



Self-Prepared Questions as a Formative Assessment Tool in Pre-Service Teacher Education: Insights from Researcher Observations and Student Teachers' Perceptions

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Abstract:

The present study explores the effectiveness of self-prepared questions as a formative assessment tool in pre-service teacher education, drawing upon both researcher observations and student teachers' perceptions. Adopting a descriptive research design, the study involved 44 B.Ed. student teachers who were required to frame and answer their own test questions based on the prescribed syllabus. Data were collected through systematic classroom observation, analysis of self-prepared question papers and answer scripts, and a structured feedback questionnaire administered to the student teachers. Likert-scale responses were manually coded into positive, neutral, and negative categories and analyzed using percentage distributions. The findings reveal that self-prepared assessments enhanced student teachers' conceptual understanding, active involvement, motivation, and enjoyment while significantly reducing examination anxiety. Researcher observations further indicated high levels of ethical behaviour and self-regulation during the assessment process. However, limitations were noted in students' ability to frame high-quality questions, particularly those targeting higher-order cognitive levels of Bloom's Taxonomy, and in managing time and marks allocation. Student teachers also reported increased awareness of the complexities involved in assessment design and recognized the relevance of this experience for their future teaching careers. The study concludes that self-prepared questions serve as an effective formative assessment strategy that fosters assessment literacy, reflective practice, and learner autonomy among prospective teachers. The findings have important implications for teacher education programmes and support the assessment reform agenda of the National Education Policy (NEP) 2020, emphasizing the need for structured training in question construction and higher-order assessment design.

Keywords: Ethical Behaviour, Self-Regulation, Assessment Literacy, Reflective Practice, Learner Autonomy And National Education Policy (NEP) 2020.

Introduction:

Assessment is an integral component of the teaching-learning process, serving not only as a means of evaluating learners' achievement but also as a powerful tool for enhancing learning and instructional effectiveness. In teacher education, assessment assumes a dual role: student teachers are assessed as learners, while simultaneously being prepared to function as assessors in their future professional roles. Developing assessment literacy—including the ability to design valid, reliable, and learner-centered assessment tools—is

therefore a critical competency for pre-service teachers. However, conventional assessment practices in teacher education largely rely on teacher-made examinations, often limiting student teachers' engagement with the processes of test construction and evaluation. Recent educational research emphasizes the importance of formative and learner-centered assessment practices that promote active involvement, reflective thinking, and self-regulated learning. Within this paradigm, involving learners in the creation of assessment tasks has gained attention as an effective instructional strategy. Self-prepared questions, wherein learners frame and answer their own test questions, represent an innovative approach to assessment that encourages deeper engagement with content, metacognitive reflection, and ownership of learning. For student teachers, such experiences offer authentic opportunities to understand syllabus analysis, weightage allocation, cognitive level classification, and language precision—skills essential for effective classroom assessment. The policy context provided by the National Education Policy (NEP) 2020 further strengthens the relevance of innovative assessment practices in teacher education. NEP 2020 advocates a shift from rote-based, high-stakes examinations to competency-based, formative, and continuous assessment approaches that emphasize higher-order thinking, creativity, ethical values, and learner autonomy. The policy explicitly calls for the integration of self-assessment, peer assessment, and reflective practices in both school and teacher education programmes. To operationalize these reforms, teacher education institutions are required to prepare future teachers who are not only competent in content delivery but also proficient in designing meaningful and holistic assessment strategies aligned with learning outcomes. Despite the growing emphasis on assessment reform, empirical research examining the implementation of learner-generated assessments in pre-service teacher education remains limited, particularly in the Indian context. Existing studies have largely focused on self-assessment or peer assessment, with relatively fewer investigations exploring self-prepared question-based assessments that integrate both question framing and response writing. Moreover, most available research tends to rely either on learners' perceptions or on test performance data, with limited attention to combining researcher observations with student teachers' feedback to gain a comprehensive understanding of the assessment process. This lack of integrated evidence highlights a significant research gap in understanding how student teachers experience self-prepared assessments and what competencies and challenges emerge through such practices. In response to this gap, the present study aims to examine the effectiveness of self-prepared questions as a formative assessment tool in pre-service teacher education by integrating both researcher observations and student teachers' perceptions. The study seeks to analyze student teachers' engagement, assessment literacy, cognitive focus of framed questions, and behavioural responses during the assessment process. By situating the investigation within the framework of NEP 2020, the study intends to contribute empirical evidence that can inform assessment practices and policy-aligned reforms in teacher education programmes. Ultimately, the study aspires to support the development of reflective, competent, and assessment-literate teachers capable of implementing learner-centered assessment practices in school education.

Objectives of the Study:

1. To examine the effectiveness of self-prepared questions as a formative assessment tool in pre-service teacher education.
2. To study student teachers' perceptions and experiences regarding the preparation and answering of self-made test questions.
3. To analyze the nature and quality of questions framed by student teachers with **Reference** to syllabus alignment and marks distribution.
4. To examine the cognitive levels of questions framed by student teachers using Bloom's Taxonomy.
5. To study the impact of self-prepared assessments on student teachers' engagement, motivation, and examination anxiety.

6. To identify the difficulties faced by student teachers in framing and answering self-prepared test questions.
7. To analyze researcher observations related to student teachers' behaviour, ethical conduct, and self-regulation during the assessment process.
8. To derive educational implications and recommendations for improving assessment literacy in teacher education programmes in alignment with NEP 2020.

Methodology:

Research Design:

The study employed a descriptive mixed-methods research design to examine the effectiveness of self-prepared questions as a formative assessment tool in pre-service teacher education. This approach enabled the integration of quantitative data derived from performance scores and questionnaire responses with qualitative data obtained through researcher observations and document analysis, thereby providing a comprehensive understanding of the assessment process.

Population and Sample:

The population of the study consisted of student teachers enrolled in the Bachelor of Education (B.Ed.) programme at a teacher training college in Goa. A sample of 44 student teachers was selected using purposive sampling, as the participants were directly involved in the self-prepared assessment activity and were suitable for addressing the objectives of the study.

Tools and Instruments:

Four tools were used for data collection:

1. **Self-Prepared Test:** Student teachers were required to frame and answer their own test questions based on the prescribed syllabus. Guidelines regarding syllabus coverage, marks distribution, and question types were provided prior to the test. The self-prepared test served as the primary source for analyzing question quality, cognitive levels, time management, and performance outcomes.
2. **Observation Schedule:** A structured observation schedule was used by the researcher to record student teachers' engagement, examination behaviour, time utilization, anxiety levels, and ethical conduct during the assessment.
3. **Student Teachers' Feedback Questionnaire:** A structured questionnaire comprising Likert-scale items and open-ended questions was administered to capture student teachers' perceptions regarding learning experience, difficulty level, motivation, cognitive engagement, and relevance of the activity to future teaching practice. Likert responses were manually coded into positive, neutral, and negative categories.
4. **Document Analysis:** Student-prepared question papers and answer scripts were analyzed to examine syllabus alignment, marks allocation, grammatical accuracy, repetition of questions, and adherence to Bloom's Taxonomy.

Procedure

The researcher explained the objectives and general guidelines of the self-prepared test to the participants. A surprise self-prepared test was administered to ensure spontaneity and minimize prior preparation. Student teachers framed and answered their own questions within the allotted time. During the assessment, the researcher systematically observed participants using the observation schedule. Upon completion of the test,

the feedback questionnaire was administered, and the answer scripts were collected for evaluation and analysis.

Data Analysis:

Quantitative data were analyzed using percentage and frequency analysis, supported by graphical representations. Likert-scale responses were coded as follows: *Agree and Strongly Agree* as positive, *Neutral* as neutral, and *Disagree and Strongly Disagree* as negative. Qualitative data from open-ended responses and researcher observations were analyzed thematically to identify recurring patterns related to challenges, learning outcomes, and assessment behaviour. Questions framed by student teachers were categorized according to Bloom's Taxonomy to examine the distribution of cognitive levels.

Ethical Considerations:

Prior informed consent was obtained from all participants. The study was conducted for academic and research purposes only, and participants were assured that their performance would not negatively affect their academic evaluation. Confidentiality and anonymity of the participants were maintained throughout the research process.

Results and Discussion:

The present study examined the effectiveness of self-prepared questions as a formative assessment tool in pre-service teacher education by analysing student teachers' performance, perceptions, and behavioural responses, along with systematic researcher observations.

Student Teachers' Performance in the Self-Prepared Test:

Analysis of performance data revealed that student teachers demonstrated high achievement levels in the self-prepared test. A majority of participants (68.18%) scored between 90% and 100%, followed by 18.18% scoring between 80% and 90%. Only 4.54% of student teachers scored below 70%, and none scored below 50%. This performance pattern indicates reduced fear of failure and examination anxiety. Researcher observations confirmed that student teachers appeared relaxed and confident while answering the test, supporting findings by Torrance (2012) that formative and learner-centered assessments promote a low-anxiety learning environment.

Nature and Quality of Questions Framed:

Document analysis of the self-prepared question papers revealed that while most student teachers were able to select familiar subtopics from the syllabus, many struggled with framing high-quality assessment items. Several students committed grammatical and spelling errors, particularly those from science backgrounds, indicating limited language proficiency in assessment construction. In addition, difficulties were observed in aligning questions with prescribed marks and word limits. These findings are consistent with McMillan (2014), who reported that novice teachers often lack practical skills in constructing valid and well-structured assessment items.

Cognitive Levels of Questions:

Analysis based on Bloom's Taxonomy revealed a strong dominance of lower-order thinking skills. Nearly 60% of the questions were framed at the remembering level, 32% at the understanding level, and only 8% at the applying level. No questions were framed at the analyzing, evaluating, or creating levels. Despite prior instruction to include higher-order thinking skills, student teachers tended to avoid complex cognitive levels, possibly due to lack of confidence and limited exposure to assessment design practices. This finding aligns

with Anderson and Krathwohl (2001), who noted a persistent gap between theoretical awareness and practical application of Bloom's Taxonomy in classroom assessments.

Student Teachers' Perceptions and Learning Experience:

Analysis of feedback questionnaires showed overwhelmingly positive perceptions toward the self-prepared assessment. Most student teachers reported enhanced conceptual understanding, increased motivation, active engagement, and enjoyment during the assessment process. Many participants acknowledged that framing their own questions helped them recognize the complexity involved in assessment design and improved their appreciation of teachers' professional responsibilities. However, a substantial number of student teachers also reported that framing appropriate questions was difficult, and some realized they were unable to answer questions they had framed themselves. Such reflections indicate the development of metacognitive awareness, as highlighted by Sadler (1989).

Behavioural and Ethical Aspects:

Researcher observations indicated high levels of ethical conduct among student teachers during the self-prepared test. No instances of malpractice such as copying or discussion were observed, suggesting that the assessment was largely self-regulated. This finding supports Brown and Harris's (2013) assertion that learner-involved assessment practices foster honesty, responsibility, and self-discipline among learners.

Implementation Challenges:

Despite its educational value, the self-prepared assessment posed certain challenges. Student teachers required more time to complete the test due to the dual task of framing and answering questions. Repetition of similar questions and selection of identical subtopics were also observed, limiting content diversity. Additionally, the researcher faced difficulty in developing a standardized answer key and required additional time for evaluation due to the diversity of responses. These challenges suggest the need for structured guidance and repeated practice in assessment construction.

Alignment with NEP 2020:

The findings strongly support the assessment reform principles of NEP 2020, which emphasize formative, learner-centred, and competency-based assessment. Self-prepared questions promoted learner autonomy, reflective thinking, and assessment literacy among student teachers. However, the limited inclusion of higher-order cognitive skills highlights the necessity for systematic training in question framing and Bloom's Taxonomy to fully realize the policy's objectives.

Conclusions:

The present study examined the effectiveness of self-prepared questions as a formative assessment tool in pre-service teacher education by integrating student teachers' performance, perceptions, and researcher observations. The findings clearly indicate that self-prepared assessments contribute positively to student teachers' learning experiences by enhancing engagement, confidence, and reflective thinking. The high achievement levels observed in the self-prepared test suggest that student teachers experienced reduced examination anxiety and greater ownership of learning when they were actively involved in the assessment process. Despite these positive outcomes, the study revealed significant limitations in student teachers' assessment literacy. Most participants struggled to frame high-quality questions, particularly those aligned with higher-order cognitive levels of Bloom's Taxonomy. The predominance of lower-order thinking skills in the framed questions reflects a gap between theoretical knowledge of assessment principles and their practical application. Difficulties related to language accuracy, marks allocation, syllabus coverage, and question repetition further highlight the need for systematic training in test construction within teacher

education programmes. The reflective realizations reported by student teachers—such as recognizing the complexity of assessment design and their own limitations in answering framed questions—underscore the formative value of the self-prepared assessment. Additionally, the high level of ethical conduct and self-regulation observed during the assessment demonstrates that learner-generated assessments can foster responsible and honest academic behaviour. Overall, the study concludes that self-prepared questions are an effective formative assessment strategy for developing assessment literacy, reflective practice, and learner autonomy among student teachers. However, for optimal implementation, such assessments must be supported by structured guidance, explicit training, and repeated practice.

Educational Implications:

The findings of the study have several important implications for teacher education programmes and assessment practices:

1. **Integration of Assessment Literacy Training:** Teacher education curricula should explicitly include practical training in question paper setting, marks distribution, and alignment with learning outcomes to bridge the gap between theory and practice.
2. **Emphasis on Higher-Order Thinking Skills:** Structured activities and workshops should be conducted to enable student teachers to frame questions targeting higher-order cognitive levels of Bloom's Taxonomy, in line with competency-based assessment.
3. **Use of Self-Prepared Assessments as Formative Tools:** Self-prepared question-based assessments can be systematically incorporated as low-stakes formative assessments to promote reflective learning, reduce anxiety, and enhance learner autonomy.
4. **Language and Communication Skill Development:** Focused support should be provided to improve grammatical accuracy and academic language use in assessment construction, especially for student teachers from non-language backgrounds.
5. **Ethical and Self-Regulated Assessment Practices:** Learner-generated assessments should be encouraged as they promote ethical behaviour, honesty, and self-discipline, reducing the need for strict invigilation.
6. **Alignment with NEP 2020:** The study supports the assessment reforms advocated by NEP 2020, emphasizing formative, continuous, and learner-centered assessment. Teacher education institutions should adopt innovative assessment practices that prepare future teachers to implement these reforms effectively in school education.
7. **Scaffolded Implementation:** To address challenges such as time management and question repetition, self-prepared assessments should be introduced gradually with clear rubrics, exemplars, and feedback mechanisms.

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