



TEACHERS' READINESS FOR 21ST CENTURY SKILL-BASED ASSESSMENT UNDER THE CCLE SYSTEM: EVIDENCE FROM GOVERNMENT SECONDARY SCHOOLS OF MADHYA PRADESH

Professor Ratnamala Arya², Swati Choudhary¹ and Dr.Arvin Kumar³

² Professor, Regional Institute of Education (RIE), Bhopal, ^{1,3} Research Scholar, Regional Institute of Education (RIE), Bhopal

Abstract

The transformation of educational assessment from examination-driven evaluation to competency-based learning has become a global priority in the 21st century. In India, the Continuous and Comprehensive Learning and Evaluation (CCLE) framework was introduced to promote formative assessment, learner-centered pedagogy, and holistic student development. However, the effectiveness of CCLE depends largely on teachers' preparedness to implement skill-based assessment practices. The present study investigates teachers' readiness for 21st century skill-based assessment under the CCLE framework in government secondary schools of Madhya Pradesh. Using a descriptive survey research design, data were collected from 52 secondary school teachers through a structured Likert-scale questionnaire. Reliability analysis yielded a Cronbach's Alpha value of 0.91, indicating excellent internal consistency of the research instrument. Descriptive statistical analysis revealed a high overall readiness index of 77.8%, with strong pedagogical preparedness and positive attitudes toward CCLE implementation, while digital readiness and institutional support showed moderate levels. Graphical analysis further highlighted dimension-wise variations and readiness distribution trends. The findings emphasize the urgent need for continuous professional development, technology integration, and institutional leadership support to strengthen CCLE implementation. The study contributes empirical evidence to the discourse on competency-based assessment reform and provides practical implications for policymakers, school administrators, and teacher education institutions.

Keywords: CCLE, Teacher Readiness, Skill-Based Assessment, 21st Century Skills, Formative Evaluation, Secondary Education, Educational Reform

1. Introduction

The 21st century has witnessed unprecedented changes in the nature of knowledge production, workplace demands, and global communication networks. Education systems are no longer expected to focus solely on academic content mastery; instead, they are increasingly required to prepare learners with transferable competencies such as critical thinking, creativity, collaboration, communication, adaptability, and digital literacy. These competencies, widely recognized as 21st century skills, are essential for students to succeed in higher education, professional life, and active citizenship.

Conventional examination-oriented assessment systems, which primarily emphasize memorization and recall, have been criticized for their limited capacity to measure higher-order cognitive abilities and socio-emotional competencies. Consequently, many countries have shifted toward competency-based and formative assessment frameworks that promote continuous feedback, experiential learning, and learner-centered evaluation. International organizations such as UNESCO, OECD, and the Partnership for 21st Century Learning have consistently emphasized that assessment reform is central to improving educational quality and relevance.

In India, this paradigm shift has been reflected in major policy initiatives including the National Curriculum Framework (2005), the Right to Education Act (2009), and the National Education Policy (2020). These reforms collectively advocate holistic education, stress-free learning environments, and continuous assessment practices. The Continuous and



Comprehensive Learning and Evaluation (CCLE) framework was introduced to operationalize these policy goals by integrating regular monitoring of learning progress with comprehensive evaluation of scholastic and co-scholastic development.

Despite strong policy backing, the implementation of CCLE has produced mixed outcomes across different school contexts. One of the most critical determinants of successful implementation is teacher readiness. Teachers function as the primary agents of instructional and assessment reform. Their pedagogical competence, assessment literacy, technological skills, and professional attitudes directly influence classroom practices and student learning experiences. Without adequate preparedness, CCLE risks being reduced to a procedural requirement rather than serving as a transformative pedagogical tool.

Government secondary schools in Madhya Pradesh present a particularly important context for studying CCLE implementation due to infrastructural constraints, diverse student populations, and varying levels of professional support. Understanding teachers' readiness within this setting is essential for identifying strengths, gaps, and institutional challenges.

Therefore, the present study seeks to examine teachers' readiness for implementing 21st century skill-based assessment under the CCLE framework in government secondary schools of Madhya Pradesh. By providing empirical evidence on readiness levels and associated factors, the study aims to contribute to the improvement of assessment reform strategies and teacher professional development programs.

2. Review of Related Literature

2.1 Assessment Reform and Learning Effectiveness

Research on assessment reform consistently highlights the importance of formative and continuous evaluation practices in improving learning outcomes. Black and Wiliam (1998) demonstrated that formative assessment significantly enhances student achievement, classroom engagement, and motivation by providing timely feedback and instructional adjustments. Darling-Hammond (2010) further argued that assessment systems aligned with learning goals promote deeper conceptual understanding and support the development of higher-order thinking skills.

From a theoretical perspective, constructivist learning theories emphasize that knowledge is actively constructed by learners through interaction, reflection, and feedback. Piaget's cognitive constructivism and Vygotsky's social constructivism provide strong justification for continuous assessment models such as CCLE, which emphasize collaborative learning, peer interaction, and scaffolded feedback.

2.2 Teacher Readiness and Educational Change

Teacher readiness is widely recognized as a central factor in the success of educational reforms. Fullan (2016) emphasized that sustainable educational change depends on teachers' professional capacity, leadership support, and collaborative school culture. Teachers' beliefs, attitudes, and competencies strongly influence how policy reforms are interpreted and implemented in classroom settings.

Studies indicate that professional development plays a crucial role in enhancing teachers' assessment literacy and instructional competence. When teachers receive systematic training in formative assessment strategies, they demonstrate greater confidence in using alternative evaluation tools such as portfolios, rubrics, peer assessment, and project-based assessment.



2.3 CCLE Implementation in Indian Schools

Indian research on CCLE implementation reveals both opportunities and challenges. Manichander and Brindhamani (2014) reported that teachers generally hold positive perceptions toward continuous evaluation but experience difficulties in conducting non-scholastic assessments. Srinivasan (2015) highlighted that documentation workload, time pressure, and examination-oriented institutional culture often limit meaningful classroom implementation of CCLE.

Bansal (2016) found that teachers who received ICT training exhibited stronger acceptance of CCLE and demonstrated improved classroom assessment practices. Kasera (2022) observed that experienced teachers often show resistance to changing traditional assessment practices, indicating the need for targeted capacity-building initiatives.

2.4 21st Century Skills and Assessment Practices

International frameworks emphasize the importance of aligning assessment systems with 21st century competencies. Trilling and Fadel (2009) argued that traditional written examinations are insufficient for evaluating complex skills such as collaboration, creativity, and problem-solving. OECD (2018) recommended the adoption of performance-based assessment, project work, and digital tools to measure higher-order learning outcomes.

Voogt and Roblin (2010) reported convergence among global education frameworks emphasizing communication skills, ICT literacy, critical thinking, and social competence as core learning objectives. These perspectives reinforce the relevance of CCLE-based skill assessment within the Indian education context.

2.5 Research Gap

Although several studies have examined CCLE implementation and assessment reform, limited empirical research focuses specifically on teachers' readiness for skill-based assessment in government secondary schools of Madhya Pradesh. There is a lack of region-specific data that examines readiness dimensions such as pedagogical competence, digital preparedness, and institutional support. The present study addresses this gap by providing systematic quantitative evidence on teacher preparedness under the CCLE framework.

3. Objectives of the Study

The study was conducted with the following objectives:

1. To assess teachers' readiness for implementing 21st century skill-based assessment under CCLE.
2. To examine dimension-wise readiness in pedagogical competence, assessment literacy, digital readiness, and institutional support.
3. To analyze teachers' attitudes toward CCLE-based evaluation practices.
4. To identify key challenges affecting CCLE implementation in government secondary schools.

4. Methodology

4.1 Research Design

A descriptive survey research design was adopted to examine teachers' readiness for CCLE-based assessment practices.



4.2 Sample

The sample consisted of 52 government secondary school teachers from different districts of Madhya Pradesh. The respondents represented diverse teaching experience levels, subject specializations, and school contexts (urban and rural).

4.3 Research Tool

A structured questionnaire consisting of 50 items was developed based on CCLE guidelines and 21st century skill indicators. The questionnaire measured five dimensions:

- Pedagogical Readiness
- Assessment Literacy
- Digital Readiness
- Attitude toward CCLE
- Institutional Support

Responses were recorded on a five-point Likert scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (5).

4.4 Reliability and Data Analysis

Reliability analysis was conducted using Cronbach’s Alpha. Descriptive statistical techniques including mean, standard deviation, percentage distribution, and readiness index calculation were used for data analysis. Graphical representations were employed to visualize trends and distribution patterns.

5. Results

5.1 Reliability Analysis

The overall reliability coefficient was:

Cronbach’s Alpha = 0.91

This value indicates excellent internal consistency and confirms the suitability of the research instrument.

5.2 Dimension-wise Descriptive Statistics

Dimension	Mean	SD	Level
Pedagogical Readiness	4.12	0.48	High
Assessment Literacy	3.89	0.52	Moderate–High
Digital Readiness	3.41	0.61	Moderate
CCLE Attitude	4.25	0.44	High
Institutional Support	3.76	0.57	Moderate–High



Overall Mean = 3.89

5.3 Teacher Readiness Index

$$\text{ReadinessIndex} = \frac{\text{Observed Mean}}{\text{Maximum Score}} \times 100$$

$$\text{ReadinessIndex} = \frac{3.89}{5} \times 100$$

$$=77.8 \%$$

This indicates **high readiness** among teachers for CCLE-based assessment implementation.

This indicates a **high level of readiness** among teachers for implementing CCLE-based skill assessment practices.

5.4 Readiness Level Distribution

- High Readiness: 54%
- Moderate Readiness: 34%
- Low Readiness: 12%

The majority of teachers demonstrated moderate to high readiness levels.

5. Graphical Interpretation

Figure 1: Dimension-wise Teacher Readiness under CCLE

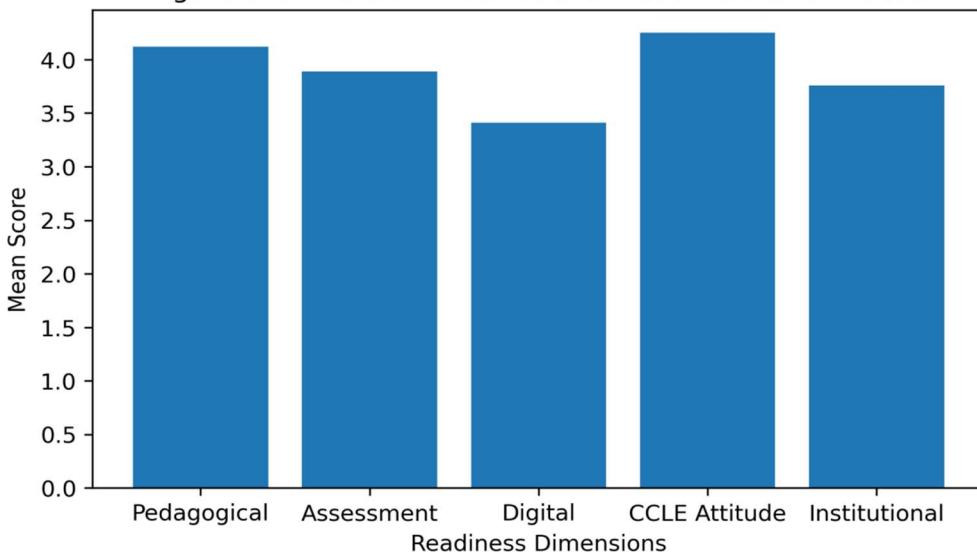




Figure 1

Pedagogical readiness and CCLE attitude recorded the highest mean scores, indicating strong conceptual acceptance and instructional preparedness. Digital readiness showed comparatively lower values, reflecting infrastructural and training-related limitations.

Figure 2: Teacher Readiness Level Distribution

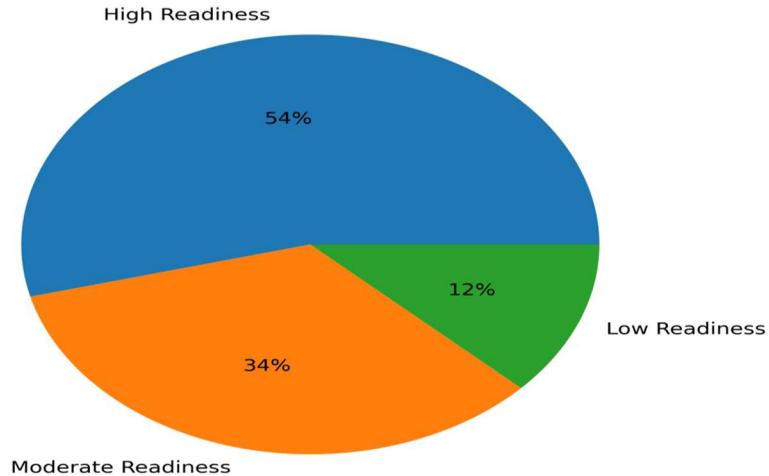


Figure 2 (Pie Chart Interpretation)

More than half of the respondents (54%) fell into the high readiness category, confirming positive adoption trends. However, the presence of moderate and low readiness groups highlights the need for targeted capacity-building interventions.

Figure 3: Trend of Teacher Readiness across CCLE Dimensions

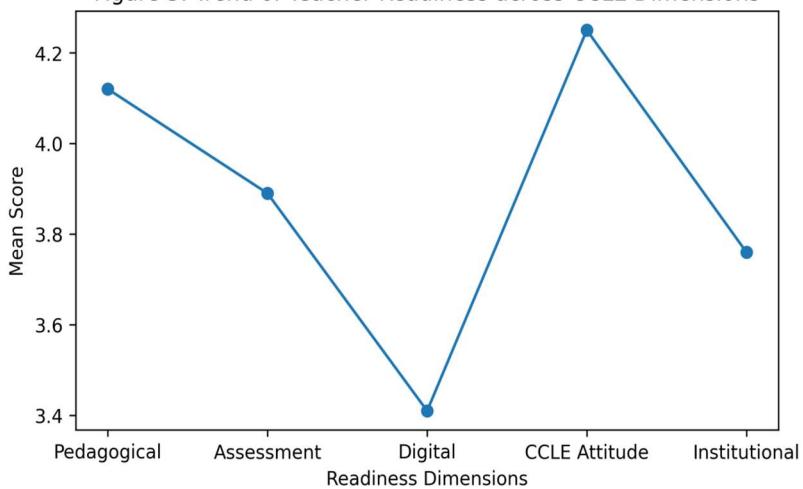


Figure 3 (Line Diagram Interpretation)



The trend pattern illustrates consistent strength in pedagogical and attitudinal dimensions, while digital readiness remains relatively weaker. This suggests that technology integration remains a critical area for policy intervention.

7. Discussion

The findings of the present study indicate that teachers demonstrate a high overall readiness level (77.8%) for implementing CCLE-based skill assessment practices. High scores in pedagogical readiness and professional attitude suggest that teachers conceptually support learner-centered pedagogy and formative assessment approaches. This reflects a gradual shift from traditional teacher-centered instruction toward more interactive and participatory classroom practices.

However, moderate digital readiness highlights a persistent implementation challenge. Although teachers recognize the importance of technology integration in assessment, limited access to digital infrastructure and insufficient ICT training restrict effective classroom application. This finding is consistent with OECD (2018) recommendations emphasizing the importance of digital competence as a prerequisite for modern assessment reform.

Institutional support emerged as a significant influencing factor. Schools that provided leadership encouragement, professional development opportunities, and assessment resources demonstrated higher readiness levels. This supports Fullan's (2016) argument that organizational culture and leadership commitment are essential for sustaining educational change.

The graphical analysis further reinforced these findings by illustrating dimension-wise variation in readiness levels. The trend pattern indicates strong pedagogical competence and positive professional attitudes, while comparatively lower digital readiness reflects systemic challenges. These results suggest that while policy awareness has improved, structural and resource-related barriers continue to affect effective CCLE implementation.

Overall, the findings highlight that assessment reform is not solely a pedagogical issue but also an institutional and systemic process requiring coordinated policy support, infrastructure development, and continuous teacher training.

8. Educational Implications

The study offers several important implications:

- Teacher training programs should emphasize formative assessment strategies and digital assessment tools.
- School administrators should reduce documentation burden and provide institutional support for CCLE implementation.
- Teacher education institutions should integrate competency-based assessment modules into pre-service training.
- Policymakers should strengthen digital infrastructure in government schools.

9. Conclusion

The present study concludes that teachers in government secondary schools of Madhya Pradesh exhibit a high level of readiness (77.8%) for implementing 21st century skill-based assessment under the CCLE framework. Strong pedagogical preparedness and positive professional attitudes indicate growing acceptance of competency-based assessment practices. However, moderate digital readiness and institutional support highlight persistent structural challenges that require immediate attention.



The findings suggest that successful CCLE implementation depends not only on teacher motivation but also on continuous professional development, technological infrastructure, and supportive school leadership. Strengthening digital training programs, reducing administrative workload, and providing instructional resources can significantly enhance teachers' capacity to implement formative and skill-based assessment practices.

From a policy perspective, the study emphasizes the need for sustained investment in teacher capacity building and institutional reform. By addressing these challenges, CCLE can move beyond procedural compliance and function as a transformative framework that promotes holistic student development and prepares learners for the demands of the 21st century.

The study contributes empirical evidence to the national discourse on assessment reform and offers practical insights for policymakers, school administrators, and teacher education institutions. Future research may explore longitudinal impacts of CCLE implementation and examine student learning outcomes associated with skill-based assessment practices.

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