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Primary ESL Teachers' Perceived Knowledge of CEFR-Aligned Classroom-Based Assessment: An Explanatory Sequential Mixed-Methods Study in Malaysia



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Abstract

Teachers' perceived knowledge is central to the implementation of classroom-based assessment (CBA) within CEFR-aligned English language education. This study examined primary ESL teachers' perceived knowledge of CBA and explored their reported learning sources and practice-oriented accounts of assessment in Malaysian primary schools. An explanatory sequential mixed-methods design was employed. Questionnaire data were collected from 169 primary ESL teachers in Johor Bahru, followed by semi-structured interviews with 17 teachers. The questionnaire's internal structure was examined using exploratory factor analysis, while descriptive statistics were used to examine teachers' perceived CBA knowledge. Interview data were analysed thematically. The factor analysis supported a one-factor structure, with all 22 items retained and high internal consistency, Cronbach's $\alpha = .916$. Teachers' responses fell within the very high self-reported agreement category for perceived CBA knowledge ($M = 3.56$, $SD = .32$), based on the adopted mean-score interpretation. The highest mean scores concerned improving pupils' learning, assigning grades, and placing pupils into CEFR proficiency levels ($M = 3.78$, $SD = .42$), while reading official CBA documents recorded the lowest mean score ($M = 2.75$, $SD = .93$). Thematic analysis generated two themes: informal and self-directed sources of CBA information and practice-oriented accounts of CBA. Several teachers reported using internet

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searches to obtain CBA information, while their accounts focused on classroom assessment, feedback, pupil guidance, and follow-up action. The findings indicate that very high self-reported agreement on the perceived CBA knowledge scale coexisted with comparatively limited engagement with official guidance and varied interpretations of selected assessment concepts. The findings suggest value in further examining how engagement with official guidance and collaborative professional learning might support shared interpretations of CEFR-aligned classroom assessment.

Keywords: Classroom-based assessment, CEFR, perceived knowledge, primary ESL teachers, assessment knowledge, Malaysia.

Introduction

The implementation of the Common European Framework of Reference for Languages (CEFR) has influenced curriculum, teaching, learning outcomes, and assessment within Malaysian English language education (Fauzi et al., 2024). Within primary education, CEFR alignment operates alongside Classroom-Based Assessment (CBA), which places teachers in a central role in interpreting pupils' learning and making assessment decisions. This context places considerable demands on teachers' assessment knowledge because they are expected to connect classroom evidence with curriculum expectations, performance standards, and pupils' language development. Teacher assessment literacy is therefore important to the implementation of CBA. It involves more than knowledge of assessment procedures and includes teachers' understanding of assessment purposes, standards, professional judgement, feedback, and the use of assessment evidence to inform teaching and learning (Xu & Brown, 2016; Lewkowicz & Leung, 2021). Malaysian research, though, presents contrasting evidence concerning teachers' knowledge and implementation of classroom assessment.

Some studies have reported substantial familiarity with classroom and school-based assessment (Omar, 2019; Singh et al., 2021; Veloo et al., 2015), whereas others have identified limitations in assessment literacy, understanding of standards, and implementation of formative assessment principles (Khan et al., 2023; Marzaini et al., 2024; Sidhu et al., 2018). These contrasting findings suggest that continued exposure to CBA policy does not necessarily result in a uniform understanding of assessment principles and practices. Less attention has also been given to the pattern of teachers' perceived knowledge across specific areas of CBA and to the professional learning sources and classroom experiences surrounding this knowledge. This distinction is important because teachers may report strong knowledge of assessment procedures while drawing on information sources that differ in authority, depth, and alignment with formal assessment guidance. Within the broader construct of teacher assessment literacy, the present study focuses specifically on perceived knowledge, referring to teachers' self-reported awareness and understanding of CBA concepts and procedures rather than demonstrated assessment competence. Accordingly, this study examines primary ESL teachers' perceived knowledge of CEFR-aligned CBA and explores their reported learning sources and practice-oriented accounts of assessment in Malaysian primary schools.

Literature Review

Teacher Assessment Literacy and Perceived CBA Knowledge

Teacher assessment literacy concerns the knowledge and skills teachers need to select, design, administer, interpret, and use assessment appropriately. It encompasses understanding of assessment purposes, methods, criteria, standards, professional judgement, feedback, and the use of assessment evidence to

support instructional decisions (Leung, 2004; Xu & Brown, 2016). Within language education, assessment literacy also requires sensitivity to language learning goals, learner characteristics, assessment contexts, and the consequences of assessment decisions. These dimensions are particularly relevant to classroom-based assessment because teachers function simultaneously as instructors and assessors within everyday classroom interaction.

Recent scholarship increasingly conceptualises teacher assessment literacy as contextual and practice-oriented rather than as a fixed body of technical measurement knowledge. Pastore's (2023) systematic review showed that assessment literacy research has moved towards broader conceptualisations that recognise the contextual, social, and professional nature of teachers' assessment work. Similarly, Vogt et al. (2024) highlighted the importance of language assessment literacy in connecting assessment knowledge with the specific demands of language teaching and classroom practice. These perspectives are consistent with Xu and Brown's (2016) conceptualisation of teacher assessment literacy as an evolving professional practice shaped by knowledge, beliefs, identity, and contextual conditions. They also correspond with the broader literature on language teacher cognition, which conceptualises teachers' knowledge, beliefs, and thinking as interconnected aspects of professional cognition that influence instructional decisions and classroom practices (Hong et al., 2025a). Collectively, this literature reflects a shift from viewing assessment literacy primarily as technical testing expertise towards understanding it as contextualised professional knowledge enacted within teaching practice.

From this perspective, assessment-literate teachers do more than apply prescribed assessment procedures. They interpret evidence in relation to intended learning goals, determine appropriate assessment approaches, make defensible judgements concerning pupils' performance, provide useful feedback, and use assessment information to inform subsequent teaching. Estaji (2024) similarly emphasised teachers' understanding of assessment objectives, assessment methods, result interpretation, and alignment between assessment and learning expectations. Assessment literacy therefore involves both conceptual understanding and the situated interpretation of assessment information within particular classroom contexts.

An important distinction, though, exists between perceived assessment knowledge and demonstrated assessment competence. Perceived knowledge refers to teachers' reported awareness and understanding of assessment concepts and procedures. Strong agreement with statements concerning assessment knowledge does not establish that teachers interpret standards consistently, construct appropriate assessment tasks, make comparable professional judgements, or enact effective feedback practices. Self-reported knowledge should therefore be interpreted as one dimension of teachers' assessment literacy rather than as direct evidence of their ability to implement assessment effectively. This distinction is important for the present study. The questionnaire examines teachers' perceived CBA knowledge across assessment purposes, procedures, instruments, professional judgement, feedback, follow-up action, learner involvement, and performance standards. The study therefore does not treat self-reported knowledge as evidence of demonstrated assessment competence. Instead, it examines areas in which teachers report stronger or weaker perceived knowledge and interprets these patterns within the professional and policy context of CEFR-aligned CBA. Understanding such perceived knowledge also requires attention to how teachers develop their assessment understanding. Teachers encounter assessment principles through multiple forms of professional learning, including formal guidance, professional development, interaction with colleagues, classroom experience, and independent information seeking. These learning contexts are important because they shape the resources and experiences through which teachers interpret assessment expectations.

Professional Learning and the Development of Teachers' Assessment Knowledge

Teachers' assessment knowledge develops through both formal and informal forms of professional learning. Formal sources include policy documents, assessment guidelines, teacher education programmes,

professional development courses, and workshops. These sources provide structured explanations of assessment purposes, procedures, standards, and policy expectations. In the Malaysian CBA context, official guidance issued by the Ministry of Education provides an important reference for assessment planning, professional judgement, performance standards, feedback, follow-up action, and reporting.

Formal provision, though, represents only one context in which teachers develop assessment knowledge. Teachers also construct professional understanding through classroom experience, interaction with colleagues, reflection, observation, and independent information seeking. Kagan (1992) argued that teachers' professional knowledge is closely related to prior experiences and existing beliefs. From a professional learning perspective, Yu et al. (2021) found that informal learning includes autonomous learning, information seeking, professional exchange, and reflection. Such activities provide teachers with accessible means of responding to immediate classroom and professional needs. Recent work on Malaysian language teacher cognition similarly shows that teachers' knowledge and beliefs develop through professional learning, classroom experience, and contextual influences, while classroom practice may also reshape teachers' existing understandings over time (Hong et al., 2025b).

The increasing availability of online information has further expanded opportunities for self-directed professional learning. Teachers are able to search for assessment concepts, examples, and procedures outside formal professional development structures. Such information seeking has practical value because teachers may access resources in response to immediate assessment questions. At the same time, the content, authority, depth, and alignment of online information with formal policy may differ considerably across sources. In a policy-driven assessment environment, reliance on varied information sources therefore raises questions about the basis on which teachers construct their understanding of assessment purposes and procedures.

Classroom experience represents another important context for developing assessment understanding. Repeated participation in assessment planning, evidence collection, professional judgement, feedback, and follow-up action may strengthen procedural familiarity. Teachers' understanding of CBA may consequently become closely connected to activities performed during everyday teaching. This practice-oriented view corresponds with the argument that assessment knowledge involves interpreting and using information within specific classroom settings rather than possessing abstract assessment concepts alone (Xu & Brown, 2016; Pastore, 2023).

Procedural familiarity and formal policy understanding, though, should not be treated as equivalent. Teachers may become familiar with routine assessment procedures through repeated classroom experience while retaining different interpretations of formative assessment, grading, feedback, or performance standards. Conversely, divergence from formal guidance should not automatically be interpreted as a lack of professional knowledge. Because assessment literacy is situated, teachers may interpret or adapt assessment expectations in response to pupils, classroom conditions, and local teaching demands. The important issue is therefore not simply whether teachers rely on formal or informal sources, but how these different forms of knowledge contribute to their interpretations of assessment.

Recent work on language assessment literacy similarly stresses the relationship among professional context, learning, and assessment experience. Vogt et al. (2024) positioned language assessment literacy as closely connected to the particular demands and contexts in which language teachers conduct assessment, while Estaji (2024) identified continuing professional development needs across assessment knowledge and practice. These perspectives support examining teachers' reported sources of CBA information alongside their descriptions of assessment in classroom practice. Doing so provides a basis for considering how formal guidance, experiential knowledge, and self-directed professional learning coexist within teachers' assessment understanding. The significance of these processes

becomes clearer when considered within the assessment system in which teachers work. In Malaysia, primary ESL teachers operate within an environment shaped by both national CBA policy and the use of the CEFR as a reference for English language education. This intersection creates a specific context in which teachers must interpret assessment purposes, curriculum expectations, performance standards, and pupils' developing language proficiency.

CEFR-Aligned Classroom-Based Assessment in Malaysian English Language Education

The Common European Framework of Reference for Languages (CEFR) provides a common framework for describing language proficiency through levels and descriptors that support curriculum development, language teaching, and assessment. The CEFR does not prescribe a single classroom assessment model. In the Malaysian English language education context, CEFR alignment operates alongside national curriculum standards and Classroom-Based Assessment (CBA) policy. The implementation of CEFR therefore requires teachers to interpret language learning expectations and pupils' performance within an educational system that increasingly emphasises continuous classroom assessment (Abdul Aziz et al., 2018; Sidhu et al., 2018).

According to the Ministry of Education Malaysia (2019), CBA is a continuous process conducted during teaching and learning to obtain information about pupils' development, progress, abilities, and mastery of intended curriculum goals. The process involves gathering and interpreting evidence, making professional judgements, providing feedback, undertaking follow-up action, and reporting pupils' progress. CBA incorporates assessment for learning and assessment as learning to support ongoing learning, while assessment of learning provides information concerning pupils' achievement or mastery after an appropriate period (Ministry of Education Malaysia, 2019). These functions position assessment as an integral component of classroom instruction rather than an activity conducted only at the end of learning.

Within CEFR-aligned English language education, CBA places substantial interpretive demands on teachers. Teachers need to connect classroom evidence with curriculum standards, performance standards, language learning objectives, and pupils' developing language proficiency. They also need to determine appropriate assessment approaches and interpret pupils' performance through professional judgement. The alignment of an internationally referenced language proficiency framework with national CBA policy, therefore, requires teachers to negotiate both language learning progression and local assessment expectations. Effective implementation involves not only familiarity with assessment procedures but also understanding the purposes of assessment and the relationships among evidence, standards, feedback, and subsequent instruction.

Empirical evidence from Malaysia presents a less uniform picture of teachers' assessment knowledge and implementation. Omar (2019), Singh et al. (2021), and Veloo et al. (2015) reported substantial knowledge or familiarity concerning classroom and school-based assessment. Singh et al. (2021), for example, reported considerable teacher familiarity with CEFR-aligned school-based assessment. In contrast, Sidhu et al. (2018) identified limitations in teachers' understanding of assessment standards, while Marzaini et al. (2024) reported concerns regarding ESL teachers' assessment literacy in implementing CEFR-aligned CBA. Khan et al. (2023) likewise identified gaps relating to assessment knowledge, use of standards, and formative assessment implementation. More recent Malaysian research has continued to identify inconsistencies between CBA policy expectations and classroom assessment practices, particularly in teachers' adherence to policy requirements and grading decisions (Marzaini et al., 2024; Marzaini & Yusoff, 2026).

These contrasting findings should not necessarily be interpreted as direct contradictions. Several methodological, contextual, and conceptual factors may contribute to the different conclusions reported

across studies. Studies that examine teachers' self-reported familiarity or perceived knowledge do not measure the same phenomenon as studies examining assessment practices, implementation difficulties, or demonstrated understanding of standards. Differences may also reflect the stage of CBA and CEFR implementation examined, the characteristics and professional experience of participating teachers, their exposure to training, and the specific dimensions of assessment literacy investigated. A teacher might, for example, report considerable familiarity with routine CBA procedures while experiencing difficulty interpreting standards or implementing particular formative assessment practices. Thus, apparently stronger self-reported perceived knowledge and reported implementation difficulties may coexist rather than represent mutually exclusive findings. This distinction is particularly important because CEFR-aligned CBA involves the local interpretation of both an internationally referenced proficiency framework and national assessment policy. Teachers do not implement these frameworks in an abstract setting. Their assessment judgements take place within particular linguistic, curricular, institutional, and classroom conditions. Formal policy guidance therefore provides an important reference point, but teachers' experiential and situated professional knowledge also forms part of assessment interpretation. The relationship between policy and practice is consequently better understood as an interaction among formal expectations, professional experience, available learning resources, and contextual judgement rather than simply as a question of compliance or non-compliance.

Taken together, Malaysian evidence indicates that continued implementation of CBA does not necessarily result in uniform understandings of its purposes, standards, and processes. At the same time, differences between formal policy expectations and classroom interpretations should not automatically be regarded as evidence of deficient assessment knowledge. A more informative question concerns how teachers understand different dimensions of CBA, what professional learning resources inform these understandings, and how they describe assessment within their classroom practice.

Research Gap and Research Questions

Existing research establishes the importance of teacher assessment literacy and documents both strengths and limitations in teachers' understanding and implementation of classroom assessment. Malaysian studies have examined teachers' familiarity with school-based assessment, CEFR-aligned assessment literacy, and challenges associated with CBA implementation (Sidhu et al., 2018; Singh et al., 2021; Marzaini et al., 2024). Collectively, this research shows that teachers' assessment knowledge cannot be adequately represented through a simple distinction between being knowledgeable and not knowledgeable. Assessment knowledge encompasses perceived familiarity, conceptual understanding, procedural knowledge, interpretation of standards, and classroom enactment, which are related but analytically distinct dimensions. Despite this growing literature, less attention has been given to the item-level pattern of primary ESL teachers' perceived knowledge across different areas of CBA while simultaneously examining the professional learning sources and practice-oriented accounts surrounding such knowledge within the same study. This gap is important because a high overall mean response on the perceived CBA knowledge scale may obscure substantial differences across particular CBA purposes, procedures, and responsibilities. Teachers may report strong familiarity with professional responsibility, standards, feedback, or reporting while displaying different levels of engagement with formal assessment guidance or different interpretations of specific assessment concepts.

Examining teachers' reported learning sources provides further contextual information concerning the professional learning environment within which their perceived CBA knowledge is situated. Formal policy guidance, professional development, classroom experience, collegial interaction, and self-directed information seeking represent different but potentially overlapping sources of professional understanding. Interview accounts can therefore provide complementary insight into how teachers describe CBA in relation to classroom assessment, feedback, professional judgement, and follow-up

action. The present study does not assume that particular learning sources produce specific levels of perceived knowledge, nor does it treat reported knowledge as equivalent to demonstrated assessment competence. Rather, the quantitative and qualitative components provide complementary evidence concerning the pattern of teachers' perceived knowledge and the professional contexts within which their understandings of CBA are situated. Accordingly, the present study examines primary ESL teachers' perceived knowledge of CEFR-aligned CBA in Malaysian primary schools and addresses the following research questions:

1. What is the level and pattern of primary ESL teachers' perceived knowledge of CBA in the CEFR context?
2. What learning sources do primary ESL teachers report, and how do they describe CBA in classroom practice?

Methodology

Research Design

This study employed an explanatory sequential mixed-methods design to examine primary ESL teachers' perceived knowledge of CBA within the CEFR context. The study involved two phases. The first phase collected quantitative data through a questionnaire, while the second phase collected qualitative data through semi-structured interviews (Creswell & Plano Clark, 2018). The quantitative phase provided an overview of teachers' perceived CBA knowledge, while the subsequent qualitative phase contextualised selected questionnaire patterns by examining teachers' reported sources of CBA information and their practice-oriented accounts of CBA.

Participants

The participants were primary school ESL teachers from the district of Johor Bahru, Malaysia, who were involved in implementing CEFR-aligned English language education and Classroom-Based Assessment. The sampling frame, obtained from the district education office, comprised 296 eligible primary ESL teachers. All eligible teachers were invited to participate in the online questionnaire, which was administered through Google Forms. Participation was voluntary, and teachers were informed that they were free to decline participation or withdraw before submitting their responses. A total of 169 complete responses were received, yielding a response rate of 57.1% which is sufficient according to Krejcie and Morgan's (1970) table of sample size. The respondents represented 74 primary schools, with an average of approximately two to three respondents from each school.

As shown in Table 1, the quantitative sample was concentrated among younger and early-career teachers. Most participants were aged between 21 and 30 years (61.5%), while 59.8% had between one and five years of teaching experience. Smaller proportions represented older age groups and longer periods of teaching experience. Regarding professional exposure to CBA, 84.0% of the participants had attended one to two CBA-related training sessions, while 16.0% had attended three or more sessions. These characteristics provide relevant contextual information for interpreting the reported level and pattern of teachers' perceived CBA knowledge.

For the qualitative phase, 17 teachers were selected through maximum variation purposive sampling. Selection considered teaching experience, prior CBA training, engagement with official CBA guidance, and questionnaire response patterns. The selected participants represented different combinations of early- and later-career teaching experience, low to high engagement with the official guidebook, and

Table 1 Demographic characteristics of the quantitative participants ($N = 169$)

Characteristic	Category	n	%
Age	21 to 30 years	104	61.5
	31 to 40 years	32	18.9
	41 to 50 years	16	9.5
	51 years and above	17	10.1
Teaching experience	1 to 5 years	101	59.8
	6 to 10 years	21	12.4
	11 to 15 years	25	14.8
	More than 15 years	22	13.0
Number of CBA training sessions attended	1 to 2 times	142	84.0
	3 to 4 times	25	14.8
	5 to 6 times	2	1.2

strong overall agreement, mixed, or comparatively lower questionnaire response profiles. This variation was intended to provide contrasting accounts of teachers' CBA learning sources and classroom assessment practices. Detailed characteristics of the interview participants are presented in Appendix A, Table A1.

Instruments

The questionnaire collected quantitative data on teachers' perceived knowledge of classroom-based assessment in the CEFR context. It consisted of 22 items adapted and modified from the *Guidebook of Classroom-Based Assessment* issued by the Ministry of Education Malaysia. The items covered assessment purposes, procedures, instruments, professional judgement, feedback, follow-up action, learner involvement, and performance standards. Although the questionnaire was administered within a CEFR-aligned primary ESL context, most items assessed broader principles and procedures of Malaysian CBA, including professional judgement, continuous assessment, feedback, follow-up action, learner involvement, assessment instruments, and performance standards. The CEFR connection was therefore primarily contextual rather than explicit at the level of every questionnaire item. Item 22 explicitly referred to CEFR proficiency levels, whereas Item 21 addressed a grading-related interpretation of CBA. These items were retained to examine teachers' perceived understanding of reporting and classification-related functions. However, curriculum performance standards, classroom grading, and CEFR proficiency classifications are conceptually distinct and should not be interpreted as equivalent forms of assessment judgement.

Responses were recorded on a four-point Likert scale ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*), and the questionnaire was administered in English. Before the main data collection, the questionnaire was piloted with 30 primary ESL teachers who were not included in the final sample. The pilot study examined item clarity and internal consistency, with the questionnaire demonstrating high internal consistency (Cronbach's $\alpha = .891$). Content relevance and clarity were also reviewed by two experts with experience in ESL education and classroom assessment. Exploratory factor analysis was subsequently conducted using the main-study data to examine the internal structure of the 22-item scale. Principal axis factoring was employed using the Pearson correlation matrix generated in SPSS. The Kaiser-Meyer-Olkin measure indicated adequate sampling suitability, $KMO = .86$, while

Bartlett's test of sphericity was statistically significant, $\chi^2(231) = 1,416.52$, $p < .001$. The initial eigenvalues showed a dominant first factor, with an eigenvalue of 10.70, accounting for 48.64% of the initial variance, followed by substantially smaller eigenvalues of 0.79, 0.75, 0.71, and 0.69 for Factors 2 to 5, respectively. The marked decline after the first factor was also evident in the scree plot (Appendix C, Figure C1). Taken together, the eigenvalue pattern, scree plot, factor loadings, and theoretical interpretability supported retention of a one-factor solution. Following extraction using principal axis factoring, the retained factor explained 46.38% of the total variance. All 22 items exceeded the minimum factor-loading criterion of .40, with loadings ranging from .45 to .82, and were therefore retained. The resulting scale demonstrated high internal consistency in the main sample, Cronbach's $\alpha = .916$. The one-factor solution was interpreted together with the conceptual coherence of the items as evidence concerning the internal structure of teachers' self-reported perceived CBA knowledge rather than as sufficient evidence of construct validity in isolation. Table 2 presents the factor loadings for the retained items.

Table 2 *Factor loadings for the perceived CBA knowledge items*

Item	Factor loading
1. Awareness of CBA	.58
2. Reading official CBA documents	.45
3. Informing pupils before assessment	.49
4. Determining an appropriate assessment approach	.63
5. Teacher responsibility for effective assessment	.79
6. Professional judgement of performance levels	.82
7. Follow-up action after assessment	.68
8. Self-assessment and peer assessment	.61
9. Use of assessment instruments	.64
10. Pupil-centred assessment	.66
11. Pupil involvement in assessment	.59
12. Continuous assessment	.78
13. Monitoring pupils' progress	.80
14. Evaluation against curriculum and performance standards	.81
15. Assessment based on individual ability	.72
16. CBA as an indicator of learning quality	.70
17. Achievement of learning objectives	.76
18. Feedback on pupils' performance	.77
19. Modification of teaching practices	.69
20. Improvement of pupils' learning	.75
21. Assignment of grades	.55
22. Placement into CEFR proficiency levels	.53

*Note: Extraction method: principal axis factoring. All factor loadings exceeded the minimum criterion of .40.

All 22 items loaded positively on the retained factor, with factor loadings ranging from .45 to .82. The highest loading was observed for professional judgement of pupils' performance levels, while

reading official CBA documents recorded the lowest loading. As all loadings exceeded the .40 criterion, all items were retained.

In the subsequent qualitative phase, semi-structured interviews were conducted with 17 teachers to explore their reported sources of CBA information and their practice-oriented accounts of CBA. The interviews were conducted in English and lasted approximately 30 minutes each. The recordings were transcribed verbatim, producing 46570 words of interview data. The interview questions were reviewed by experts in ESL education, who examined their relevance, clarity, and alignment with the study objectives. Their feedback was used to revise unclear questions and improve the sequence and focus of the interview protocol. The same interview guide was used across all interviews to ensure consistency. This mixed-methods integration strengthened the credibility of the interpretation by identifying convergence and differences between teachers' questionnaire responses and interview accounts.

Data Collection

Questionnaire data were collected through Google Forms after the required institutional permissions had been obtained. Following the quantitative phase, selected teachers were invited to participate in semi-structured interviews. The interviews provided contextual information about teachers' reported sources of CBA information and their descriptions of CBA in classroom practice. Permission to conduct the study was obtained from the relevant Malaysian education authorities and participants were informed of the study's academic purpose. Participation was voluntary and teachers were assured of confidentiality and anonymity. Pseudonyms were used for all teachers and schools in transcripts, analyses, and reporting.

Data Analysis

Before analysis, questionnaire responses were screened for completeness and duplicate submissions. Incomplete and duplicate responses were excluded from the dataset. No embedded attention-check items or dedicated indicators of insufficient-effort responding were included in the questionnaire. Therefore, response-quality screening was limited to completeness and duplicate detection. Following screening, 169 complete responses were retained for quantitative analysis. All quantitative analyses were conducted using SPSS version 25. Descriptive statistics, including means and standard deviations, were calculated for the 22 retained items to examine the level and pattern of teachers' perceived CBA knowledge. Mean scores were interpreted using the benchmarks adapted from Pornel and Saldaña (2013). These categorical interpretations represent levels of self-reported perceived knowledge based on participants' agreement with the questionnaire statements and should not be interpreted as indicators of demonstrated assessment competence. Response frequencies and percentages were also examined for items within the very high self-reported agreement category to assess the extent to which responses were concentrated at the upper end of the four-point scale.

Table 3 *Interpretation of mean scores for self-reported perceived CBA knowledge (Pornel & Saldaña, 2013)*

Mean score	Interpretation
3.50–4.00	Very high self-reported agreement
2.50–3.49	High self-reported agreement
1.50–2.49	Low self-reported agreement
1.00–1.49	Very low self-reported agreement

The interview data were analysed using thematic analysis in accordance with Christou (2023), which entails familiarizing with the data, coding, theme identification, theme review, theme definition and naming, and writing up. First, the interview recordings were transcribed and read several times to develop familiarity with the data. Relevant segments were then coded according to teachers' reported sources of CBA information, understanding of assessment procedures, use of official guidance, classroom experience, feedback, and follow-up action. The analysis followed a hybrid approach. Deductive codes were informed by the research questions and questionnaire findings, while inductive codes were developed from recurring ideas in the interview data. Two researchers independently reviewed and coded the interview transcripts. Coding similarities and differences were subsequently discussed, and disagreements were resolved through comparison with the original transcript data and consensus. Theme development involved repeated review of coded excerpts, including divergent cases, to ensure that the final themes adequately represented variation within the dataset. Related codes were grouped into broader categories and reviewed to identify coherent themes. The final themes were refined by comparing them with the interview excerpts and quantitative findings. The analysis generated two themes: informal and self-directed sources of CBA information, and practice-oriented accounts of CBA.

The quantitative and qualitative findings were integrated during interpretation. Questionnaire results were first used to identify stronger and weaker areas of perceived CBA knowledge. The interview data were then examined alongside these quantitative patterns to identify areas of convergence and variation concerning official guidance, classroom assessment, feedback, and follow-up action. The qualitative findings were treated as complementary contextual evidence rather than as evidence that particular learning sources caused or predicted specific levels of perceived CBA knowledge.

Findings

Teachers' Perceived Knowledge about CBA in the CEFR Context

Table 4 presents the descriptive statistics for teachers' perceived knowledge of classroom-based assessment in the CEFR context. Mean scores and standard deviations were used to identify the overall level and pattern of teachers' reported CBA knowledge. Perceived CBA knowledge refers to the construct measured by the questionnaire, whereas high and very high self-reported agreement refer to the descriptive interpretation of teachers' responses to the questionnaire items. These categories should not be interpreted as levels of demonstrated assessment competence.

Based on the adopted mean-score interpretation, teachers' overall responses fell within the very high self-reported agreement category ($M = 3.56$, $SD = .32$). Thirteen items were classified within the very high self-reported agreement range, while nine items fell within the high self-reported agreement range. These classifications describe teachers' responses to the perceived-knowledge statements and should not be interpreted as evidence of demonstrated assessment competence. The highest mean scores were recorded for improving pupils' learning, assigning grades to pupils' work, and placing pupils into CEFR proficiency levels ($M = 3.78$, $SD = .42$ for each item). Teachers also reported very high self-reported agreement with statements concerning their responsibility to conduct assessment effectively, exercise professional judgement, conduct continuous assessment, monitor pupils' progress, evaluate performance against established standards, and provide feedback, with mean scores ranging from 3.76 to 3.78. In contrast, reading official CBA-related documents recorded the lowest mean score ($M = 2.75$, $SD = .93$), followed by general awareness of CBA ($M = 3.02$, $SD = .97$) and informing pupils before classroom assessment ($M = 3.13$, $SD = .75$). Although these items remained within the high range, the overall response pattern indicates stronger self-reported familiarity with selected CBA responsibilities and purposes than direct engagement with official CBA guidance. The high ratings

Table 4 Mean scores and standard deviation of teachers' perceived knowledge about CBA

Teachers' knowledge item	Mean	SD	Interpretation
1. I am very aware of CBA.	3.02	.97	High self-reported agreement
2. I have read CBA related documents (for instance: The Guidebook of Classroom-based assessment or known as <i>Panduan Pelaksanaan Pentaksiran Bilik Darjah</i>).	2.75	.93	High self-reported agreement
3. I always inform pupils before I administer the assessment in the classroom.	3.13	.75	High self-reported agreement
4. I am aware that CBA is mainly for teachers to determine the appropriate assessment approach.	3.46	.50	High self-reported agreement
5. I know that a teacher's responsibility to conduct assessments effectively in the classroom.	3.76	.43	Very high self-reported agreement
6. I recognise the teacher's accountability to make a professional judgment in determining a pupil's performance level.	3.76	.43	Very high self-reported agreement
7. I agree that the teacher must conduct follow-up action after each assessment.	3.46	.50	High self-reported agreement
8. I find that CBA allows pupils to self-assess and peer assess themselves on their own.	3.44	.52	High self-reported agreement
9. I discovered that CBA used instruments (checklist, anecdotes, worksheet, and running records) and performance levels to assess the pupil's understanding.	3.43	.56	High self-reported agreement
10. I learn that CBA is more pupil-centred.	3.46	.50	High self-reported agreement
11. I am aware that CBA is a teacher's plan but is assessed by pupils themselves.	3.44	.52	High self-reported agreement
12. I study that CBA is a continuous assessment.	3.76	.43	Very high self-reported agreement
13. I understand that CBA helps keep track of student progress, achievement, and level of performance.	3.76	.43	Very high self-reported agreement
14. I must evaluate performance based on content standards, learning standards, performance standards, and level of performance.	3.76	.43	Very high self-reported agreement
15. I need to assess pupils based on individual abilities and not for comparisons between individuals.	3.76	.43	Very high self-reported agreement
16. CBA is an accurate indicator of learning quality.	3.70	.55	Very high self-reported agreement
17. CBA determines if students meet learning objectives.	3.76	.42	Very high self-reported agreement
18. CBA provides feedback to students about their performance.	3.76	.43	Very high self-reported agreement
19. CBA results modify teaching practices.	3.66	.61	Very high self-reported agreement
20. CBA helps students improve their learning.	3.78	.42	Very high self-reported agreement
21. CBA is assigning a grade to student work.	3.78	.42	Very high self-reported agreement
22. CBA places students into proficiency levels (A1, A2, B1, B2, C1, C2.).	3.78	.42	Very high self-reported agreement
Average	3.56	.32	Very high self-reported agreement

for grading and CEFR proficiency placement also warrant cautious interpretation because they reflect reporting and classification functions more strongly than the formative purposes of CBA.

Examination of the response distributions for items within the very high self-reported agreement category showed substantial concentration in the upper response categories (Appendix B, Table B1). For the three highest-scoring items, concerning improvement of pupils' learning, assignment of grades, and placement into CEFR proficiency levels, 77.5% of respondents selected 'Strongly agree' and the remaining 22.5% selected 'Agree'. Similar upper-end concentration was evident for several other items. This pattern suggests a potential ceiling effect for some questionnaire items and indicates that the scale may have provided limited differentiation among respondents reporting relatively strong perceived CBA knowledge.

Reported Learning Sources and Practice-Oriented Accounts of CBA

The qualitative findings addressed the second research question by examining teachers' reported sources of CBA information and the ways in which they described CBA in classroom practice. Two broad patterns were identified: (1) variation in engagement with official guidance alongside self-directed information seeking; and (2) practice-oriented accounts of CBA. The qualitative findings are interpreted as contextual evidence concerning teachers' assessment understanding rather than as evidence that particular learning sources produced specific levels of perceived knowledge.

Official Guidance and Self-Directed Information Seeking

The first pattern concerned variation in teachers' engagement with official CBA guidance. The participant profiles showed different levels of engagement with the official CBA guidebook across the qualitative sample, ranging from low to high engagement. Among the participants whose interview excerpts directly addressed their information-seeking practices, Teachers 2, 3, and 4 described using online sources to obtain or clarify information about CBA rather than relying primarily on the official guidebook.

Teacher 2, whose questionnaire profile reflected a strong procedural response profile but comparatively low guidebook engagement, explained:

"Not really, no, I have not read any documents related to CBA, but I did some research on what classroom-based assessment is, the techniques, and the types of assessment used in classroom-based assessment, but not the exact document."

Teacher 3, who had a mixed questionnaire-response profile and low guidebook engagement, similarly stated:

"I have googled it once when the officers came, and it was quite some time ago. I have googled about it, and I have a little knowledge about classroom-based assessment."

Teacher 4, whose profile reflected a strong practice-oriented response profile but lower engagement with formal guidance, reported:

"I do read it on the internet."

These accounts show that limited direct engagement with the official guidebook did not necessarily correspond with an absence of reported CBA familiarity. In particular, Teachers 2 and 4 demonstrated

comparatively strong procedural or practical response profiles despite low engagement with the guidebook. Their accounts indicate that self-directed online information seeking formed one source through which some participants accessed CBA-related information. The findings do not establish the quality or accuracy of these online sources, nor do they demonstrate that internet use produced the participants' reported procedural knowledge.

Practice-Oriented Accounts of CBA

The second pattern concerned the way participants described CBA in relation to everyday classroom activity. Teachers 4, 6, and 11 described CBA primarily as assessment occurring within classroom teaching and used to evaluate pupils' learning.

Teacher 4 explained:

“Classroom-based assessment is assessment that teacher carried out by the teacher in the classroom to get to know about teacher's performance and student's performance in the classroom.”

Teacher 6 stated:

“I think it's an assessment carried out by teachers based on the learning that has taken place within the context of a classroom.”

Teacher 11 similarly described CBA as:

“A means of evaluation that takes place within a classroom.”

These participants represented different professional profiles. Teacher 4 had 12 years of teaching experience and relatively low guidebook engagement, whereas Teachers 6 and 11 had moderate guidebook engagement and were characterised by strong classroom-procedure and practice-oriented response profiles, respectively. Despite these differences, their accounts converged around an understanding of CBA as assessment embedded within classroom activity. This pattern corresponds with the quantitative finding that teachers strongly endorsed their responsibility for conducting classroom assessment, although the interview accounts provide evidence of how selected participants articulated this understanding rather than demonstrating the quality of their assessment practice.

Practice-oriented understanding was also evident in descriptions of follow-up action. Teacher 2 explained:

“Yes, I do. I will call the students individually and I will guide them.”

This account illustrates an individualised response to assessment outcomes and provides qualitative support for teachers' reported awareness of follow-up action and improvement of pupils' learning.

At the same time, the interview accounts revealed variation in how feedback was understood. Teacher 1 described feedback as information provided to pupils:

“Yes, after each classroom-based assessment, I do give feedback.”

In contrast, Teachers 2 and 3 described feedback principally as information obtained from pupils. Teacher 2 stated:

“In my opinion, classroom assessment is more student-centred. It is one type of assessment that teachers use to gather or collect feedback.”

Teacher 3 similarly explained:

“I think teachers usually conduct classroom-based assessment to collect feedback from the students.”

These accounts indicate a meaningful conceptual variation. Teacher 1 referred to feedback as information communicated to learners following assessment, whereas Teachers 2 and 3 used the term to describe information elicited from learners during the assessment process. The contrast is notable because the three participants differed in their questionnaire profiles and levels of guidebook engagement. Teacher 1 showed a strong overall agreement profile with moderate guidebook engagement, Teacher 2 showed a strong procedural response profile with low guidebook engagement, and Teacher 3 displayed a mixed response profile with low guidebook engagement. The small number of cases does not support a conclusion that guidebook engagement explains these differences, but the contrast illustrates that similar familiarity with CBA procedures does not necessarily correspond with uniform conceptual interpretations of feedback.

Overall, the qualitative findings show both convergence and variation in teachers' accounts of CBA. Selected participants described self-directed online information seeking alongside different levels of engagement with official guidance, while their descriptions of CBA were strongly connected to classroom assessment, pupil evaluation, guidance, feedback, and follow-up action. At the same time, differences in the way feedback was described indicate that procedural familiarity and practice-oriented knowledge did not always correspond with uniform conceptual understanding. These findings contextualise the quantitative response patterns without implying that particular learning sources caused particular levels or forms of perceived CBA knowledge.

Discussion

Interpreting Teachers' Self-Reported CBA Knowledge

The first research question showed strong self-reported familiarity across several procedural, professional, and formative dimensions of CBA, including professional judgement, continuous assessment, monitoring pupils' progress, assessment against established standards, feedback, and support for pupils' learning. This pattern is broadly consistent with Singh et al. (2021), Omar (2019), and Veloo et al. (2015), but differs from studies reporting limitations in CEFR-aligned CBA knowledge, understanding of assessment standards, and formative assessment implementation (Marzaini et al., 2024; Sidhu et al., 2018; Khan et al., 2023; Arumugham, 2020; Suppian et al., 2020; Yusoff & Lee, 2021). These findings need not be contradictory because the present study examined teachers' self-reported awareness and familiarity rather than demonstrated assessment competence, while previous studies differ in their constructs, methods, and stages of CBA implementation. The present sample was also concentrated among younger and early-career teachers, many of whom had attended one or two CBA-related training sessions; however, the cross-sectional design does not establish whether age, experience, training, or continued exposure explains the observed response pattern.

Procedural Familiarity and the Formative Orientation of CBA

Teachers reported particularly strong awareness of their professional responsibilities in assessment, including conducting assessment effectively, making professional judgements, using assessment instruments, and evaluating pupils against curriculum and performance standards. These patterns correspond with contemporary conceptions of teacher assessment literacy as situated professional practice rather than mechanical application of assessment procedures. Xu and Brown (2016) conceptualised

assessment literacy as a context-dependent practice shaped by knowledge, beliefs, experience, identity, and contextual conditions. Looney et al. (2018) similarly emphasised teachers' professional identities and perceptions of themselves as assessors, while Darling-Hammond et al. (2020) highlighted teachers' capacity to organise knowledge and make instructional decisions responsive to learners' needs.

Knowledge of assessment methods, interpretation, and standards also forms an established component of assessment literacy. Latif (2021) identified assessment methods, administration, interpretation, and marking standards as important dimensions of teachers' assessment knowledge, while Estaji (2024) emphasised assessment objectives, appropriate methods, interpretation of results, and alignment with learning expectations. The present findings therefore indicate strong reported familiarity with several procedural and standards-based dimensions of CBA.

The pattern also suggests recognition of CBA's formative purposes. Teachers reported strong awareness of continuous assessment, feedback, follow-up action, and improvement in pupils' learning. Boström and Palm (2023) describe formative assessment as the collection, interpretation, and use of evidence to identify learning needs and determine subsequent action. Brown et al. (2023) similarly connect teachers' beliefs about feedback for learning with formative feedback practices, while Veugen et al. (2024) conceptualise formative assessment as a cycle involving clarification of expectations, elicitation and interpretation of evidence, feedback, and subsequent action.

Teachers also reported familiarity with learner-centred dimensions such as self-assessment, peer assessment, and pupil involvement. Näsström et al. (2021) showed that learner involvement in formative assessment is associated with motivation and engagement. Within language education, Yan et al. (2022) highlighted the role of CBA in supporting autonomy among young EFL learners, while Yan and Carless (2022) argued that self-assessment and feedback literacy contribute to self-regulated learning. These findings nevertheless represent perceived knowledge rather than evidence of consistent classroom enactment. Agreement with statements concerning professional judgement, formative assessment, feedback, or learner involvement does not establish that teachers apply standards consistently or enact these practices effectively. Previous findings concerning difficulties with self-assessment, peer assessment, and formative assessment practices (Khan et al., 2023) reinforce the need to distinguish perceived familiarity from demonstrated assessment competence. Future work incorporating observations, assessment tasks, pupils' work, and professional judgement decisions would provide stronger evidence concerning classroom enactment.

Tensions Between Formative and Classification Functions

A more revealing pattern appears when the highest-rated questionnaire items are considered together. Teachers strongly endorsed CBA as a means of improving pupils' learning, but equally high responses were recorded for assigning grades and placing pupils into CEFR proficiency levels. These responses suggest that formative and classification-related functions were both highly salient in teachers' reported understanding. This pattern requires cautious interpretation. High agreement with grading and proficiency placement does not establish that teachers regard these activities as the primary purposes of CBA. It does, though, raise questions concerning how assessment for learning, assessment as learning, and assessment of learning are differentiated within teachers' conceptual understanding. Lewkowicz and Leung (2021) emphasised the importance of connecting the conceptual foundations of classroom-based assessment with its practical enactment. Within the Malaysian context, teachers must negotiate formative feedback, continuous assessment, curriculum standards, performance-level decisions, and reporting requirements within the same assessment system.

The interview accounts concerning feedback provide further evidence of conceptual variation. Some teachers described feedback as information provided to pupils, whereas others referred to feedback

as information collected from pupils. The two processes are connected but conceptually distinct. Information elicited from pupils provides evidence concerning current learning, whereas feedback communicated to pupils is intended to support understanding of performance and subsequent improvement. Ocak and Karafil (2020) emphasised the role of teacher feedback in supporting learning, while de Kleijn (2023) conceptualised feedback as a process requiring active involvement from teachers and learners.

Taken together, the quantitative and qualitative evidence points to an important distinction among procedural familiarity, conceptual clarity, and demonstrated assessment competence. Teachers reported substantial familiarity with CBA responsibilities and procedures, but the prominence of classification-related functions and variation in their descriptions of feedback suggest that strong self-reported familiarity does not necessarily imply uniform conceptual interpretation. This distinction strengthens the argument for examining specific dimensions of perceived knowledge rather than relying solely on an overall questionnaire score.

How Teachers Construct CBA Knowledge across Learning Sources

The second research question examined teachers' reported sources of CBA information and their descriptions of CBA in classroom practice. Two related patterns emerged. Several teachers reported obtaining CBA information through internet searches, while their descriptions of assessment focused strongly on classroom implementation, pupil guidance, feedback, and follow-up action. These patterns represent complementary aspects of teachers' professional learning rather than evidence of a causal relationship between particular information sources and perceived knowledge.

Formal Guidance, Experiential Knowledge, and Epistemic Grounding

Teachers' reported use of internet searches reflects informal and self-directed professional learning. Yu et al. (2021) described teachers' online informal learning as involving autonomous learning, information seeking, knowledge exchange, and reflection. In the present study, online sources appeared to provide accessible information when teachers required clarification concerning CBA. At the same time, direct engagement with the official CBA guidebook was less consistent than teachers' reported familiarity with many CBA procedures. This apparent tension is theoretically significant. It suggests that teachers' assessment knowledge may develop through multiple and overlapping professional learning pathways rather than through formal policy documents alone. Routine classroom experience, professional interaction, previous training, and self-directed information seeking represent plausible sources through which procedural familiarity may develop, although the present study does not establish the relative contribution of these sources.

This interpretation also requires avoiding a simple assumption that formal policy knowledge is inherently superior to experiential knowledge. Teachers enact assessment within particular classrooms, schools, linguistic environments, and learner populations. Situated professional judgement may therefore involve interpreting and adapting assessment expectations in relation to local conditions. From this perspective, differences between formal guidance and teachers' practice-oriented accounts do not automatically indicate deficient knowledge. They instead raise questions about how formal policy, experiential knowledge, and informal professional resources interact when teachers construct assessment understanding. Within the Malaysian context, CEFR-aligned CBA is therefore better understood as a process of local recontextualization rather than direct transfer of an international proficiency framework into classroom practice. Teachers interpret CEFR-related expectations through national curriculum standards, CBA requirements, school practices, multilingual classroom conditions, and pupils' differing language-learning needs (Abdul Aziz et al., 2018; Sidhu et al., 2018). Professional

judgement consequently involves negotiating formal guidance with evidence and experience arising from particular classroom contexts. Official guidance remains an important reference for shared assessment expectations, but differences between prescribed guidance and classroom practice require examination in relation to their contextual rationale rather than being treated automatically as evidence of inadequate assessment knowledge.

Online information nevertheless differs in depth, authority, and alignment with current policy. The findings do not establish that teachers who used internet sources possessed incorrect knowledge. They show that several participants obtained information outside direct Ministry guidance and that official-document engagement was less consistent than their reported procedural familiarity. The issue is therefore one of epistemic grounding, namely the sources through which assessment interpretations are developed and justified, rather than a simple distinction between correct formal knowledge and incorrect informal knowledge. The practice-oriented nature of teachers' interview accounts further supports this interpretation. Participants commonly described CBA as assessment embedded within classroom teaching and referred to individual guidance, feedback, and follow-up action. Yan et al. (2022) similarly conceptualised CBA as assessment integrated with instruction to facilitate learning. Teachers' accounts therefore reflected practical features of classroom assessment that corresponded with their strong questionnaire responses concerning responsibility, feedback, and pupil improvement. The qualitative evidence does not establish that classroom experience produced the questionnaire responses or that internet use shaped particular understandings. Instead, it demonstrates the coexistence of strong procedural familiarity, practice-oriented accounts, varied information sources, and uneven engagement with formal guidance.

Implications for Situated Assessment Literacy and Professional Learning

These patterns have implications for how teacher assessment literacy is conceptualised within CEFR-aligned CBA. Teachers' assessment knowledge appears to involve interaction among formal policy guidance, procedural familiarity acquired through practice, experiential professional judgement, and informal information seeking. Assessment literacy in this context is therefore better understood as situated professional knowledge rather than as simple possession of policy information. Professional learning should consequently build on teachers' existing assessment experience rather than assume an absence of practical knowledge. Structured opportunities to examine official guidance alongside classroom evidence, pupils' work, performance-level decisions, feedback, and follow-up actions may help teachers examine the relationship between established practices and formal assessment principles. Collaborative discussion of assessment decisions may also provide opportunities to develop shared interpretations while retaining space for context-responsive professional judgement.

The study therefore contributes to the assessment literacy literature by distinguishing among perceived knowledge, procedural familiarity, conceptual clarity, epistemic grounding, and demonstrated assessment competence. These dimensions are connected but should not be treated as interchangeable. Conceptually, these dimensions may be viewed as related but distinct layers of teacher assessment literacy. Perceived knowledge concerns what teachers report knowing, while procedural familiarity concerns their reported awareness of how assessment processes are conducted. Conceptual clarity refers to the extent to which assessment purposes and functions are differentiated coherently, whereas epistemic grounding concerns the professional sources through which assessment interpretations are developed and justified. Demonstrated assessment competence represents a further level involving the quality and consistency of assessment decisions in practice. The present findings do not establish progression across these dimensions. Rather, they show that strong self-reported perceived knowledge and procedural familiarity may coexist with variation in conceptual interpretation and in the sources underpinning teachers' assessment understanding.

Strong procedural familiarity may coexist with limited direct engagement with formal guidance and variation in teachers' interpretations of particular assessment concepts. Such coexistence helps explain why strong self-reported familiarity does not necessarily conflict with previous studies identifying difficulties in classroom implementation. The findings also have relevance beyond the Malaysian setting. Education systems adopting internationally referenced proficiency frameworks require teachers to translate broad proficiency expectations and national assessment policies into everyday classroom judgements. Understanding this process requires attention not only to policy dissemination but also to the professional, experiential, and informational contexts through which teachers interpret standards, assessment purposes, feedback, and professional judgement.

Conclusion

This study examined primary ESL teachers' perceived knowledge of CEFR-aligned CBA in Malaysian primary schools and explored their reported learning sources and practice-oriented accounts of assessment. Based on the adopted mean-score interpretation, teachers' responses generally fell within the high to very high self-reported agreement categories, with the overall response pattern classified as very high self-reported agreement. Teachers reported high to very high self-reported agreement with statements concerning professional responsibility, professional judgement, continuous assessment, performance standards, feedback, and support for pupils' learning. At the same time, high ratings for grading and CEFR proficiency placement revealed a possible tension between the formative purposes of CBA and its reporting and classification functions. The qualitative findings showed that several teachers relied on internet searches for CBA information, while direct engagement with official guidance was less consistent. Their accounts also reflected practice-oriented understandings of CBA centred on classroom assessment, pupil guidance, feedback, and follow-up action. These findings do not establish a direct relationship between learning sources and perceived knowledge. Instead, they show that informal information seeking coexisted with practice-oriented accounts of CBA. The study highlights the assessment literacy demands faced by teachers when CEFR-aligned language education operates alongside national classroom assessment policy, a concern also relevant to education systems translating international proficiency frameworks into local assessment practice. The findings should be interpreted in light of several limitations. First, the questionnaire measured teachers' perceived knowledge rather than demonstrated assessment competence. Second, the cross-sectional design does not permit conclusions about changes in teachers' assessment knowledge over time. Third, the study was conducted within a single district, which limits the transferability of the findings to other Malaysian educational contexts. Fourth, the qualitative component relied on teachers' interview accounts without classroom observations or analysis of assessment artefacts. Questionnaire response-quality screening was also limited to completeness and duplicate detection because no embedded attention checks or other dedicated indicators of insufficient-effort responding were included. Finally, the concentration of responses in the upper categories for several questionnaire items suggests a potential ceiling effect, which may have limited differentiation among teachers reporting relatively strong perceived CBA knowledge. Future research should combine self-report measures with classroom observations, assessment artefacts, performance-based assessment tasks, and analyses of teachers' professional judgement. Studies across different districts and stages of assessment reform would also provide a broader understanding of how perceived knowledge relates to assessment practice. The findings further suggest value in professional learning that brings official CBA guidance into dialogue with teachers' classroom experience, professional judgement, and existing assessment practices. Collaborative examination of pupils' work, performance-level decisions, formative and summative assessment purposes, feedback, and follow-up actions represents a potentially useful direction for developing shared interpretations of CEFR-aligned CBA while recognising the situated nature of teachers' assessment knowledge. The effectiveness of such professional learning approaches warrants further empirical investigation.

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Conflict of Interest

The corresponding author states that there is no conflict of interest.

Use of Generative AI

This manuscript made use of ChatGPT to assist in paraphrasing and improving the clarity of text. No AI tools were used for the generation of research hypotheses or the writing of conclusions. The final manuscript was authored and reviewed by the listed authors without additional AI input.

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Appendix A

Table A1. *Characteristics of the qualitative interview participants*

Participant	Teaching experience	CBA training attended	Engagement with official CBA guidebook	Questionnaire response profile
Teacher 1	4 years	1 session	Moderate	Strong overall agreement profile
Teacher 2	3 years	1 session	Low	Strong procedural response profile, lower guidebook engagement
Teacher 3	7 years	2 sessions	Low	Mixed response profile
Teacher 4	12 years	3 sessions	Low	Strong practice-oriented response profile, lower formal guidance engagement
Teacher 5	18 years	2 sessions	High	Strong overall agreement profile
Teacher 6	5 years	2 sessions	Moderate	Strong classroom-procedure response profile
Teacher 7	9 years	3 sessions	High	Strong overall agreement profile
Teacher 8	11 years	2 sessions	Moderate	Mixed response profile
Teacher 9	21 years	3 sessions	High	Strong standards-related response profile
Teacher 10	4 years	1 session	Low	Lower official-procedure response profile
Teacher 11	7 years	1 session	Moderate	Strong practice-oriented response profile
Teacher 12	13 years	3 sessions	High	Strong overall agreement profile
Teacher 13	16 years	2 sessions	Moderate	Mixed response profile
Teacher 14	4 years	1 session	Low	Strong feedback and follow-up response profile
Teacher 15	7 years	5 sessions	High	Strong overall agreement profile
Teacher 16	11 years	2 sessions	Moderate	Strong procedural response profile, mixed conceptual responses
Teacher 17	16 years	4 sessions	Low	Mixed response profile

**Note.* Questionnaire response profiles are descriptive characterisations of participants' patterns of self-reported agreement across questionnaire items. They should not be interpreted as levels of demonstrated CBA knowledge or assessment competence.

Appendix B

Table B1. *Response distributions for questionnaire items with very high self-reported agreement*

Item	Strongly disagree n (%)	Disagree n (%)	Agree n (%)	Strongly agree n (%)	M	SD
5. Teacher responsibility for effective assessment	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
6. Professional judgement of pupils' performance levels	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
12. Continuous assessment	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
13. Monitoring pupils' progress, achievement, and performance level	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
14. Evaluation against curriculum and performance standards	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
15. Assessment based on individual ability	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
16. CBA as an indicator of learning quality	1 (0.6)	5 (3.0)	38 (22.5)	125 (74.0)	3.70	.55
17. Achievement of learning objectives	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.42
18. Feedback on pupils' performance	0 (0.0)	0 (0.0)	41 (24.3)	128 (75.7)	3.76	.43
19. Modification of teaching practices	1 (0.6)	9 (5.3)	37 (21.9)	122 (72.2)	3.66	.61
20. Improvement of pupils' learning	0 (0.0)	0 (0.0)	38 (22.5)	131 (77.5)	3.78	.42
21. Assignment of grades to pupils' work	0 (0.0)	0 (0.0)	38 (22.5)	131 (77.5)	3.78	.42
22. Placement into CEFR proficiency levels	0 (0.0)	0 (0.0)	38 (22.5)	131 (77.5)	3.78	.42

*Note. N = 169. Response options ranged from 1 = Strongly disagree to 4 = Strongly agree.

Appendix C

Table C1. *Leading initial eigenvalues for the perceived CBA knowledge scale*

Factor	Initial eigenvalue	% of total variance	Cumulative %
1	10.70	48.64	48.64
2	0.79	3.60	52.25
3	0.75	3.43	55.68
4	0.71	3.25	58.93
5	0.69	3.14	62.07

Note. The first five initial eigenvalues are presented to illustrate the factor-retention pattern. The pronounced decline from the first to the second eigenvalue indicates a dominant first factor.

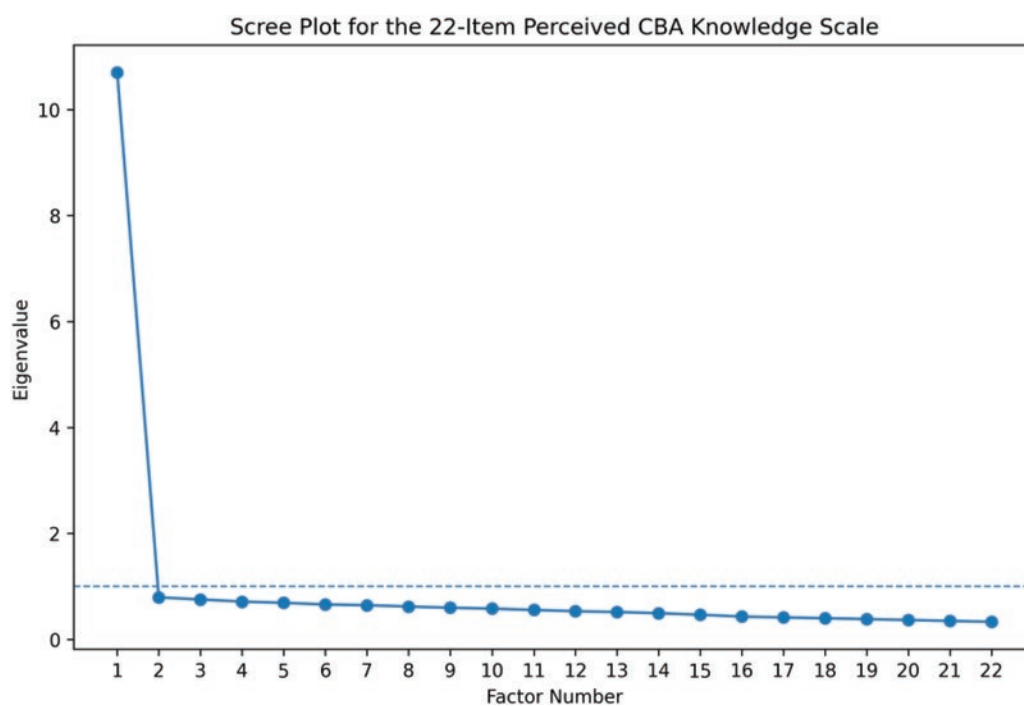


Figure C1. *Scree plot for the 22-item perceived CBA knowledge scale.*