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Formative Assessment: Component of Teaching-Learning Process in the University Context in Post-COVID-19

Edgar L. Martínez-Huamán* 

José María Arguedas National University
Andahuaylas, Perú

John Peter Aguirre Landa 

José María Arguedas National University
Andahuaylas, Perú

Víctor Enrique Lizama Mendoza 

Federico Villarreal National University
Lima, Perú

Cecilia Edith García Rivas Plata 

Ciro Alegría National University
La Libertad, Perú

Abstract. The aim of this study was to reveal formative assessments as being a component of the teaching-learning process in the university context in post-COVID-19 times. This study has focused on the qualitative approach through the interpretive phenomenological method. The data gathering tool used was that of a semi-structured interview with seven professors from the education and engineering programs at the Universidad Nacional José María Arguedas, Peru. The methodological procedure involved the organization through the Atlas.ti computer program and the transcription of the information through content analysis, resulting in the emergence of validated categories through the triangulation process reflecting the phenomenological reduction. The results showed there to be three categories: the role of the professor in the formative assessment, socio-emotional bonding, and learning feedback. In conclusion, formative assessment is a fundamental component of teaching and learning in the classroom where the professor, through feedback in the class sessions, promotes socio-emotional bonding, perceives mistakes to offer correction, and recognizes the work well done to encourage reinforcement and reflection of the teaching practice. A new

* Corresponding author: *Edgar Luis Martínez Huamán*, emartinez@unajma.edu.pe

evaluative culture focused on the formation of skills and competencies is required for which the professor has a high commitment and responsibility not only in terms of preparing and training the student but also themselves.

Keywords: formative assessment; feedback; learning process; face-to-face teaching; online teaching

1. Introduction

All human beings carry out activities that in some way or another implicitly or explicitly that serve to issue a value judgment that approves or disqualifies the performance of an action or task through the given result. This also occurs in the educational field since estimation serves to provide feedback on the teaching-learning process based on the discovery of gaps, failures, and deficiencies in the procedure used (Blair & Valdez, 2014).

In this sense, the teaching-learning process conducted by professors in the post-COVID-19 period must be loaded with strategies focused on the learner (Montrezor, 2016) to facilitate the formative process that is only required through evaluation (Walvoord, 2010). This indicates the achievement and non-continuation of the goals. It is necessary to address the deficiencies and consolidate the strengths observed during the long period of confinement.

Recalling how fast and improvised the academic year was during the peak of the COVID-19 health crisis, the lack of training in digital skills for both students and professors opened up gaps and negative points (OECD, 2016; Guevara, 2020; Hodges et al., 2020; Chick et al., 2020) in the different components of the educational process where the evaluation was limited to adding what was demonstrated in the projects, the contents of folders, and the resolution of activity booklets that were part of the digital evidence, all while lacking feedback on the activities carried out (Diez-Gutierrez & Gajardo-Espinoza, 2020).

In this way, it is necessary to strengthen the integrated, continuous, or formative assessment within the educational process since this evaluation does not separate or isolate the phases of the teaching-learning process. Rather, it implements it as part of the process and as a substantial element (Brown, 2015). However, studies show (Azzi-Huck & Shmis, 2020; United Nations, 2020) that during the social isolation caused by the pandemic, in most cases, the professors had to design sessions with a high degree of improvisation and often quickly. The simple application of online techniques and tools was used to determine the knowledge obtained by the students, reflecting to give a final grade or letter for the work done in the classroom with the purpose of ensuring the continuity of the educational process and complying with the purposes of the official curriculum.

While formative assessments go beyond grading, it is an estimation of progress that is strictly based on the correction of the student's training judging by the alternatives prior to decision-making (Hussey, 2017). This formative assessment process is crystallized through the feedback that is developed between professor-

student and student-student, allowing confusion and defects to be corrected, and overcoming the difficulties that contribute to the acquisition of missing skills through work in the classroom (Elwy et al., 2020). In this way, the learning provided by the feedback made together by the professor and classmates is estimated (Komorowska, 2019).

From this perspective, what is stated by Ryan et al. (2000) and Earl (2013) is pertinent as it indicates that nobody has learned anything from a grade or letter, whereas there is learning achieved following brief feedback or the reporting of failures and mistakes incurred (Kevereski, 2017). This generates valuable and positive information for future learning, as well as the quality of the learners. Continuous or formative assessment were at one point no longer used due to the scarce time available to carry out feedback on the processes (Gilles & Charlier, 2020; García-Riveros et al., 2021). This is because the professors were unaware of the tools and methodologies available to augment the teaching-learning process mediated by Information and Communication Technologies (Gewin, 2020). The students demonstrated difficulties when mastering conceptual, procedural, and attitudinal knowledge, reflecting low skills and performance (Sá & Serpa, 2020).

Peru, like other countries in the world, has returned to face-to-face classes and this has become a reality under the new normality. University students and professors turn to look at each other and their use of certain protection measures such as the use of masks, alcohol or hydroalcoholic gel, and safe distancing. This has allowed for the start of academic activities from March to the present day. In this context, the need to rethink formative assessments has been identified which offers the opportunity for students and professors to demonstrate their knowledge, skills and abilities, as well as the failures and achievements detected that can now be corrected. This includes strengthening what is well done and not waiting for another time to learn from mistakes made. The situation was that during the online teaching-learning process, it was very consistent that the assessment was done at the end and not during the process.

For this reason, in the conversations with the professors of education and engineering programs at Universidad Nacional José María Arguedas, problems regarding online formative assessment during the pandemic were remarked on. Almost all of the professors focused more on correcting when grading the course. The few and moderate moments used to socialize the evaluation, analyze the evidence, and readjust the praxis contributed to avoiding knowing how to improve from the mistakes and failures of their students and the knowledge that they must learn for the betterment of their future. In this way, the purpose of the research is to reveal how formative assessments are a component of the teaching-learning process in the university context post-COVID-19, which in turn makes it possible to identify and discover whether formative assessments are currently relevant and necessary to reorient and promote learning not acquired during the pandemic.

2. Materials and Methods

2.1 Approach and Method

The study was developed using the qualitative approach that is based on reflecting on the reality of the informant's experiences, their meaning and significance according to the comprehensive and interpretive historicity, and the promotion of the reevaluation of experiences (Creswell, 2007). In this sense, the interpretive phenomenological method was used which studies events as they are captured and perceived by the subject. This admits the approach of realities whose essence and particular structure can only be understood from the frame of reference that is internal to the individual who experiences and lives it (Denzin & Lincoln, 2013).

2.2. Participants

The participants consisted of 18 professors who were involved in university life from the Academic Department of Education and Humanities and the Academic Department of Engineering at the Universidad Nacional José María Arguedas. This group of professors performed substantive functions such as teaching, research, and engaging in university social responsibility. Through the interviews, the phenomenon of saturation occurred. After a certain number of interviews, the researcher stopped acquiring new information, leaving seven key informants, four education professors, and three engineering professors. Using the answers and phrases that they provided, they revealed the properties and categories that responded to the purpose of the study, thus considered to be the most significant concepts. The professors involved three females and four males (Table 1) with more than 10 years of teaching experience and proven academic studies. They were aged between 37 and 47 years old and were identified with letters.

Table 1. Identification of the key informants

Informant	Age	Gender	Academic degree	Functions
A	47	Male	Doctor	Professor in education
B	42	Female	Master	Engineering professor
C	45	Male	Master	Professor in education
D	47	Male	Doctor	Engineering professor
E	46	Female	Doctor	Professor in education
F	37	Female	Master	Professor in education
G	39	Male	Master	Engineering professor

2.3 Procedure

The research was carried out in 2022 in May, June, and July with the informed consent of the informants. The research tools used were semi-structured in-depth individualized interviews through face-to-face and online meetings in sessions of 50 minutes. The interviews used an interview script and video conferencing through the means of the Google meet app. All information was audio recorded and transcribed on a laptop. In order to interpret the information generated by the informants, the ATLAS.ti program was used. This is a computational mechanism that is used to analyze and select qualitative information from the textual statements.

Once the interviews were read and processed through the computational mechanism, the themes that emerged from the expressions of the informants were classified as topics in themselves and any micro-aspects that detailed the topics were called categories and sub-categories (Elliot, 1993). The interviews carried out with university professors are shown in Table 1 which establishes 3 categories and 16 subcategories that allowed for the reflection and contrasting of the information through triangulation. This is a process that consists of the action of gathering and cross-checking all of the information related to the reality studied through the use of the selected data collection instrument (Merriam, 1988). This considers the description of the text to reach the conceptual level that assists the investigative construction that arises between the method and techniques.

Table 2. Analysis categories and sub-categories

Categories	Sub-categories
1. Role of the professor in formative assessment	- 1.1 Granting of responsibility - 1.2 Activity orientation - 1.3 Socialize the assessment - 1.4 Analyze the evidence - 1.5 Readjust pedagogical practice - 1.6 Permanent evaluator
2. Socio-emotional bonding	- 2.1 Effective evaluation - 2.2 Motivation to learn - 2.3 Meaningful teaching and learning - 2.4 Personal and affective development
3. Feedback on learning	- 3.1 Assessment of achievements - 3.2 Time in which it is done - 3.3 Continuity of ICT use - 3.4 Professional development - 3.5 Promotion of evaluation types - 3.6 Feedback Effects

3. Results

This section presents the interpretation of the categories that emerged during the dialogues of the interviews carried out with the informants where the ideas and keywords that reflect the experiences lived according to the context and the people who give them meaning and meaning were retrieved. As shown in Figure 1, the categories identify formative assessment as a component of the teaching-learning process in the university context post-COVID-19. A reality that requires monitoring is manifested in order to achieve improvements in the teaching and learning processes.

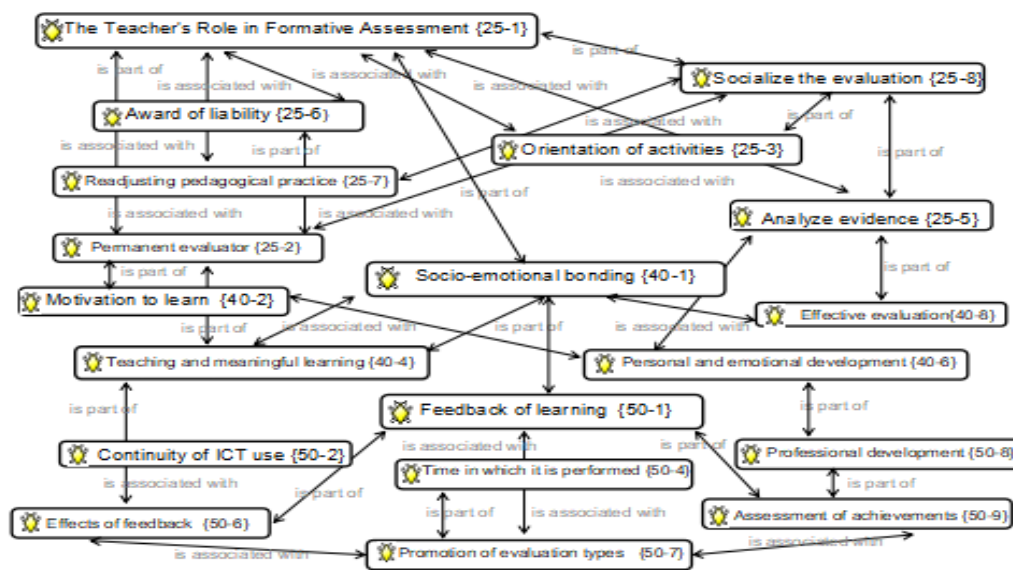


Figure 1. Formative assessment categories in the teaching-learning process in the university context post-COVID-19.

The categories that are part of the formative assessment as components of the teaching-learning process in the university context post-COVID-19 are: the role of the professor in the formative assessment, socio-emotional bonding, and feedback learning.

3.1 Role of the professor in formative assessments

In education in the 21st century, the professor must have a set of qualities and skills that enables them to be able to perform without difficulty in the classroom. He must assume the commitment to the new practices mediated by technology to develop the learning process of the students (Morera, 2020). Since technology has caused there to be a digital context that is attached to the social distancing generated by COVID-19, the educational process has been based on connections. The way of learning and teaching has changed (Secundo et al., 2021). Nowadays, the educational actors are able to meet again and experience the approach of teaching and learning. Informant A highlighted: "It has been an intense and difficult situation within the educational context that the pandemic has passed and we have overcome it; however, there are many gaps in the way of teaching with ICT and without them. Our role is that through formative assessment, meaningful and successful learning can be achieved in the student, a goal that every professor aspires for quality education."

Informant C stated: "Our role must be rethought, the role in the classroom is very important more than ever, comparing the moments of teaching-learning online, and now face-to-face, in some cases in a hybrid way, where we have to join traditional and technological strategies, explaining the purpose of the evaluation that helps students to improve their academic performance, because unfortunately, it is low." Undoubtedly, knowledge is found as part of a network, so technology alone does not guide. The professor is required to be the one who

plans and accompanies the learner in their learning process. This is the way that determines whether they are learning through the use of formative assessments or not.

Given the above statements made by the informants, it is shown that the professor has a fundamental role not only as a guide but also as an evaluator of learning. They give responsibilities to the students by guiding the activities that are carried out mostly in real time in the classroom (Carless, 2015) and through technology.

Coinciding with the state, the professor, when developing a class, previously plans and selects activities, techniques, and strategies that allow the socialization of the content that will be part of the use of instruments that are allies in the evidence of progress among the students (Allal, 1980). This is the reason for socializing the evaluation through the announcement or detailed explanation of how, when, for what, and with what the students will be evaluated, providing them with confidence and making it exciting, exposing what has been prepared for the evaluation. Professors and students can meet the requirements and negotiate certain changes if there were any undertaken in order to generate a good climate for learning. This involves knowing the weaknesses and strengths of the students. The professor is able to change or readjust his way of teaching to achieve better learning (Romero-Martín et al., 2014).

From this point of view, Informants B and D agreed, stating that: "It has been experienced that formative assessment is essential in post-pandemic times." The students presented two important situations: they do not properly master the basic knowledge of some subjects in the program and they have a high degree of command regarding their digital skills. We were able to detect this because we took the time to socialize the evaluation, something that we could not do with online teaching. From there, we had to take advantage of the personal components and insist on constant training to offer a formative assessment leading to improving teaching and learning through the online or face-to-face modalities.

Professors are the main figures not only in the training process of the subject as someone who learns but also as a facilitator, counselor, planner, organizer, and visionary of the progression of learning to achieve a certain competence that is evidenced by performance. It is pertinent to be at the forefront of change to face any of the unexpected phenomena that occur in the world that influence in academic life (Azogul & Sullivan, 2009; Paufler et al., 2020).

3.2 Socio-emotional bonding

When evaluating, it is pertinent to print the socio-emotional part of the training process that allows the educational actors to feel confident and encouraged to develop activities in the classroom. It is well known that professors and students have presented with individual needs related to the contingency caused by the COVID-19 virus. This has been controlled so far but with uncertainty regarding its reappearance. For this reason, compliance with the prevention protocols is mandatory in academic institutions to minimize the risk of contagion (Flores et al., 2022).

The socio-emotional bonding that the professor must provide while developing a class, as well as when estimating an activity, must be directed toward the attention given to the student's social and emotional needs. This guarantees that the acquisition of skills and learning progress is observed through effective performance that generates wellbeing and satisfaction for both the professor and students (Leighton & Gómez, 2018).

In this way, Informants E and G expressed that "being in the classroom is a big step, we have managed to make that socio-emotional "click" with the students during their training in these three months of the year." It was necessary to give feedback to each other and to strengthen not only the bonds of friendship but also to reinforce learning. This is an unusual situation during online classes because on many occasions, they were faceless students. "Sure, we were distressed, stressed, and lonely."

Considering what was expressed by the professors, the socio-emotional bonding in relation to the formative assessment under the online and face-to-face modalities showed there to be a great difference. Where the online modality dominated the scenario, the formative evaluation was ineffective, monotonous, and boring, lacking in conversation that builds and energizes the teaching-learning process among the educational actors (Viñoles-Cosentino et al., 2021).

This is the reason why the professor has ownership of what he says and does, inspiring and injecting emotion into the students to make them curious to learn. The feeling of wellbeing and satisfaction when learning is enhanced which is not possible with online teaching because the professors and students do not know of the multiple tools available that can promote the facilitation and motivation of the educational process to help improve their academic performance (Joshi et al., 2021; Tomasik et al., 2021).

This was confirmed by Informant F when referring to the following: "As a professor we are obliged to prepare ourselves along with the appearance of pedagogical and technological innovations that help us through formative assessment to build an open and flexible cognitive platform aligned on fostering positive emotions so that students can quickly get over from negative situations." Informant D reaffirms that "within the formative assessment, socio-emotional links must be present since they allow dismantling the harmful effects that negative emotions can bring in the student life."

It is urgent in this post-pandemic time, through this approach to encourage and develop adequate emotions that propitiate an attitude and more optimistic view that supports decision-making to establish solutions, building healthy behaviors to face difficulties is preferred in favor of the consolidation of personal maturation. This is achieved through the planning of activities with defined purposes with intentionality. This enables the development of self-esteem, a sense of humor, and social relationships that are predisposed to motivate and obtain significant learning in the classroom climate (Leighton et al. al., 2018; Zi & Pastore, 2022; Salmon et al., 2022).

Consequently, online classes can be considered an attractive and natural environment that introduces the student the achievement of skills. From now on, the professor must seek to consistently incorporate face-to-face and virtual teaching, evolving through the combination of traditional tools with technological ones in order to offer a new and motivating form of teaching that generates emotions and assists thought (Khashaba, 2020). For this reason, Informant G stated: "I no longer conceive teaching without the use of technology, students feel comfortable when I propose an activity with some digital tool as part of the formative assessment. They look forward to developing the proposed activity."

Within this complex educational context, formative assessments are considered to be a fundamental component since it provides valuable information about the teaching-learning process in the distance and face-to-face modalities. This process should be understood as one that integrates knowledge, a set of skills, the organization of experiences within a creative activity, and the organization of the norms of relationships in the world. This reflects, in some way, that evaluation intrinsically forms, guides, and enriches since it is focused on promoting the attitudes, values, and experiences of essential emotions for the integral development of the personality of the students (Triantafillou et al., 2003; Kulasegaram & Rangachari, 2018).

3.3 Learning Feedback

Formative assessments are the established means through which to monitor student progress to meet the purposes of the study program. This type of evaluation intends to offer feedback to strengthen participation (Nicol & Macfarlane-Dick, 2006; Barba-Martín & Hortigüela-Alcalá, 2022) and content mastery, in addition to skills development, with the aim of modifying attitudes and promoting the academic growth of students (Brown, 2005).

Significantly, formative assessment through learning feedback focuses on the process through which the individual can learn. It is not governed only by the provisional measures that make the final result possible. In this sense, Informant C verbalized that during the new academic year and in such a short time, I have managed to get my students to achieve significant learning through the feedback that I gave throughout the class, asking questions for them to participate, presenting audiovisual materials on the subject, and reflecting on what and why it is useful.

Corresponding to asking and involving the students in their learning process, this reinforced what was shared in class and considered that the points of view of the students and the professor are what we call the evaluation of learning, essential to correcting mistake or failures (Carless, 2007). This modification facilitates the appropriation of knowledge and it is what allows them to acquire the skills and abilities that can be put into action at any moment of their social, educational, family, and professional life.

Based on the above, Informants A and D stated that the action of estimating the teaching-learning processes in person have been permanent, constant, and

progressive, making use of ICT as a tool for participation and getting feedback on what has been explained. This is as well as being a way to creatively learn and innovate in class. Once again, the ability of professors to lead dynamic processes and environments and improve the quality of the teaching-learning process is demonstrated. After the pandemic, formative evaluations and technologies within the educational context are essential components in human daily life. First, this is because the pedagogical practices framed in the co-assessment, self-assessment (Eva & Regehr, 2011), and hetero assessment do not exclusively generate other forms of authentic socialization in the classroom (Tejedor et al., 2019; Calatayud & Alonso, 2022). Second, it is because through technology, they have a massive and constructive scope that facilitates the replication of better performance (Yildiz, 2020).

Meanwhile, Informant B stated that the feedback process between students and professors refers to the training and assessment of performance. This is nothing more than learning with an axiological, emotional, and social burden that contributes to the person who is learning to improve their subsequent learning and motivates them to learn what is unknown. Within this perspective, the assessment of achievements through the performance achieved is synonymous with learning which, for students and professors, is real evidence of the teaching process.

It is evident that the professors, through feedback from the students, go beyond the transmission of knowledge and progress toward the development of skills, knowledge, and attitudes that allow the educational actors to perform competently. From the point of view of the professor, the formative assessment contributes to the improvement of their teaching practices, as well as their personal development. In addition, the professor as a mediator must help the student to learn so then they realize their mistakes and at the same time, resolves them. This corrective action must be carried out regularly during the class sessions as a whole, integrated into the educational process and the participation of the professor and students through communication and feedback. This allows them to consolidate what has been learned and brings in authentic links as a benefit that turns learning into a pleasant path to travel toward what is useful and significant because it goes beyond the approval of the course (Urhahne, 2015; Huisman et al., 2018).

4. Conclusion

The focus of this research was based on revealing formative assessments as a component of the teaching-learning process in the university context post-COVID-19. The professors showed that they have a fundamental role in the conducting of formative assessments in both the face-to-face and online modalities. Moreover, it is understood as the continuous process of participation and reflection on the failures and progress of the student to help them improve their skills. The student changes through correction and is strengthened when their performance is well done.

In this way, it is shown that the socio-emotional link generated by the formative assessment is significant and protagonist. Logically, both students and professors are active participants in the teaching-learning process. The professor is the planner and facilitator of learning because he designs and applies strategies based on the cognitive, social, and emotional needs of the learner who receives all of the attention needed to strengthen his potential and build knowledge. In addition, this indicates whether what has been developed corresponds to what was planned or what needs to be modified and improved. This has an impact on the personal and emotional sphere of the educational actors.

As with the formative assessment process, feedback must always be present because the entire teaching-learning process is based on it. The dynamics that it places within the scene include reflection, analysis, communication, and adjustments that allow for professional development and improvements in the teaching practice. Therefore, it is time to abandon reductionist evaluative practices, ceasing to be professors who are examiners and instead becoming professors who are planners, organizers, and visionaries of the progression of learning in order to achieve a certain competence while considering the difficulties and needs of the student.

In this sense, the emerged categories indicate a new evaluative culture focused on the formation of skills and competencies. The development of critical thinking, group work, and collaborative and interactive work is what the current world demands. This also shows that the professor has a high commitment and responsibility not only regarding preparing and training the student but also themselves as an individual.

5. References

- Allal, L. (1980). Educational evaluation strategies: Psychopedagogic perspectives and modes of application, *Journal for the Study of Education and Development*. 3(11), 4-22. <https://doi.org/10.1080/02103702.1980.10821803>
- Azogul, G. & Sullivan, H. (2009). Student performance and attitudes under formative evaluation by teacher, self and peer evaluators. *Education Tech Research Dev*, 57, 393-410. <https://doi.org/10.1007/s11423-007-9052-7>
- Azzi-Huck, K., & Shmis, T. (2020). ¿Qué están haciendo los países para prepararse, afrontar y recuperarse de la crisis? <https://blogs.worldbank.org/es/education/Gestionarel-impacto-de-la-COVID-19-en-los-sistemas-educativos>
- Barba-Martín, R. A. & Hortigüela-Alcalá, D. (2022). Presentación. Mecanismos, instrumentos y prácticas para fomentar la participación del alumnado en su propia evaluación. *Revista Iberoamericana de Evaluación Educativa*, 15(1), 7-8. <https://doi.org/10.15366/riee2022.15.1>
- Blair, E., & Valdez, K. (2014). Improving higher education practice through student evaluation systems: is the student voice being heard? *Assessment & Evaluation in Higher Education*, 39(7), 879-894. <https://doi.org/10.1080/02602938.2013.875984>
- Brown, S. (2015). La evaluación auténtica: el uso de la evaluación para ayudar a los estudiantes a aprender. *RELIEVE*, 1(2). <https://doi.org/10.7203/relieve.21.2.7674>

- Brown, S. (2005). Assessment for learning. *Learning and Teaching in Higher Education*, 1, 81–89.
<https://www.qub.ac.uk/directorates/AcademicStudentAffairs/CentreforEducationalDevelopment/FilestoreDONOTDELETE/Fileupload,120807,en.pdf>
- Calatayud, M. A., & Alonso Tena, B. (2022). Complicidad entre autoevaluación y aprendizaje. Matices para su implantación en la Universidad. *Revista Iberoamericana de Evaluación Educativa*, 15(1), 23-42.
<https://doi.org/10.15366/riee2022.15.1.002>
- Carless, D. (2015). Exploring learning-oriented assessment processes. *Higher Education*, 69(6), 103-123. <https://doi.org/10.1007/s10734-014-9816-z>
- Carless, D. (2007). Learning-oriented assessment: conceptual bases and practical implications. *Innovations in Education and Teaching International*, 44, 57–66.
<https://doi.org/10.1080/14703290601081332>
- Morera, C. M. (2020). Teachers for the 21st Century: Academic profile, initial training and teaching practices of Spanish teachers. Introduction1. *Revista de Educación*, 393, 11-34. <https://recyt.fecyt.es/index.php/Redu/article/view/89647/65447>
- Chick, R. C., Clifton, G. T., Peace, K. M., Propper, B. W., Hale, D. F., Alseidi, A. A., & Vreeland, T. J. (2020). Using technology to maintain the education of residents during the COVID-19 pandemic. *Journal of Surgical Education*, <http://doi.org/ggr2h8>
- Creswell, J. W. (2007). Enfoques cualitativos, cuantitativo y con métodos mixtos (A. Guzmán y J. Alvarado, Trads.). Universidad de Nebraska. (Obra original publicada en 2003).
- Denzin, N. K. & Lincoln, Y. S. (2013). *Manual SAGE de investigación cualitativa* (V. Weinstabl y S. de Hagen, Trads.). Gedisa.
- United Nations (2020). Education and COVID-19: UN helps children continue their learning. <https://www.un.org/en/coronavirus/education-and-covid-19-un-helps-children-worldwide-continue-their-learning>
- Diez-Gutierrez, E., & Gajardo-Espinoza, K. (2020). Educar y Evaluar en Tiempos de Coronavirus: la Situación en España. *Multidisciplinary Journal of Educational Research*, 10(2), 102-134. <https://doi.org/10.17583/remie.2020.5604>
- Earl, L. M. (2013). *Assessment as learning: Using classroom assessment to maximise student learning*. Corwin Press.
- Elliott, John Huxtable (1993). *La investigación acción en educación*. Morata.
- Eva, K. W., & Regehr, G. (2011). Exploring the divergence between self-assessment and self-monitoring. *Advances in Health Sciences Education*, 16, 311–329.
<https://doi.org/10.1007/s10459-010-9263-2>
- Flores, M.A., Barros, A., Simão, A.M.V., Pereira, D., Flores, P., Fernandes, E., Costa, L., & Ferreira, P. (2022). Portuguese higher education students' adaptation to online teaching and learning in times of the COVID-19 pandemic: personal and contextual factors. *High Educ*, 83, 1389–1408 (2022).
<https://doi.org/10.1007/s10734-021-00748-x>
- García-Riveros, J. M., Fuertes-Meza, L. C., Montellanos-Solís, A.R. Juan Méndez Vergaray, J., & Flores, E. (2021). Perspective on formative evaluation in times of pandemic. Theoretical review. *Nat. Volátiles y esencia. Aceites*, 8(4), 2428-2442
- Gewin, V. (2020). Five tips for moving teaching online as COVID-19 takes hold. *Nature*, 580(7802), 295-296. <http://doi.org/ggqkw8>
- Gilles, J.-L., & Charlier, B. (2020). Dispositifs d'évaluation à distance à correction automatisée versus non automatisée : analyse comparative de deux formes emblématiques. *Evaluer. Journal international de recherche en éducation et formation - e-JIREF*, (1), 143-154. <http://hdl.handle.net/20.500.12162/3865>
- Secundo, G., Mele, G., Del Vecchio, P., Elia, G., Margherita, M., and Ndou, V. (2021). Threat or opportunity? A case study of digital-enabled redesign of

- entrepreneurship education in the COVID-19 emergency. *Technological Forecasting and Social Change*, 166, 120565, <https://doi.org/10.1016/j.techfore.2020.120565>.
- Guevara, A. (2020). Evaluación de los aprendizajes en tiempos de COVID-19, el caso del estado de Chihuahua. *Revista Electrónica de Investigación Educativa*, 23, e17, 1-16. <https://doi.org/10.24320/redie.2021.23.e17.4335>
- Hodges, Ch., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The Difference Between Emergency Remote Teaching and Online Learning. *Educase Review*. <https://cutt.ly/nyjLfIH>
- Huisman, B., Saab, N., Van Den Broek, P. & van Driel, J. (2018). The impact of formative peer feedback on higher education students' academic writing: a Meta-Analysis. *Assessment and Evaluation in Higher Education*, 44(6), 863-880. <https://doi.org/10.1080/02602938.2018.1545896>
- Hussey, I. (2017). Continuous assessment in a new Testament survey course: Empirically informed reflections on an Australian trial. *Teaching Theology Religion*, 20, 230-242. <https://doi.org/10.1111/teth.12391>
- Joshi, A., Vinay, M., and Bhaskar, P. (2021). Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. *Interactive Technology and Smart Education*, 18(2), 205-226. <https://doi.org/10.1108/ITSE-06-2020-0087>
- Khashaba, A. S. (2020). Evaluation of the effectiveness of online peer-based formative assessments (Peerwise) to enhance student learning in physiology: A systematic review using prisma guidelines. *International Journal of Research in Education and Science*, 6(4), 613-628. <https://doi.org/10.46328/ijres.v6i4.1216>
- Kevereski, L. (2017). (Self) evaluation of knowledge in students' population in higher education in Macedonia. *Research in Pedagogy*, 7(1), 69-75. <https://doi.org/10.17810/2015.49>
- Komorowska, H. (2019). Formative evaluation - Its past, present and future. *Studia Linguistica Universitatis Ia gellonicae Cracoviensis*, 136(2), 155-167. <https://doi.org/10.4467/20834624SL.19.013.10608>
- Kulasegaram, K., & Rangachari P.K. (2018). Beyond "formative": assessments to enrich student learning. *Advances in Physiology Education*, 42, 5-14. <https://doi.org/10.1152/advan.00122.2017>
- Leighton, J. P., & Bustos Gómez, M. C. (2018). A pedagogical alliance for trust, wellbeing and the identification of errors for learning and formative assessment. *Educational Psychology*, 38(3), 381-406. <https://doi.org/10.1080/01443410.2017.1390073>
- Leighton, J. P., Guo, Q., Chu, M. W & Tang, W. (2018). A pedagogical alliance for academic achievement: Socio-Emotional effects on assessment outcomes. *Educational Assessment*, 23(1), 1-23. <https://doi.org/10.1080/10627197.2017.1411188>
- Merriam, S. B. (1998). Case study in education: a qualitative approach. San Francisco, California: Jossey-Bass.
- Montrezor, L. H. (2016). Performance in physiology evaluation: possible improvement by active learning strategies. *Adv Physiol Educ*. 40, 454-457. <https://doi.org/10.1152/advan.00022.2016>
- Nicol, D., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199-218. <https://doi.org/10.1080/03075070600572090>
- OECD. (2016). *Skills Studies*. <https://www.oecd.org/skills/>
- Paufler, N. A., King, K. M., & Zhu, P. (2020). Delivering on the Promise of Support for Growth? Evaluator Perceptions of a New State Teacher Evaluation System. *Journal of Educational Supervision*, 3(2). <https://doi.org/10.31045/jes.3.2.3>
- Rani Elwy, A., Wasan, A. D., Gillman, A. G, Johnston, K. L, Dodds, N., McFarland, C., & Greco, G. C. (2020). Using formative evaluation methods to improve clinical

- implementation efforts: Description and an example. *Psychiatry Research*, 283, 112-532, <https://doi.org/10.1016/j.psychres.2019.112532>.
- Romero-Martín, R., Fraile-Aranda, A., López-Pastor V.M., & Castejón-Oliva, F. J. (2014). The relationship between formative assessment systems, academic performance and teacher and student workloads in higher education. *Journal for the Study of Education and Development*, 37(2), 310-341. <https://doi.org/10.1080/02103702.2014.918818>
- Ryan, S., Scout, B., Freeman, H., & Patel, D. (2000). *The Virtual University*. Kogan Page.
- Sá, M. J., & Serpa, S. (2020). COVID-19 and the promotion of digital competences in education. COVID-19 y la promoción de las competencias digitales en educación. *Universal Journal of Educational Research*, 8(10), 4520- 4528. <https://doi.org/10.13189/ujer.2020.081020>
- Salmon, S., Taillieu, T. L., Fortier, J., Stewart-Tufescu, A., & Afifi, T. O. (2022). Pandemic-related experiences, mental health symptoms, substance use, and relationship conflict among older adolescents and young adults from Manitoba, Canada. *Psychiatry Research*, 311, 114495. <https://doi.org/10.1016/j.psychres.2022.114495>
- Tejedor, G., Segalàs, J., Barrón, Á., Fernández-Morilla, M., Fuertes, M. T., Ruiz-Morales, J., Gutiérrez, I., García-González, E., Aramburuzabala, P., & Hernández, À. (2019). Didactic Strategies to Promote Competencies in Sustainability. *Sustainability*, 11(7), 2086. <https://doi.org/10.3390/su11072086>
- Tomasik, M. J., Helbling, L. A., & Moser, U. (2021). Educational gains of in-person vs. distance learning in primary and secondary schools: A natural experiment during the COVID-19 pandemic school closures in Switzerland. *International Journal of Psychology*, 56(4), 566-576. <https://doi.org/10.1002/ijop.12728>
- Triantafyllou, E., Pomportsis, A., & Demetriadis, S. (2003). The design and the formative evaluation of an adaptive educational system based on cognitive styles. *Computers & Education*, 41(1), 87-103. [https://doi.org/10.1016/S0360-1315\(03\)00031-9](https://doi.org/10.1016/S0360-1315(03)00031-9)
- Urhahne, D. (2015). Teacher behavior as a mediator of the relationship between teacher judgment and students' motivation and emotion. *Teaching and Teacher Education*, 45, 73-82. <https://doi.org/10.1016/j.tate.2014.09.006>
- Viñoles-Cosentino, V., Esteve-Mon, F. M., Llopis-Nebot, M. Ángeles, & Adell-Segura, J. (2021). Validación de una plataforma de evaluación formativa de la competencia digital docente en tiempos de Covid-19. *RIED-Revista Iberoamericana De Educación a Distancia*, 24(2), 87-106. <https://doi.org/10.5944/ried.24.2.29102>
- Walvoord, B. E. (2010). *Assessment Clear and Simple: A Practical Guide for Institutions, Departments, and General Education*. Jossey-Bass.
- Yildiz, E. (2020). Investigation of Factors Affecting the Sense of Community of Distance Education Learners in Online Learning Environments. *Journal of Qualitative Research in Education*, 8(1), 180-205. <https://doi.org/10.14689/issn.2148-2624.1.8c.1s.9m>
- Zi, Y., & Pastore, S. (2022). Are teachers literate in formative assessment? The development and validation of the Teacher Formative Assessment Literacy Scale. *Studies in Educational Evaluation*, 74, 101-118. <https://doi.org/10.1016/j.stueduc.2022.101183>

Appendix

INSTRUMENT VALIDATION FORM
ACADEMIC DEPARTMENT OF EDUCATION
JOSÉ MARÍA ARGUEDAS NATIONAL UNIVERSITY

TITLE

**FORMATIVE ASSESSMENT IN THE UNIVERSITY CONTEXT POST-
COVID-19**

Interview script:

1. What was your teaching role during and after the confinement of the pandemic regarding the process of formative assessment?
2. What is the purpose of formative assessments after the pandemic lockdown?
3. How does the teacher link the formative assessment and socio-emotional part following the confinement of the pandemic?
4. What was the way used for the students to achieve meaningful learning after the confinement of the pandemic?
5. What meaning do you give to feedback in the teaching-learning process?