Greek Pre-Service Teachers' Approaches and Beliefs Regarding Classroom Assessment

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ABSTRACT

Teacher assessment literacy has become a prominent area in educational research in recent years. This study examines the approaches and beliefs of 515 Greek pre-service teachers concerning classroom assessment across four key dimensions: purpose, process, assessment fairness, and assessment theory. Using a quantitative methodology and utilizing the ACAI questionnaire (version 3.0), the study reveals a strong preference for formative assessment practices that support learning and enhance students' metacognitive development, while assigning less importance to standardized testing. Pre-service teachers advocate for differentiated and equitable assessment practices tailored to specific educational contexts, emphasizing the need to mitigate student stress during assessments. These findings offer essential insights for advancing assessment literacy among pre-service teachers within their university education and inform the development of targeted professional development programs for in-service teachers.

Keywords: Classroom assessment fairness, classroom assessment literacy, classroom assessment process, classroom assessment purpose.

1. Introduction

In recent years, there has been an increasing international emphasis on improving teachers' capacity to implement high-quality assessment practices. Consequently, training pre-service teachers in classroom assessment has become a top priority (Herppich *et al.*, 2018; Xu & Brown, 2016). Despite advancements in teacher education programs, many novice teachers begin their professional careers with limited confidence and heightened anxiety about their assessment skills (Birenbaum & Rosenau, 2006; DeLuca & Klinger, 2010; MacLellan, 2004; Mertler, 2009; Poth, 2013; Volante & Fazio, 2007). Given that classroom assessment practices play a critical role in shaping students' learning experiences and outcomes, understanding the assessment approaches adopted by teachers in practice is essential (Black & Wiliam, 2010; DeLuca *et al.*, 2018; Hattie, 2012).

1.1. Teacher Assessment Literacy

Assessment literacy encompasses the knowledge, skills, perceptions, and attitudes necessary for conducting effective assessments in specific educational settings (Popham, 2009, 2013). Recent studies indicate that teachers' perceptions of assessment are shaped both by their personal and professional beliefs (micro-cultures of assessment) and by collective beliefs and practices driven by systemic factors, such as large-scale examinations (macro-cultures of assessment). Teachers' assessment literacy is shaped by their ability to integrate macro- and micro-cultures to enhance the learning process and support students in achieving their goals (Brown & Remesal, 2012; Coombs *et al.*, 2020; DeLuca *et al.*, 2018; Herppich *et al.*, 2018). In this context, it is essential to examine the approaches and beliefs held by pre-service teachers during their university education, as well as how their academic education may influence their identity as assessors. Understanding these assumptions and beliefs, as part of their evolving assessment literacy, is critical, as it reflects their ability to effectively carry out their assessment roles, ultimately contributing to improved student learning outcomes (DeLuca *et al.*, 2016; Smith *et al.*, 2014).

1.2. Purpose and Research Questions

This study examines pre-service teachers' approaches to classroom assessment across four key dimensions: purpose, process, fairness, and assessment theory. It also investigates their beliefs related to classroom assessment. The findings aim to inform the redesign of assessment training within university teacher education programs and support targeted professional development initiatives.

Since the ACAI questionnaire used in this study is part of an international research project, it also enables comparative analyses of systemic differences in assessment practices across educational systems in various countries. The study addresses the following research questions:

1. What are the approaches of Greek pre-service teachers regarding the purpose, process, fairness, and assessment theory of classroom assessment?
2. What are the beliefs of Greek pre-service teachers about classroom assessment?

2. Method

The study employs a quantitative methodology to systematically measure the pre-service students' approaches to classroom assessment practices (Creswell, 2019). The Part C of the ACAI (version 3.0) questionnaire was selected as the research tool and distributed electronically via Google Forms between May and November 2025. For the purposes of the study, the tool was translated into Greek by the researcher. A pilot study involving 10 pre-service teachers was conducted to assess content validity, evaluate internal consistency, and ensure the relevance of the questionnaire items to the Greek context, thereby minimizing potential misunderstandings. Feedback and suggestions from the pilot study were incorporated to refine the instrument before it was administered to the main study sample.

2.1. Instrument

Some of the most well-known and widely used tools for assessing classroom assessment literacy include the *Teacher Assessment Literacy Questionnaire (TALQ)*, the *Assessment Literacy Inventory (ALI)*, and the *Classroom Assessment Literacy Inventory (CALI)*. These instruments are specifically designed to evaluate teachers' assessment literacy through quantitative methods and practical scenarios. In the current study, the *Approaches to Classroom Assessment Inventory (ACAI 3.0)* developed by DeLuca et al. (2016) was employed.

The ACAI (version 3.0) scale assesses teachers' approaches to classroom assessment, their self-reported confidence in managing contemporary assessment tasks, and their priorities and preferences for professional development. It consists of three parts: Part A, which gathers demographic and educational background information; Part B, which includes four scenario-based questions on classroom assessment approaches; and Part C, which focuses on classroom assessment approaches and beliefs. Part C was chosen for this study because it effectively captures the multidimensional nature of assessment literacy, which is crucial for addressing the complex demands of modern classroom assessments. The items in Part C are based on the *Beliefs about Assessment* (BAA) scale developed by Hill et al. (2013). This section includes 24 statements organized into 12 dimensions of assessment literacy. The four-dimensional framework for assessment literacy in Part C includes: (a) Assessment Purpose (Assessment of learning, Assessment for learning, and Assessment as learning), (b) Assessment Purpose, (Design, Use and Scoring, and Communication), (c) Assessment Fairness (Standard, Equitable, and Differentiated), and (d) Assessment Theory (Consistent, Contextual, and Balanced). Part C also contains 8 questions regarding Assessment Beliefs. Pre-service teachers were asked to indicate their level of agreement with each statement using a 6-point Likert scale, ranging from "1 = not at all likely" to "6 = highly likely".

2.2. Sample

A total of 515 undergraduate students from the Department of Pedagogy and Primary Education at the National and Kapodistrian University of Athens, Greece, participated in the study. Of them, 457 (88.7%) were women, 52 (10.1%) were men, and 6 (1.2%) chose not to disclose their gender. Regarding academic progression, 99 (19.3%) were in the early stages of their studies, 169 (32.9%) were at the mid-point, and 246 (47.8%) were nearing completion. The majority of participants were between aged between 18 and 25 years.

2.3. Data Analyses

Descriptive statistics, including the mean and standard deviation, were computed for all items using SPSS statistical software. Participants' levels of support for each of the 12 dimensions of assessment were determined by calculating the average scores of the items corresponding to each dimension. The internal consistency of the questionnaire was assessed quantitatively using Cronbach's alpha coefficient. Reliability analysis for both individual dimensions and the overall questionnaire revealed strong internal consistency (Cronbach's Alpha = 0.860; see Table I), confirming the instrument's overall reliability. Most dimensions demonstrated acceptable reliability levels, with alpha values meeting or exceeding the commonly accepted threshold of 0.7, such as "Assessment Process" (0.725), "Assessment Fairness" (0.653), "Assessment Theory" (0.713), and "Assessment Beliefs" (0.719). However, the "Assessment Purpose" dimension showed a lower alpha value (0.567), indicating reduced internal consistency, which can likely be attributed to the limited number of items within this dimension.

TABLE I: Reliability Testing

Questionnaire/Dimension	Cronbach's alpha	N of items
Assessment purpose	0.567	6
Assessment process	0.725	6
Assessment fairness	0.653	6
Assessment theory	0.713	6
Perceptions of assessment	0.719	8
Overall questionnaire	0.860	32

3. Results

The results present descriptive statistics derived from pre-service students' self-reported evaluations across key dimensions of assessment, including purpose, process, fairness, and assessment theory, and assessment beliefs.

3.1. Assessment Purpose

Table II presents the descriptive statistics summarizing pre-service teachers' approaches to assessment purpose.

TABLE II: ASSESSMENT PURPOSE

	N	Minimum	Maximum	Mean	Std. deviation
The primary purpose of classroom assessment is to assign a grade or level to student work.	508	1	6	3.26	1.284
Classroom assessment should be used to determine if students have met provincial standards.	507	1	6	4.47	1.137
Feedback from classroom assessments improves student learning.	504	2	6	5.42	0.765
By using assessment, teachers can track the progress of students.	506	1	6	5.19	0.799
Students should use assessment to evaluate their own work.	505	1	6	5.22	0.809
Students are able to provide accurate and useful feedback to each other.	493	1	6	4.30	1.070
Assessment purpose	**470**	**1.83**	**6.00**	**4.6454**	**0.558**

TABLE III: ASSESSMENT PROCESS

	N	Minimum	Maximum	Mean	Std. deviation
Teachers have the skills and knowledge to construct good assessments.	497	1	6	4.47	1.047
For good classroom assessment, teachers need extensive knowledge of the curriculum.	497	2	6	5.08	0.897
Classroom assessment involves judging a student's performance in relation to a set of goals/standards/criteria.	503	1	6	4.72	0.926
Classroom assessment is integral to developing lesson plans and implementing curriculum.	495	1	6	4.87	1.011
Classroom assessment should be used to provide evidence of student progress for administrative purposes.	483	1	6	4.82	1.036
Classroom assessment is useful when reporting a student's achievement/progress to parents and caregivers.	492	1	6	4.33	1.176
Assessment process	**447**	**2.00**	**6.00**	**4.7174**	**0.649**

The data reveal strong agreement on using assessment to provide feedback for improving learning (M = 5.42, SD = 0.765) and on the importance of encouraging students to assess their own performance (M = 5.22, SD = 0.809). In contrast, using assessment primarily for grading purposes is less favored, with considerable variability in responses (M = 3.26, SD = 1.284). The overall mean score (M = 4.64, SD = 0.56) indicates a clear preference for viewing assessment as a multifaceted tool that serves various educational objectives beyond grading.

3.2. Assessment Process

Table III presents the descriptive statistics regarding prospective teachers' approaches to assessment process. There is strong agreement on the importance of teachers having a deep knowledge of the curriculum as a prerequisite for designing and implementing effective classroom assessments (M = 5.08, SD = 0.897). Additionally, pre-service teachers recognize that classroom assessment is an integral part of lesson planning and curriculum development (M = 4.87, SD = 1.011). Communication with parents and guardians about students' progress is seen as useful, although it is considered less important compared to other assessment processes (M = 4.33, SD = 1.176). The overall mean score (M = 4.72) for the "Assessment Process" dimension, along with the relatively low standard deviation (SD = 0.649), indicates a high level of agreement among participants.

3.3. Assessment Fairness

Table IV presents the descriptive statistics regarding pre-service teachers' approaches on assessment fairness. The most widely endorsed approaches emphasize the importance of understanding students' learning processes as

crucial for effective assessment (M = 5.18, SD = 1.058) and highlight the role of assessment in identifying students' learning needs (M = 5.14, SD = 0.948). Less favorable views were expressed regarding adherence to uniform assessment protocols for all students (M = 2.74, SD = 1.349). The overall mean score for the "Assessment Fairness" dimension indicates that pre-service teachers place significant value on ensuring equitable opportunities and fairness within the assessment process.

3.4. Assessment Theory

Table V presents descriptive statistics concerning pre-service teachers' approaches to assessment theory. The most widely endorsed approaches emphasize the role of student observation as a reliable assessment method, highlighting the teacher's responsibility to ensure the reliability and validity of the assessment process (M = 4.28, SD = 1.171). While there is general agreement—though not unanimous—that assessment outcomes reflect the quality of teaching, there is notable reluctance to regard these outcomes as indicators of overall school quality (M = 4.07, SD = 1.225). The least endorsed responses reject the characterization of assessment as an unreliable process, reflecting a generally positive perception of its reliability (M = 2.71, SD = 1.263). The overall mean for the "Assessment Theory" dimension suggests that pre-service teachers perceive classroom assessment as both reliable and valuable for evaluating learning progress and teaching effectiveness, although they express reservations about its use as a broad measure of school quality.

3.5. Beliefs About Assessment

Table VI presents the overall descriptive statistics of pre-service teachers' beliefs of assessment. Participants largely

TABLE IV: Assessment Fairness

	N	Minimum	Maximum	Mean	Std. deviation
An important component of classroom assessment is students taking large- scale tests (e.g., provincial assessment, EQAO).	488	1	6	3.48	1.362
Provincial assessments (e.g., EQAO) are a meaningful form of assessment.	487	1	6	2.74	1.349
All classroom assessments should be adapted to suit the learning needs of identified students (e.g., English language learners).	488	1	6	4.81	1.296
Students with exceptionalities should be provided with different classroom assessment than other students.	485	1	6	4.87	1.107
For good assessment, teachers need to know how their students learn.	490	1	6	5.18	1.058
Classroom assessment helps teachers identify the particular learning needs of any student.	489	1	6	5.14	0.948
Assessment fairness	**439**	**2.00**	**6.00**	**4.382**	**0.717**

TABLE V: Assessment Theory

	N	Minimum	Maximum	Mean	Std. deviation
Classroom assessment results provide reliable information.	486	1	6	4.01	1.097
Classroom assessment involves teachers making judgements about how well a student is learning in relation to other students.	488	1	6	4.05	1.284
Classroom assessment results is a good indicator of the quality of a school.	480	1	6	3.65	1.279
Assessment results reflect the quality of teaching.	483	1	6	4.07	1.225
Assessment is an imprecise process.	476	1	6	2.71	1.263
Observing students is a valid form of assessment.	481	1	6	4.28	1.171
Assessment theory	**417**	**1.33**	**6.00**	**3.793**	**0.771**

TABLE VI: Beliefs About Assessment

	N	Minimum	Maximum	Mean	Std. deviation
Classroom assessment is of little use to teachers on a day-to-day basis.	486	1	6	2.63	1.342
Classroom assessment interrupts students' learning.	489	1	6	2.43	1.240
Assessment is a stressful activity for students.	489	1	6	4.16	1.286
Assessment takes time away from teaching.	496	1	6	2.79	1.340
Teachers use too many assessments.	457	1	6	3.62	1.327
Assessment is a positive force for improving the social climate in a class.	462	1	6	4.00	1.282
Assessment is an engaging and enjoyable experience for students.	482	1	6	2.91	1.263
Classroom assessments motivate students to do their best.	495	1	6	4.20	1.166
Beliefs about assessment	**390**	**1.00**	**6.00**	**3.352**	**0.731**

agree that classroom assessment serves as a motivational tool for encouraging students to perform at their best (M = 4.20, SD = 1.166) and acknowledge its role as a source of stress for students (M = 4.16, SD = 1.286). The least supported responses reject the idea that assessment disrupts students' learning, suggesting that pre-service teachers perceive assessment as an integral component of the educational process (M = 2.43, SD = 1.240). The overall mean score indicates that pre-service teachers have a moderately positive view of assessment, recognizing both its potential benefits and its associated challenges.

4. Discussion

With regard to pre-service teachers' approaches to the purpose, process, fairness, and theory of classroom assessment, the findings of the study are summarized as follows:

Concerning the purpose of classroom assessment, pre-service teachers strongly agree that the primary goals of assessment are to provide feedback for enhancing learning and to monitor students' progress (Black & William, 2010; Cowan, 2009; Lazarakou, 2024). Although

there is slightly less consensus, self-assessment and peer-assessment are also deemed important (Earl, 2013; Hill *et al.*, 2017). In contrast, standardized performance measurement and grading, while acknowledged as components of the assessment process, are not perceived as central to its purpose. These preferences align with well-established theoretical frameworks such as *Assessment for Learning (AfL)* and *Assessment as Learning (AaL)* (Black & William, 2010; Hattie, 2012). The emphasis on formative and developmental functions over summative purposes reflects contemporary educational paradigms that advocate for empowering students as active participants in their own learning processes. This orientation underscores the shift towards using assessment as a tool for growth rather than merely as a mechanism for grading and ranking. Research by Buck *et al.* (2010) underscores the critical role that higher education plays in developing pre-service teachers' ability to adopt formative assessment practices in their professional careers. However, the successful integration of formative assessment practices into classroom contexts is neither automatic nor easily predictable; it requires intentional and systematic training to ensure more effective implementation (Hill *et al.*, 2017). It can be argued that

including a university course focused on assessment, or related pedagogical courses where assessment is a component, could serve as a crucial mechanism for facilitating this transition (DeLuca & Klinger, 2010; DeLuca et al., 2012; Hill et al., 2013; Siegel & Wissehr, 2011; Smith et al., 2014). Such courses offer a structured framework for integrating formative assessment approaches into teaching practice, thereby bridging the gap between theoretical understanding and practical application.

Focusing on classroom assessment purpose, pre-service teachers view assessment as a vital element in lesson planning and curriculum development (Smith et al., 2014). This perspective positions assessment as a key component in designing teaching strategies and monitoring student progress in relation to established curriculum objectives. Accordingly, pre-service teachers emphasize that effective assessment hinges on a deep understanding of the curriculum. The link between assessment and measuring progress toward curriculum-based learning objectives is a commonly held belief among Greek pre-service teachers, likely rooted in their own experiences as students. Their responses reflect a blend of perceptions combining both curriculum-based standards and individualized formative practices. While they acknowledge the role of assessment in providing evidence of students' progress for administrative purposes, they deem communication with parents regarding students' performance to be relatively less important. The benefits of school-parent communication for improving student performance are supported by existing studies, although academic exploration of its long-term effects on learning remains limited (Sarsale et al., 2024).

Concerning classroom assessment fairness of, pre-service teachers strongly advocate for a differentiated and personalized approach to teaching and learning, which they regard as essential for promoting equity among students (Levin & He, 2008). They emphasize the necessity of understanding each student's unique learning style and tailoring assessments to meet a range of learning needs (Cowie, 2015; Klenowski, 2009). From this viewpoint, they assert that assessments should be tailored to accommodate students with special educational needs, expressing skepticism toward large-scale assessments based on standardized testing. Within this framework of fairness, pre-service teachers underscore the value of assessment in supporting learning, rather than merely ranking or measuring students, thus reinforcing its formative role in education. It appears that pre-service teachers view classroom assessment as a key mechanism for enhancing fairness, particularly in relation to learning outcomes and student performance (Baird et al., 2017). Further qualitative research could investigate the psychological and sociological factors that influence pre-service teacher perceptions of fairness in assessment contexts.

Regarding classroom assessment theory, pre-service teachers express confidence in the reliability of classroom assessments, viewing validity and consistency as essential characteristics of the assessments conducted (Brookhart, 2015). They seem to recognize the significance of validity and reliability not only in assessments of school effectiveness but also in the everyday assessments conducted by teachers in the classroom. Additionally, it would be useful to examine how the reliability and validity of daily assessments can be aligned with the emphasis on formative assessment processes that pre-service teachers acknowledge as important (Brown, 2011). While they believe that classroom assessments reflect the quality of teaching, they do not perceive them as indicators of school quality, likely due to external factors that influence the school environment and affect learning outcomes (e.g., teaching staff, infrastructure, teacher-student relationships, school policies, and the overall educational culture). This perception may have been influenced by the ongoing discourse in Greece regarding the recent implementation of the school effectiveness evaluation framework.

Pre-service teachers' beliefs about classroom assessment reflect their perception of it as a valuable daily tool that integrates seamlessly into classroom activities without significantly disrupting teaching time. They emphasize its pedagogical and social significance, viewing it as a mechanism to motivate students, improve their performance, and foster a positive social climate within the classroom (Black & Wiliam, 2010; Hattie, 2012; DeLuca et al., 2018). Despite these positive views, they express concerns about the stress that assessments can induce in students and advocate for a more constructive and engaging approach to assessment, making it a more enjoyable and less stressful experience (Birenbaum & Rosenau, 2006). Moreover, there is a widespread, though not unanimous, belief that an excessive number of assessments are conducted in the classroom. This perception may be closely related to the prevelence of frequent testing in Greek schools, particularly the national university entrance exams, which require years of preparation and are associated with high levels of stress. These findings underscore the need to strike a balance between the quantity of assessments and their quality, focusing on fostering learning and reducing stress.

5. CONCLUSIONS

The approaches and beliefs of pre-service teachers regarding classroom assessment demonstrate a distinct preference for formative approaches that prioritize fostering learning and developing students' metacognitive skills, while placing less emphasis on standardized testing and grading (Smith et al., 2014). However, these approaches may change once pre-service teachers transition into professional roles, shaped by their socialization within the school system and the constraints of their working environment (MacLellan, 2001; Poth, 2013). Pre-service teachers view assessment as a crucial tool for planning and adapting instruction emphasizing the importance of differentiated and equitable practices that cater to the diverse needs of all students. They advocate for contextualized assessment strategies that integrate a balanced mix of qualitative and quantitative methods. Simultaneously, they recognize the pedagogical and social value of assessment but express concerns about the anxiety it may induce in students, stressing the importance of creating more positive and supportive assessment experiences. By understanding these dimensions, teacher education can equip educators with

the skills and perspectives needed to implement effective, equitable, and student-centered assessment practices (DeLuca & Klinger, 2010; MacLellan, 2004).

6. Limitations and Further Research

The application of the instrument within the Greek educational context, which differs significantly from the original context for which it was designed, presents a notable limitation of this study. Additionally, the translation of the instrument into Greek may have introduced minor distortions in its content. Although a pilot test was conducted to mitigate these issues, concerns regarding the validity of the instrument cannot be eliminated. Another limitation lies in the study's focus on undergraduate students from a single university department preparing to become primary school teachers, which restricts the generalizability of the findings to other educational settings or pre-service teachers from different disciplines.

Future research could address these limitations by including undergraduate students from a broader range of academic disciplines and institutions. Furthermore, comparative studies could investigate differences in the approaches and beliefs of pre-service teachers relative to those of in-service teachers or high school students, providing valuable insights into the evolution of assessment-related perspectives. Another critical area of exploration involves examining potential differences in pre-service teachers' beliefs and approaches to classroom assessment based on gender or academic level. Moreover, future studies could investigate the impact of participating in courses specifically focused on classroom assessment or engaging in teaching practicums on pre-service teachers' beliefs. Such research could reveal whether these experiences contribute to fostering more contemporary and pedagogically sound approaches to assessment practices, ultimately shaping more effective educators.

Conflict of Interest

The author declares that there is no conflict of interest.

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