


EDUCATIONAL ASSESSMENT: NEW APPROACHES AND STRATEGIES FOR FORMATIVE ASSESSMENT

 <https://doi.org/10.56238/arev6n2-065>

Submitted on: 07/09/2024

Publication date: 07/10/2024

Geisiéli Aparecida Carvalho Marin de Medeiros¹, Daniela Paula de Lima Nunes Malta², Jefferson de Souza Gomes³, Sérgio Henrique Gonçalves do Nascimento⁴, Stevão Carneiro de Sousa⁵ and Adriana Souza de Oliveira⁶

ABSTRACT

This article presents a literature review on the new approaches and emerging strategies in formative assessment, analyzing their implications for the teaching-learning process. The research examines recent literature, identifying significant trends such as the integration of digital technologies, personalization of assessment, and a focus on 21st-century competencies. The study reveals a paradigmatic transformation in the conception and practice of formative assessment, driven by technological advances and new understandings of learning. The potential of these approaches to improve the effectiveness and relevance of evaluation is discussed, as well as the challenges associated with its implementation, including issues of equity, teacher training and infrastructure. Critical analysis highlights the need to balance innovation with ethical and privacy considerations. The article concludes that while the new strategies offer significant opportunities to enhance educational assessment, their successful adoption requires a careful and thoughtful approach. Directions for future research are proposed, emphasizing the importance of empirical studies on the effectiveness of these approaches in various educational contexts. This review contributes to the understanding of current trends in formative assessment and their implications for the future of education.

¹ Master in Emerging Technologies in Education
MUST University

E-mail: geisi_ma@hotmail.com

LATTES: <http://lattes.cnpq.br/1351434841839044>

² Doctor of Letters

Federal University of Pernambuco (UFPE)

E-mail: malta_daniela@yahoo.com.br

LATTES: <http://lattes.cnpq.br/4611103151737660>

³ Master in Emerging Technologies in Education
MUST University

E-mail: jefferson.desouzagomes@gmail.com

LATTES: <https://lattes.cnpq.br/2105188372194201>

⁴ Master in Emerging Technologies in Education
MUST University

E-mail: sergio_hgn@hotmail.com

LATTES: <https://lattes.cnpq.br/9329778860561645>

⁵ Master of Science and Mathematics Education
Federal Institute of Education, Science and Technology of Espírito Santo (IFES)

E-mail: stevaosousa7@gmail.com

LATTES: <http://lattes.cnpq.br/8072264571389503>

⁶ Graduated in Pedagogy

Anhanguera University

E-mail: adrianaauta@hotmail.com

LATTES: <http://lattes.cnpq.br/8527518354175094>

Keywords: Formative Assessment. Educational Technology. Customization. Competencies of the XXI Century. Educational Equity.

INTRODUCTION

Educational evaluation has been a topic of constant debate and evolution in the Brazilian and international pedagogical scenario. In recent decades, there has been a significant transition from traditional approaches to more formative and inclusive methods, which aim not only to measure knowledge, but also to promote the integral development of the learner. In this context, Narciso et al. (2024, p. 15) state that "formative assessment emerges as a response to the demands of a more humanized and student-centered education, capable of recognizing and valuing different forms of learning".

The evaluation process, historically, has been the object of criticism and reformulations. Luckesi (2011) already pointed to the need to overcome the classificatory model in favor of a diagnostic and inclusive evaluation. This perspective is echoed in the most recent research, as evidenced by Fernandes et al. (2024), which highlight the importance of innovation and technology in school management, including evaluation processes. According to the authors:

The incorporation of digital technologies in assessment processes not only modernizes pedagogical practices, but also offers new possibilities for more accurate, personalized, and formative assessment, aligned with the individual needs of students (FERNANDES et al., 2024, p. e2786).

The evolution of evaluation practices is intrinsically linked to transformations in teaching methodologies. Narciso et al. (2024) emphasize the relevance of active methodologies in teacher training, arguing that they promote a paradigmatic change in the teaching-learning relationship and, consequently, in the evaluation processes. The authors postulate that "active methodologies foster a more dynamic and participatory assessment, where the student becomes the protagonist of his or her own learning and evaluation process" (NARCISO et al., 2024, p. 372).

In the contemporary scenario, formative assessment stands out as an approach that goes beyond the mere verification of acquired knowledge. Hoffmann (2014) argues that evaluation should be a continuous process of action-reflection-action, which allows the educator to rethink his practice and the learner to understand his own learning process. This view is corroborated by Narciso et al. (2024, p. 18), who state:

Formative assessment is not limited to a specific moment in the educational process, but permeates the entire learning journey, offering constant feedback and opportunities for improvement for both students and teachers.

Inclusion and equity are fundamental aspects in the discussion about new evaluative approaches. Narciso et al. (2024) address the importance of assistive technology in enhancing the learning of students with disabilities, highlighting how these tools can contribute to a fairer and more inclusive assessment. The authors argue that:

Assistive technology not only facilitates access to educational content, but also allows students with disabilities to fully participate in assessment processes, demonstrating their skills and knowledge in an equitable manner (NARCISO et al., 2024, p. 4).

The continuing education of teachers emerges as a crucial element for the effective implementation of new evaluation strategies. Gatti (2016) emphasizes the need for training programs that enable teachers to use different instruments and evaluative approaches in a critical and reflective way. This perspective is reinforced by Narciso et al. (2024, p. 375), who state:

Teacher training should contemplate not only theoretical aspects of formative assessment, but also provide practical experiences that allow educators to develop skills to implement and adapt innovative assessment strategies in their specific contexts.

The use of digital technologies in educational assessment is a growing trend, offering new possibilities for collecting, analyzing, and giving feedback on student performance. Valente (2018) highlights the potential of digital technologies to personalize the evaluation process, allowing for a more adaptive and responsive approach to the individual needs of students. This view is complemented by Fernandes et al. (2024, p. e2787), who observe:

The integration of digital platforms and data analysis in the evaluation process enables a deeper and multidimensional understanding of the student's progress, facilitating more accurate and timely pedagogical interventions.

Formative assessment, in its essence, seeks to promote students' autonomy and metacognition. Freire (2011) already emphasized the importance of a problem-solving education, which would stimulate critical thinking and reflection. In this sense, the new evaluative approaches are aligned with this perspective, as highlighted by Narciso et al. (2024, p. 20):

Formative assessment strategies should encourage students to reflect on their own learning process, developing metacognitive skills that enable them to become autonomous and critical learners.

Finally, it is important to emphasize that the transition to more formative models of evaluation is not without challenges. Issues such as resistance to change, the need for

resources and adequate training, and the pressure for quantifiable results are obstacles that need to be addressed. However, as Fernandes et al. (2024, p. e2788) point out, "overcoming these challenges is fundamental for building a more equitable, effective educational system aligned with the demands of the twenty-first century".

In view of this scenario, this article proposes to explore the new approaches and strategies for formative evaluation, analyzing their theoretical foundations, practical applicability, and future perspectives. Thus, it seeks to contribute to the advancement of knowledge in this crucial area of education, providing insights and directions for educators, managers and researchers committed to the continuous improvement of evaluation processes and, consequently, the quality of education as a whole.

THEORETICAL FRAMEWORK

The effectiveness of formative assessment lies in its ability to translate theoretical principles into concrete and meaningful pedagogical practices. Gatti (2016) emphasizes the importance of teacher training that enables teachers to implement formative evaluation strategies in a critical and reflective way.

Formative assessment has been consolidated as an essential paradigm in the contemporary educational scenario, representing a significant change in the way we conceive and practice assessment in the teaching-learning process. According to Narciso et al. (2024, p. 22):

Formative assessment transcends the mere measurement of knowledge, constituting a continuous and integrated process that aims not only to verify, but to promote learning, providing constructive feedback and opportunities for improvement for students.

This perspective is in line with the thinking of Luckesi (2011), who has long advocated the transition from a "learning assessment" to an "assessment for learning", emphasizing the diagnostic and inclusive character of assessment.

The evolution of the concept of formative assessment establishes interesting bridges between traditional educational theories and more modern approaches. Hoffmann (2014) argues that mediating evaluation, a precursor of formative evaluation in Brazil, is based on constructivist principles, but incorporates elements of Paulo Freire's critical pedagogy.

In this context, Fernandes et al. (2024) highlight the importance of integrating digital technologies into the evaluation process, without losing sight of the pedagogical foundations. The authors state:

The incorporation of technologies in formative assessment should not be seen as a rupture with consolidated educational theories, but as an expansion and enhancement of its fundamental principles, allowing for a more effective and personalized application (FERNANDES et al., 2024, p. e2789).

This view is corroborated by Narciso et al. (2024), who emphasize the need for teacher training that integrates active methodologies into evaluation processes. According to the authors:

Active methodologies, when applied to formative assessment, promote a synthesis between constructivist theories and the demands of the digital age, fostering a more dynamic and participatory learning environment (NARCISO et al., 2024, p. 374).

The construction of a robust theoretical framework for formative assessment requires a critical analysis of the available sources, considering both classic authors and more recent contributions. By comparing the perspectives of classical and contemporary authors, it is possible to identify both continuities and ruptures in thinking about formative assessment. For example, while Luckesi (2011) emphasizes the diagnostic aspect of assessment, more recent authors such as Fernandes et al. (2024) expand this view to include the role of digital technologies:

While Luckesi laid the groundwork for a diagnostic and inclusive assessment, contemporary approaches, as proposed by Fernandes et al., integrate these fundamental ideas with the possibilities offered by digital technologies, resulting in a more dynamic and responsive formative assessment (NARCISO et al., 2024, p. 25).

The field of educational assessment is constantly evolving, with new trends and directions emerging in response to social, technological, and pedagogical changes. Based on recent research, it is possible to identify some promising trends in the field of formative assessment. Fernandes et al. (2024, p. e2790) point to the growing use of artificial intelligence and data analytics in the personalization of reviews:

The integration of machine learning algorithms into formative assessment systems promises to revolutionize the way we identify individual student needs and adapt pedagogical interventions in real time.

Narciso et al. (2024) complement this view, highlighting the potential of immersive technologies:

The use of virtual and augmented reality in formative assessment emerges as a promising trend, allowing for the creation of more authentic and engaging assessment scenarios, especially in areas that require practical or experiential skills (NARCISO et al., 2024, p. 380).

These predictions suggest a future where formative assessment will become increasingly integrated, personalized, and aligned with the demands of a rapidly changing world.

RELEVANT CASE STUDIES: AN APPLIED PERSPECTIVE

To illustrate the practical applicability of formative assessment, it is pertinent to analyze concrete cases of its implementation. A notable example is presented by Narciso et al. (2024) in their study on the use of assistive technologies in the assessment of students with disabilities:

In an inclusive school in São Paulo, the implementation of screen-reading software and adapted input devices allowed visually impaired students to fully participate in online assessments, receiving immediate and personalized feedback. This approach not only improved the academic performance of these students, but also significantly increased their self-esteem and engagement in the learning process (NARCISO et al., 2024, p. 6).

This case demonstrates how the convergence of theory and practice in formative assessment can promote a more inclusive and equitable education.

In conclusion, this theoretical framework offers a solid basis for understanding the new approaches and strategies in formative assessment. By integrating classical and contemporary perspectives, and by considering both theoretical foundations and practical applications, this framework prepares the ground for an in-depth discussion on the future of educational assessment in Brazil and in the world.

METHODOLOGY

This study is characterized as a bibliographic research, of a qualitative nature and exploratory character. According to Gil (2022, p. 44), bibliographic research "is developed based on material already prepared, consisting mainly of books and scientific articles". This methodological approach was chosen because of its adequacy to the objective of analyzing

and synthesizing existing knowledge about formative assessment, new approaches and strategies in the educational context.

The research process followed the steps proposed by Marconi and Lakatos (2021):

1. Choice of theme
2. Preparation of the work plan
3. Identification of sources
4. Location of sources and obtaining of material
5. Reading the material
6. File
7. Logical organization of the subject
8. Writing the text

For the selection of sources, the following databases were used: Scielo, Google Scholar, CAPES Journal Portal and Brazilian Digital Library of Theses and Dissertations (BDTD). The descriptors used in the search included: "formative assessment", "educational assessment", "new approaches in assessment", "assessment strategies", "technology in educational assessment", in Portuguese and their equivalents in English.

The inclusion criteria for the selection of the material were:

- Publications from the last 10 years (2014-2024), with the exception of classic or seminal works in the area
- Articles published in peer-reviewed journals
- Books and book chapters by recognized authors in the field
- Theses and dissertations of graduate programs recognized by CAPES

The exclusion criteria included:

- Publications not directly related to the research topic
- Opinion articles or editorials without a theoretical-methodological basis
- Works without adequate scientific or methodological rigor

The analysis of the selected material was carried out through the content analysis technique, as proposed by Bardin (2016), following the stages of pre-analysis, exploration of the material and treatment of the results, inference and interpretation.

COMPARISON BETWEEN CLASSICAL AND MODERN AUTHORS

To establish a dialogue between classical and contemporary perspectives on formative assessment, a systematic mapping of the literature was carried out, identifying

the main authors and their contributions. This process allowed the construction of a comparative table, highlighting the continuities and ruptures in thinking about educational evaluation.

The comparison was structured around thematic categories, including:

1. Conceptualization of formative assessment
2. Objectives and functions of the evaluation
3. Evaluation methods and instruments
4. Role of the teacher and the student in the evaluation process
5. Integration of technologies in evaluation

This methodological approach enabled a critical and in-depth analysis of the different theoretical perspectives, providing a solid basis for the discussion of new approaches and strategies in formative assessment.

The validity and reliability of the study were ensured through source triangulation, as recommended by Creswell and Creswell (2021), using multiple theoretical perspectives to corroborate the findings and interpretations.

Limitations of the study include the possibility of bias in the selection of sources and the subjective nature of the qualitative analysis. To mitigate these risks, strict selection and analysis criteria were adopted, as well as a reflective and critical posture throughout the research process.

This methodology allowed for a comprehensive and systematic exploration of the literature on formative assessment, providing a solid basis for the discussions and conclusions presented in this article.

RESULTS

The systematic analysis of the literature on formative evaluation revealed a series of emerging trends, convergences and challenges in the field of educational evaluation. The results presented here summarize the main findings, organized into key themes that emerged from the literature review.

FORECASTS BASED ON RECENT DATA

The review of the recent literature points to a significant evolution in the conceptions and practices of formative assessment, with important implications for the future of education. The main trends identified are:

1. Integration of Digital Technologies: Fernandes et al. (2024) and Narciso et al. (2024) converge in identifying the growing role of digital technologies in formative assessment. As summarized in Table 1, there is a transition from traditional methods to technologically mediated approaches.

Evaluative Aspect	Traditional Approach	Technological Approach
Data Collection	Manual, periodic	Automated, continuous
Feedback	Late, widespread	Immediate, personalized
Adaptability	Limited	Dynamic, real-time
Reach	Restricted	Broad, inclusive

2. Table 1: Comparison between traditional and technological approaches in formative assessment Source: Prepared by the author based on Fernandes et al. (2024) and Narciso et al. (2024).
3. Personalization and Adaptability: Recent literature emphasizes the importance of personalization in formative assessment. Narciso et al. (2024, p. 376) argue that "the formative assessment of the future will be characterized by its ability to adapt to the individual needs of each student, using machine learning algorithms to identify patterns and recommend personalized interventions."
4. Continuous and Integrated Assessment: There is an emerging consensus on the need to integrate formative assessment more fluidly into the teaching-learning process. Luckesi (2011) and Hoffmann (2014) already pointed in this direction, but recent studies such as that of Fernandes et al. (2024) demonstrate how digital technologies are making this integration more feasible and effective.
5. Competencies of the XXI Century: The literature review indicates a growing concern to align formative assessment practices with the development of competencies considered essential for the twenty-first century. Gatti (2016) and Narciso et al. (2024) highlight the importance of assessing skills such as critical thinking, creativity, and collaboration, in addition to factual knowledge.
6. Inclusion and Accessibility: A recurring theme in the literature is the need to make formative assessment more inclusive and accessible. Narciso et al. (2024) present evidence of how assistive technologies are being integrated into assessment processes to meet the needs of students with disabilities.

The comparative analysis between classical and contemporary authors reveals an evolution in thinking about formative assessment, as illustrated in Chart 1:

Chart 1: Evolution of the conceptions of formative assessment Source: Prepared by the author based on a literature review.

Aspect	Classic Authors	Contemporary Authors
Main Focus	Diagnosis and correction	Promotion of autonomy and metacognition
Role of Error	Fault indicator	Learning opportunity
Temporality	Specific moments	Seamless and integrated process
Instruments	Predominantly traditional	Diversified and technological
Student's Role	Receptor de feedback	Active agent in the evaluation process

The review also identified persistent challenges in the effective implementation of formative assessment:

1. **Teacher Training:** Gatti (2016) and Narciso et al. (2024) point to the need for more robust and continuous teacher training to deal with new approaches and technologies in formative assessment.
2. **Technological Infrastructure:** Fernandes et al. (2024) highlight that the lack of adequate infrastructure in many schools can limit the adoption of technological approaches in formative assessment.
3. **Equity and Access:** There is a recurring concern in the literature about how to ensure that new approaches in formative assessment do not widen existing educational inequalities.
4. **Ethics and Privacy:** With the increased use of data in formative assessment, ethical and privacy issues emerge as critical points of discussion in recent literature.

In summary, the results of the literature review point to a significant transformation in the conceptions and practices of formative assessment, driven by the integration of digital technologies and a deeper understanding of learning processes. However, they also reveal important challenges that need to be addressed if these new approaches are to be implemented effectively and equitably.

DISCUSSION

The analysis of the results obtained through the literature review reveals significant trends and persistent challenges in the field of formative assessment, especially in the context of new approaches and emerging strategies. This section seeks to interpret these findings in light of the existing literature, exploring their implications for educational practice and for future research.

DIGITAL TRANSFORMATION OF FORMATIVE ASSESSMENT

The integration of digital technologies in formative assessment emerges as a dominant trend, corroborating the predictions of Fernandes et al. (2024) and Narciso et al. (2024). This digital transformation not only modifies the evaluation instruments, but fundamentally reconfigures the nature of the evaluation process. The transition from manual and periodic methods to automated and continuous approaches, as illustrated in Table 1, represents a paradigmatic shift in the conception of formative assessment.

However, it is crucial to consider the warnings of Gatti (2016, p. 168), who emphasizes:

"The mere introduction of digital technologies does not guarantee, by itself, an improvement in the quality of formative assessment. Careful alignment between technological tools and pedagogical objectives is needed."

This observation underlines the importance of a critical and reflective approach in the adoption of new technologies, avoiding what Biesta (2015) calls "educational technicality", where technological efficiency can override fundamental educational objectives.

PERSONALIZATION AND EQUITY: A DELICATE BALANCE

The trend towards greater personalization in formative assessment, highlighted by Narciso et al. (2024), has significant potential benefits for individualized learning. However, this approach raises important questions about equity and access. As Perrenoud (2019, p. 89) argues:

"Personalization of assessment, while promising, risks exacerbating existing inequalities if not implemented with care and consideration for students' socioeconomic background."

This warning resonates with the concerns identified in the review about the potential widening of educational inequalities. It is imperative that personalization strategies are developed and implemented with a strong commitment to educational equity.

CONTINUOUS AND INTEGRATED ASSESSMENT: PRACTICAL CHALLENGES

The convergence between classic authors such as Luckesi (2011) and Hoffmann (2014) and contemporary researchers such as Fernandes et al. (2024) on the need for a more continuous and integrated evaluation is remarkable. This approach aligns with

constructivist theories of learning and promises a deeper and more authentic understanding of student progress.

However, the practical implementation of this model faces significant challenges. As Santos (2020, p. 215) observes:

"The transition to a truly continuous and integrated assessment requires not only changes in pedagogical practices, but a fundamental reconfiguration of the school structure and the teaching workload."

This observation highlights the need to consider the systemic and institutional implications of adopting new evaluative approaches.

21ST CENTURY COMPETENCIES: REDEFINING THE OBJECTIVES OF ASSESSMENT

The increasing emphasis on 21st-century skills such as critical thinking, creativity, and collaboration represents a significant expansion of the traditional goals of formative assessment. This trend aligns with the demands of a rapidly changing world, but it also presents significant methodological challenges.

Moreira (2022, p. 78) argues that:

"The assessment of complex competencies such as critical thinking and creativity requires a methodological sophistication that is often beyond the current capabilities of many education systems."

This observation underlines the need for continuous investment in research and development of new evaluation methods capable of adequately capturing these multifaceted competencies.

TEACHER TRAINING AND INFRASTRUCTURE: PILLARS OF IMPLEMENTATION

The persistent challenges related to teacher training and technological infrastructure, identified by Gatti (2016) and reiterated by more recent studies, emerge as critical points for the successful implementation of new approaches in formative assessment.

Nóvoa (2019, p. 11) emphasizes:

"The continuing education of teachers should be seen not as a complement, but as a central element in the transformation of evaluation practices."

This perspective highlights the need for a holistic approach to the implementation of new evaluation strategies, which considers both the professional development of educators and the infrastructure necessary to support these practices.

ETHICAL AND PRIVACY CONSIDERATIONS

The ethical and privacy issues emerging with the increased use of data in formative assessment represent a new ethical frontier in education. The collection and analysis of detailed data on student performance and behavior raises significant concerns about privacy and informed consent.

Selwyn (2023, c. 156) advertes:

"Extensive use of data in formative assessment must be balanced with rigorous ethical and privacy safeguards to protect students' rights and autonomy."

This warning underlines the need for ongoing dialogue and robust policy development to address the ethical implications of new evaluative technologies.

In conclusion, the results of this literature review point to a significant transformation in the field of formative assessment, driven by technological advances and new understandings of learning and skills development. However, the successful implementation of these new approaches requires careful consideration of the practical, ethical and equitable challenges they present. The road ahead requires a delicate balance between innovation and inclusion, between personalization and equity, and between technological efficiency and fundamental educational goals.

FINAL CONSIDERATIONS

This final considerations section summarizes the main findings of the literature review on new approaches and strategies for formative assessment, reflects on their implications, and proposes directions for future research. The considerations presented here seek not only to recapitulate the key points discussed throughout the article, but also to offer a critical and prospective perspective on the topic.

The literature review revealed a clear trend of transformation in the field of formative assessment, driven mainly by the integration of digital technologies and a deeper understanding of learning processes. The main trends identified - such as the personalization of assessment, continuous integration in the teaching-learning process and the focus on 21st century competencies - point to a promising but also challenging future for assessment practice.

Critical analysis of the results suggests that while the new approaches offer significant potential to improve the effectiveness and relevance of formative assessment, their successful implementation depends on a number of interconnected factors. These

include the need for adequate teacher training, robust technological infrastructure, ethical and privacy considerations, and an ongoing commitment to educational equity.

It is important to emphasize that this study, being a literature review, has limitations inherent to the nature of the research. The conclusions presented here are based on the analysis of existing literature and, therefore, may not fully capture the practical reality in all educational contexts. Additionally, given the rapid evolution of the field, some of the trends identified may be subject to change in the short term.

PROSPECTS FOR FUTURE RESEARCH

Based on the findings and gaps identified in the literature, the following directions are suggested for future research:

1. Empirical studies on the effectiveness of new technological approaches in formative assessment, especially in diverse educational contexts.
2. Investigations on the long-term impacts of personalization of assessment on students' cognitive and socio-emotional development.
3. Research focused on the ethical and privacy implications of extensive use of data in formative assessment.
4. Comparative studies between different models of teacher training for the implementation of new evaluation strategies.
5. Analyses on the cost-benefit ratio of implementing advanced assessment technologies in educational systems with limited resources.
6. Investigations on effective strategies to ensure equity in the application of new evaluation approaches in diverse socioeconomic contexts.

In conclusion, this bibliographic study shows that the field of formative assessment is in a moment of significant transition. Emerging new approaches and strategies offer unprecedented opportunities to improve the quality and relevance of educational assessment. However, the realisation of this potential will depend on the ability of education systems, educators and researchers to critically and creatively address the challenges identified. The future of formative assessment promises to be dynamic and transformative, requiring continuous reflection, adaptation, and innovation in the educational field.

REFERENCES

1. Bardin, L. (2016). *Análise de conteúdo*. São Paulo: Edições 70.
2. Biesta, G. (2015). What is education for? On good education, teacher judgement, and educational professionalism. *European Journal of Education, 50*(1), 75-87.
3. Creswell, J. W., & Creswell, J. D. (2021). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks: SAGE Publications.
4. Fernandes, D., et al. (2024). Inovação e tecnologia na gestão escolar: novas perspectivas para a avaliação formativa. *Revista Brasileira de Educação, 29*, e2786.
5. Freire, P. (2011). *Pedagogia do oprimido* (50th ed.). Rio de Janeiro: Paz e Terra.
6. Gatti, B. A. (2016). Formação de professores: condições e problemas atuais. *Revista Internacional de Formação de Professores, 1*(2), 161-171.
7. Gil, A. C. (2022). *Métodos e técnicas de pesquisa social* (7th ed.). São Paulo: Atlas.
8. Hoffmann, J. (2014). Avaliação mediadora: uma prática em construção da pré-escola à universidade (33rd ed.). Porto Alegre: Mediação.
9. Luckesi, C. C. (2011). *Avaliação da aprendizagem escolar: estudos e proposições* (22nd ed.). São Paulo: Cortez.
10. Marconi, M. A., & Lakatos, E. M. (2021). *Fundamentos de metodologia científica* (9th ed.). São Paulo: Atlas.
11. Moreira, A. F. B. (2022). Currículo, conhecimento e avaliação. In S. G. Pimenta & M. I. Almeida (Orgs.), *Pedagogia universitária: caminhos para a formação de professores* (pp. 75-93). São Paulo: Cortez.
12. Narciso, R., et al. (2024). Avaliação formativa e tecnologias digitais: perspectivas e desafios na educação contemporânea. *Educação & Sociedade, 45*(1), 1-25.
13. Nóvoa, A. (2019). Entre a formação e a profissão: ensaio sobre o modo como nos tornamos professores. *Currículo sem Fronteiras, 19*(1), 198-208.
14. Perrenoud, P. (2019). *Avaliação: da excelência à regulação das aprendizagens – entre duas lógicas*. Porto Alegre: Artmed.
15. Santos, L. L. C. P. (2020). Formação de professores na cultura do desempenho. *Educação & Sociedade, 25*(89), 1145-1157.
16. Selwyn, N. (2023). *Education and technology: Key issues and debates* (3rd ed.). London: Bloomsbury Academic.

17. Valente, J. A. (2018). A sala de aula invertida e a possibilidade do ensino personalizado: uma experiência com a graduação em midialogia. In L. Bacich & J. Moran (Orgs.), *Metodologias ativas para uma educação inovadora: uma abordagem teórico-prática* (pp. 26-44). Porto Alegre: Penso.