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Teachers' Understanding and Implementation of the Competence-Based Assessment in a Competence-Based Curriculum: A Systematic Literature Review

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Introduction

- Many countries adopted a Competency Based Curriculum as a means for improving learning outcomes(Anderson-Levitt & Gardinier, 2021).
- However, several studies show inadequacies in implementation (Charles et al., 2023; Kabombwe & Mulenga, 2019; Kigwilu & Mokoro, 2022; Komba & Mwandaji, 2015).
- The SLR is significant in identifying causes for inadequacies and contributes to understanding measures to be undertaken to help teachers successfully implement CBC and CBA.

Conceptual Framework

- Van den Akker's(2003) framework of curriculum representations: Intended, Implemented and Attained.
- Rogan and Grayson(2003) theory of curriculum alignment: Potential for gaps to develop between Intended and Implemented.

Purpose of the Systematic Literature Review

- To investigate how the teachers are implementing the Competence-Based assessment in line with the CBA principles and guidelines.
- This will be done by interrogating the factors related to teacher understanding and teacher implementation.

Specific Questions

- RQ 1: What are the characteristics of the studies exploring teachers' understanding and implementation of the competence-based assessment in a competence-based curriculum?
- RQ 2: How well do teachers understand the competence-based curriculum?
- RQ 3: How well were the teachers prepared or trained for the implementation of the competence-based assessment?
- RQ 4: How well is the teachers' implementation aligned to the competence-based assessment guidelines?
- RQ 5: What challenges do the teachers encounter in implementing competence-based assessment in the competence-based curriculum?
- RQ 6: What are the proposed interventions for improving the implementation of the competence-based assessment in the competence-based curriculum?

Methodology

- Systematic Literature Review based on Preferred Reporting Items for Systematic Review and meta-Analysis (PRISMA) 2020 Guidelines (Page et al., 2021).
- The search was conducted June 2025 using five databases: **Scopus, ProQuest, Web of Science, EBSCOhost, and ERIC**. The databases were selected due to their provision of credible and high-quality information, ease of data extraction, and relevance to the study topic.

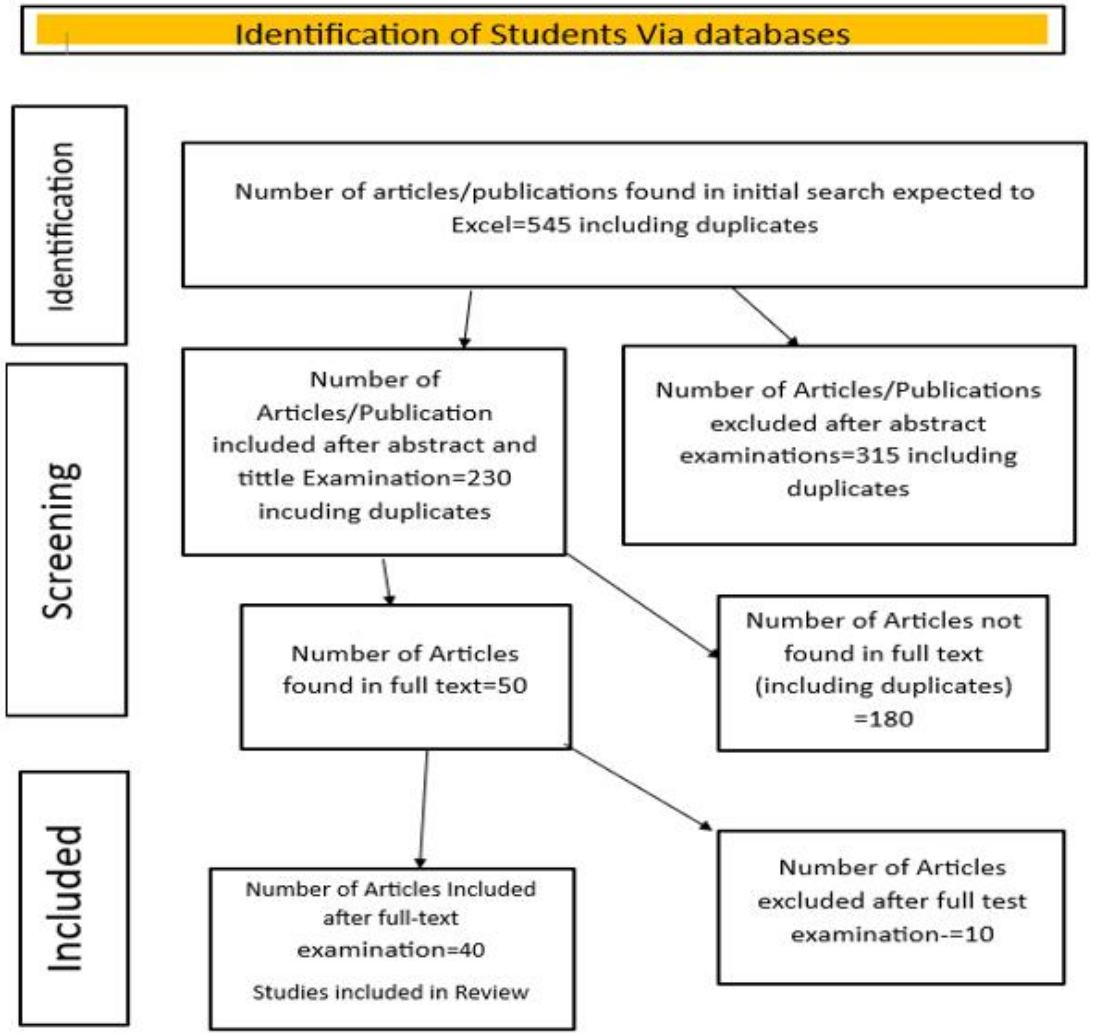
Table 1: Eligibility Criteria

No.	Inclusion		Exclusion
1.	Restricted to the English Language	1.	No predatory Journal articles, e.g. reports for foundational projects, and conference papers
2.	Dates -2010 to 2025	2.	Higher education, Health, medical, workplace, pharmacy, technical, vocational and engineering education
3.	No restriction to geographic range		
4.	Primary and secondary education		
5.	Full text and Peer-reviewed		

Data Extraction Process

- To ensure a structured selection process, the researcher employed Zotero throughout the process. following these steps:
  - The data that has been collected is stored in a Research Information System (RIS) format and imported into the Zotero application.
  - The imported search data is exported to Excel from Zotero. The databases are created in Excel, ProQuest, Scopus, Web of Science, and EBSCOhost.
  - The creation of a group set for the systematic review process, referring to the eligibility criteria in Table 1.
  - The selection process in accordance with the eligibility criteria and placing the outcomes into the previously created group set. This process was undertaken to precisely determine the number of selected and non-selected articles in each stage of the screening process

Figure 1: PRISMA Flow Chart



Article Selection Flow

- Based on the selection results, 40 articles met the criteria. The analysis of these articles employed a meta-synthetic approach, comprising several stages.
- 1. Identification of a research focus.
- 2. Identification of the relevant research.
- 3. The selection of research meets the review criteria
- 4. Assessment of the selected research.
- 5. Extraction of data from the research under the Teachers' Understanding and Teachers' Implementation, and creating sub-themes.
- 6. Synthesis of data of the identified sub-themes are allocated to the two main themes.

Evaluation of Studies

- This approach is based on the methodology proposed by D. Evans & Pearson (2001).
- The selection of this method is based on its provision of a structured guide for conducting research and its relevance to the study's primary purpose:
- To analyse and synthesise previous studies on teachers' understanding and implementation of competence-based assessment within a competence-based curriculum.
- This will result in comprehensive information on how well the teachers understand the CBC and implement the competence-based assessment.

Results: Characteristics of the Studies

- Studies for all five continents, different countries; Africa, Europe and Asia top three; One study by Akinronla (2020) in three countries.
- (N=15) Qualitative studies, (N=12) Case Studies; (N=16) Quantitative studies with (N=5) Survey and (N=6) Mixed
- Data Collection methods: Interviews (N=13) and Questionnaire (N=9) and Observations (N=5)
- Published from 2018 to 2024; (N=7) in 2025
- Sample sizes from 1 to 8513, and most from Secondary (N=27)

Results: Teachers' Understanding of CBC (N=42)

Table 2: Number of Included Articles Per Category Under Teachers' Understanding

Category		Studies	N
Teachers' Understanding			
Teachers' Perceptions	Positive on shift from content to competence	3,11,7.29, 22, 17, 24	7
			7
Knowledge	pedagogical knowledge	7, 18, 25,11,15	5
	Curriculum knowledge	36,39, 27	3
	CBC Policy Knowledge	4,33	2
	Competence-based assessment Knowledge	17, 31,23, 40	4
			14
Attitudes	~~Positive~~ Attitudes to CBA implementation	11, 29, 12,31	2
			2
			4

Results: Teachers' Understanding of CBC (N=42)

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Category		Studies	N
Teachers' Understanding			
Teachers' Perceptions	Positive on shift from content to competence	3,11,7.29, 22, 17, 24	7
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Knowledge	Lack of pedagogical knowledge	7, 18, 25,11,15	5
	Lack of Curriculum and assessment knowledge	36,39, 27	3
	Lack of CBC Policy Knowledge	4,33	2
	Lack of Competence-based assessment Knowledge	17, 31,23, 40	4
			14
Attitudes	Positive Attitudes to CBA implementation	11, 29, 12,31	2
	Teachers' reluctance	12,31	2
			4
External factors	Lack of alignment between the College of Education and the school's CBC Curriculum	34	1
-	Big class sizes conflict with CBC Practices	24, 20,	2
-	Lack of or inadequate materials	29,6	2
-	-	-	5
Teacher Capacity	Need for CPD in CBC and CBA	21, 31, 20, 8, 18, 29, 33	7
-	CPD in Lesson Plan	37, 27	2
	Teachers not trained in CBC and CBA	25,17,21,22	4
		Total	12

Results: Teachers' Implementation of Competence-Based Assessment (N=36)

- Table 3: Articles Included on Teachers' Implementation of the CBA

Teachers' implementation			
Professional Development in CBA	Training in Competency Based Assessment Practices	20, 34, 26, 8, 17,	5
	Aligning preservice curriculum with school curriculum	34	1
	Lesson Plan Development	19,1	2
			8
Assessment Practices	Definition of Competencies	38,	1
	Alignment to CBA Practices, e.g. Formative assessment tasks	6, 23, 33,32,19,10,12,24,25	9
			10
Assessment Materials and Infrastructure/Guidelines	Teaching, learning and assessment materials	26, 5,20,22,30, 32,36,8,1	9
	Investing in Competency-Based Assessment materials	8,20,31	3
	Infrastructure	30	1
			13
Assessment Management Factors	Monitoring and Inspection	6,15,32	3
	Benchmarking with other successful programmes	32,28,	2
	Classroom Conditions		5
		TOTAL	36

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Assessment Practices	Definition of Competencies	38,	1
	Alignment to CBA Practices, e.g. Formative assessment tasks	6, 23, 33,32,19,10,12,24,25	9
			10
Assessment Materials and Infrastructure/Guidelines	Inadequate Teaching, learning and assessment materials	26, 5,20,22,30, 32,36,8,1	9
	Investing in Competency-Based Assessment materials	8,20,31	3
	Lack of infrastructure	30	1
			13
Assessment Management Factors	Monitoring and Inspection	6,15,32	3
	Benchmarking with other successful programmes	32,28,	2
	Overcrowded Classroom Conditions		5
		TOTAL	36

Discussion: Teachers' Understanding

- 1. Teachers' Perception (N=7): Teachers believe CBC can effectively promote the development of essential skills and competencies.
- 2. Lack of Pedagogical Knowledge (N=5): Teachers struggle to effectively facilitate the practical, learner-centred learning required to build specific competencies.
- 3. Lack of Curriculum Knowledge (N=3): Teachers fail to shift from traditional knowledge-focused teaching to a learner-centred approach emphasising practical skills and outcomes.
- 4. Lack of Policy Knowledge (N=2): Without understanding underlying principles and guidelines, teachers cannot design and deliver lessons aligned to curriculum goals.
- 5. Lack of CBA Knowledge (N=4): They don't understand how to measure and evaluate students' practical skills and knowledge application required by the curriculum.

Discussion: Teachers' Understanding

- 6. Teachers need new skills (N = 7) to transition from content experts to facilitators who guide learners in applying their knowledge to real-life situations.
- 7. Teachers not trained (N=4): Due to the rapid shift from the traditional system, insufficient resources for training and implementation.
- 8. Training in Lesson Plan (N=2): Ensures effective implementation by enhancing teachers' ability to align lessons to specified competencies.
- 9. Attitude (N=4): A positive attitude influences both the willingness to adopt new methods and student engagement and motivation.
- 10. Large class sizes (N=2) and a Lack of materials (N=2) can limit personalized attention, reducing students' teacher interaction and hindering hands-on practical activities essential for skill development.

Discussion: Teachers' Implementation (N=36)

- 1. Training in CBA Practices (N=5): The shift requires new pedagogical skills and a deeper understanding of assessing skills, attitudes, and values, not just content.
- 2. Aligning College Curriculum to CBC/CBA (N=1): This ensures future teachers are equipped with the knowledge and skills to implement CBC effectively, fostering student development, critical thinking, and alignment with labour market needs. Figure 2 shows the Conceptual Framework on Alignment
- 3. Lesson Plan Development Training (N=2): This provides a roadmap to achieve desired learning outcomes by aligning learning objectives, activities, and assessments in a way that focuses on observable skills and behaviours.
- 4. Aligning to CBA Principles (N=9): Competence-based assessment (CBA) focuses on demonstrating skills, and adherence to guidelines helps teachers accurately gauge this demonstration. Also ensures fairness, accuracy, and validity in evaluating student performance.

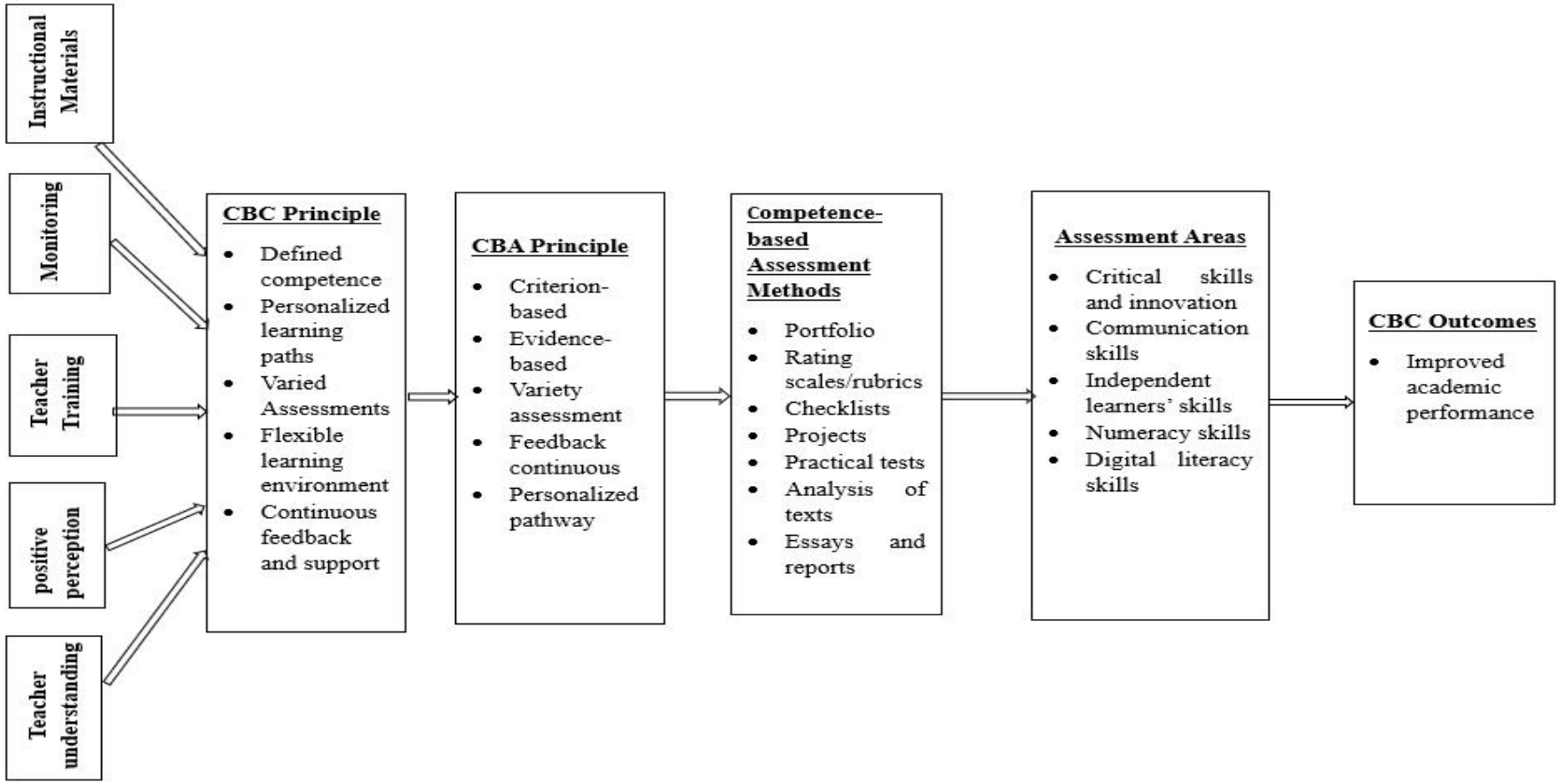
Discussion: Teachers' Implementation (N=35)

- 5. Inadequacy of Materials (N=9): The successful implementation of curriculum reforms, such as competency-based curricula, is heavily influenced by the availability and adequacy of resource materials. Without appropriate resources, teachers struggle to deliver the curriculum and assess students' competencies accurately and effectively.
- 6. Monitoring and inspection (N=3): Effective monitoring is crucial for the successful implementation of CBA. Monitoring enables teachers to track student progress, identify areas that require support, and assess the effectiveness of their teaching strategies. Without monitoring, it's difficult to gauge whether CBA objectives are being met, leading to potential inefficiencies and ultimately hindering student outcomes.
- 7. Benchmarking (N=3): This helps to learn best practices, improve assessment strategies, gain practical insights, enhance teacher training, foster innovation, and build supportive professional networks for better implementation of the Competency-Based Curriculum (CBC).

Discussion: Teachers' Implementation (N=35)

- 8. Defining Competencies for CBA (N=1): Teachers should define competencies before competence-based assessment to establish clear learning objectives and assessment criteria. Defining competencies ensures that the evaluation accurately measures the desired skills and knowledge. This process also helps teachers create valid assessment instruments and align their teaching strategies with the expected outcomes. Setting meaningful competencies is a best practice for competence-based assessment.
- 9. Overcrowded Classes (N=1): Effectively conducting competency-based assessments (CBA) in overcrowded classrooms requires teachers to focus on strategies that facilitate efficient evaluation of student skills and competencies. This could involve utilising differentiated instruction to cater to diverse learning needs, employing formative assessment techniques like quick quizzes or observation checklists to monitor progress, and leveraging peer assessment and self-assessment to reduce teacher workload. Technology, where available, can support assessment through online quizzes or digital portfolios.
- 10. Limited Infrastructure (N=1): To conduct competency-based assessments (CBA) with limited infrastructure, teachers should focus on leveraging limited physical resources for practical tasks, using student-centred, inquiry-based methods to promote critical thinking, and creating peer learning networks to share knowledge and support each other's growth in CBC implementation

Figure 2: Conceptual Framework for the Study



Implications for Practice, Policy or Future Research

- 1. Need for future SLR research using mainly quantitative studies and more on the CBA aspect of CBC.
- 2. The majority of teachers are positive about CBC, but the positive vision is not aligned with actual practice. The problem is the training.
- 3. Training should be ongoing CPD at the school level, and modules or manuals should be developed.
- 4. Materials are crucial because they enable learners to have workbooks with differentiated activities suitable for large classes.
- 5. CBC rests on learners' demonstration of mastery; this mastery requires a scale in the form of Performance Level Descriptors that reflect what learners can do at their different ability levels. Therefore, there is no context in which one can talk about competence-based teaching and assessment without the Performance Level Descriptors.
- 6. These Performance Level Descriptors can be used for teaching, developing materials and assessment tools.

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Thank you
Enkosi
Dankie

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