

Journal of Education and Practice (JEP)

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Schools in Homa Bay County, Kenya**



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Assessment of Teachers' Knowledge of How To Develop Assessment Tools in Enhancing Learner Competencies in Junior Schools in Homa Bay County, Kenya

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Accepted: 26th Aug, 2026, Received in Revised Form: 9th Sep, 2026, Published: 23rd Sep, 2026



Abstract

Purpose: The implementation of the Competency-Based Curriculum (CBC) in Kenya has shifted assessment from an emphasis on content recall towards the demonstration and documentation of learners' knowledge, skills, values, attitudes, and competencies. This study examined teachers' knowledge in developing assessment tools in enhancing learner competencies.

Methodology: The study used an explanatory sequential mixed-methods design. Data were collected from 24 schools using teacher questionnaires, head-teacher interviews, learner focus group discussions, classroom observations, and document analysis. Quantitative data were analyzed using frequencies, percentages, descriptive statistics, one-way analysis of variance, and Pearson product-moment correlation. In contrast, qualitative data were analyzed thematically and integrated with the quantitative findings. Of the 120 sampled teachers, 110 provided valid responses.

Findings: The findings showed that teachers demonstrated strong conceptual knowledge of the selected CBE assessment tools and generally positive attitudes towards their use, although practical professional development remained necessary. Qualitative and documentary evidence indicated that portfolios, performance tasks, rubrics, and observation provided complementary evidence of learner progress, practical performance, participation, and competency development. However, implementation was constrained by teacher workload, large classes, inadequate assessment materials and ICT infrastructure, differences in teacher preparedness, parental support, and socioeconomic and school-location conditions. The study concluded that effective CBE assessment depends on teachers' practical assessment capability.

Unique Contribution to Theory, Practice, and Policy: The study recommended continuous practical professional development, improved assessment and ICT resources, stronger school-level support and moderation, manageable teacher workloads, and measures to reduce socioeconomic and location-related barriers to equitable participation in assessment activities.

Key Words: *Competency-Based Curriculum, Teachers' Knowledge and Learner Competencies*

1. Background of the Study

Education is increasingly expected to develop learners' knowledge, skills, attitudes and competencies needed for effective participation in society and the changing world of work (OECD, 2019; UNESCO, 2017). This expectation has contributed to the shift from traditional content-based education towards competency-based education (CBE), which emphasizes the application of knowledge and the demonstration of skills in authentic situations. In Kenya, the Competency-Based Curriculum (CBC) similarly emphasizes the development of competencies such as communication and collaboration, critical thinking and problem-solving, creativity and imagination, self-efficacy, citizenship, learning to learn and digital literacy (KICD, 2017). At the Junior School level, learners are therefore expected to demonstrate what they know and can do through classroom activities, practical tasks, projects and other forms of evidence rather than through recall-based examinations alone.

Assessment is central to determining whether learners are acquiring the intended competencies because it provides evidence of what learners know, understand and are able to do. Competency-based assessment consequently requires teachers to develop and use assessment tools that are aligned with specific competencies and appropriate performance criteria. Among the tools used in CBC are learner portfolios, performance tasks/projects, rubrics and classroom observation checklists. Portfolios provide evidence of learner progress over time, performance tasks enable learners to demonstrate the application of knowledge and skills in authentic situations, rubrics provide explicit criteria for judging different levels of performance, while observation checklists enable teachers to systematically record observable behaviours and interactions (Andrade, 2005; Brookhart, 2013; Mueller, 2018; Nitko & Brookhart, 2014). The usefulness of these tools, however, depends partly on teachers' knowledge and ability to develop them appropriately and use them to generate valid evidence of learner competencies.

Evidence from competency-based education contexts indicates that teachers may experience difficulties in developing and applying assessment tools. Effective use of portfolios, rubrics, performance tasks and observation checklists requires teachers to understand how to formulate appropriate tasks, establish clear assessment criteria, develop relevant performance descriptors, identify observable indicators and record evidence consistently. Poorly designed rubrics, for example, may contain unclear or overlapping criteria, while observation-based assessment may be affected by difficulties in making objective judgements about learner behaviour (Brookhart, 2013; McMillan, 2018; Nitko & Brookhart, 2014). Similarly, the use of portfolios and performance tasks can be affected by inadequate teacher preparation, limited time, large class sizes and resource constraints (Barrett, 2007; KICD, 2017; Macheso et al., 2024). These challenges suggest that the availability of competency-based assessment tools alone may not guarantee effective assessment of learner competencies; teachers need adequate knowledge of how to develop and apply the tools.

In Kenya, the implementation of CBC has therefore placed increased responsibility on teachers to design classroom assessments that generate meaningful evidence of learner competency

development. Although the national curriculum provides for competency-based assessment, evidence of challenges relating to teacher preparedness, assessment literacy, workload, resources and consistency in the use of assessment tools continues to emerge (Kubai, 2023; Macheso et al., 2024). Within Junior Public Schools in Homa Bay County, there is consequently a need to establish the extent to which teachers possess the knowledge required to develop the selected CBA tools -learner portfolios, performance tasks/projects, rubrics and classroom observation checklists-and whether this knowledge supports the assessment of learner competencies. The study therefore focuses on the extent of teachers' knowledge in developing these tools as a basis for understanding their capacity to generate appropriate evidence of competencies among learners in Junior Schools in Homa Bay County.

Statement of the Problem

Competency-Based Education (CBE) in Kenya emphasizes the development and demonstration of learner competencies such as critical thinking, creativity, communication, collaboration, and problem-solving. The framework requires teachers to use diverse competency-based assessment (CBA) tools, including learner portfolios, performance tasks/projects, rubrics, and classroom observation checklists, to generate evidence of learners' knowledge, skills, attitudes, and values. Effective use of these tools, however, depends not only on their availability but also on teachers' knowledge and ability to develop assessment tools that appropriately measure the intended competencies.

Despite the emphasis placed on competency-based assessment, evidence suggests that teachers continue to experience difficulties in developing and applying CBA tools effectively. Challenges relating to assessment literacy and practical assessment skills may affect teachers' ability to construct appropriate portfolios, performance tasks, rubrics, and observation checklists that validly capture learner competencies. Studies by Shepard (2018), Ngware and Ciara (2022), Ngaruiya and Wambugu (2022), and Macheso, Wafula, and Kati (2024) have similarly reported challenges in teachers' understanding and implementation of competency-based assessment practices.

The concern is therefore not merely whether teachers are aware of competency-based assessment, but the extent to which they possess the knowledge required to develop specific CBA tools for assessing and enhancing learner competencies. Limited empirical evidence exists on teachers' knowledge of developing learner portfolios, performance tasks/projects, rubrics, and classroom observation checklists, particularly among teachers in Junior Public Schools. This creates uncertainty regarding whether teachers possess adequate knowledge to design assessment tools that are appropriate, reliable, valid, and aligned with the competencies expected under the junior school curriculum.

The problem is particularly important in Homa Bay County, where Junior Public Schools implement the national competency-based curriculum within diverse school contexts. Without establishing teachers' level of knowledge in developing the selected CBA tools, it is difficult to determine whether challenges in competency assessment arise partly from inadequate teacher

knowledge and assessment skills. The study therefore sought to assess the extent to which teachers possess knowledge to develop learner portfolios, performance tasks/projects, rubrics, and classroom observation checklists for enhancing the acquisition of competencies among learners in Junior Schools in Homa Bay County, Kenya.

Research Objective

This study examined teachers' knowledge in developing assessment tools in enhancing learner competencies in Junior Schools in Homa Bay County, Kenya.

Research Hypothesis

H₀₁: There is no statistically significant difference in teachers' knowledge of how to develop assessment tools to enhance learner competencies under CBE in Junior Schools based on their level of education in Homa Bay County.

2. Literature Review

Theoretical Framework

Constructivist Learning Theory, associated with Piaget (1952) and Vygotsky (1978), posits that learners actively construct knowledge through experiences, interaction, reflection and engagement with their environment. The theory views teachers as facilitators who create learning experiences that enable learners to explore, solve problems and apply knowledge. In relation to this study, the theory provides a basis for understanding the need for teachers to develop assessment tools that actively engage learners and enable them to demonstrate acquired competencies rather than merely recall information. Teachers' knowledge of developing appropriate competency-based assessment tools is therefore important in creating assessment experiences that support active learning and competency development.

Dewey (1938) further emphasizes learning through experience and problem-solving, supporting the use of assessment activities that require learners to apply knowledge and skills in meaningful situations. Similarly, Authentic Assessment Theory emphasizes the assessment of competencies through real-world tasks such as projects, portfolios, performances and problem-solving activities (Wiggins, 1990). These perspectives are relevant to the study because they emphasize the need for teachers to possess adequate knowledge of how to develop CBA tools that assess knowledge, skills, values and attitudes through practical and authentic learning activities. The effectiveness of such tools depends on teachers' ability to design appropriate tasks, criteria and assessment procedures that correspond to the competencies being assessed.

The Constructivist and Authentic Assessment perspectives therefore provide a theoretical basis for examining the extent to which teachers have knowledge of developing selected CBA tools for enhancing competency acquisition among learners in Junior Schools in Homa Bay County. Constructivism explains the importance of learner engagement and active knowledge construction, while Authentic Assessment Theory explains the need for assessment tools that allow learners to demonstrate competencies in meaningful contexts. Consequently, the theories

support the assumption that teachers who have adequate knowledge of developing appropriate CBA tools are better positioned to design assessment activities that provide opportunities for learners to demonstrate and develop the targeted competencies.

Empirical Review of the Literature

The effective execution of CBE relies greatly on educators' mastery of the design and application strategies of the assessment tools. Competency-oriented assessments require educators to shift from traditional forms of testing and embrace new methods like portfolios, rubrics, performance tasks, and classroom observations to assess students' application of knowledge and skills acquired. For the tools to work efficiently, educators need to have acquired proficiency in assessment design and interpretation of students' data, as well as the provision of significant feedback. The research studies reviewed from global, regional and national contexts emphasize the vitality of educator knowledge, plus the challenges educators encounter while making and implementing the CBA tools.

Globally, research done by Shepard (2018) evaluated educators' literacy on assessments and their impact on the execution of classroom-oriented assessment tools in competency-based education structures in the United States of America. The research sought to determine how educators' understanding of assessment design impacts their capability to evaluate the acquisition of competency amongst students. The study was guided by assessment literacy theory that highlights that successful assessment requires educators to know the principles of reliability, validity, fairness and the association between learning goals and evaluation activities. The research focused on a mixed-methods approach combining large-scale educators' surveys with class interpretations and document analysis to examine the use of competency-based assessment tools in junior public schools. The target population comprised middle-school educators executing principle- or competency-based curricula. Schools were sampled by means of stratified sampling to guarantee representation across diverse school settings, comprising urban and rural organizations. Data-collection tools contained a document analysis outline for revising teacher-developed assessment tasks, a structured questionnaire evaluating teachers' evaluation abilities, and observation schedules utilized to assess class assessment performance. Validity of the tools was certified via professional appraisal by an assessment and curriculum professional, whilst reliability was proven via pilot testing and internal reliability checks. Data gathering involved administration of teacher questionnaires, observation of classroom evaluation protocols, and reviewing teacher-generated assessment tasks like project tasks and rubrics. The qualitative data were analyzed using descriptive and regression analyses to define the association between educators' assessment information and the value of the assessment task. Qualitative data were examined thematically to recognize forms in educators' engagement and application of evaluation philosophies.

The findings revealed that educators who have deeper assessment literacy were likely to make reliable assessment tools and tasks that efficiently evaluate students' competency. Such educators showed the capacity to link the assessment tasks with learning goals, give specific

feedback and include students in self-diagnostic assessments. However, the research likewise identified major skill deficiencies among educators. A section of educators struggled to make effective rubrics, interpret performance-oriented data or distinguish evaluation tasks for students with different abilities. The research endorsed that teacher capacity-building programs to promote assessment literacy should be strengthened to make sure that educators can successfully execute competency-oriented assessment protocols. Despite its findings, the research had gaps and challenges when used in contexts of developing countries. The study was conducted in a highly resourced and well-structured education system where educators had structured training and professional development as well as teaching and learning materials. Theoretically, the research focused mainly on assessment knowledge without efficiently resolving structural challenges like educator workload and limited instructional resources. Procedurally, the study highlighted educator skills; however, it gave little emphasis on institution-based policies which impact assessment performance. These challenges emphasized the importance of research to tune its focus on the examination of teacher assessment skills in developing countries like Kenya.

At regional level, research by Ngware and Ciara (2022) assessed educators' readiness to execute competency-oriented assessment in Eastern African countries undertaking curriculum reformation comprising Uganda, Rwanda and Kenya. The research intended to examine whether educators have the required skills and knowledge to design competency-oriented assessment tools associated with curriculum competencies. The study was guided by social constructivist learning theory that highlights the functions of educators in facilitating student involvement via valid assessment and feedback procedures. The study used a comparative mixed methodology comprising teacher interviews, classroom observation, and surveys through the participating schools in the listed countries. The population targeted included educators executing or implementing competency-based curriculum in upper primary and lower secondary schools. Purposive sampling was used to select schools to include both urban and rural contexts, whilst teachers were selected using stratified sampling to capture different subject areas.

Data collection tools consisted of educator literacy assessment questionnaires, structured interview guides, and class observation specifications. Validity of the instruments was established via pilot testing and review by curriculum specialists. Whilst trustworthiness was proven via the inter-rater agreement during classroom observations. Data collection took place through interviews, surveys and classroom observations with teachers and administrators. The analysis of quantitative data was done using descriptive and comparative methods to determine the variations in educators' readiness across the implementing countries. Qualitative data analysis was done through thematic method to recognize related patterns attributed to teacher assessment skills and performance. The study found that teachers were informed about the objectives of competency-based education; however, most of them had insufficient skills on how to develop the assessment tools like portfolios, performance rubrics, and project-based learning. Teachers expressed challenges in understanding and interpreting curricula competencies into quantifiable assessment standards. Also, the study discovered that teachers

who were trained on competency-based assessment were more successful and comfortable in designing and executing the tools. The researchers endorsed an ongoing professional development practice focusing on the design of practical assessment tools.

Nevertheless, the research contained several gaps. In terms of methodology, the cross-sectional strategy restricted the capability to examine how teacher skills improve over a period of time. Theoretically, the research paid attention to teachers' readiness; however, it provided little analysis of the impact of teacher competency and skills on the acquisition of competency skills amongst learners. In addition, accumulating these findings across targeted countries with varied policies on education might have blocked country-specific implementation challenges.

In the Kenyan context, research conducted by Ngaruiya and Wambugu (2012) evaluated teachers' understanding of competency-based curriculum. The research intended to examine if teachers possessed the capacity to design and use assessment tools linked with competency learning results. The study employed constructivist learning theory, which highlighted student involvement, progressive feedback and accurate assessment as integral principles of competency acquisition. The population targeted comprised teachers employed in public schools implementing CBC. Stratified sampling was employed to cover the representation of schools with different levels of teacher proficiencies and resources. Instruments used to collect data included semi-structured interview guides and structured questionnaires directed to school administration and teachers. The validity of the instruments was established through review by an expert, whilst reliability was established through piloting procedures.

Data collection was done through the administration of a questionnaire followed by interviews. Quantitative data were analyzed by descriptive statistics like percentages and frequencies, whilst qualitative data were organized into relevant themes. This study revealed that, while many teachers were proficient with the competency-based assessment concept, most had practical knowledge gaps in designing assessment tools like rubrics, learner portfolios, and performance tasks. Teachers noted the challenges in translating competencies into quantifiable assessment indicators and providing constructive feedback to students. The research endorsed that capacity building and provision of practical skills on assessment tool development should be strengthened. In spite of its significance, the research had numerous gaps. In terms of context, the study was based in Nyeri County, which might be different from other counties facing huge socio-economic challenges like Homa-Bay. Theoretically, the study focused on teacher literacy without examination of whether these assessment tools impact the learning process of students. In terms of methodology, self-reported survey data can lead to bias and little insight into actual classroom assessment practices.

Even though the research contributes vital information, its focus is limited to a particular section of teachers, and the sample size is quite small. Also, whilst the study emphasized teacher literacy and knowledge as important factors, it failed to fully assess challenges like the availability of resources and organizational provision. Altogether, the research reviewed revealed that knowledge is key while developing efficient, practical assessment tools in CBE systems.

Educators who acquire assessment skills are capable of designing valid tasks, quality rubrics, and analyzing student performance data. Still, Teachers encountered limitations as a result of limited capacity building, insufficient professional development and trouble translating curriculum skills into quantifiable assessment criteria. Whilst the current study indicated important insights into the preparedness of teachers, most research has been done in different settings with high variation from Homa-Bay County in terms of socio-economic circumstances and resources. As a result, there is little empirical data on the extent to which educators in Homa-Bay understand the design and utilization of practical assessment tools for competency-based curriculum amongst junior secondary school students. The deficiency underlined the need for a setting-specific study assessing teachers' knowledge and proficiency of assessment tool construction and its impact on the acquisition of competency thereto.

3. Methodology

Pragmatism was adopted as the philosophical approach guiding this study. This study employed an explanatory sequential mixed methods design, in which quantitative data were collected and analyzed before, followed by qualitative data collection and analysis to elaborate and give meaning to the quantitative findings. Data were collected from 24 schools using teacher questionnaires, head-teacher interviews, learner focus group discussions, classroom observations, and document analysis. Quantitative data were analyzed using frequencies, percentages, descriptive statistics, one-way analysis of variance, and Pearson product-moment correlation. In contrast, qualitative data were analyzed thematically and integrated with the quantitative findings. Of the 120 sampled teachers, 110 provided valid responses.

4. Results

Response Rate

Of the 120 questionnaires distributed to teachers, 110 were completed and returned, representing a response rate of 91.0%, which was considered adequate for the analysis and reporting of the quantitative findings. All 20 sampled heads of institutions participated in the interviews, yielding a response rate of 100.0%. Similarly, all 354 sampled students participated in the focus group discussions, resulting in a participation rate of 100.0%. For the County Director of Education, the study targeted one respondent; however, the respondent was unavailable for the scheduled interview, resulting in a participation rate of 0.0%. Overall, 484 out of the 495 targeted participants participated in the study, representing an overall participation rate of 99.8%. The results demonstrate a high level of participation across the different respondent categories. The 91.0% response rate among teachers is particularly important because teachers constituted the principal quantitative respondent group and provided the data used to examine their knowledge, attitudes and perceptions, utilization of competency-based assessment tools, measurement of learner competencies, and equity in assessment. The 100.0% participation rates among heads of institutions and students further strengthened the qualitative component of the study by providing comprehensive perspectives from school leadership and learners.

Descriptive Statistics

Teachers' Knowledge of Developing Selected Competency- Based Assessment Tools and Enhancement of Learner Competencies in Homa Bay County, Kenya (RQ1)

The research question sought to determine teachers' knowledge of developing competence-based assessment tools and how that knowledge influences the learning competencies of learners in junior schools in Homa Bay County. The responses to the research questions were collected from questionnaires for teachers, students' focus group discussion guides, observation checklists, and interview guides from heads of institutions. Teachers were asked to indicate their responses on a five-point scale, reflecting their opinions on various aspects of their knowledge of developing competency assessment tools. The rating scale presented in Table 1 was: Strongly Disagree (SD), Disagree (AD), Not Sure (NS), Agree (A), and Strongly Agree (SA). The analysis focused on teachers' understanding of the nature, purpose, content, and development of the respective assessment tools. Table 1 presents findings based on 110 responses from the teachers' questionnaires.

Table 1: Teachers' Knowledge of Developing Competency-Based Assessment Tools

Statement	SD	D	N	A	SA
Learner Portfolios					
I understand what a learner portfolio is.	0 (0.0%)	0 (0.0%)	0 (0.0%)	44 (40.0%)	66 (60.0%)
I recognize that portfolios assess students' hands-on skills and growth over time.	0 (0.0%)	0 (0.0%)	0 (0.0%)	48 (43.6%)	62 (56.4%)
I can develop and establish a student portfolio.	0 (0.0%)	2 (1.8%)	4 (3.6%)	66 (60.0%)	38 (34.5%)
I know the form of data that should be encompassed in a portfolio.	0 (0.0%)	0 (0.0%)	2 (1.8%)	60 (54.5%)	48 (43.6%)
Performance Tasks/Projects					
I recognize what performance tasks/projects are.	0 (0.0%)	0 (0.0%)	2 (1.8%)	48 (43.6%)	60 (54.5%)
I recognize that performance tasks measure real-life application of knowledge.	0 (0.0%)	0 (0.0%)	2 (1.8%)	58 (52.7%)	50 (45.5%)
I know how to design competency-based projects/tasks.	0 (0.0%)	2 (1.8%)	4 (3.6%)	58 (52.7%)	46 (41.8%)
Rubrics					
I comprehend what a rubric is.	0 (0.0%)	0 (0.0%)	0 (0.0%)	52 (47.3%)	58 (52.7%)
I recognize that rubrics can be used to categorize students' strengths.	1 (0.9%)	1 (0.9%)	4 (3.6%)	48 (43.6%)	56 (50.9%)
I know how to make clear rubric criteria.	0 (0.0%)	2 (1.8%)	6 (5.5%)	50 (45.5%)	52 (47.3%)
Observation Checklists					
I recognize what observation checklists are.	0 (0.0%)	0 (0.0%)	0 (0.0%)	52 (47.3%)	58 (52.7%)
I understand that observation checklists measure student behaviour and skills through activities.	0 (0.0%)	0 (0.0%)	0 (0.0%)	60 (54.5%)	50 (45.5%)
I understand how observation checklists measure student behaviours and skills through activities.	0 (0.0%)	0 (0.0%)	0 (0.0%)	52 (47.3%)	58 (52.7%)
I know how to design competency-based observation checklists.	0 (0.0%)	2 (1.8%)	6 (5.5%)	54 (49.1%)	48 (43.6%)

Source: *Field Data (2026)*

Table 1 presents the findings on teachers' knowledge of developing and applying selected competency-based assessment tools, namely learner portfolios, performance tasks/projects, rubrics, and observation checklists. The findings indicate a particularly strong level of knowledge concerning learner portfolios. As shown in Table 1, all 110 respondents indicated that they understood what a learner portfolio is, with 66 (60.0%) strongly agreeing and 44 (40.0%) agreeing. These findings aligned with the sentiments from heads of institutions who reported that the government has worked hard to provide workshop opportunities for teachers to benefit from the competency-based assessment tools and strategies, ranging from design, implementation and reporting thus far. There were no respondents who were unsure or disagreed

with the statement. This represents a 100% positive response, suggesting that learner portfolios are a familiar assessment concept among the teachers, consistent with what the heads of institutions noted: “yes, the conceptual knowledge is there, but the application is a struggle.” That, together with my observation, rhymed, as there was enough evidence indicating that teachers understood the concept of learner portfolios. The classes I had a chance to visit had learners' portfolios, and the teachers were able to explain to me the concepts behind the portfolio samples they displayed in the classroom.

Similarly, 62 (56.4%) respondents strongly agreed, and 48 (43.6%) agreed that they recognized portfolios as tools for assessing students' hands-on skills and growth over time. Again, no respondent expressed uncertainty or disagreement. The finding demonstrates that teachers not only recognize portfolios conceptually but also understand their role in documenting learners' development over time, consistent with the observation checklist result. This is important within competency-based education because assessment is expected to capture progressive development of knowledge, skills, attitudes, and competencies rather than merely measure achievement through a single assessment event. This was confirmed through the learners' focus group discussion, where most of the learners understood what portfolios are when they were asked related questions. One of the learners explained that:

We have samples of portfolios in the classroom, where the teacher asks us to keep our tangible classwork, projects and classroom activities that we use to build our profiles. I know that portfolios help us track our growth over time. We also take the finished product home for our parents to see; hence, I think portfolios are good assessment tools that help us grow and perfect our work. (Student focus group discussion, 23/7/2026).

However, the findings show a modest reduction in confidence when teachers were asked about the actual development and establishment of student portfolios. Although 66 (60.0%) agreed and 38 (34.5%) strongly agreed, 4 (3.6%) were not sure, and 2 (1.8%) disagreed. Thus, 104 respondents, representing 94.5%, gave a positive response. While this remains a high proportion, it is lower than the 100% reported for conceptual understanding. The difference is analytically significant because it suggests that knowing what a portfolio is does not necessarily translate into equivalent confidence in developing and establishing one. This is in line with my observation: most teachers were struggling with the storage and concept of incorporating learner portfolios into daily practice due to the perceived notion that portfolios are difficult to maintain and implement, even though they understood the concept and had knowledge about it. Teachers have conceptual knowledge and recognize the importance of using portfolios to enhance learners' competency; however, some teachers still lack the skills to fully implement them. In that regard, most headteachers noted that teachers have a conceptual understanding of what portfolios are; however, some teachers still struggle to implement them effectively. One of the heads of institutions noted:

Portfolios are good; teachers are striving to use them, but most teachers have not fully embraced their use, as this is a new concept to them. The government has done well by

providing workshops; however, it is still not adequate, as teachers have the concept, but most of them still struggle to put this into practice. Further, portfolios are very vital in monitoring the learners' academic progress as they are records of students' assignments over time, and they help the teachers keep a record of students' growth. Also, the students can participate in self-evaluation of their own work through reflections and identification of the gaps, leading to the skill, stamina and rigour development required for competency acquisition; hence, portfolios are much needed, and the government should invest more in teacher capacity building for a smooth transition from the traditional form of education to the modern CBE. (Head teachers' interview, 24/7/2026)

A similar pattern was observed regarding knowledge of the type of data that should be included in a portfolio. 60 (54.5%) respondents agreed, and 48 (43.6%) strongly agreed that they have the knowledge of the type of data to be added to the portfolio, giving a combined positive response of 98.2%. Only 2 (1.8%) respondents were unsure, while none disagreed. This finding indicates that teachers have a strong understanding of the evidential function of portfolios and the kinds of learner information that should be documented. Nevertheless, the slightly larger proportion selecting Agree rather than Strongly Agree may indicate that some teachers possess functional knowledge without necessarily having complete confidence in portfolio content selection. This was supported by the statement from the students, where students from 5 schools across the county seem not to be proficient with the knowledge of the content of the portfolios, even though they had a slight idea of what they are. The majority of learners, however, knew what portfolios are and how they function. One student said: "Portfolios are used as evidence of the daily assignments that we do in class, and they are used to help us build our profiles. Our samples are stored in the school cabinet" (Student focus group discussion, 23/7/2026). The learner's statement demonstrates a practical understanding of portfolios as a means of storing evidence of learning and documenting learner progress. However, it also suggests that learners may understand portfolios mainly as a storage mechanism for completed assignments, rather than as a broader assessment tool involving the purposeful selection of evidence, reflection on learning, monitoring of progress, and demonstration of competency development.

This finding is consistent with previous studies conducted in Kenya, although the present study demonstrates a higher level of teacher knowledge regarding the use of portfolios. For example, a study by Mutunga (2023) in Masinga Sub-County, Machakos County, established that teachers used portfolios as part of competency-based assessment; however, the study also found that many teachers lacked sufficient training and proficiency to effectively administer and utilize competency-based assessment methods. The study recommended additional in-service training to strengthen teachers' capacity in the use of portfolios and other assessment tools.

Taken together, the portfolio findings reveal an important distinction between conceptual knowledge and procedural competence. Teachers appear highly knowledgeable about the meaning and purpose of portfolios, but their confidence declines slightly when the focus shifts towards actually developing and establishing the tool. From the researcher's interpretation, this distinction is important because effective implementation of competency-based assessment

requires more than awareness of assessment terminology; it requires teachers to translate conceptual knowledge into systematic assessment practices.

The findings of the present study therefore extend previous Kenyan research by demonstrating a distinction between teachers' knowledge and learners' understanding of portfolio content. While an overwhelming majority of teachers (98.2%) indicated that they knew the type of evidence and data that should be included in learner portfolios, the focus group discussions revealed that some learners from five schools were not fully proficient in understanding what should constitute portfolio content. Although most learners understood that portfolios contained evidence of their work and documented their learning progress, a few demonstrated only a basic understanding of the purpose and contents of the portfolio.

On the other hand, results concerning performance tasks and projects similarly demonstrate a high level of teacher knowledge. As shown in Table 1, 60 (54.5%) respondents strongly agreed, and 48 (43.6%) agreed that they recognized what performance tasks/projects are. Only 2 (1.8%) respondents were unsure, and none disagreed. Consequently, 98.2% of respondents expressed a positive response. This finding suggests that performance tasks and projects are well understood among the teachers as components of competency-based assessment. The very small proportion of uncertain respondents indicates that there is limited conceptual ambiguity regarding the nature of performance-based assessment. This was supported by the head of institutions' statements that most teachers enjoy using the projects, and they do well in this form of assessment as compared to the other ones, like rubrics and portfolios. A report from one head of institution stated:

Performance tasks are the most valued form of assessment in my school because teachers clearly understand it and they are implementing it. Even though it takes time to process and implement, the teachers clearly enjoy using it. The only challenge we encounter is the lack of resources, heavy workload, minimal governmental capacity building and parental-related reluctance that impede the proper implementation. (Head teachers' interview, Theta School, 23/7/2026).

The finding is further supported by teachers' responses regarding the capacity of performance tasks to measure the real-life application of knowledge. 58 (52.7%) respondents agreed, and 50 (45.5%) strongly agreed with the statement, while only 2 (1.8%) were unsure. Thus, 98.2% of respondents provided a positive response. This is particularly important in the context of competency-based education because performance tasks are expected to provide opportunities for learners to demonstrate the application of knowledge and skills in authentic or practical situations. This was supported by my observation of the finished products done by the students, including farm produce like kales that were used to decorate one of the school assemblies. Well-planted and healthy kales, planted in recycled tins, were evident, and it was a source of income for the school. Equally, the researcher observed some of the beading handwork done by students in various schools, an indication that performance tasks were measuring practical skills needed in the world of work and life. This meant that learners were not only acquiring practical skills,

but they were able to apply knowledge, be creative and innovative, as well as gain entrepreneurial skills needed for work and life. The findings support the argument that performance tasks can provide authentic evidence of competency-based acquisition and that the knowledge and mastery of assessment tools by the teachers can lead to skill and competency development, which is the core aim of CBE. This was further confirmed by statements from heads of institutions. One of the heads of institutions reported:

CBE is so good, and it helps learners to acquire lifelong skills. Skills like communication and collaboration are developed during classroom discussion and group work; learning is also gained when students can apply the knowledge practically; critical thinking skills are developed because learners can think as they present their work and also while doing their projects. The only problem with this is that the government has not provided adequate funds and skills to make CBE successful. We are experiencing a lot of challenges that hinder full implementation and interventions. (Head teacher interview, Sigma school, 23/7/2026)

Also, finding that 98.2% of the teachers agreed that performance tasks could measure the real-life application of knowledge is consistent with the findings of Mutunga (2023), who investigated the use of competency-based assessment methods in public primary schools in Masinga Sub-County, Machakos County, Kenya. The study established that teachers used practical tasks such as planting, cleaning, washing, and moulding to assess learners' competencies. This supports the present finding that performance tasks provide learners with opportunities to demonstrate knowledge and skills through practical and authentic activities rather than through written examinations alone.

Equally, the results also demonstrate strong, although comparatively lower, confidence in the design of competency-based performance tasks/projects. Specifically, 58 (52.7%) respondents agreed, and 46 (41.8%) strongly agreed, producing a combined positive response of 94.5%. However, 4 (3.6%) respondents were unsure, and 2 (1.8%) disagreed. The reduction from 98.2% positive responses concerning recognition and purpose to 94.5% concerning design is noteworthy, and it is consistent with what one of the heads of institutions said:

Designing performance tasks can be a little bit difficult, as well as grading them. Sometimes the opinions of the students differ from the opinion of the teacher regarding the quality of students' work. Projects require a clear scoring rubric that guides the learners about what needs to be done, the standard being tested, expectations, the timeframe of the assignment and specific outcome areas. Making rubrics is a challenge for most of the teachers, and organizing creative, grade-level, and consistent age-appropriate projects is not a very easy task (Head teacher interview, Sigma school, 23/7/2026)

This pattern again suggests a distinction between knowing and doing. Teachers appear to understand the concept and purpose of performance tasks very well, but a small proportion have less confidence in translating that knowledge into the actual design of competency-based tasks.

Designing an effective performance task requires teachers to formulate clear learning outcomes, construct authentic activities, establish appropriate criteria, determine observable evidence of competence, and align the task with curriculum expectations. Therefore, the slight reduction in positive responses may point to a need for continued professional development focused specifically on the practical design of performance-based assessment rather than general awareness of the tool.

However, the present findings reveal a vital distinction between understanding the purpose of performance tasks and possessing the practical skills needed to make them. Even though 98% of the teachers expressed confidence that performance tasks measure the actual world experience and application of knowledge, the proportion declined to 94.5% when teachers were asked about designing competency-based performance tasks and projects. This difference suggests that conceptual knowledge of performance-based assessment may be stronger than teachers' practical capacity to make and grade authentic tasks.

The finding is consistent with Gichurur's (2024) study of 940 junior school teachers in Nyeri County, Kenya. The study identified teacher expertise gaps and challenges in the assessment of learning outcomes as a major barrier to the effective implementation of CBC. These findings correlate with the findings of the current study, particularly the concern expressed by heads of institutions that designing and grading performance tasks can be difficult, and that clear scoring rubrics are needed to guide both students and teachers. Additionally, findings regarding rubrics demonstrate the strongest degree of consensus among the assessment tools examined. All 110 respondents indicated that they comprehended what a rubric is, with 58 (52.7%) strongly agreeing and 52 (47.3%) agreeing. There were no neutral, negative, or uncertain responses. The 100% positive response indicates universal self-reported understanding of rubrics among the respondents.

This finding is significant because rubrics constitute an important mechanism for making assessment criteria explicit and transparent. Teachers' universal recognition of rubrics suggests that the basic concept of rubric-based assessment is well established among the respondents. However, understanding the concept of a rubric does not necessarily mean that teachers possess equivalent expertise in constructing high-quality rubrics. The findings on the ability to use rubrics to categorize students' strengths show that 56 (50.9%) strongly agreed and 48 (43.6%) agreed, giving a combined positive response of 94.5%. Meanwhile, 4 (3.6%) respondents were unsure, while 1 (0.9%) disagreed and 1 (0.9%) strongly disagreed. Thus, six respondents expressed either uncertainty or disagreement. However, the responses differ from my personal observation and the head of institution's testimonies: one of the heads of institutions stated that:

The rubric is the most difficult assessment tool to use, as it is not easy to develop and implement. Most teachers struggle with rubric implementation because they have received training mainly through workshops that were too brief to provide sufficient practical guidance. The government should therefore provide adequate training and allocate sufficient time for teachers to apply their knowledge of these assessment tools

in practice. Although the government has provided sample rubrics for each strand, teachers still find it cumbersome to prepare rubrics and implement portfolios, performance tasks, and observation checklists. Large class sizes, limited time, and inadequate resources further exacerbate these challenges. While rubrics are useful assessment tools, developing and implementing them remains a major hindrance for teachers (Head teacher interview, Sigma school, 23/7/2026)

This finding was consistent with my personal observations, which were conducted using an observation checklist. I found that most teachers struggled with rubric implementation. Although the projects were available, some lacked quality rubrics to guide their implementation. This led to the conclusion that, while teachers have knowledge of rubrics, there are still existing gaps that need to be addressed.

Similarly, results concerning the ability to develop clear rubric criteria reveal a similar pattern. 52 (47.3%) strongly agreed, and 50 (45.5%) agreed, resulting in a combined positive response of 92.7%. In contrast, 6 (5.5%) respondents were unsure, and 2 (1.8%) disagreed. No respondent strongly disagreed. The movement from 100% conceptual understanding of rubrics to 92.7% confidence in developing clear rubric criteria provides an important empirical indication of a potential knowledge-to-practice gap. Although teachers appear to understand what rubrics are, a smaller proportion are not confident in developing clear and appropriate criteria. This distinction is particularly important because the effectiveness of a rubric depends not simply on its presence but on the quality of its criteria, descriptors, performance levels, and alignment with intended competencies. Based on the head of institutions' responses, it is obvious that most teachers are struggling with rubric design and implementation. One headteacher testified:

Rubrics pose a significant challenge for teachers, as they require considerable time to develop and align with learning goals. In addition, teachers have not received sufficient training in developing these assessment tools and are still learning how to design and use them effectively in practice (Headteachers' interview, North, 7/27/2026).

In that regard, the findings suggest that professional development should move beyond merely introducing teachers to the concept of rubrics and instead emphasize practical rubric construction, criterion development, performance-level descriptors, validity, alignment, and scoring moderation. Thus, the findings of the present study are consistent with previous studies conducted in Kenya, which have similarly demonstrated that teachers may understand and recognise the importance of rubrics while still experiencing difficulties in constructing and implementing them effectively. For instance, Waweru (2018), in a study on teacher preparedness for the implementation of the Competency-Based Curriculum in Nyandarua North Sub-County, found that a substantial proportion of teachers required support in designing assessment rubrics. Specifically, 53.1% of the teachers indicated that they needed considerable support in rubric design. This finding supports the results of the present study, where teachers demonstrated high self-reported knowledge of rubrics, but the qualitative evidence and

classroom observations revealed difficulties in the practical development and implementation of quality rubrics.

Similarly, Akoth (2023), in a study conducted in Kisumu West Sub-County, found that only 40.5% of teachers reported having the ability to create assessment rubrics, despite many having received training on the Competency-Based Curriculum. The study further suggested that the duration and nature of teacher training needed to be reconsidered to provide teachers with sufficient time to acquire practical skills for implementing competency-based assessment. This finding closely corresponds with the testimony of the head of the institution in the present study, who explained that teachers had mainly received short-term workshop-based training and therefore continued to struggle with rubric construction and implementation.

The findings also agree with Mutunga's (2023) study in Masinga Sub-County, Machakos County, which established that although teachers were using rubrics and other competency-based assessment methods, inadequate teacher training remained a significant challenge affecting their effective administration and evaluation of competency-based assessment. The study also identified large class sizes, inadequate staffing, and limited resources as factors affecting the implementation of competency-based assessment. These challenges are similar to those reported by the head of the institution in the present study, who noted that large class sizes, insufficient time, limited resources, and the demands of preparing multiple assessment tools made rubric implementation cumbersome.

In addition, results relating to observation checklists also demonstrate a very high level of teacher knowledge. 58 (52.7%) respondents strongly agreed, and 52 (47.3%) agreed that they recognized what observation checklists are. No respondent was uncertain or disagreed, resulting in 100% positive responses. Similarly, 50 (45.5%) respondents strongly agreed, and 60 (54.5%) agreed that observation checklists measure student behaviour and skills through activities. Again, there were no neutral or negative responses. This demonstrates that teachers possess a strong understanding of the role of observation as an assessment strategy for capturing observable learner behaviours and skills. This was confirmed by the heads of institutions and students. One student said that: "The teachers normally use an observation tool to assess our behaviour, and afterwards, we are called and given feedback" (Student focus group discussion, 22/7/2026).

The results further indicate that 58 (52.7%) respondents strongly agreed and 52 (47.3%) agreed that they understood how observation checklists measure student behaviours and skills through activities. The absence of uncertainty or disagreement again indicates complete positive consensus. Nevertheless, as observed with portfolios, performance tasks, and rubrics, teachers' confidence decreases when the question shifts from conceptual understanding to designing competency-based observation checklists. Specifically, 48 (43.6%) strongly agreed, and 54 (49.1%) agreed, giving a positive response of 92.7%. However, 6 (5.5%) respondents were unsure, and 2 (1.8%) disagreed. This indicator corresponds with what one of the heads of institutions said: "The observation checklist is very easy for teachers to use, and they use it to

observe students' attitudes towards learning and life, as well as their products and unique skills displayed while working" (Headteacher interview, 26/7/2026).

This finding suggests that teachers are highly familiar with the purpose and function of observation checklists but that a small proportion may require additional support in constructing them. Designing a competency-based observation checklist requires identification of observable indicators, alignment with specific competencies, appropriate rating criteria, and mechanisms for consistent recording of evidence. Thus, the findings indicate that professional development should emphasize the practical construction and application of observation checklists. A comparison of the findings across the four assessment tools reveals a consistent pattern. Conceptual understanding is generally higher than confidence in tool development. Teachers reported particularly high levels of understanding of the basic concepts and purposes of portfolios, performance tasks, rubrics, and observation checklists. Positive responses were generally between 98.2% and 100% for conceptual or definitional statements.

In contrast, when respondents were asked about their ability to develop or design the tools, positive responses declined somewhat. For example, confidence in developing portfolios was 94.5%, designing competency-based performance tasks was 94.5%, developing clear rubric criteria was 92.7%, and designing competency-based observation checklists was 92.7%.

This pattern is one of the most important findings in relation to Research Question One. It indicates that teachers' knowledge is strong at the conceptual level but slightly less consistent at the procedural or application level. In other words, teachers generally know what the assessment tools are and what they are intended to do, but a smaller proportion are completely confident about how to construct them effectively. This distinction has important implications for competency-based education. Competency-based assessment requires teachers to move beyond recognition of assessment tools to the systematic development of valid instruments that generate credible evidence of learner competence. A teacher may, for example, understand that a rubric assesses performance against criteria but still experience difficulty in developing measurable criteria and appropriate performance descriptors. Similarly, a teacher may understand that an observation checklist records learner behaviour but may require additional skills to identify observable indicators that accurately represent the intended competency.

The researcher's first interpretation is that the findings presented in Table 1 provide substantial evidence that teachers possess a high level of knowledge of selected competency-based assessment tools. The overwhelming predominance of Agree and Strongly Agree responses across all four categories demonstrates strong assessment literacy among the respondents. However, the findings should not be interpreted as evidence that all teachers possess identical levels of practical competence. The relatively small proportions of Not Sure and negative responses, particularly on items concerning the design and development of assessment tools, suggest that pockets of capacity gaps remain. The consistently lower Strongly Agree percentages on design-related items compared with conceptual items reinforce this interpretation. The findings point towards a three-level pattern of teacher knowledge: first,

strong recognition and conceptual understanding of competency-based assessment tools; second, strong understanding of their purposes and applications; and third, comparatively lower, though still substantial, confidence in designing and developing the tools. This pattern provides an important basis for understanding the implementation of competency-based assessment in Junior schools.

In conclusion, the findings in Table 1 indicate that teachers demonstrated strong self-reported knowledge of learner portfolios, performance tasks/projects, rubrics, and observation checklists. The results show near-universal agreement regarding the meaning, purpose, and application of the assessment tools, with positive responses ranging from 94.5% to 100%. However, the comparatively lower positive responses on items relating to the actual design and development of the tools suggest that conceptual knowledge does not always translate into equivalent procedural confidence. The findings consequently point to a relatively small but important knowledge-to-practice gap, particularly in the development of clear rubric criteria, competency-based observation checklists, portfolios, and performance tasks. Addressing this gap through continuous, hands-on professional development could strengthen teachers' capacity to implement competency-based assessment more consistently and effectively in Junior Schools.

The null hypothesis was tested by ANOVA:

H₀₁: There is no statistically significant difference in teachers' knowledge of how to develop assessment tools to enhance learning competencies under CBE in Junior Schools when compared by their level of education in Homa Bay County.

The results of the one-way Analysis of Variance (ANOVA) indicated that there was no statistically significant difference in teachers' knowledge of competency-based assessment tools across the different levels of educational qualification, $F(2, 106) = 0.920$, $p = .402$. Since the p -value (.402) was greater than the conventional level of significance of .05, the null hypothesis (H₀₁) was not rejected. This finding indicates that teachers' educational qualifications were not significantly associated with differences in their knowledge of competency-based assessment tools among the participants in this study. In practical terms, teachers holding diplomas, bachelor's, master's, or other educational qualifications did not demonstrate statistically significant differences in their overall knowledge scores based solely on their level of academic qualification. The finding should, however, not be interpreted to mean that academic qualifications have no relationship whatsoever with teachers' knowledge. Rather, the ANOVA result indicates that, within this study sample, there was insufficient statistical evidence to conclude that teachers' knowledge differed significantly according to educational qualification. Therefore, teachers' knowledge and skills in developing competency-based assessment tools appear to depend on factors beyond formal academic qualification alone.

Equally, a Pearson Product-Moment Correlation analysis was conducted to examine the relationships among selected dimensions of teachers' knowledge of competency-based assessment tools. The results showed generally weak to moderate relationships among the

knowledge dimensions, with correlation coefficients ranging from $r = -.323$ to $r = .398$. This suggests that knowledge of one competency-based assessment tool was related to, but did not always correspond strongly with, knowledge of other assessment tools. The findings therefore indicate that teachers' knowledge of learner portfolios, performance tasks/projects, rubrics, and observation checklists represent related but distinct dimensions of competency-based assessment knowledge.

The findings have important implications for learner competency development. Although the correlation analysis did not directly measure the relationship between teachers' assessment knowledge and learner competency, the results suggest that effective competency-based assessment requires both conceptual knowledge and practical capability across the different assessment tools. When teachers possess the knowledge and skills necessary to select, design, and use appropriate assessment tools, they are better positioned to generate meaningful evidence of learners' knowledge, skills, and performance. Such evidence can subsequently be used to identify learning gaps, provide feedback, guide instruction, and support learners' continued competency development. Therefore, teachers' assessment knowledge may be understood as an important foundation for the effective use of competency-based assessment tools in supporting learner learning and competency acquisition.

Pearson Correlation Analysis of Teachers' Knowledge of Competency-Based Assessment Tools

Pearson Product-Moment Correlation analysis was conducted to examine the direction and strength of the relationships among teachers' knowledge and understanding of selected competency-based assessment tools. The analysis focused on teachers' knowledge of learner portfolios, skills in developing learner portfolios, understanding of performance tasks, knowledge of designing competency-based projects, comprehension of rubrics, understanding of the role of rubrics, knowledge of observation checklists, and understanding that observation checklists measure learners' skills. The analysis was undertaken to establish whether teachers' knowledge and understanding of one competency-based assessment tool were systematically associated with their knowledge and understanding of other assessment tools. This was important because competency-based assessment requires teachers to understand and apply multiple assessment approaches, including learner portfolios, performance tasks, projects, rubrics, and classroom observation checklists.

Table 2: Pearson Correlations Among Teachers' Knowledge and Understanding of Competency-Based Assessment Tools

Correlations									
		Knowle dge on learner portfolio s	Skills on developm ent student portfolio	Performa nce tasks measure real-life applicatio n	Knowle dge on designin g CBA projects	Comprehen sion of rubrics	Rubrics categorize students' competen cies	Knowled ge on observati on checklist s	Observat ion checklists measure student's skills
Knowledge on learner portfolios	Pearson								
	Correlati on	1	0.153	-0.085	-.215*	0.127	0.135	0.095	.252**
	Sig. (2- tailed)		0.112	0.381	0.025	0.188	0.161	0.325	0.008
Skills on developmen t student portfolio	Pearson								
	Correlati on	0.153	1	0.124	-.323**	-0.158	0.018	0.018	0.018
	Sig. (2- tailed)	0.112		0.196	0.001	0.099	0.853	0.855	0.854
Performanc e tasks measure real-life application	Pearson								
	Correlati on	-0.085	0.124	1	-.292**	-0.087	0.029	-.192*	-.226*
	Sig. (2- tailed)	0.381	0.196		0.002	0.368	0.765	0.045	0.018
Knowledge on designing CBA projects	Pearson								
	Correlati on	-.215*	-.323**	-.292**	1	-0.161	-0.148	0.048	0.135
	Sig. (2- tailed)	0.025	0.001	0.002		0.093	0.123	0.62	0.16
Comprehen sion of rubrics	Pearson								
	Correlati on	0.127	-0.158	-0.087	-0.161	1	-0.16	.271**	.208*
	Sig. (2- tailed)	0.188	0.099	0.368	0.093		0.095	0.004	0.03
Rubrics categorize students' competenci es	Pearson								
	Correlati on	0.135	0.018	0.029	-0.148	-0.16	1	-0.042	-.270**
	Sig. (2- tailed)	0.161	0.853	0.765	0.123	0.095		0.662	0.004
Knowledge on observation checklists	Pearson								
	Correlati on	0.095	0.018	-.192*	0.048	.271**	-0.042	1	.398**
	Sig. (2- tailed)	0.325	0.855	0.045	0.62	0.004	0.662		0

Observation checklists measure students' skills	Pearson								
	Correlati	.252**	0.018	-.226*	0.135	.208*	-.270**	.398**	1
	on								
	Sig. (2-	0.008	0.854	0.018	0.16	0.03	0.004	0	
	tailed)								
	N	109	110	110	110	110	110	110	110

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: (Field Data 2026)

As presented in Table 2, the correlation coefficient ranged from $r = -.323$ to $r = .398$. Overall, the relationships among the variables were predominantly weak to moderate. None of the correlation coefficients reached a magnitude of $|r| \geq .50$, indicating that although some dimensions of teachers' competency assessment knowledge were related, they did not demonstrate strong overlap. This suggests that teachers' knowledge of competency-based assessment should be understood as comprising related but distinct dimensions. A statistically significant positive relationship was observed between teachers' knowledge of learner portfolios and their understanding that observation checklists measure learners' skills ($r = .252$, $p = .008$). This indicates that teachers who demonstrated greater knowledge of learner portfolios were more likely to understand the role of observation checklists in assessing learners' skills. Similarly, teachers' comprehension of rubrics was positively associated with their knowledge of observation checklists ($r = .271$, $p = .004$) and their understanding that observation checklists measure learners' skills ($r = .208$, $p = .030$). These relationships suggest that teachers who understood the evaluative roles of rubrics were also more likely to demonstrate knowledge and understanding of observation-based assessment.

The strongest positive relationship in the correlation matrix was observed between teachers' knowledge of the observation checklist and their understanding that the observation checklist measures learners' skills ($r = .398$, $p < .001$). Although moderate in magnitude, this finding demonstrates a statistically significant association between conceptual knowledge of the assessment tool and understanding of its purpose in assessing learners' skills. The analysis also revealed several statistically significant negative relationships. Teachers' knowledge of designing competency-based projects showed inverse relationships with knowledge of learner portfolios ($r = -.215$, $p = .025$), skills in developing learner portfolios ($r = -.323$, $p = .002$), and recognition that performance tasks measure real-life application ($r = -.292$, $p = .002$). These findings indicate that higher levels of reported knowledge in one dimension were associated with lower levels of reported knowledge in the corresponding.

Additionally, recognition that performance tasks measure real-life application was negatively associated with knowledge of the observation checklist ($r = -.192$, $p = .045$) and understanding that the observation checklist measures learners' skills ($r = -.226$, $p = .018$). These relationships were weak and should therefore be interpreted cautiously. The majority of the remaining correlations were statistically non-significant ($p > .05$), indicating that knowledge or

understanding of one competency-based assessment tool was not necessarily associated with knowledge or understanding of another tool. Overall, the findings indicate that teachers' competency-based assessment knowledge consists of interconnected but distinct dimensions. The predominance of weak-to-moderate relationships suggests that competency-based assessment literacy cannot be treated as a single homogeneous construct.

5. Conclusions and Recommendations

Conclusion

In correspondence to the research question on teachers' knowledge of developing, designing and using CBE assessment tools, the study concluded that teachers in Junior Public Schools in Homa Bay County possess a high level of conceptual knowledge of CBE assessment tools which ensured a smooth assessment practice. Moreover, teachers were familiar with portfolios, performance tasks, rubrics and observation checklists and understood their purposes in assessing learner competencies. However, the slightly lower confidence in designing and developing the tools indicates that conceptual knowledge has not been translated uniformly into technical assessment competence. Therefore, the study concludes that teachers require continuous practical professional development and encouragement to join and form professional learning communities in their schools to strengthen their ability to design, implement, interpret and document CBE assessment data.

Recommendations

Teachers should continuously improve their assessment literacy through professional development, peer learning, collaborative moderation and reflective practice. Most importantly, teachers should avoid relying on one assessment tool to determine learner competence. Instead, they should combine portfolios, performance tasks, rubrics and observation to generate a broader evidence base. Teachers should also ensure that assessment criteria are explained to learners before activities are undertaken so that learners can understand what is expected of them and what they need to learn.

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