

Review Article

Formative feedback in reading comprehension

ABSTRACT

All people have a very important faculty that makes it possible for them to know and understand everything that surrounds them, it is the ability to read **comprehension**. The use and understanding of texts with different purposes is a common activity we humans develop. It is common to read to be informed, to acquire new knowledge, to investigate a topic of interest, and to have greater clarity about the understanding of texts at any of their levels (literal, inferential, criteria). It is extremely necessary to apply adequate feedback to improve this faculty. Main objective: Recognize what is known about formative feedback and reading comprehension and what aspects remain unknown. Methodology: exploratory, descriptive research, for which the historical method is used and scientific articles, references to formative feedback, and reading comprehension are selected. The search for articles indexed through different **search engines** such as Google Scholar, Scopus, and Pub-med; 28 scientific articles were finally selected from the year 2017. Conclusion: Adequate feedback is key to reading comprehension at any of its levels.

Keywords:Formative feedback; reading comprehension.

1. INTRODUCTION.

Education is one of the engines that drives the development of countries, therefore, social investment must be generated by governments to improve the conditions of education. In this sense, the State must maintain a perennial commitment to education by expanding learning opportunities that improve the writing and reading-comprehension skills, as well as promote cognitive processes and scientific skills of its citizens. (Raza et al., 2019). The educational system must prioritize the acquisition of reading skills, specifically comprehension, which occupies a preponderant place in the curricula as it is the basis for the development of all curricular areas. Reading comprehension is a dynamic, complex process, in which the reader elaborates a mental image of the meaning of the text read (Martins & Cárnio, 2020; Nouwens et al., 2021). For this, it is necessary to use higher cognitive strategies and skills that help associate previous knowledge with the information transmitted in the text.

One of the biggest challenges for teachers is to identify the best pedagogical strategy or appropriate instrument to improve the cognitive skills of their students in terms of learning reading comprehension. This is where formative feedback plays a key role, since it promotes dialogue between teacher and students, encourages students' self-reflection on their strengths and weaknesses, identifies opportunities for improvement and formulates specific strategies for analysis and learning (Archer et al., 2016). Similarly, feedback helps students to motivate, as it allows them to adequately identify aspects that need to be improved (Arotoma Palomino,

Comment [M1]: and understand.

Comment [M2]: databases

Comment [M3]: Delete

2021).

Formative feedback is based on the evaluation of teachers by observing the performance of their students and giving a personal judgment about them. Improving learning achievements in students is directly related to increasing their reading competence through the application of appropriate methodologies and strategies. So far, the results obtained are not satisfactory at the international level, let alone at the national and local levels.

The learning of the learner is subject to their competence to read and understand, in this way they are expected to analyze and discuss the subject of the texts. To achieve this, it is necessary to have solid reading fluency skills, as well as a syntactic and lexical development that help the comprehension and knowledge of a text (Nippold, 2017). There are also studies examining the effect of feedback on reading comprehension.

At the international level, there are standardized assessments that aim to measure the level of learning in the area of reading knowledge and reading comprehension (Condori et al., 2022). The Program for International Student Assessment (PISA) report, in 2018, after assessing students' reading skills, found that China and Singapore obtained the best scores; Peru obtained only 401 scores, much lower than the average determined in reading, ranking 64th out of 79 participating states, data that highlight the obstacles that students have to understand what they read (Ministry of Education (MINEDU, 2018). In Peru, the Student Census Evaluation (ECE) of the year 2019, on reading skills, gave worrying results of the students of the 4th grade of Primary. Prior to the start they are 4.9%, in Start 25.0%, in Process 35.5% and in the Satisfactory level 34.5% (MINEDU, 2019).

In the Amazonas region, the results on reading skills are also not very encouraging, the ECE in 2019 gave the following results for the 4th grade, 5.6% is at the level before the Start, 28.8% is located at the Beginning, 38.7% in Process and only 26.9% at the Satisfactory level (MINEDU, 2019). These alarming results may be due to students' inappropriate use of strategies when reading. Therefore, it is the role of educational institutions to find ways to teach the appropriate use of reading comprehension strategies to students, which allow them to function autonomously in the now-called knowledge society (Munayco, 2018). Students of different levels are part of this problem, since they read and do not understand. There are many research works on the subject, but it does not have sustainability over time because the contrast is not made with current research since there is a lack of experts with consolidated positions, who have critical, exhaustive and reflective functions on the published studies in order to make students, professionals and researchers aware of the repercussions that formative feedback originates in the process of understanding so that readers can make value judgments and make the right decisions.

With regard to feedback, usually in educational institutions teachers make elementary feedback limiting themselves to indicating that some of them are right or wrong and practically do not motivate them or do not give them the opportunity for themselves to discover the error that leads to new learning, they practically turn students into people who accept what the teacher argues and do not take advantage of the mistakes they make to serve as learning opportunities. Actually some teachers in our country what they do are measurements and do not evaluate considering the formative approach of this, that is, they always put into practice what they have learned by applying closed tests that only leads

Comment [M4]: Why worrying result? Please report without adding your emotion here

Comment [M5]: No

Comment [M6]: Kindly cite to buttress your point

Comment [M7]: Kindly check subject-verb agreement. Is "it" referring to "many research Works"?

Comment [M8]: Why a capital letter M?

Comment [M9]: Are you referring to cloze-tests?

them to see if the students learned the knowledge for that moment and do not take into account that it must have sustainability over time. This is because they do not consider the student as the center of learning and therefore do not perform formative feedback in which the student is empowered by knowledge through reflection and/or description. Given these circumstances, in relation to formative feedback and reading comprehension, the following problems arise: How to know the different research works related to these two aspects? Will it be feasible to have access to different search engines of indexed journals about the impact of training on the comprehension of texts? How to recognize the salient and controversial aspects of feedback and reading comprehension? What are the theoretical approaches related to feedback and reading comprehension? How to know the methodological approaches to the study related to formative feedback and reading comprehension? Will it be possible to critically discuss contradictory conclusions from different studies related to formative feedback and reading comprehension?

The main objective of this work is: to recognize what is known about formative feedback and reading comprehension and what aspects remain unknown. The specific objectives are the following: a) Summarize information related to feedback and reading comprehension. b) Identify the relevant aspects related to this topic. c) Identify the theoretical approaches to feedback and reading comprehension. d) Know the methodological approaches related to these two aspects. e) Critically discuss the contradictory conclusions on these two issues. The article is based on the need we have as researcher to know the different positions that others have about feedback and reading comprehension, in different contexts and times, specifically between 2017 and 2021. **The work to publish in Arbor. Science, thought and culture will have to strictly adhere to the rules contained in this template. Shipments that do not meet these requirements will be rejected.**

2. METHODOLOGY

The methodology used corresponds to an exploratory, descriptive research, for which the historical method is used and scientific articles are selected, referring to formative feedback and reading comprehension. A review of 28 articles on Formative Feedback and Reading Comprehension was carried out (table 1). Scientific articles indexed through search engines: Scopus, Pubmed, Google Scholar, Google books. The articles have been selected taking into account criteria such as the year of publication which must be between 2017 and 2021; subject area, language among others. **In table 1 can see number of identified articles and to select them different filters were used such as the year 2017 to 2021, as well as the different research areas.**

Table 1. Disposition of articles used as reference, by year of publication.

Seekers	Year of publication					Total
	2017	2018	2019	2020	2021	
Google Scholar	2	2	3	2	0	09
Pubmed	3	2	3	1	3	12
Scopus	2	1	2	1	1	07
Total	07	05	08	4	4	28

Comment [M10]: This sentence is not clear. Kindly rewrite it. Once you have already carried out the research, it would be advisable to use the past tense.

Comment [M11]: Check the spelling

Comment [M12]: Why Google books?

Comment [M13]: Why didn't you add Web of Science?

Comment [M14]: Table 1 shows or depicts. Kindly reconstruct it

3. RESULTS

3.1. Formative feedback

In the last 15 years the concept of feedback has varied in approaches, dynamics and factors involved (Quezada Caceres & Tapia, Salinas, 2021).

Feedback strategies and formative assessment play a crucial role in effective learning. Therefore, educators should have the ability to effectively apply empirical and theoretical knowledge about formative assessment and feedback strategies during the teaching process in their classrooms. However, developing and implementing such strategies are complex tasks. Narciss and researchers developed a seminar concept based on the Interactive Mentoring Feedback Model (ITF-Model), which integrates case-based reflections of empirical principles for the design of formative feedback strategies, which they implemented, evaluated and adapted through microteaching sessions (Narciss et al., 2020).

The ITF model defines feedback as a multidimensional instructional activity, which aims to empower students to be self-regulating learners. Therefore, the model provides formative knowledge or mentoring information about their current state of learning. This model was first developed in the late 1990s and then improved by Narciss et al. in 2017 based on knowledge of systems theory (Narciss, 2017). The ITF model also suggests that mixed findings on the conditions and effects of feedback in instructional contexts can be interpreted: a) establishing feedback as an essential component of two interacting feedback loops; and b) based not only on processes and factors related to providing feedback from an external source (e.g., a teacher, peer or parent or learning environment through a computer), but also by considering the processes and factors related to generating internal feedback (in other words, self-assessing one's current state of learning and accepting externally provided feedback (Narciss, 2017).

With regard to formative feedback, several researchers agree with their point of view, however, they emphasize two aspects: 1) In their contribution to transform the thought processes and actions of those who receive it and 2) in the data it collects and communicates to help reduce the space between where the student is at the beginning of a learning and where he must arrive according to the processes of the teaching (Quezada Caceres & Tapia, Salinas, 2021).

Anijovich and Cappelletti (2020), highlight the relevance of formative feedback to intervene positively in learning; however, they argue that superficial comment or transmission of a result does not exactly lead to improvement in learning" (Anijovich & Cappelletti, 2020)

Formative feedback is a form of teaching through offering information on student performance to improve their learning (Narciss et al., 2014).

3.2. Reading Comprehension

Reading comprehension is a mental activity in which the reader constructs a coherent image of the meaning of the text read called mental model or situational model and becomes the essential objective of reading. Reading a text involves basic skills in order to recognize letters; however, understanding concepts and ideas requires the development of complex cognitive and linguistic skills established during the process of understanding the text (Fonseca et al., 2019). From these compromised cognitive processes, three skills related to reading comprehension are proposed: 1) comprehension of the structure of the text, 2) construction of inferences, and 3) the monitoring or self-regulation of comprehension (Santi & Reed, 2015). In this regard, Peña et al. (2021) argue that reading is a thought process, therefore the questions and feedback made by the teacher will be the generator of reflections and knowledge (Peña Rañileo et al., 2021).

The study of the reading process has a long history; Reading comprehension is developed in three different but integral phases: the initial stage corresponds to the superficial structure of the discourse, which consists of the construction of the microstructure of the text, where the reader decodes words and phrases, transfers them to the working memory and can access their meanings, relates them to each other and builds an initial mental representation; the second level deals with the text-based representation, the reader organizes the information he handles of the text and then forms a coherent global mental representation of the subject treated, thus building a macrostructure of the text; at the last level the reader integrates and relates the information at the base of the text (Herrada-Valverde & Herrada, 2017).

Some suggest the identification of three levels of reading comprehension: first, Literal Comprehension, a level at which the reader understands the meaning of the text read, stores its details and can answer questions related to it; second the Independent Comprehension: where both the main ideas and these secondary ideas are identified and related by the reader and the third level the Critical Understanding: where the reader analyzes the veracity of the information, recognizes ambiguities and understands the relevance of the conclusions (Munayco, 2018).

Likewise, reading comprehension is closely related to meaningful learning, in fact, it becomes a prerequisite for this (Fonseca et al., 2019). However, in the educational space, the learning process is impaired, especially in children at an early age, in whom reading development is not consolidated (Recio & León, 2015).

To address this problem, different investigations have been carried out with experimental approaches, many of which have concluded that a large part of the readers need explicit teaching of skills to improve reading comprehension such as intervention studies. These have the advantage of being able to exercise cognitive skills of the student through feedback (Fonseca et al., 2019).

Intervention programs propose transactional strategies emphasizing the interaction between students, teachers and the text, in which the teacher's speech provides support and guidance to students. In this way, the meaning of the text is based on the joint construction created between students and the teacher (Cárdenas-Espinoza & Guevara-Benítez, 2013).

4. DISCUSSION

The system and training face an educational problem related to reading comprehension skills. As Espinosa points out in the pedagogical literature, students "know" how to read, but mostly do not understand the ideas or indications of what they should do from reading. This hinders logical thinking and therefore learning (Cárdenas Espinoza, 2013). Although over the years the reading process has been studied by various authors who established levels or stages to work on reading comprehension; However, there are still restrictions for its implementation, so the results obtained are not very encouraging.

Educational institutions maintain the challenge of ensuring that students "learn to read" and can function autonomously in the so-called knowledge society. Palomino (2018) argues that learning is an intentional process that involves motivational and mental predisposition. It also specifies that to build knowledge the student must process the new information, adjust and replace their previous knowledge to try to understand the relationship they have with the new content (Palomino Medina, 2018). In the same sense, Arhuiri affirms that the relationships between previous and new knowledge include meaningful learning (Arhuiri Quilla, 2021). The educational system, by prioritizing the acquisition of reading skills, specifically the understanding that occupies a preponderant place in the curricula as it is the basis for the development of all curricular areas, favors the resolution of this challenge. Zapata & Carrión affirm that one of the possible causes that hinder reading comprehension is essentially due to the lack of reading habits, the shortcomings of the educator themselves and their inadequate intervention to develop such relevant competence (Zapata & Carrión Barco, 2021).

Comment [M15]: Why so-called?

From the examination carried out to the effect of feedback on reading comprehension it was found that feedback was positively related to reading comprehension and its dimensions, however, teachers are not applying formative evaluation, they know the theory, but in its application, there are weaknesses, they are at the conceptual level. Through formative feedback the student will have the opportunity to build their learning autonomously; However, the teacher must provide all the tools and / or strategies so that the student achieves learning. This implies that the teacher help to constructively correct the mistakes that the student makes, specifically when reading a text. Likewise, the student will reflect when making inferences or when giving his opinion about what the author says, all this in order to ensure that the learning he acquires is lasting over time and gives him opportunities to make relevant and coherent decisions.

As for teachers, they maintain the challenge of finding the best pedagogical strategy to improve cognitive skills during the process of teaching reading comprehension in students. In this sense, the pedagogical practice of teachers in the classroom-

must improve in terms of formative feedback, it must advance from the conceptual to the practical promoting the reflection of students on their own performances, to reflect and question, to make their mistakes opportunities to achieve new learning. Researchers, in terms of formative feedback, emphasize their contributions to transform the thought processes and actions of those who receive it; Also, in the relevance of data that offer to contribute to reduce the gap between where the student is at the beginning of a learning and the goal to be achieved depending on the teaching processes.

In Puno, Peru, Condori et al. conducted a study to determine the effectiveness of the strategy based on these seven language levels to improve the comprehension of texts in children in fourth grade of primary education, the results allowed to affirm that their program was effective for the development of the comprehension of texts at the literal level, because the students were able to identify the main and secondary characters, as well as the main idea, as well as recognized the time, place and origin of the facts (Condori et al., 2022). Similar results were found by Peña et al. (2021), who identified an improvement in the development of comprehension skills through pedagogical innovation using discontinuous or multimodal texts in Chilean fifth and sixth grade primary school students (Peña Rañileo et al., 2021).

In a Higher Pedagogical Institute in Lima, Munayco evaluated the influence of graphic organizers on the reading comprehension of expository and argumentative texts according to the reading levels: expository, literal and critical. This study identified positive results from the use of semantic mapping at the literal level, mind map at the critical level and conceptual network at the inferential level. (Munayco, 2018). On the other hand, in the research carried out by Laureano, the results reported that the use of Information and Communication Technologies (ICT) had a significant influence on improving the level of comprehension and production of texts in fifth grade students of an educational institution in the city of Puno. Similarly, various disciplinary matrices and public policies should promote the strengthening of the reading habit. A study conducted in Chile identified that there is a correlation of low magnitude between reading attitudes and the performance of fourth and sixth grade students, which demonstrates the importance of promoting reading (Errázuriz et al., 2020). Educators should be empowered in the application of formative feedback to develop student autonomy through dialogue and critical-reflection in order to improve their reading comprehension levels. Likewise, the participation of teachers from different disciplines is required to encourage students to read and understand what they have read (Moreno Mosquera & Moreno Mosquera, 2019).

5. CONCLUSIONS

Formative feedback is essential to clarify learning in various aspects of human life as it contributes to optimizing reading comprehension processes; The level of influence of feedback on reading comprehension processes are unknown. Well applied formative feedback, in all types of learning, enriches reading comprehension and people's knowledge. Through formative feedback, students recognize their mistakes and turn them into opportunities to achieve diverse learning. Formative feedback enables students to build their learning autonomously. The individualized exploratory research conducted over the past decade on formative feedback and understanding will serve as input for further experimental research.

Comment [M16]: Please count in suggestions or recommendations for future research under the conclusion

6. REFERENCES

- Anijovich, R., & Cappelletti, G. (2020). Formative feedback: An opportunity to improve learning and teaching. *University Teaching Magazine*, 21(1), 81–95. <https://eds.p.ebscohost.com/eds/pdfviewer/pdfviewer?vid=4&sid=1cb0583a-04c7-4e1d-adb4-38289e04e53b%40redis>
- Archer, J., Cantrell, S., Holtzman, S.L., Joe, J.N., Tocci, C.M., & Wood, J. (2016). *Better Feedback for Better Teaching: A Practical Guide to Improving Classroom Observations*. Jossey-Bass. <https://search.ebscohost.com/login.aspx?direct=true&db=edsebk&AN=1205819&lang=es&site=eds-live>
- Arhuiri Quilla, R. (2021). Significant learning in secondary school students from Juliaca. *Latin American Magazine Ogmios*, 1(2), 151–163. <https://doi.org/10.53595/rlo.v1.i2.014>
- Arotoma Palomino, I.I. (2021). Formative feedback and reading comprehension in sixth grade students of the Educational Institution "Mariscal Cáceres" Ayacucho, 2020 [Universidad César Vallejo]. In *Institutional Repository*. UCV; Cesar Vallejo University. <https://search.ebscohost.com/login.aspx?direct=true&db=edsbas&AN=edsbas.E98CE864&lang=es&site=eds-live>
- Cárdenas-Espinoza, K., & Guevara-Benítez, Y. (2013). Reading comprehension in high school students. Intervention by functional levels. *Journal of Behavior, Health & Social Issues*, 5(1), 67–83. <https://doi.org/10.5460/jbhsi.v5.1.38727>
- Cardenas Espinoza, K. (2013). Reading Comprehension in Secondary School Students. *Intervention by Functional Levels*. -uaqVH2VQ_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA
- Condori, C., Mery, R., Ancco, V., Noel, V., Quino, C., & Maribel, K. (2022). Seven linguistic levels as a strategy to improve reading comprehension. *Seven linguistic levels as a strategy to improve reading comprehension*, 13(1), 42–52. <http://10.0.131.59/2226-1478.13.1.590>
- Errázuriz, M. C., Fuentes, L., Cocio, A., Davison, O., Becerra, R., & Aguilar, P. (2020). Do we understand texts more if we like to read?: Reading attitudes and performance of public school students in Araucanía, Chile. *Brazilian Journal of Applied Linguistics*, 20(3), 549–589. <https://doi.org/10.1590/1984-6398202015350>
- Fonseca, L., Migliardo, G., Simian, M., Olmos, R., & León, J. A. (2019). Strategies to improve reading comprehension: Impact of an instructional program in Spanish; Strategies to Improve Reading Comprehension: Impact of an Intervention Program in Spanish. <https://journals.copmadrid.org/psed/art/psed2019a1>; *Journal of Educational Psychology*. <https://search.ebscohost.com/login.aspx?direct=true&db=edsbas&AN=edsbas.F5B5E5E6&lang=es&site=eds-live>
- Herrada-Valverde, G., & Herrada, R. I. (2017). Analysis of the students' reading comprehension process from the construction-integration model. *Educational Profiles*, 39(157), 181–197. <https://doi.org/10.22201/iissue.24486167e.2017.157.58448>
- Martins, L.Z., & Cárnio, M.S. (2020). Reading comprehension in dyslexic school children after an intervention program. *CoDAS*, 32(1), e20180156. <https://doi.org/10.1590/2317-1782/20192018156>
- MINEDU. (2018). PISA 2018 evaluation.
- MINEDU. (2019). National assessment of learning achievement. What learning do our students achieve? *SI-CRECE*, Pg. 2-23. <http://umc.minedu.gob.pe/wp-content/uploads/2020/06/Reporte-Nacional-2019.pdf>
- Moreno Mosquera, E., & Moreno Mosquera, E. (2019). Academic reading in university education: research trends. *Language*, 47(1), 91–119. <https://doi.org/10.25100/LANGUAGE.V47I1.7180>
- Munayco, A. (2018, June 17). Influence of graphic organizer on reading comprehension of expository and argumentative texts. *Comuni@cción: Journal of Research in Communication and Development*, 9(1), 5–13. <https://comunicacionunap.com/index.php/rev/article/view/238>
- Narciss, S. (2017). *Conditions and Effects of Feedback Viewed Through the Lens of the Interactive Tutoring Feedback Model*.
- Narciss, S., Hammer, E., Damnik, G., Kisielski, K., & Kördle, H. (2020). Promoting Prospective Teacher Competencies for Designing, Implementing, Evaluating, and Adapting Interactive Formative Feedback Strategies. *Psychology Learning and Teaching*, 20(2), 261–278. <https://doi.org/10.1177/1475725720971887>
- Narciss, S., Sosnovsky, S., Schnaubert, L., Andrès, E., Eichelmann, A., Gogvadze, G., & Melis, E. (2014). Exploring feedback and student characteristics relevant for personalizing feedback strategies. *Compu-*

ters&Education, 71, 56–76. <http://10.0.3.248/j.compedu.2013.09.011>

Nippold, M.A. (2017). Reading comprehension deficits in adolescents: Addressing underlying language abilities. *Language, Speech, and Hearing Services in Schools*, 48(2), 125–131. https://doi.org/10.1044/2016_LSHSS-16-0048

Nouwens, S., Groen, M.A., Kleemans, T., & Verhoeven, L. (2021). How executive functions contribute to reading comprehension. *The British Journal of Educational Psychology*, 91(1), 169–192. <https://doi.org/10.1111/BJEP.12355>

Palomino Medina, J.O. (2018). Significant learning and attitudes towards mathematics in students of the VII cycle, in the Educational Institution 1227-Ate 2018. In Graduate School. https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/17625/Palomino_MJ.pdf?sequence=1

Peña Rañileo, K., Ponce Godoi, A., Montecinos Herrera, D., Torres Reinoso, D., Catalán Montiel, P., & Villagra Bravo, C. (2021). Comprehension of written text through collaborative work in Basic Education. *Journal of Studies and Experiences in Education*, 20(43), 455–475. <https://doi.org/10.21703/REXE.20212043PEN24>

Quezada Caceres, S., & Tapia, Salinas, C. (2021). Feedback model for learning. *Mexican Journal of Educational Research*, 26(88), 225–251.

Raza, J., Ruiz, T., & Ruiz, M. (2019). Social Investment in Education. A look at Ecuador. *Hermes Scientific Magazine*, 25, 531–548. <https://www.redalyc.org/articulo.oa?id=477662439008>

Recio, P., & León, J. A. (2015). Reading in a bilingual context: fluency and reading comprehension in 1st and 4th grade students. <https://journals.copmadrid.org/psed>, 21(1), 47–53. <https://doi.org/10.1016/J.PSE.2015.03.002>

Santi, K.L., & Reed, D.K. (2015). *Improving Reading Comprehension of Middle and High School Students* (Vol. 10). Springer International Publishing. <https://doi.org/10.1007/978-3-319-14735-2>

Zapata, L. F., & Carrión Barco, G. (2021). Reading Comprehension at the Literal, Inferential and Critical Reflective Levels of Primary Education Students. *Research, Training and Development Magazine: Generating Institutional Productivity*, ISSN 1390-9789, Vol. 9, No. 2, 2021 (Copy dedicated to: May - August), pp. 6-16, 9(2), 6-16. <https://dialnet.unirioja.es/servlet/articulo?codigo=8273627&info=resumen&idioma=ENG>

Comment [M17]: Thereferences are not wellwritten.
Pleaserewritethem and adheretothe APA style