to give and receive feedback from people of the same position and level. Teachers guide students in actively collecting information to give feedback. Furthermore, feedback is a complex system that can have different results according to how it is applied to students and it is more effective when it contains more

information (Wisniewski et al., 2020) Therefore, using feedback can enhance students' improvement.

Research on the same topic by Abad (2022) and Salem Almahasneh & Abdul Hamid (2019) states that peer assessment showed positive results in the final result, showing that students presented difficulties initially. Although the struggle of trusting one with the same level appeared in the present work, students got used to the idea through examples and talks, and with practice, they worked more confidently.

Marco teórico

Literature review

Nowadays, English has become a required subject in schools worldwide. As Al-Atabi puts it, "English is our major window into the world" (2020). This is due to the importance of learners communicating in different contexts in many countries using English, from effortless conversations to formal ones. Therefore, it is necessary to remember that learning a foreign language, such as English, includes a variety of skills, such as speaking, listening, reading, and, more importantly, writing.

According to Al-Atabi (2020), writing uses symbols, letters of the alphabet, punctuation, and spaces to communicate thoughts and ideas in a form others can read. It is a form of communicating a person's thoughts using symbols representing a language.

People write more nowadays than in the past. Furthermore, it has become the principal form of communication in society, and people's writing is expected to make the first impression even before face-to-face contact. Thus, by improving written communication, people will feel more comfortable communicating with others. (UAGC Staff Member, 2021). (Olimovna, 2023, #) states that writing plays an important role in the formation of other abilities such as listening, speaking and reading skills. Nevertheless, writing is considered the

most challenging skill to assess and teach; it is the least exciting skill that makes students reluctant to complete assignments because of the complexity of achieving well-written tasks.

When students are learning a second language, it is relatively common for them to feel uncertain about what they write. This fear comes from making any mistakes that will leave them with a wrong impression and that writing work is a representation of themselves. (Johnson, 2012)

Gardner believes that a reluctant writer exhibits habitual barriers to writing, leading to incomplete or superficial writing over time (2011). This shows that an English learner can interfere with improving necessary writing skills by refusing to complete a task just for including writing.

Throughout the years, assessment has proved pivotal in achieving a meaningful learning process and improving the quality of education. Pierce (2002; cited in Kırmızı & Kömeç, 2016) highlights that assessment is a crucial part of any learning and teaching activity. It is well known that the appropriate assessment can result in a clear understanding of the problems, helping enhance the quality of education.

Assessment has a vital impact on the education process, informing teachers and improving ongoing learning, and plays a significant role (Cowie & Bell, 1999). Not only does assessment give teachers the necessary tools to identify the strengths and flaws of the students, but it also helps them with relevant feedback on daily basic instruction.

According to Wojtczak (2002), assessment aids teachers in recognizing their students' fragility and strengths and motivating them. This allows for changes to help the students achieve their capabilities. Educational assessments play a key role in the quality of students' learning, it acts as a measurement tool for teachers and institutions to evaluate learners. (Brown, 2022)

On account of its accuracy and effectiveness, peer assessment is considered fundamental for fostering student active involvement and reaching clear results regarding their learning process. It is possible to carry out a variety of activities such as writing, oral presentations, and tests. Peer assessment can be applied in different ways; however, it has proved to be successful when it comes to teaching. (Yin et al., 2022)

According to the article written by the Indeed Editorial Team (2024), peer assessment is an evaluation method that allows performance to be evaluated by learners of the same or similar status. Consequently, individuals can improve their work. Regardless of the goal of each learner, they can receive more accurate feedback from peers. Peer assessment is a powerful meta-cognitive tool.

Peer assessment training poses a convenient learning tool to improve students' understanding and retention of lessons learned from the teachers." (Salem et al., 2019) Regarding writing skills, peer assessment enables students to review their classmates as equals. Furthermore, students can reflect on their learning by focusing on their classmates' tasks. However, students must prepare to use rubrics to mark any requirement that the peer still needs to fulfill correctly.

The way English is taught has changed its primary focus. Initially, it was expected to have a teacher-focused classroom. However, these days, it is student-centered. Engaging learning activities provide a class with real-life situations that are essential in more profound learning (Balladares, 2023). Learners will benefit from meaningful learning that comes from real-life practice.

Nonetheless, there are specific issues with using peer assessment. Based on the research article made by, (Kangni, 2015, p. 480), the following three problems with students assessing their peers are mentioned, "students lack trust in whether they can provide feedback

to peers," "students failing to trust peer feedback," and "the absence of positive peer feedback."

These statements are based on the collective thought that the teacher is the central part of the class and is an "irreplaceable" figure in students' minds. As a consequence, peers do not trust others as evaluators. Moreover, students who check tend to focus on the errors rather than giving an accurate point of view.

A rubric is a common assessment tool in education and it is necessary to understand the limitations should not be understated nor limitations should be ignored. (Ling, 2024, 1-14) The word rubric has won an important role when it comes to transparency. If someone is unaware of the term, the online Cambridge dictionary defines it as "a set of instructions, especially on an exam paper, usually printed in a different style or color." Churches (2015) states that a rubric is a systematic method to collect data regarding knowledge and skills.

Teachers can also mention that using a rubric as an evaluation tool can be seen as trustworthy and clear. According to Silvestri & Oescher (2006), a rubric is often used to increase assessment transparency and decrease subjectivity. This way, students can be aware of the criteria that will be used to grade a task and give a particular grade, especially if it is given along with the functions. By using them, students will also receive feedback on their strengths and weaknesses. Also, teachers will know first-hand what to expect from their students.

In the mean of collecting data, nine students aged 18-25 from a Binational English Institute in Guayaquil, Ecuador were classified into two groups, experimental and control both of an A2 level in the length of a week of classes from unit 3 of their textbook based on advice and obligations.



To start with the implementation, it was necessary to first show students examples of what peer assessment meant, for this, pictures with examples were shown to students to clarify the type of performance expected from them.

In the beginning, both groups of students were introduced to the main topic of the unit, then they were given a diagnostic test where they had to create a composition based on a topic without further instructions using vocabulary of their own.

Every class started with the regular lesson plan, acquiring vocabulary and a grammar topic to use later on the paragraph they needed to write. On the second day of class, students completed the second paragraph, this time the class was about using should for advice and have for necessity, and writing a correct topic sentence for a paragraph. Students from both groups had to follow the instructions given (Appendix) Afterwards, the experimental group would receive the work of their classmates where they had to use the rubric provided.

On the third day, students learned about noun phrases with infinitives and how to write supporting sentences for a paragraph. Students from the experimental group then had to check their rubrics again with papers from other classmates.

On the fourth day, students learned about simple past tense and how to write a proper conclusion for a paragraph. Then, students would check their classmates with a rubric that compelled them to analyze newly learned information.

On the last day of the level, students learned the lessons necessary to improve their writing skills. They had one more final writing task integrating everything they learned during the unit. The same instructions as the diagnostic day were used for this writing task. After that, students checked and marked their classmates' work.

The experiment was analyzed for a week with the control group only receiving feedback from the teacher and the experimental group benefiting from peer feedback. Once the peer

review was finished, students were asked to share their thoughts with their partners about the mistakes they found while checking the assignment. The participants in the control group received feedback from the teacher.

Metodología

The main question of this research is:

What is the effect of using rubric-included peer assessment on improving the writing performance of EFL students with an A2 level?

Instruments

To answer this question, quantitative data collection was applied to this study. In addition, it was necessary to use rubrics at each stage of writing. Writing in the Doctoral Journey Qualitative vs. Quantitative Research: What's the Difference? Hoover (2021) writes that quantitative research requires a variety of data collection strategies including surveys. Two types of rubrics were used, the first is focused on the students and the peer assessment. This rubric (Appendix) consists of information about the paragraphs according to the class received on the day, whose main purpose was to analyze the differences between the assignments about the components in it. The criteria included in the rubric were task completion, vocabulary, grammar and accuracy, vocabulary, and spelling & punctuation with five performance bands, 0 being the lowest and 4 being the highest. For students to measure their peer assessment, they have three columns, in which they have to check between the options "Yes", "Sometimes", and "No". This survey tests how grades evolve through the innovation process.

Participants

The participants were formed by eighteen students between the ages of 18 to 25, whose first language is Spanish. They were selected from an institution that teaches English as a Foreign Language in the city of Guayaquil-Ecuador. The students were divided into two groups of 9 each sharing the same level of proficiency of A2 according to the CEFR (Common European Framework of Reference for Languages).

Each of the groups had a different examiner during the practices. The students were part of the seventh level in a course of eighteenth. The current level of the group is formed by four-week classes of two hours a week. The group is composed of a mixed socioeconomic status, and they are composed of five women and four men.

The group with no peer assessment is composed of nine members of which six members are women and three are men. All members of the groups understood and accepted.

Análisis de resultados

The information and data collected were processed and managed using spreadsheets from Google. The resulting data was processed considering minimum, maximum, mean, and standard deviation. As a result, the information collected was used to respond to the quantitative and qualitative questions of the research.

In order to answer the main question of the research: What is the effect of using rubric-included peer assessment on improving the writing performance of EFL students with an A2 level? A diagnostic test and a final test were implemented to get results on a possible improvement of the candidates of both groups of the research.

Table 1 shows the sample number and the mean of diagnostic and final tests. The effect size for the research results was 1,6458, which determines that a positive effect size was

obtained. Furthermore, the p-value resulted in 0,002 which means that the use of peer assessment had a positive effect on the improvement of the students. The data mentioned can be found in Table 1.

table 1

	N	M	SD	p value	Effect size d
	Sample	Mean	Std. Deviation	<0.005	
Diagnostic	9	14,44	2,21666	0,002	
Final	9	17,89	1,96889	0,002	1,645872812

Descriptive Statistics of Writing Diagnostic and Final Test

Note. Data collected by the author on the 11th. of November 2024.

The following table shows the sample number and the mean of diagnostic and final tests. The effect size of the research was 1,414213562, which determines that the effect received was positive. In addition, the p-value resulted in 0,049 which means that not including peer assessment was somehow positive when writing a text. However, the result indicates that applying peer assessment had a much more positive effect compared to not using it.

table 2

	N	M	SD	p value	Effect size d
	Sample	Mean	Std. Deviation	<0.005	
Diagnostic	9	13,67	1,56	0,049	
Final	9	14,78	0,79	0,049	1,414213562

Descriptive Statistics of Writing Diagnostic and Final Test without the rubric

Note. Data collected by the author on the 11th. of November 2024.

Discusión

What are the students' opinions on the use of peer assessment? At the end of the research, the nine students shared their opinions by answering questions about their experience using rubrics to peer assess their classmates. The questions were presented in Spanish to facilitate understanding. The questions were summarized by collecting the most important thoughts from students. In addition, students increased their communication interaction with peers, which improved their confidence when writing. The students responded to five open-ended questions and three multiple choices which are summarized here:

How did it feel to be evaluated by a classmate? Generally, students had the same opinion. They mentioned that they felt comfortable after the first session and liked to receive feedback from peers.

Do you feel that your writing skills improved with the feedback provided? All students agreed that they improved by selecting the “yes” option.

If your presentations have improved, do you believe that is because of the use of a checklist; teaching method; or peer interaction? Which of the options is the most difficult to check? Questions 3 and 4 were mixed between open-ended and multiple. Students had mixed responses, two of them being the most selected. Peer interaction and teaching method. None of the students felt that it was difficult to choose a response.

After the sessions. What do you think you have improved in writing? Most students agree that the use of the vocabulary was improved during the sessions due to the support of their classmates' advice.

Do you think you would have improved if you only work the activities without the feedback of your classmates? For these questions, many students shared that they might

have improved due to the classes. However, it was easier for them to use this interaction because they felt more comfortable seeing that someone apart from the teacher could point out their mistakes in order to improve.

Do you think that the three sessions of practice were enough to improve writing or do you think you need more time to practice? Students described that even though they wished they could spend more time with the sessions, they were glad to have participated in the sessions.

Conclusión

This project presents the effectiveness of peer assessment in improving students' writing skills compared with a group without peer assessment in the same time range with the same number of participants. In addition, the result of the study shows a remarkable difference between the group that applied the use of peer assessment and the one that did not. The results indicated higher scores using a rubric allowing students to give significant feedback on their partners' strengths. Moreover, this has demonstrated that it can be used as an effective tool for teachers to improve their students' writing skills through effective peer feedback.

The project was monitored throughout all the steps obtaining results pre and post the innovation to demonstrate that it can be used as a pedagogical strategy to engage learners with their writing skills. This demonstration highlighted the quality of using rubrics to ease the difficulty of assessing people from the same level. Furthermore, the use of innovation increased the confidence of students in checking back on their own mistakes as well as the rest of the class.

The students that were part of the research shared their opinions about the days practiced. The overall opinion of the students was that they felt comfortable after the first

session showing appreciation for the practices and the opportunity to improve their writing skills with the sessions. The overall result of the innovation not only shows the improvement in writing skills but also a positive development of students' confidence in their capabilities on that specific task.

Recommendations

The implementation of peer assessment for students to improve their skills by sharing their knowledge of the classes received with their classmates allowing them to review content from the class and apply it. In a planned class of a week, educators can separate a special writing session enabling students to practice. This will make the class more centered on the students, allowing them to acquire new methodological strategies they can use in different situations.

Learning will become more didactic for learners. By giving them the necessary tools, materials, and guidance, the class will have less stress in working on writing activities and it will also include other necessary skills like speaking to share feedback, moreover, teachers will also benefit from the implementation by allowing students to interact and the class becomes more dynamic and enjoyable from both parts.

Extending the time of the practices to more days can make the students adapt even better to the model, improving their skills. Students can share their thoughts on the advancement of the activities, taking into consideration that each class has its variables, the time can last as long as is needed or the course allows it.

Appendix

Rubric

Criteria	0 Points: Not Evident	1 Point: Needs Improvement	2 Points: Developing	3 Points: Proficient	4 Points: Excellent
Task Completion	Did not attempt the task or wrote off-topic.	Should have addressed the task or included less than 30% of the required elements.	Addressed 50%-70% of the task but missed key details or requirements.	Addressed 80%-90% of the task, covering most details.	Fully addressed the task, covering 100% of the required elements. Follows instructions.
Vocabulary	There is no relevant vocabulary; the meaning is unclear.	Limited range of vocabulary with many errors that affect meaning.	Basic vocabulary was used; some errors slightly affected the meaning.	Sufficient range of vocabulary with few errors; meaning is clear.	A wide range of vocabulary was used correctly, with little to no errors. Adds variety to expressions.
Grammar and Accuracy	No attempts or grammar errors make it incomprehensible.	Frequent grammar errors make the text difficult to understand.	There are some grammar errors, but the meaning is usually straightforward.	There are few grammar errors; most sentences are correct and understandable.	Grammar is accurate throughout, with very few or no errors. Sentences are well-constructed.
Organization	There is no structure; ideas are unrelated and disconnected.	There is no clear structure; ideas must be more organized and accessible.	Some structure, but paragraphs or ideas may not connect well.	Mostly clear organization; ideas are logically connected and flow well.	Well-organized with clear paragraphs, logical flow, and smooth transitions. Easy to follow.
Spelling & Punctuation	No attempt or spelling/punctuation errors make it illegible.	Many errors in spelling and punctuation make the text hard to read.	Some spelling and punctuation errors do not interfere much with meaning.	There are a few errors in spelling and punctuation, but the text is easy to read.	Very few or no errors in spelling and punctuation. Excellent attention to detail.

Rubric Students' Peer check

Name: _____ Date: _____

Categories	Yes	Sometimes	Not yet
Grammar:			
The student used should, and have to.			
The student used an adjective or noun phrase with relative.			
The student used the past simple.			
Vocabulary:			
The student used 5 or more vocabulary words related to the unit.			
Format:			
The student used capital letters correctly.			
The student used a topic sentence.			
The student used supporting sentences.			
The student used a conclusion.			
Organization:			
The student used sequence words. (First, second, and finally)			
Content:			
The students included sentences with should, have to, or noun phrases with infinitives, and simple past.			
The paragraph is about the topic given.			

Scores of Students Peer Assessment.

Peer Assessment					
Code Name	Diagnostic	First Work	Second Work	Third Work	Final Work
Student 1	18	17	18	19	20
Student 2	13	13	15	15	16
Student 3	15	16	15	16	17
Student 4	15	16	17	17	17
Student 5	10	11	13	14	14
Student 6	14	14	16	16	18
Student 7	17	18	18	18	20
Student 8	15	15	18	17	20
Student 9	13	15	15	18	18

Scores of Students without Peer Assessment

No peer					
Code Name	Diagnostic	First Work	Second Work	Third Work	Final Work
Student 1	13	15	14	15	15
Student 2	14	14	13	15	15
Student 3	11	12	15	14	14
Student 4	13	14	14	13	15
Student 5	16	15	13	14	16
Student 6	14	12	15	15	14
Student 7	12	14	14	15	14
Student 8	16	14	15	15	16
Student 9	14	12	12	14	14

Bibliografía

- Abad, F. L. (2022, October 19). *0 Implementation of Peer-Assessment to Improve Writing*.
Universidad Casa Grande.
- Achieng, S. A. (2023, June 26). Exploring Effective Teaching Approaches for English as a Foreign Language (EFL) Instructors: Best Practices and Future Directions. *International Journal on Studies in Education*, 5(4), 515-529. . <https://doi.org/10.46328/ijonse.170>
- Balladares, V. P. (2023, February 15). *Use of Peer Assessment to Improve Writing Skills in A2 Students*. Guayaquil, Guayas, Ecuador.
- Brown, G. (2022, November 11). The past, present and future of educational assessment: A transdisciplinary perspective. *Frontiers in Education*. 10.3389/feduc.2022.1060633
- English as a Tool of Power, Prestige and Growth* Sujan Singh. (n.d.). Academia.edu. Retrieved November 12, 2024, from https://www.academia.edu/23222668/English_as_a_Tool_of_Power_Prestige_and_Growth_Sujan_Singh
- Foo, V. C.T. (2007). In *The Effects of the Process-Genre Approach to Writing Instruction on the Expository Essays of ESL Students in a Malaysian Secondary School* (p. 4).
- Gardner, P. (2011). *The reluctant writer in the primary classroom: an investigation of mind mapping and other prewriting strategies to overcome reluctance*.
- George, T. (2021, August 13). *Mixed Methods Research / Definition, Guide & Examples*. Scribbr. Retrieved November 27, 2024, from <https://www.scribbr.com/methodology/mixed-methods-research/>

(Ghabool, Mariadass, & Kashef, 2012, p. 132). (n.d.).

Indeed Editorial Team. (2024, August 18). *What Is a Peer Assessment? A Definitive Guide*. Indeed.

Retrieved November 12, 2024, from

<https://www.indeed.com/career-advice/career-development/what-is-peer-assessment>

Johnson, R. (2012). *Improve Your Writing Skills Guidance Notes for Students* (First ed.). Clifton Press.

Kangni, W. (2015). Problems and tactics in Peer feedback in EFL Writing Teaching. *Atlantis Press*, 480.

Ling, H. J. (2024, February 15). A Review of Rubrics in Education: Potential and Challenges. *Pedagogy: Indonesian Journal of Teaching and Learning Research*, 2(1), 1-14.

Olimovna, A. M. (2023, January). The Importance of writing in English Language Classes. *A Peer Reviewed, Open Access, International Journal*, 11. www.scienticreview.com

Salem Almahasneh, A. M., & Abdul- Hamid, S. (2019, March). The Effect of Using Peer Assessment Training on Writing Performance among Arab EFL High School Students in Malaysia. *Arab World English Journal*, 10(1), 105- 115.

<https://dx.doi.org/10.24093/awej/vol10no1.10>

UAGC Staff Member. (2021, December 9). *The Importance of Writing Well & How to Grow as a Writer / UAGC*. University of Arizona Global Campus. Retrieved November 12, 2024, from <https://www.uagc.edu/blog/the-importance-of-writing-well-how-to-grow-as-a-writer>

Wisniewski, B., Zierer, K., & Hattie, J. (2020, January 22). The Power of Feedback Revisited: A Meta-Analysis of Educational Feedback Research. *Frontiers in Psychology*. 10.3389/fpsyg.2019.03087

Yin, S., Chen, F., & Chang, H. (2022, June 27). Assesment as Learning: How does Peer Assessment

Function in Students ' Learning? *Frontiers in Psychology*, 13, 1.

<https://doi.org/10.3389/fpsyg.2022.912568>

03-02-2025

CERTIFICADO DE APROBACIÓN PARA PUBLICACIÓN

Por la presente se certifica que el artículo titulado: **EVALUACIÓN EN PARES PARA MEJORAR HABILIDADES DE ESCRITURA EN ESTUDIANTES DE INGLÉS COMO LENGUA EXTRANJERA**. Un trabajo de investigación del autor/es: *Bruno Fabio Macías Pino, Priscila Asunción Larrea Llerena, Carla Isabel Lozano Alvarado*, siendo su artículo revisado por Doble Par Ciego y Sistema de Doble Revisión Editorial, antes de ser publicados.

El artículo será publicado en la Revista Científica Multidisciplinar G-ner@ndo
ISSN: 2806-5905, en la edición Enero - junio, 2025, Volumen 6,
Número 1. Verificable en nuestra plataforma:

<https://revista.gnerando.org/revista/index.php/RCMG>



Revista Científica
Multidisciplinar

G-NER@NDO

ISSN 2806-5905

Ing. Yadira Vergara, MSc.

EDITORA REVISTA G-NER@NDO

revistagnerando@gmail.com

Para consultas puede contactar directamente al editor de la revista:



revistagnerando@gmail.com



cel. 0994735813

UNEMI

UNIVERSIDAD ESTATAL DE MILAGRO

¡Evolución académica!

@UNEMIEcuador

