

# Reflection Report

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## 1. CBC, CBE, and CBA as a System

In my professional practice, three key concepts - Competency-Based Curriculum (CBC), Competency-Based Education (CBE), and Competency-Based Assessment (CBA) form the foundation of modern educational approaches. A competency-based curriculum is a structured plan that defines specific skills and knowledge students must acquire. It emphasizes practical application and clearly outlines learning goals and assessment methods. CBE builds on this by promoting experiential learning, inquiry-based projects, and authentic tasks. Its flexible structure allows students to progress at their own pace, ensuring mastery before moving forward. CBA evaluates students' ability to apply knowledge in real-world contexts. Instead of relying solely on traditional tests, it incorporates presentations, projects, portfolios, and other performance-based assessments that reflect true competency. These three elements - curriculum, education, and assessment - are interdependent. Education is guided by the curriculum, and its effectiveness is measured through competency-based assessment. In my teaching practice, I conducted a course titled Methodology and Practice of Teaching the Python Programming Language. The course aimed to strengthen theoretical understanding and practical coding skills. Learning objectives were closely tied to pedagogical methods and practical tasks. Exercises were tailored to student proficiency levels, while teamwork promoted collaboration. The course emphasized skills such as problem-solving, digital literacy, and independent learning. Assessment was both formative and summative, using tasks aligned with the course objectives. These methods effectively measured students' competencies and

provided a clear picture of their progress. The course's success stemmed from the integration of curriculum, instruction, and assessment grounded in competencies and connected to real-life applications. However, some students struggled due to low motivation or slower learning paces. To address this, I plan to provide more personalized support and ensure each student has the opportunity to succeed and grow at their own pace.

## 2. Curriculum Development and Learning Goals

In a competency-based curriculum, high-quality learning objectives, activities, and assessments are defined by their clarity, relevance, and alignment with the measurement of key competencies. Defining learning objectives: I ensured that objectives were SMART-Specific, Measurable, Achievable, Relevant, and Time-bound- and clearly described what learners should be able to do. Bloom's Taxonomy guided the development of higher-order objectives to target advanced learning outcomes. Planning learning activities: Activities focused on learner autonomy, problem-solving, and collaboration. Emphasis was placed on critical thinking, inquiry-based learning, and communication through group and pair work. Designing assessment: A variety of assessment methods, such as rubrics, rating scales, and checklists, were used to evaluate how well objectives were achieved. Clear criteria and constructive feedback supported learners' growth. For example, in a professional development course, I delivered a practical lesson on "2D Graphics in the Pygame Library." The lesson progressed from basic understanding to application, combining theoretical instruction with hands-on programming tasks. Learners worked collaboratively to create and present graphic design projects. Assessment included project-based evaluation and self-assessment, consistent with competency-based learning principles. Strengths: The practical, real-world nature of the task encouraged learners to apply knowledge creatively, which enhanced motivation and independent skill development. Creating 2D graphics provided immediate, visible outcomes and fostered key competencies such as programming, graphic design, and problem-solving. Areas for improvement: Differentiation is crucial to address diverse skill levels. More structured support during practical tasks and the inclusion of data analysis or creative project design would further promote higher-order thinking. Moving forward, I aim to retain the lesson's strengths while incorporating these improvements to ensure a more inclusive and effective learning experience.

## 3. Assessment Quality: Validity, Reliability, and Fairness

The test I developed for course participants aimed to assess their ability to apply theoretical and practical knowledge in real-life contexts. Questions were aligned with specific learning

objectives, and practical tasks focused on analysis and prediction, encouraging demonstration of applied skills. Timely, constructive feedback helped learners identify strengths and areas for growth. Several aspects of test validity were evident, but some issues emerged. Two tasks overly emphasized programming syntax and algorithm recall, leaning more on memorization than critical thinking. Complex technical terms and tight time limits also affected the test's validity. Closed-ended questions were automatically graded for consistency. For open-ended responses, I used clear assessment criteria. However, when evaluating with colleagues, inconsistencies arose- similar responses were sometimes interpreted differently. To ensure fairness, I used clear language, the same tasks for all participants, and remained sensitive to cultural and social differences. In future tests, I plan to differentiate tasks by difficulty to better accommodate varying skill levels and provide more equitable learning opportunities. This experience emphasized the importance of designing assessments that are valid, fair, and aligned with learning outcomes. It also highlighted the need for consistent evaluation and awareness of individual learner characteristics. I plan to improve multiple-choice questions by refining distractor options and to incorporate diverse assessment formats, such as practical tasks, portfolios, and presentations. Although I didn't encounter learners with special needs during this course, I recognize the importance of considering inclusivity in future test design. High-quality assessment requires careful planning, piloting, and analysis to ensure it meets standards of validity, reliability, and fairness. This experience has deepened my understanding of assessment practices and the importance of meeting the diverse needs of all learners.

## 4. Grading and Standard Setting

In my practice, the assessment process was based on learning objectives and aimed to be transparent, fair, and as valid as possible. Assessment tasks were designed in alignment with the learning objectives for each module. In the "Fundamentals of Programming" unit, learners created a small program using conditional operators in Python. This task was designed to evaluate the learners' ability to apply their knowledge in real-life contexts. The assessment tasks were carefully aligned with the intended learning outcomes. These objectives were clearly defined, comprehensible, and corresponded to the necessary skills, ensuring the principle of transparency was upheld. To maintain fairness, all learners were given equal instructions, and the process of completing the task was standardized - including timing, available resources, and guidelines. Various methods can be used to determine cut-off scores. These include absolute, relative, and combined approaches. Additionally, expert judgment-based methods such as the Nedelsky method can be applied. Another common approach is the Angoff method, where subject matter experts estimate the likelihood of a borderline student correctly answering each item. However, some aspects still need to be improved in my assessment practice. One of these is the potential for subjectivity in evaluating

creative tasks. To reduce this, it is essential to refine and clearly define assessment criteria. It is also important to expand the involvement of independent experts in developing assessment tools. Their input helps ensure the alignment of tasks with curriculum goals, cultural sensitivity, linguistic fairness, and overall quality. Improving the system of providing feedback to learners should be considered a key area of focus. Although the assessment process was conducted based on the principles of validity, reliability, and fairness, further enhancement is necessary. In this regard, the use of well-structured test matrices, detailed rubrics, and consistent, meaningful feedback are crucial tools that can improve the quality of assessment practices. By engaging in continuous improvement of assessment methods, we can contribute to the development of learners as capable, confident, and well-rounded individuals.

## 5. Use of Rubrics

In my professional experience, I use rubrics as a key tool for organizing both teaching and assessment in a systematic and reliable way. Within the context of competency-based assessment, rubrics enable a comprehensive evaluation of learners' practical skills, logical thinking, and creative approach to task completion. For instance, during a task on the topic "List Methods", learners were provided with a rubric outlining the evaluation criteria. By reviewing the rubric, learners gained a clear understanding of what was expected from them, which helped guide their learning process. During assessment, each criterion was scored individually, ensuring a fair and transparent evaluation of the work. Constructive feedback was also provided, clearly indicating areas that needed improvement. Discussing the assessment criteria in advance helped learners understand how to plan their work effectively. This, in turn, increased their motivation and encouraged more thoughtful task completion. By the end of the lesson, the evaluation process was open, consistent, and objective, as all learners were assessed against the same standards. Several key factors contribute to the effective development and use of rubrics: The task to be assessed must be clearly defined, along with the specific learning objectives or competencies it aims to evaluate. Relevant and meaningful assessment criteria should be selected, and each performance level must include clear, observable descriptors. It is important to avoid vague or overly complex terminology. The number of performance levels should ideally range between 3 to 5, which helps differentiate the quality of work more accurately and accessibly. Sharing rubrics with learners in advance and integrating them into the learning process is essential. The language used in the rubric must be precise and aligned with the intended learning outcomes. It should be thoughtfully planned, carefully constructed, and reviewed for revision if needed. Ultimately, a rubric is not only a tool for assessment - it also serves as an effective method for enhancing instruction. It supports the principles of validity, reliability, and fairness. A well-constructed and properly implemented rubric is a hallmark of quality assessment. Therefore, I intend to continue

developing and integrating rubrics systematically into my teaching practice in the future.

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