

# Primary School Teachers' Conceptions of ICT-Mediated Assessment Practices from the Perspective of Learning Diversity\*

[English version]

Concepciones de maestros alrededor de la práctica evaluativa mediada por TIC desde la diversidad

Concepções de professores sobre a prática avaliativa mediada por TIC a partir da diversidade

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## Abstract

Assessing learning involves recognizing methods and tools, as well as understanding the process through which students develop competencies. **Objective:** To explore

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primary school teachers' conceptions of Information and Communication Technology (ICT)-mediated assessment practices and their influence on the recognition of learning diversity. **Methodology:** A qualitative study with an ethnographic design was conducted involving 11 primary school teachers from a public educational institution in Medellín, Antioquia. **Results:** The findings reveal several possibilities, challenges, and educational tensions associated with the integration of ICT into classroom settings. **Conclusions:** Primary school teachers consider that the use of these technological tools contributes to the strengthening of their professional role in response to current educational demands and enables the diversification of assessment strategies.

**Keywords:** assessment; educational technology; learning; teachers (obtained from the UNESCO Thesaurus).

## Resumen

La evaluación de los aprendizajes implica el reconocimiento de los métodos y las herramientas, así como la comprensión del proceso de desempeño de las competencias de los estudiantes. **Objetivo:** explorar las concepciones de los maestros de básica primaria sobre las prácticas evaluativas mediadas por las Tecnologías de la Información y la Comunicación (TIC) y su influencia en el reconocimiento de la diversidad de aprendizaje. **Metodología:** se realizó un estudio cualitativo con un diseño etnográfico acompañado por 11 maestros de básica primaria de una institución educativa pública de la ciudad de Medellín- Antioquia. **Resultados:** los resultados permiten evidenciar algunas posibilidades, retos y tensiones educativas al introducir las TIC en el aula de clases. **Conclusiones:** se concluye que los maestros de primaria consideran que el uso de estas herramientas tecnológicas aporta a la cualificación de su rol según las demandas educativas actuales y posibilita la diversificación de estrategias evaluativas.

**Palabras clave:** evaluación; tecnología educacional; aprendizaje; maestro (obtenidos del tesaurus UNESCO).

## Resumo

A avaliação das aprendizagens implica o reconhecimento dos métodos e das ferramentas, bem como a compreensão do processo de desenvolvimento das competências dos estudantes. **Objetivo:** explorar as concepções de professores dos anos iniciais do ensino fundamental sobre as práticas avaliativas mediadas pelas Tecnologias da Informação e Comunicação (TIC) e sua influência no reconhecimento da diversidade de aprendizagem.

**Metodologia:** realizou-se um estudo qualitativo com delineamento etnográfico, com a participação de 11 professores dos anos iniciais de uma instituição pública de ensino da cidade de Medellín, Antioquia. **Resultados:** os resultados evidenciam algumas possibilidades, desafios e tensões educacionais decorrentes da introdução das TIC em sala de aula. **Conclusões:** conclui-se que os professores consideram que o uso dessas ferramentas tecnológicas contribui para a qualificação de seu papel profissional diante das demandas educacionais contemporâneas e possibilita a diversificação das estratégias avaliativas.

**Palavras-chave:** avaliação; tecnologia educacional; aprendizagem; professor (obtidas do tesouro da UNESCO).

## Introduction

The pedagogical and didactic constructs that shape teachers' assessment practices are essential for understanding the purpose and social function of assessment within educational praxis. In this regard, Gimeno (2013) and Salinas (2016) argue that assessment practices are determined by teachers' epistemological and pedagogical conceptions within the curricular framework, their interpretation of students' characteristics, and their perspectives on learning and reflective educational action. Thus, assessment not only measures academic achievement, but also becomes a dynamic process that enriches teaching and learning processes by promoting greater coherence among educational objectives, teaching strategies, and students' individual needs.

In this sense, Quintana (2022) states that “[...] the complexity of assessment practices points toward formative assessment and the regulation of learning and teaching in order to guide classroom practices” (p. 84, own translation). These practices, from a dialogic and reflective perspective, encourage the development of active students who are aware of their leading role in pedagogical mediation (Ríos & Herrera, 2020). At the same time, they conceive assessment as a factor that gives meaning to educational processes in light of comprehensiveness and educational quality, according to current curricular regulations and the social realities that permeate schools. Accordingly, Colombia's Ministry of National Education (MEN, 2009) states that:

[...] classroom assessment should focus on everyday events, observing and gathering information to determine how students are learning; what they need to learn; and where concepts and processes need to be clarified, reinforced, or consolidated, among other aspects, in order to contribute to their development as competent individuals. (p. 17, own translation).

Indeed, Litwin (1998) conceives assessment as “[...] part of the didactic process, implying for students an awareness of acquired learning and, for teachers, an interpretation of the implications of teaching on such learning” (p. 16, own translation). This perspective aligns with the formative purpose established by the MEN (2009) in Decree 1290 of 2009, which understands assessment practices as a resource that, among other functions, enables the evaluation of students according to their own characteristics, abilities, and interests, while providing teachers with essential information to strengthen and guide educational processes from the perspective of students' holistic development. From this standpoint, the effectiveness of assessment lies in its ability to provide constructive feedback,

adjust pedagogical practices, and contribute to students' integral development within an inclusive and equitable educational context.

According to Asprilla *et al.* (2019), the assessment approach of contemporary schools and primary education teachers seeks to address the need to diversify assessment strategies within the framework of meaningful and comprehensive education. In this regard, studies conducted by Cano *et al.* (2021), Fernández-Menor (2021), Garmen *et al.* (2019), López *et al.* (2021), and Parra *et al.* (2015) demonstrate the relevance of assessment practices grounded in the recognition of learning diversity and the mediation of assessment through digital technologies. These studies argue that such an approach promotes the integration of digital tools, enhancing learning processes, students' active participation in education, and adaptive assessment practices.

Consequently, Arnaiz (2000) argues that the traditional educational paradigm is increasingly distancing itself from a rights-based approach aimed at guaranteeing quality education through the flexibilization and personalization of educational processes in accordance with the differences that shape and contribute to the construction of equitable schools. This gap reinforces the need to promote pedagogical practices that recognize and value student diversity, ensuring access to learning opportunities that respond to individual needs. Thus, the integration of student-centered approaches becomes a pathway for educational transformation, fostering inclusive learning environments that support the holistic development of every learner.

For this reason, the MEN (2017) advocates for the consolidation of an educational system that promotes transformation through the recognition of all students' capacities and possibilities according to their differences, an issue considered fundamental for building a fair and equitable country and society. To this end, schools are expected to focus on each student individually, based on respect for and appreciation of their uniqueness, while highlighting their strengths, skills, and potential beyond the notions of deficiency and lack that have historically stripped diversity of its human dimension. Understanding and adapting to diversity has become increasingly important in a constantly changing world; therefore, schools that value diversity prepare students to face and contribute positively to an evolving society.

Within this discourse and implementation of inclusive schooling and assessment practices that not only recognize but, above all, respect learning diversity, Information and Communication Technologies (ICT) emerge as a key element. From the perspective of their ethical use and articulation with the fundamental objectives of human development, ICT make it possible to chart a path toward a school capable of responding effectively to the challenges and demands of the knowledge society (Begoña & Valdivielso, 2012). Likewise, ICT foreground the

ongoing question of teacher professional development as a coherent means of understanding, within the pedagogical and didactic field, the contemporary ways in which students comprehend, give meaning to, and inhabit the world around them.

Accordingly, this article aims to contribute to the understanding of the different pedagogical and didactic constructs that shape primary school teachers' assessment practices within the framework of learning diversity and the use of ICT.

## Methodology

This research followed an ethnographic design which, according to Galeano (2012), facilitated a natural and direct approach to the context, participants, and situations related to the research interests. Furthermore, ethnography enabled the interpretation of the social and cultural dynamics identified through the behavioral patterns observed among the teachers who participated in the study (Creswell, 2007).

The study population consisted of 11 primary school teachers from a public educational institution in Medellín. The institution grounds its educational practices in institutional policies that regard learning diversity, ICT, and assessment practices as matters of significant importance for institutional transformation toward an education contextualized according to the realities and demands of contemporary society. In addition, the participating teachers had at least two years of professional experience in the field. Authorization from school administrators and teachers was obtained, and informed consent forms were signed to ensure the proper handling of information for research and academic purposes. Likewise, participants were previously informed about the study's purpose, focus of interest, intended use of the information, and the researcher's commitment to providing feedback and formally closing the process by submitting an institutional analysis report to the Academic Council regarding the object of study.

With regard to ethical principles in data management, the anonymity of the participants involved in the research process was preserved, and particular attention was given to respecting the originality of the different theoretical and experiential sources. In addition, the researchers previously shared their

interpretation of the data with the participants in order to obtain their approval before proceeding with the subsequent stages of the study.

Within the ethnographic design framework, the research instruments employed were semi-structured interviews and an observation log focused on assessment practices. The interview included an introductory section addressing the participants' general information, as well as 11 open-ended questions designed to foster dialogue around the research problem. The observation log consisted of a general heading for the study, specific information about the teachers contributing data, and an analytical matrix that facilitated the researcher's descriptive recording of the phenomenon under study.

The instruments were developed in accordance with the specific objectives of the research and were reviewed and validated by three experts in ICT, Diversity, and Assessment Practices, university professors holding doctoral degrees and extensive experience in the educational and research fields, who considered it necessary to strengthen the component related to learning diversity. Consequently, the researchers incorporated an additional question to gain deeper insight into the relationship between learning diversity and the use of ICT. Prior to entering the field, a pilot study was conducted with three primary school teachers from different public institutions to verify the scope and relevance of the instruments' design.

For data analysis, an initial thematic coding process based on the inductive analysis of the collected data was carried out in order to identify units of meaning. Subsequently, major categories emerged, guiding the interpretative analysis of the information. Finally, data collection concluded once data saturation was reached, that is, when the information gathered no longer contributed to the emergence of new categories or to the analytical deepening of existing ones.

Within the framework of educational ethnography's credibility and its scientific rigor, triangulation was employed as a strategy that enabled the discussion of participants' voices and experiences alongside the researcher's perspective, contrasted with the legal and theoretical references supporting the study, thereby ensuring credibility and scientific validity in an objective manner (Denzin, 1970). In order to guarantee the accuracy and reliability of the research, the specialized software Atlas.ti was used to support the objective analysis of qualitative data within the parameters of scientific quality.

This study acknowledges that educational research is shaped by the positionalities and experiences of those involved. Such a stance made it possible to establish a relationship of trust with the participating teachers, facilitating dialogue and the interpretation of their conceptions regarding ICT-mediated assessment practices. The researchers recognize that their academic and professional trajectories in the field of education influenced the selection of the research

problem, the formulation of the questions, and the interpretation of the findings. A situated perspective was adopted, seeking to maintain coherence among the observed realities, the theoretical framework, the methodology, and the data collection process. Likewise, collaborative work enabled cross-review procedures that strengthened interpretative validity and reduced individual biases.

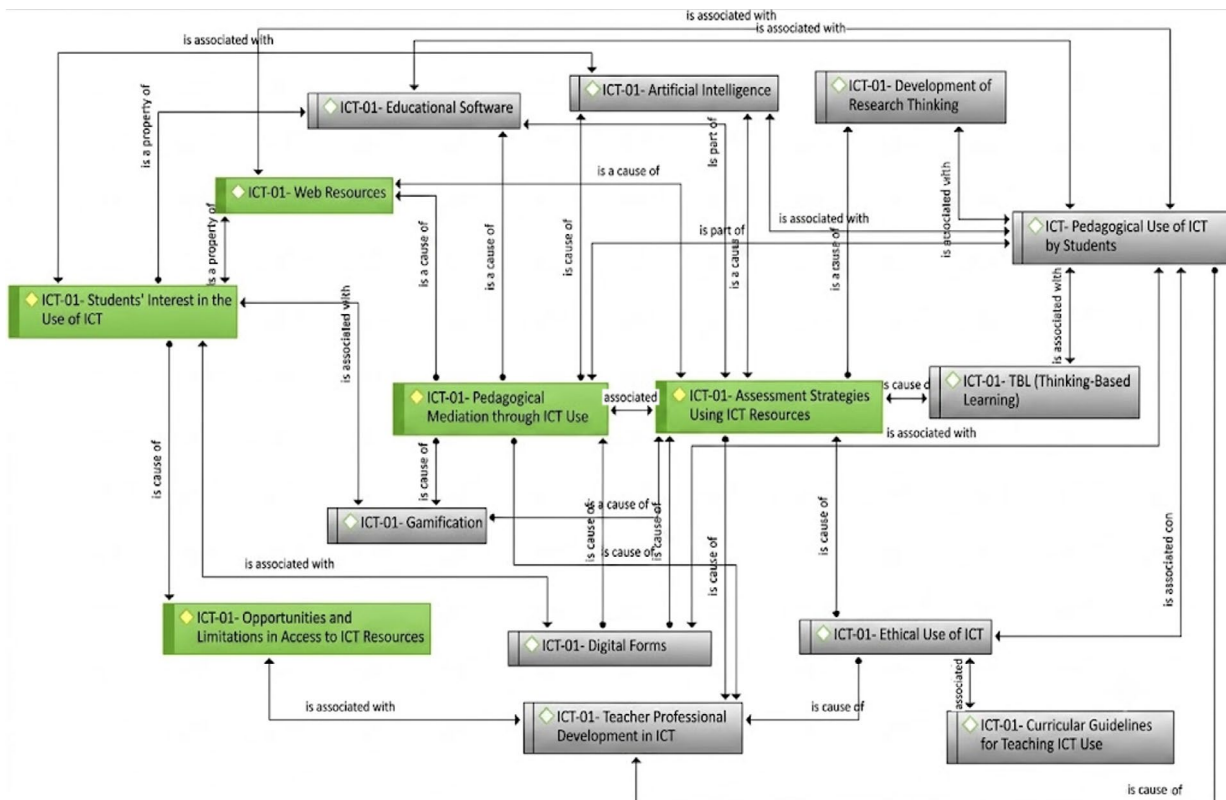
## Results

From the perspective of the “knowledge society,” it has been argued that contemporary schools are situated at the center of multiple social realities and demands that require institutional transformation and renewed commitments in the fields of knowledge construction, information management, and educational dynamics capable of aligning with the realities experienced by twenty-first-century learners (García, 2012). These issues reveal the urgent need to reflect on the influence of such challenges on educational and assessment praxis.

With the aim of identifying some of the tensions, challenges, and possibilities that emerge within schools, which, according to Benavides *et al.* (2023), are required to transform and engage, through their curricular structures and pedagogical practices, with alternative ways of understanding and carrying out educational processes in contemporary times, the analysis conducted through Atlas.ti resulted in the emergence of the following categories: ICT in the qualification and mediation of teachers' praxis; pedagogical and didactic approaches to addressing learning diversity; and the consolidation of assessment practices oriented toward educational quality, understood in terms of formative and holistic education.

### ICT in the Qualification and Mediation of Teachers' Praxis

Throughout the historical development of ICT and its incorporation into schools, an increasing demand for the use of these technological tools in the service of education has become evident. Consequently, the requirements for and awareness of their integration into educational and assessment practices have steadily gained greater relevance, with the aim of aligning school dynamics with ongoing technological advances and transformations.



**Figure 1.** Primary School Teachers' Correlations Regarding the Concept of "ICT".

Based on the analysis of the correlations established by primary school teachers regarding the use of ICT (see Figure 1), these technologies are identified as a range of didactic resources and tools that contribute to strengthening teaching and learning processes within the framework of recognizing the educational possibilities they offer. In this same vein, Benavides *et al.* (2023) argue that primary school students need to be immersed in teaching processes enriched through ICT resources so that they may develop competencies for their everyday use and for the transformation of academic environments. Likewise, the integration of ICT into the curriculum supports the personalization of learning by providing opportunities for each student to progress at their own pace and according to their interests, thereby enriching their learning experience.

This was reflected in the account of one teacher, who highlighted the visual and didactic advantages of implementing explanatory videos for students with

learning disorders and/or visual learning styles in order to foster the development of textual competencies across different subject areas.

In this way, ICT-mediated pedagogical practices respond to the need to diversify teachers' assessment strategies beyond the standardization of punitive and exclusionary forms of assessment, giving way instead to an approach that, according to the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019), is grounded in the ethical use of technology aligned with curricular guidelines, students' natural interests, and their sustained motivation to use these tools both inside and outside the classroom. The latter is considered a determining factor in ensuring students' ongoing participation in the construction of their own knowledge and the development of competencies.

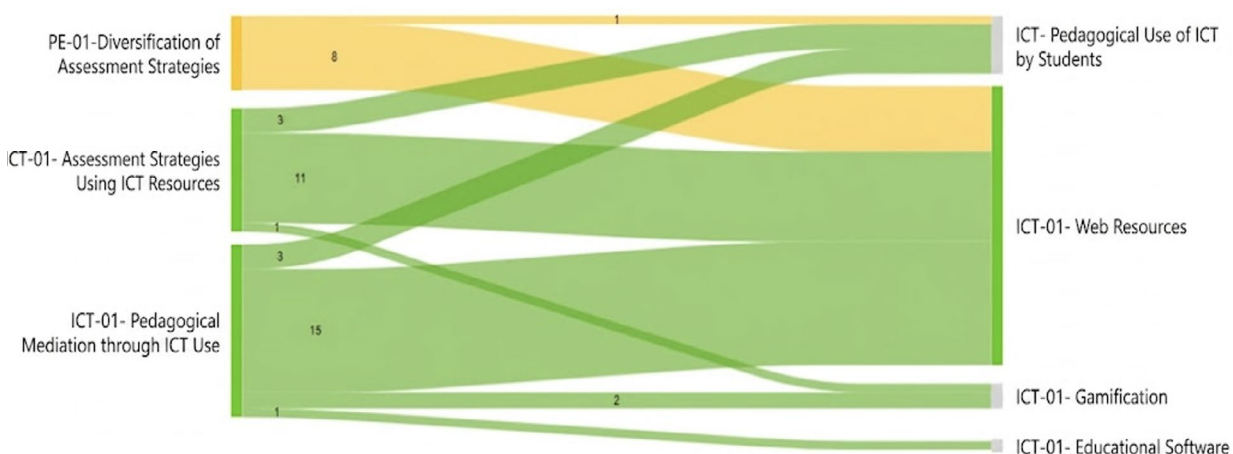
Another aspect emerging from the relationships established in Figure 1 concerns the connections among the pedagogical use of ICT, curricular guidelines, and teacher education. This demonstrates that, although the use of ICT in schools has been increasingly promoted since the COVID-19 pandemic, the development of teachers' digital competencies remains an unresolved issue. This is because the pedagogical use of ICT goes beyond the mere technical mastery of digital tools and requires an understanding of local realities in order to develop contextualized didactic objectives.

As a result, teachers' narratives indicate that the implementation of assessment strategies through technological tools does not necessarily prevent teachers from continuing to apply standardized and exclusionary methods that overlook the individuality of learners, as expressed by one teacher:

[...] I could use a computer to administer a literacy assessment, but if I limit myself to multiple-choice questions without any type of multimodal support, then I am still directly implementing traditional learning strategies that fail to recognize diversity, even if I am using ICT. (Personal communication, September 16, 2024) [own translation].

In this regard, studies conducted by Damasio *et al.* (2017), Granda *et al.* (2019), López (2022), Montalvo-Castro and Martos-Castañeda (2019), and Montoya and Campbell (2022) emphasize the didactic value of using ICT tools such as educational software, digital forms, gamification, artificial intelligence, Thinking-Based Learning (TBL), and web-based resources. Among other contributions, these technological resources support the consolidation and diversification of assessment practices, enabling the transformation of pedagogical mediation in response to school-related challenges and tensions, while fostering formative assessment centered on students' holistic development.

Likewise, as illustrated in Figure 2, a relationship emerges among pedagogical mediation, assessment strategies, and web-based resources. This situation can be understood through the reciprocity among these concepts within classroom settings, where the web has become a didactic resource that contributes to the educational process. For instance, teachers can guide students in the use of online resources by teaching them how to search for relevant information, evaluate sources, and use digital tools to solve problems. Therefore, in line with learning assessment, teaching practices in this field are beginning to move beyond the traditional, punitive, and standardized approaches perpetuated over time, toward practices that may be understood in terms of innovation, participation, dynamism, and meaningful learning within the teaching process.



**Figure 2.** Representative Framework of Pedagogical Mediation and the Diversification of Assessment Strategies.

For this reason, Etchegaray *et al.* (2018) and Lucas and Arana-Cuenca (2022) highlight that ICT-supported assessment methodologies generate a particularly strong sense of motivation among students, as their use brings learners closer, through interactive means, to a formative, playful, multimodal, and challenging educational process aimed at knowledge consolidation and competency development. This approach not only fosters engagement and participation, but also facilitates personalized learning by allowing students to progress at their own pace while receiving immediate and targeted feedback. Ultimately, this improves academic outcomes and prepares students to face the challenges of the twenty-first century, an aspect which, according to Redondo-Trujillo *et al.* (2025), is made possible through the pedagogical impact of Universal Design for

Learning (UDL) and ICT on the inclusion and learning processes of primary school students.

However, limitations in the access to and use of these types of tools constitute a problem that should not only be analyzed and addressed through public policy, but also requires ongoing reflection on and appropriation of teachers' professional practice in order to strengthen the possibilities that emerge from them, as well as to reveal the challenges and tensions that arise when attempting to integrate these resources into classroom settings.

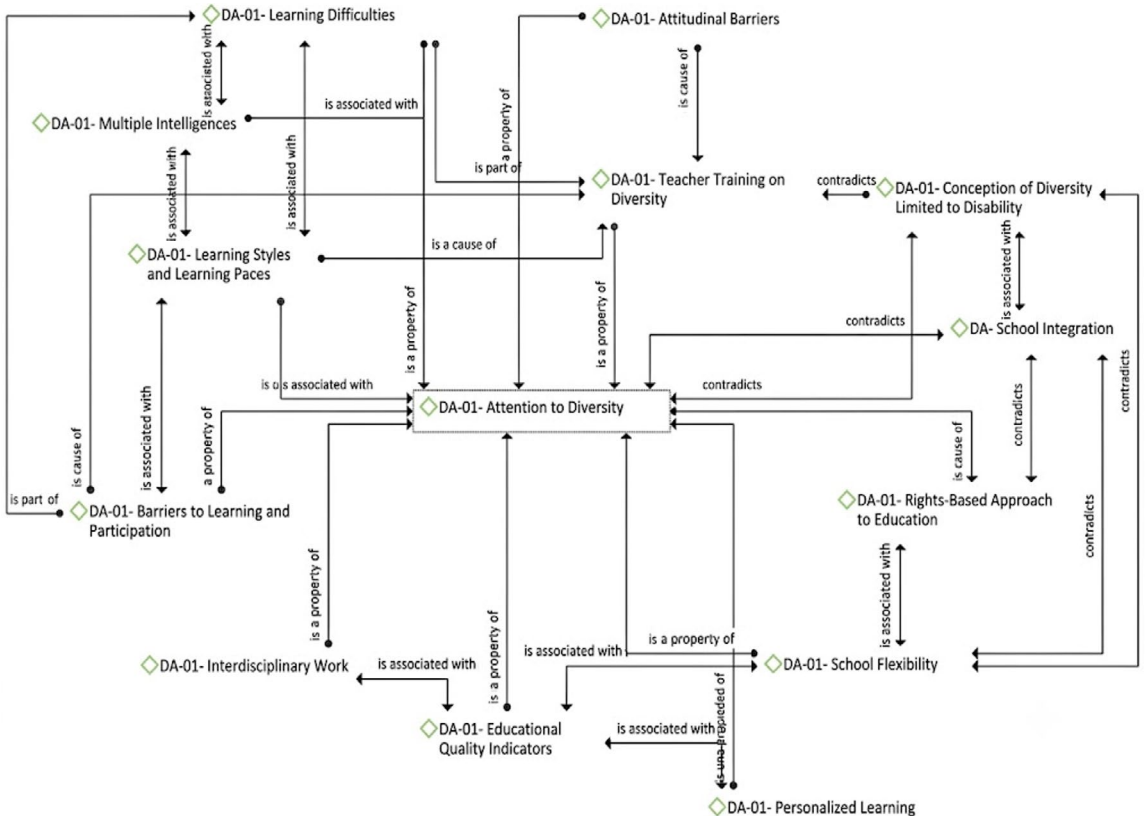
The advancement of technologies in the world and in the everyday lives of younger generations is an undeniable reality. However, providing access and equipment alone is not enough. State and institutional investment is required, translating into connectivity, spaces for reflection, paid teacher training, and interdisciplinary projects that enhance the use of these tools. (Linne, 2020, p. 11) [own translation].

Consequently, access to these resources becomes significantly limited when schools adopt a restrictive stance toward their use and teachers lack sufficient training for their implementation. This situation may become even more complex when such tools are simply unavailable to support pedagogical practice. In contrast, Benavides *et al.* (2023) state that “[...] it is essential for teachers and students to have a robust curricular structure that encompasses the main forms of learning related to the technological and digital world, with clearly defined objectives regarding what is to be achieved and how it can be accomplished” (p. 12, own translation). To this end, ICT should become an integral part of teachers' everyday praxis, not only in terms of their use and ethical and appropriate management, but also in guiding a situated curriculum that contributes to the construction of meaningful learning experiences.

## Learning Diversity

For primary school teachers, discussing the diversity woven into classroom settings entails recognizing the responsibility of schools and teaching practices to address the singularity of learning processes, based on the acknowledgment of both the collective and individual characteristics of students, as well as the demands these place on teaching (MEN, 2021). Within this context, teachers are required to develop an understanding of students' learning styles, prior knowledge, and educational needs. Such understanding makes it possible to adopt didactic strategies and assessment practices aimed at designing inclusive learning

environments. This was reflected in the accounts of several teachers, who stated that their initial professional training was not grounded in special education and that addressing diversity represents a contemporary challenge for which they require pedagogical, didactic, and professional development.



**Figure 3.** Primary School Teachers' Correlations Regarding the Concept of "Learning Diversity"

As shown in Figure 3, the data reveal several fundamental categorical correlations that contribute to understanding pedagogical and assessment dynamics from the perspective of inclusive education. Attention to diversity is directly related to learning paces and learning styles, as well as to multiple intelligences and the importance of recognizing the attitudinal and participation barriers faced by students. Likewise, school integration appears to be in tension with the rights-based approach in education and with school flexibilization in relation to personalized learning.

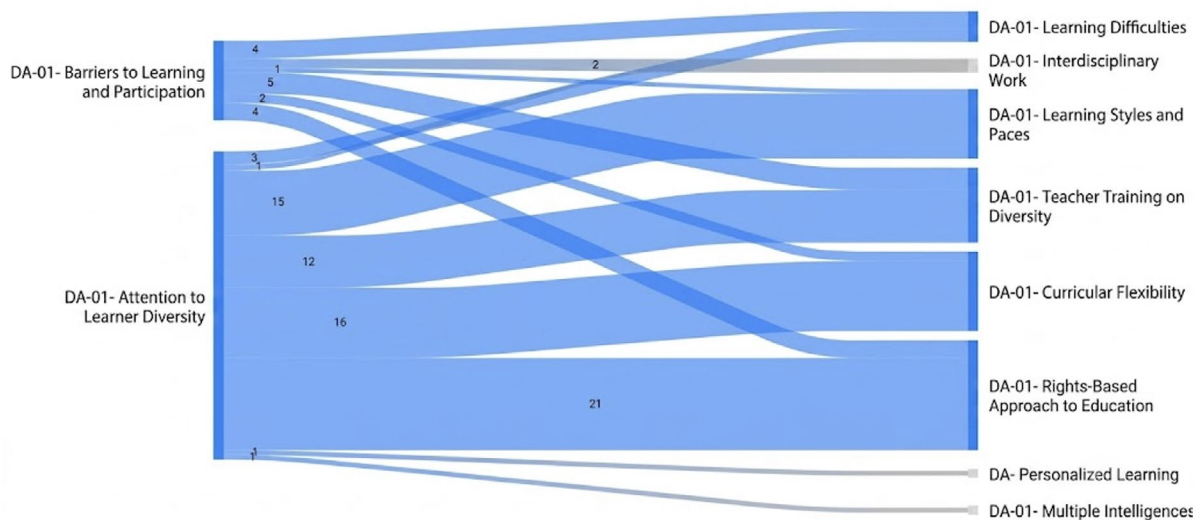
Consequently, and considering the correlations established in Figure 3, teacher education in the field of diversity emerges as a fundamental aspect in

determining the development of inclusive educational practices. On the one hand, when teachers' training is largely limited by prejudices and imaginaries that translate into attitudinal barriers, diversity and inclusion tend to be conceived solely in terms of disability. Educational practice is then restricted to the attempt to create strategies aimed at "normalizing" students and reducing the perception of their individuality to characteristics interpreted from the standpoint of deficiency, in terms of differentialism, as described by Skliar (2019), whereby the "different" is viewed through the fallacy of defectiveness and therefore requires "adjustment."

Similarly, Figure 3 presents categories associated with attention to diversity, highlighting the importance of teachers' understanding of learning paces and learning styles, as well as their theoretical and practical mastery of multiple intelligences, in addition to their recognition of students' attitudinal and participatory barriers. The figure also addresses the school integration of diversity, identifying key elements such as a rights-based approach to education, school flexibilization, and personalized learning. Furthermore, Figure 4 illustrates a series of complex interrelationships among diverse factors affecting education and diversity, revealing learning difficulties as a multifaceted issue that requires a comprehensive approach.

This situation promotes assessment practices that reinforce barriers to learning and participation by perpetuating a praxis detached from the flexibilization and diversification of teaching strategies. In other words, a single standardized method of assessment is imposed, to which all students are expected to adapt. As a result, educational assumptions that have historically run counter to inclusive education and attention to diversity become normalized, such as the school integration approach, which, according to Marín (2019), arbitrarily promotes the idea that students themselves must adapt to a static and exclusionary curriculum.

In relation to Figure 4, when teachers understand that diversity extends beyond disability, as proposed by Booth and Ainscow (2000) through the perspective of the Index for Inclusion, it becomes possible to foster the deployment of pedagogical and didactic resources aimed at recognizing and valuing difference as an opportunity for learning and knowledge construction. This includes attention to different learning paces and styles, educational approaches to multiple intelligences, and the importance of identifying and supporting students with or without learning difficulties in order to minimize, or even eliminate, barriers to learning and participation within schools (Ainscow, 2019; Azorín & Arnaiz, 2013).



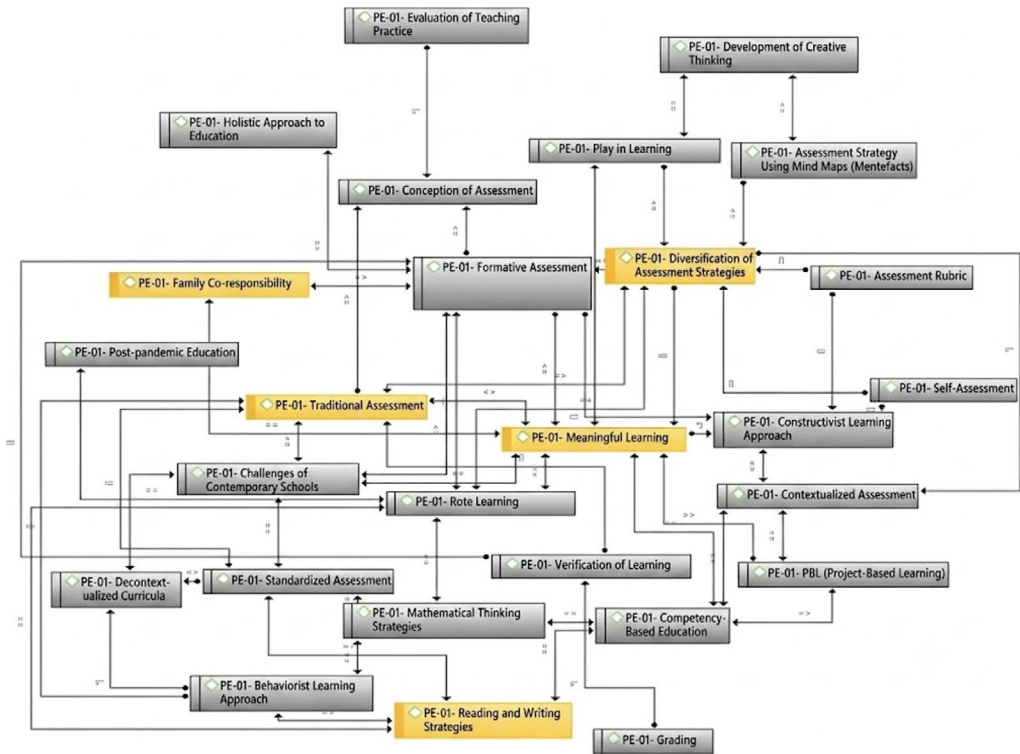
**Figure 4.** Correlations Among Primary School Teachers Regarding the Concept of "Attention to Diversity" and Barriers to Learning and Participation.

In line with Figures 3 and 4, sensitivity toward diversity equips teachers with openness toward inclusion and commits them to mediating their praxis through flexibilization as a pillar of inclusive education. Likewise, the principles of attention to diversity are identified as a key factor in improving educational quality indicators within the framework of a rights-based approach, which demands teacher education and professional development aligned with the interests, particularities, and motivations that characterize students according to their own worldviews.

For this reason, human development-oriented education must begin with the recognition of others through their own singularities and with a commitment to personalized teaching practices that respond to educational demands. This requires teachers' openness to interdisciplinary work that enables them to provide assertive pedagogical, didactic, and assessment support for different learning paces and styles, multiple intelligences, and the learning difficulties commonly found in classrooms. These aspects enrich and strengthen educational processes through diversity while also minimizing barriers to learning and participation.

### Assessment Practices

Within the field of education, assessment practices can be understood as a matter of great relevance for both students' learning processes and the improvement of teachers' praxis. As initially illustrated in Figure 5, teachers' conceptions of assessment determine both its implementation and its purpose within educational processes (Salinas, 2016), as well as the broader educational approach and the interpretation of educational guidelines.



**Figure 5.** Primary School Teachers' Correlations Regarding the Concept of "Assessment Practices".

As illustrated in Figure 5, a dual panorama emerges through which two major perspectives that have shaped learning assessment throughout the development of educa of mechanized and standardized assessment resources that distort the multidimensional and complex nature of learning (Gelpi, 2001).

This perspective results in the establishment and implementation of decontextualized curricula (Center for Applied Special Technology [CAST], 2011) focused exclusively on behaviorist educational approaches that narrow the holistic understanding of education. Such approaches overlook the contemporary

challenge of generating teaching and assessment processes that foster meaningful learning within competency-based education, since assessment practices are conceived merely as mechanisms for verifying students' performance in reading, writing, and logical-mathematical skills.

On the other hand, the educational approach of contemporary schools, which conceive learning from a constructivist perspective, focuses on understanding assessment as a driving force within the educational process and seeks to transform assessment practices so that they respond to the formative, holistic, and process-oriented nature of education. In this regard, the MEN (2009) argues that formative assessment goes beyond the mere measurement or grading of learning, giving rise instead to a hermeneutic exercise that expands the limits of traditional understandings of students and broadens assessment as a process placed at the service of education.

Indeed, and as an issue brought to light by the COVID-19 pandemic, Walss (2021) argues that teachers have recognized the urgent need to diversify their assessment strategies in order to address diversity and promote assessment practices contextualized to the realities and demands of society. In this way, the integration of ICT into classroom settings emerges as an opportunity to strengthen teachers' professional practice, enrich curricula, and transform teaching and assessment practices in coherence with the technological advances that challenge and place schools under tension.

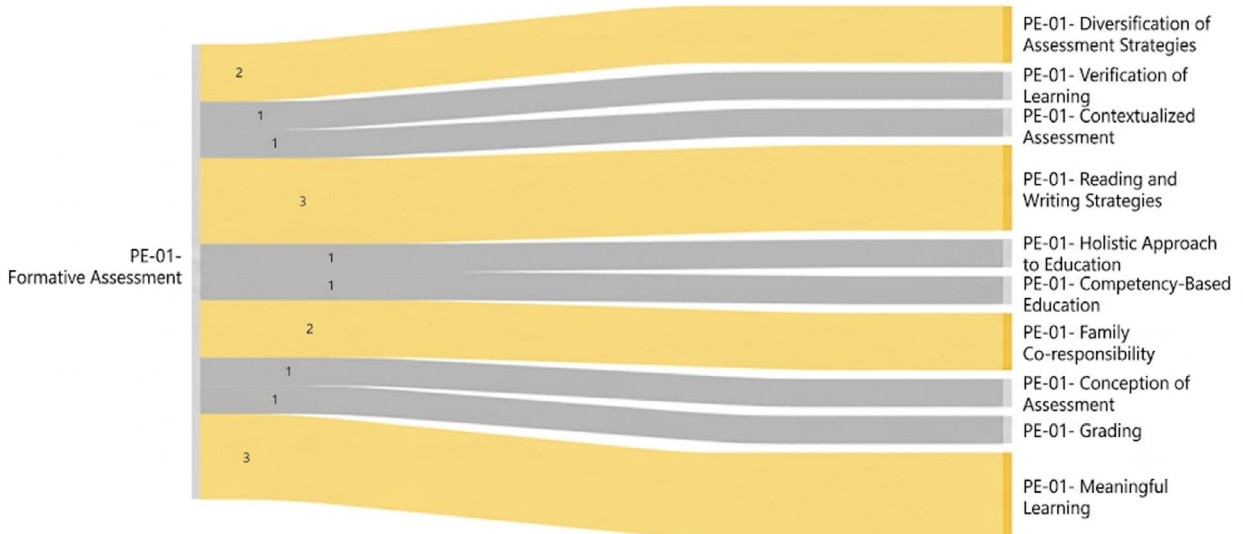
Some of the main ICT-mediated assessment strategies identified by primary school teachers (Figure 5) include the use of assessment rubrics (Calle-Álvarez, 2020; Montoya & Campbell, 2022), web-based resources such as gamification (Ordiz, 2017; Tirado-Olivares *et al.*, 2021), and assessment strategies mediated through mind maps or conceptual frameworks aimed at stimulating the development of creative thinking. These strategies facilitate the collection of data regarding students' progress, enabling teachers to conduct detailed and personalized monitoring of their performance. Moreover, such strategies not only make the assessment process more dynamic and engaging for students, but also provide teachers with valuable information for decision-making, allowing them to design and implement alternative teaching approaches according to students' individual needs.

Likewise, the importance of self-assessment can be observed as a valid and meaningful evaluative exercise for students, as it enables them to assume a leading role in decision-making processes related to their own learning. At the same time, the teacher's responsibility to assess their own pedagogical practice is highlighted, prioritizing the formative dimension of assessment, which contributes to the strengthening of their professional practice in accordance with the particularities of the educational context.

Figure 6 reveals direct relationships between formative assessment and the diversification of strategies for monitoring student learning, family support, meaningful learning, and the guidance of reading and writing practices. It becomes evident that the concept of “formative assessment” is not an isolated matter, but rather one that must be interconnected with different school-related dimensions that are essential for fulfilling established formative purposes within a competency-based educational framework that transcends grading as a limited view of assessment practices.

From a holistic perspective on education, the relevance of the different educational stakeholders in students’ development is reaffirmed, while students themselves are recognized as active subjects in the construction of meaningful learning. This perspective reinforces, for example, the importance of comprehensive development and support in literacy practices during primary education from the standpoint of formative assessment.

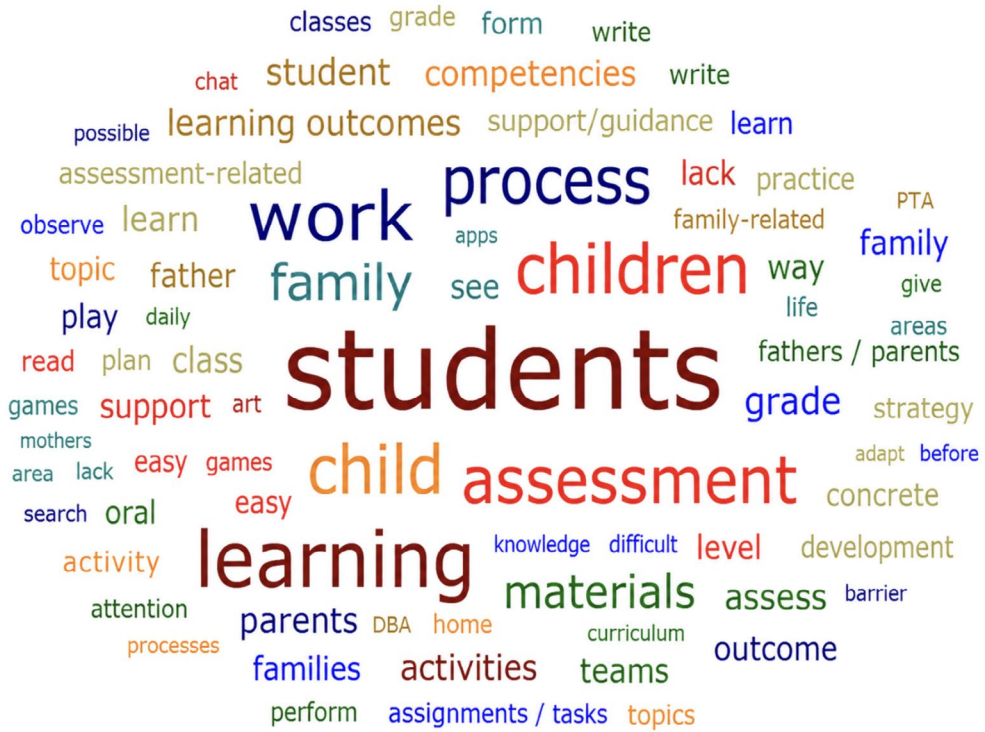
Illustrating the foregoing, one primary school teacher described how her teaching practices in the early grades have proven effective due to the way she succeeds in engaging families in the educational process, taking advantage of resources such as social media and web-based platforms to promote reading comprehension and text production through interactive and participatory experiences involving the family environment.



**Figure 6.** Primary School Teachers' Perceptions of the Concept of "Formative Assessment" and Its Main Characteristics.

In Figure 7, the terms “students,” “assessment,” “children,” and “process” emerge as key concepts when discussing formative assessment, as they place learners at the center of pedagogical practice. Accordingly, the figure reveals the main characteristics of primary school teachers who seek to orient their assessment practices toward the formative and humanistic dimensions of education. Such an approach aims to achieve, according to Mollo-Florez and Medina-Zuta (2020), the development of comprehensive pedagogical proposals that recognize the importance of flexibilizing assessment strategies within the framework of acknowledging learning diversity in the classroom. This implies adopting approaches that value not only students’ academic knowledge, but also their socio-emotional and creative abilities, promoting continuous and contextualized assessment practices that reflect different learning paces and styles. In this way, teachers become facilitators who, through empathy and adaptability, foster an inclusive and equitable environment in which every student has the opportunity to reach their full potential and develop essential competencies for future life.

Finally, assessment is as important as learning itself and requires that pedagogical and didactic reflections focus on the ways in which this process is being carried out, understanding it as a highly relevant complement to the contextualized and meaningful education of learners. Moreover, students can be recognized as the central axis of the educational act, while families are acknowledged as indispensable sources of support under the principle of shared responsibility for multidimensional education.



**Figure 7.** Word Cloud on Formative Assessment and Its Main Characteristics.

## Conclusions

The exhaustive analysis of the data obtained in this study revealed the persistence of two perspectives on learning assessment. The first is a traditional perspective characterized by the promotion of decontextualized curricula, mechanistic learning, and a behaviorist approach to education. The second is a formative perspective that promotes the diversification of assessment strategies, adopts a holistic view of assessment, and seeks to foster meaningful learning.

Nevertheless, the broader perspective of the study illustrates the comprehensive and holistic approach to assessment in education, showing how different approaches and practices interrelate and contribute to understandings of assessment in primary education, such as formative and summative approaches,

which in certain ways become intertwined within educational practice. One example is periodic testing, which may be reduced to grading practices, but which simultaneously serves as a resource for guiding and improving teaching and learning processes according to teachers' evaluative analyses. The study also highlights an approach centered on competency development, aimed at situating learning within the realities and social demands that concern schools.

Thus, discussing inclusive educational and assessment practices implemented in classrooms by teachers directly entails recognizing ICT as indispensable resources for ensuring acknowledgment of student diversity in approaches to learning. For this reason, the teachers participating in the study emphasized the need to strengthen their professional practice in matters of inclusion and in the management of these technological tools in order to respond to the demands and rapid transformations occurring in society, transformations that schools must confront based on the understanding that such resources are increasingly present in students' everyday lives and can promote relevant and contextualized education.

In this sense, ICT become a means of transforming primary school teachers' perceptions and assessment practices from a constructivist perspective that fosters teaching and learning processes committed to educational quality and relevance. However, teachers also highlight the need to facilitate access to these technologies through educational investment, both in terms of accessibility and affordability for families, students, and teachers, with the aim of promoting educational innovation.

Attention to learning diversity within school contexts is an issue that must be analyzed and understood from a rights-based perspective that goes beyond disability-centered approaches. In this way, space is created for reflection and for a pedagogical commitment that positions teachers to value differences as a factor that enriches the human condition and transforms the educational act when conceived through the identification and elimination of attitudinal barriers that obscure the humanizing dimension of an education designed in and for diversity. In other words, the study promotes the importance of educational practices framed within inclusive education in order to foster respect for human dignity through the recognition of each student's unique potential. Likewise, it seeks to address human diversity and its implications for learning processes as a pressing issue in order to prevent the exclusion and segregation of difference within school contexts.

At the same time, the study revealed the need to generate further reflection on the importance of assessment practices in primary education and on the ways assessment may significantly influence the different forms of learning that teachers identify in everyday school life. Such learning processes may either foster and transform learning toward a more personalized and meaningful approach or, conversely, continue perpetuating mechanistic learning through exclusionary

educational practices that fail to engage with current social demands and competencies, while validating assessment methods grounded in memorization and decontextualized processes that reinforce educational inequalities. This runs counter to the arguments proposed by Jiménez-Becerra (2022), who recognizes the role of technologies in improving schools, enhancing quality of life, and developing human skills and abilities.

Ethnographic research proved to be an appropriate methodological option because it enabled extensive dialogue with the teachers who agreed to participate in the study. However, these findings cannot be generalized to other educational contexts due to the specificity of both the study and its methodological design. Consequently, future research is encouraged to consider the findings of this study as a starting point for designing and developing research initiatives that contribute to the epistemological consolidation of the field from different qualitative and quantitative perspectives capable of providing a holistic approach to the object of study.

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