Research Article

The teaching of assessment in initial teacher education

Abstract

In teacher training processes, the aim is to enhance skills and knowledge to manage the classroom curriculum, considering teaching and assessment methodologies. The inquiry has focused on describing the strategies used by teachers in teaching assessment during initial teacher training. This was supported by a quantitative, descriptive study using a Likert-type scale, whit confirmatory factor analysis for validation and Cronbach´s alpha for reliability. Inferential analysis was also applied, highlighting that teaching how to teach and assess in initial teacher education is conditioned by the work carried out in the classroom.

Keywords: teacher, teaching, assessment

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Introduction

Teacher training processes aim to improve not only the mastery of knowledge in different areas of study, but also the integration of diverse experiences to transform classrooms into spaces that foster new perceptions of teaching, learning, and assessment. Thus, the practices implemented in various training settings seek to develop a reflective approach to teacher-student communication in order to better organize the micro-curriculum.[1]

With the paradigm shifts in curriculum design and development, especially the competency-based approach, according to Bunk et al.,[2] these changes have impacted curriculum design and development, the definition of objectives, the selection of content, and the methodologies that teachers use, as elements of educational practice, modifying the interaction between teachers and students in the search for an organization of teaching and learning.

The teacher, as organizer and executor of the curriculum, has the obligation to present and explain the work proposals, argued with a foundation in the relationship between teaching, learning, and evaluating. According to Ruiz et al.,[5,6] this step allows the establishment of the classroom climate and its organization as a reference for the development of learning.

In this sense, within the context of initial teacher training, the management of teaching and assessment methodologies must be considered throughout the entire training process, not as a single, isolated class or subject that delves into knowledge construction and the use of information to improve educational practice. Teaching how to teach and how to assess requires integrating the student into the planning process to select learning methods and techniques, as well as assessment techniques.

The conceptions of teaching are based on didactics,[7,8] as it is an art that requires mastery of the same and the adaptations that the classroom contexts require, for Calderón, (2024),[9,10] the choice of strategies is fundamental since it impacts the success that the student can have, allowing interaction in experiential learning situations, strengthening knowledge and acquiring new knowledge, the development of diverse skills.

In teacher training scenarios, changes in teachers' practices are required, integrating deep and well-founded innovation,[11] according to Losada[10]. Innovation in teaching should be considered as a review, a change, and a transformation of teaching practices. It becomes essential for teachers to increase their knowledge of all the components of classroom teaching.

According to Rivera[12] teachers must demonstrate mastery of curricular approaches and models, in addition to knowledge of didactics and classroom curriculum design for the comprehensive training of students. Among the teaching strategies are those mentioned by Cervera[13,9,14] Tencio (2016) aimed at the acquisition of information, such as lectures, readings, research, directed work, which allow the encoding of information, mind maps, graphic organizers, information retrieval, cases, projects, problems.

Among the characteristics identified in learning strategies, they seek to promote effective learning, allowing the systematic sequencing of content, avoiding improvisation at all costs, strengthening autonomy, cooperative work, and empowering the student as the manager of their learning. Along with these strategies, evaluation should be considered as an improvement process aimed at innovation.

Learning assessment

The evaluation process seeks to generate evidence to guarantee the achievement of the professional profile. Pino et al.[15] consider that a lack of knowledge about the scope of the evaluation is reflected in the shortcomings of the micro-curriculum proposals, consequently damaging the essence of teaching work. Regarding this, Espinoza Freire[16] states that "educational evaluation is considered as a systematic process of collecting and analyzing information, which requires specific methods, procedures, and techniques to formulate value judgments about educational objectives." The evaluation model used must be considered in relation to the proposed curriculum model.[3]

It is important to consider that evaluation has different phases—diagnostic, summative, formative, and process-oriented—in the pursuit of meaningful learning, given that learning is generated through the integration of concepts, materials, and ideas from each individual.[17] This process aims to integrate new ideas from the student's perspective.

With the aim of integrating students' ideas into the evaluations or selection of ideas, the role of students in the organization of the micro curriculum Botía[18] particularly in initial teacher training allows teaching how it is organized and how discussions about how to teach and evaluate allow having a contextualized view of the classroom and the characteristics of the students.[19,20]

For Bara et al.,[21] the learning assessment process must be closely linked to the objectives, methods, techniques, and resources considered in the lesson plan or micro-curriculum. In addition, the use of rubrics should be considered. Fraile et al.,[22] mention that it allows for improved transparency and a better understanding of the assessment, thereby enhancing metacognitive and self-regulation activities, allowing reflection on the quality of work to be developed and products to be delivered as evidence of a teaching and learning strategy.

When teaching assessment in teacher training, it's important to consider that the curriculum includes training modules that conceptualize and exemplify assessment, and explore its application in educational contexts. This study aims to identify how assessment is taught within different training modules, based on the work of the teacher and viewed through the lens of student expertise.

Methodology

This study aims to examine the planning and evaluation practices developed by teachers from the students' perspective at the National Pedagogical University, Main Campus. This approach has allowed for a closer look at classroom work for teaching assessment in initial teacher training.

Furthermore, the study is framed within a descriptive approach, since, considering the position of García Cabrero[23] it intends to "identify characteristics of a group of people belonging to a specific population," allowing for the description of the reality being studied. With the characteristics of this research, the population consisted of all students enrolled in the first period of 2025, totaling 3775. The sample, according to Bernal, Sampieri et al.,[24,25] consists of the intentional selection of a subset of the population. The selection was made by convenience sampling,[26] and it comprises 415 students from different areas of study, ranging in age from 17 to 42 years old.

For the collection of information, a Likert-type questionnaire was used, which presents a series of 36 questions, ordered in 4 dimensions: 9 questions for the planning of the evaluation, 9 questions directed at the student participation, 9 questions oriented to the development of evaluation instruments and 9 questions oriented to the reflection of the results; the same was ordered into 5 options in the coding Table 1.

Table 1 Scale response coding

Answer	Coding
Totally agree	1
OK	2
Indifferent	3
Disagree	4
I completely disagree	5

Source: Own elaboration

In the application process, the Scale was validated. The first step was by specialists in research and in the writing of the items. Subsequently, a confirmatory factor analysis process was carried out,[26] performing a reliability analysis with a Cronbach's alpha of 0.959. In addition, a KMO and Bartlett's test were performed to identify normality and to be able to start the factor analysis from which the data in Table 2 was obtained, allowing the development of a factor analysis.

Furthermore, the initial process identified nine factors that explained 72% of the values, with factors 1 and 3 having the highest item loadings. After data processing following validation, the scale was reduced to four factors with equal loadings. Following the approaches of Ledesma, Paniagua et al.,[27,28] a maximum similarity analysis was applied between factors, along with an approximamax rotation . This was done to determine the relationship between the factors and how they are associated, with the aim of ensuring a reliable and valid scale for the context in which it is applied. Inferential statistics were used for data analysis.

Table 2 KMO and Bartlett

KMO and Bartlett test		
Kaiser-Meyer- Olkin measure of sampling adequacy.		0.956
Bartlett's sphericity test	Approximate Chi-square	9827.078
	gl	630
	Next.	0

Source: Prepared from the results

Results

When developing the curriculum, it is subject to the selection of different teaching-learning strategies, and these are associated with evaluation, whether of process or product. When asked about the explanation of the relationship between evaluation instruments and the competencies of the pedagogical spaces, 36.3% and 29.8% mentioned agreeing and totally agreeing that the teacher makes this explanation, while 21.8% and 10.5% were indifferent or disagreed with this action in the classroom.

Considering the understanding of the resources and products requested for verification of the achievement of competencies and learning strategies, 33.6% indicate that there is indifference to explaining how the evaluation strategies will be used, and 30.3% along with 34.6%, agree or totally agree, in the actions that seek the understanding and explanation of each instrument used in the evaluation.

With the aim of teaching how to evaluate, it is necessary to understand the difference between evaluation strategies and teaching strategies, along with the products obtained as evidence of a learning process. In this regard, 7.3% and 25.1% are totally disagreed and indifferent, as they do not identify these actions. In contrast, 32.6% agree and 31.1% totally agree with the explanations and the diversity of teaching and evaluation strategies, the products that can be obtained, and how these contribute to learning.

It should be considered that the evaluation is subject to an evaluation model, Flores Pacheco, Pascual-Arias, Plessi et al.,[29–31] Stufflbeam & Shinkfield, (1985), which allows the use of diverse strategies, and it is here that the rubric,[22] which is developed to identify descriptions that allow the identification of the student's progress in a process-product evaluation, 34.8% state that they are presented and developed, while 31.1% agree, attention should be paid to the 20.8% and 10.5% are indifferent and at the same time show disagreement, which is to be considered a high percentage.

The evaluation involves assessing procedures and concepts. For this purpose, teaching practice emphasizes the use of written tests. Regarding the objective of applying these evaluations, 30.3% believe their usefulness lies in helping teachers organize and code information. This is supported by 36.3% who have identified this action, while smaller percentages, such as 19.8% and 10.8%, disagree or are indifferent to these activities. This should be associated with the application of tests aimed at identifying the comprehension of the conceptual and procedural content developed in the pedagogical space. A cumulative percentage of 52.9% believe that these tests

facilitate the understanding of the different topics covered, while the remaining 47.1% disagree.

Teaching requires various strategies supported by didactics, which allow for the organization of mental processes, encoding, and the creation of schemes and graphic organizers, developed individually or cooperatively. These strategies are identified as evaluation strategies by the students; 51.4% consider them part of classroom evaluation or autonomous work, while the remaining 48.6% do not establish a difference between them.

Furthermore, in addition to linking teaching strategies with assessment, assessment is also related to the models used to design and develop the curriculum.[32] This study aims to identify the relationship between assessment and the curriculum model; 66.7% of participants identified this relationship, while a smaller percentage (33.3%) did not in the pedagogical contexts they studied. Table 3 organizes the diagnostic, summative, and formative assessments described in the course descriptions, which can be integrated and reviewed as the program of study progresses. It takes into account the teacher's emphasis regarding the use of the results.

Table 3 Diagnostic, Formative and Summative Assessment

Type of evaluation	Identified use	Emphasis of the evaluation
Diagnostic	64.40%	
Formative	67.14%	64.90%
Summative	64.70%	67.90%

Source: Prepared from the results

The emphasis of diagnostic assessment should focus on formulating initial micro-curriculum proposals that address the individual characteristics of students, in order to improve teaching and learning processes. It has been found that the emphasis of assessment is quantitative at 67.7%, which is associated with long-term memorization.

Among the identified strategies, self-evaluation and co-evaluation stand out as part of cooperative work, which is related to 62.4 %.

In the specific areas of teacher training, which include specific areas of curriculum design, didactics and evaluation, it has been found that these areas demonstrate the development and application of evaluation instruments allowing the association and application in similar contexts, thus meta-evaluation allows determining the pertinence, quality and relevance.

Discussion

Through the application of the scale, it has been identified that there are different points of view in relation to teaching how to evaluate, which are considered in the validity of the evaluation instruments and their relationship with the curricular models and evaluation models, the reliability for the application in diverse contexts, and the acceptability, the evaluation is a resource to gather information, and establish an assessment on the progress of the learning process or achievement of a professional profile, the techniques and strategies of evaluation allow the systematization of the different objects and aspects to be evaluated.

Regarding teaching assessment, it is identified that Freire[16] states that assessment should aim to improve the teaching and learning process, based on reflection on educational practice ADDIN ZOTERO_ITEM CSL_CITATION nID":"vLlaENIq","properties":{"formattedCitation":"(Espinoza Freire, 2022)","plainCitation":"(Espinoza Freire,

":true,"noteIndex":0},"citationItems":[{"id":1007,"uris":["http://zotero.org/users/7929168/items/9WLWWTGG"],"itemData":{"id":1007,"type":"article-magazine","container-title":"Revista Conrado","issue":"85","page":"120-127","title":"La evaluación de los aprendizajes","volume":"18","author":[{"family":"Espinoza Freire","given":"Aldo Enrique"}],"issued":{"date-parts":[["2022"]]}}}],"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"} . Analyzing assessment results allows for the integration of diagnostic, formative, and summative assessment. Explaining the appropriate use of different strategies allows for understanding their relationship to competencies and achievement indicators.

Reviewing and improving based on the results allows for the validation and contextualization of the instruments developed, whether rubrics, objective tests, graphic organizers, among others; this allows for the improvement of the proposal and its contextualization. Rios Campos et al.,[33] Generating examples that can be applied in teacher training, it also strengthens the approach to validity and ensures that what is measured is what is expected, learning to design and apply reliable, valid and relevant evaluation instruments Bermúdez, Flores Pacheco et al.[26,29,34,35]

Conclusion

Teacher training aims to create spaces for reflection among teacher educators, making an integrated vision essential for curriculum planning and development in the classroom. This allows for teachers to implement assessments that are consistent with teaching and learning strategies, considering the student's role in the process of constructing and reflecting on their role as both students and future teachers. Proper planning ensures that the student develops self-regulation mechanisms in order to achieve better learning outcomes. Teaching how to teach and assess in initial teacher training is conditioned by the work done in the classroom. This involves identifying how formative and summative assessment processes are perceived, and their coherent relationship with the achievement of competencies. In the pursuit of improved teaching, it has been identified that a relatively small percentage perceive the organization of assessment, its coherence, and its usefulness as a means of verification and constant improvement. However, a smaller percentage do not perceive it positively. An interesting point is the discussion of the results, the validation of the instruments, and the reproducibility that can be generated when validating the results and reflecting on their validity. Finally, it is important to consider the students' perceptions regarding learning to evaluate. It is necessary to highlight that there is an awareness of the importance of learning to evaluate from within teaching practices, promoting self-evaluation, peer evaluation, and methodological coherence between teaching and evaluation. This allows for explaining the various criteria, seeking the success of the evaluation strategy, and enabling its application in the workplace.

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Conflicts of interest

The author declares there is no conflict of interest.

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