Reflection Report

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1. CBC, CBE, and CBA as a System

After exploring the rich resources of the RCEC course, I've come to a deeper understanding that CBC, CBE, and CBA form an inseparable triad: the curriculum, instructional process, and assessment must operate as a single, integrated system. I now clearly see how these elements are intricately interwoven, together forming a unified and dynamic pedagogical framework. Applying this perspective in my teaching practice, I've recognized the critical importance of designing learning experiences around well-defined competencies. For instance, I moved away from traditional, content-heavy objectives in my methodology classes on teaching primary mathematics. Instead of setting a goal like "teach addition and subtraction," I redefined the competency as: "The teacher will be able to design an addition task that fosters the development of mathematical thinking in primary school students." During our sessions, it became evident how this precise formulation helped teachers shift their focus from simply delivering mathematical procedures to nurturing conceptual understanding in young learners. This not only clarified the expected outcomes for participants but also noticeably boosted their engagement and motivation. Through this approach, I managed to create strong coherence between learning objectives, classroom activities, and assessment strategies. Nonetheless, I faced some difficulties in ensuring continuity across varying competency levels. Much like at the outset of our journey with Dr. Arnold B., not all participants fully grasped the intricate connection between objectives, methods, and assessments. At this point, a resource from the RCEC course proved invaluable. I introduced the constructive alignment model to illustrate the

concept. This model powerfully demonstrates how essential it is to link learning outcomes with instructional goals and to design purposeful tasks that support those outcomes. In reflecting on this experience, I've concluded that when designing educational programs, it is imperative to ensure a constant alignment between course goals and the teaching strategies employed.

2. Curriculum Development and Learning Goals

At this stage of my learning, I have come to a deeper understanding that competency-based curriculum (CBC) development requires formulated learning objectives in terms of observable and measurable skills. Thanks to the RCEC course, I have learned to better use Bloom's Taxonomy action verbs, ensuring that learning objectives are specific, measurable, achievable, and time-bound by the SMART principle. I would like to share an example of a science lesson designed for primary school on the topic "Why does ice melt?" The main task for the teacher is to ensure alignment between the learning objective, the task, and the descriptors, following CBC principles. For instance, the objective "The student will learn how ice melts" is not a SMART goal — it is too general and lacks clear criteria for measuring student success. A more appropriate objective, aligned with the "I am a researcher" strand of the Natural Science curriculum, might be: "The student will be able to observe and describe simple natural phenomena, formulate hypotheses, and draw conclusions based on an experiment." This version is specific in terms of actions, measurable through observation records, achievable within the lesson framework, and supports the development of inquiry skills. During the lesson, students can conduct an observation: comparing how ice melts on metal versus wooden surfaces. They would complete an observation table, formulate a hypothesis, draw a conclusion, and illustrate the experiment results. To guide and assess this process, descriptors might include: - Observes a phenomenon and describes what happened - Formulates a simple hypothesis - Draws a logical conclusion linking observation and hypothesis I successfully ensured constructive alignment between the objective and the learning tasks. However, I realized that the objective lacks a clear reference to the timeframe for completion — an important detail I will focus on in the future.

3. Assessment Quality: Validity, Reliability, and Fairness

Yes, we often work on developing test items. As an example, I would like to present a test question from the section "Mathematical Modeling" in the Mathematics curriculum. This item corresponds to the "Application" level of difficulty, as it requires not only direct calculations but also an understanding of the concept of productivity. The student must calculate how many parts both machines produce together in one hour, and apply division with remainders or

fractional values, going beyond simple operations. Test: A toy factory has two machines that produce identical parts. Machine A produces 120 parts per hour, and Machine B produces 150 parts per hour. The factory needs to produce 1350 parts. How much time is needed to complete the order if both machines are used simultaneously? A. 4 hours B. 5 hours C. 6 hours D. 7 hours The task demonstrates the assessment of an observable behavior — the learner's ability to apply mathematical knowledge to solve a real-world, practice-oriented problem. The validity of the test is high, as the task aligns with the stated goal — assessing mathematical competence related to productivity problems. The wording is unambiguous, and the closed-response format allows the focus to remain on calculations. I believe validity could be further strengthened by adding a rubric explaining which specific mathematical actions are being assessed (e.g., calculating rates, converting units, and combining productivity rates). Reliability is ensured through consistent scoring: the correct answer is “6 hours.” All participants who answered correctly received the same score, regardless of the assessor, indicating scoring consistency. Fairness is maintained because the task does not rely on contextual knowledge that might be inaccessible to some learners. It is universal and targets general academic skills. In the context of competency-based education, I realized the importance of using real-life-related tasks to develop and assess functional literacy.

4. Grading and Standard Setting

In our context, grading is carried out based on criteria-based assessment, which ensures transparency, fairness, and alignment with learning objectives. The foundation of assessment lies in descriptors developed by the curriculum and expected learning outcomes. These descriptors reflect specific observable actions that a student must demonstrate to confirm achievement of a learning goal. Transparency is achieved by making the assessment criteria and descriptors known to students and parents. A uniform grading scale is applied — scores are converted into marks according to established thresholds. These threshold scores are outlined in official regulatory documents, ensuring standardized assessment across the country. Let us consider a formative assessment task in mathematics for Grade 1. The learning objective is: “Measure quantities using units of measurement: hour. A clear and measurable assessment criterion for this is: “Measures a time interval using the unit of measurement – hour.” This task is aimed at developing students’ ability to measure time intervals using the unit “hour,” which directly aligns with the stated learning objective and assessment criterion. It fosters the ability to read analog clocks and to represent changes in time across a set interval. Assessment is based on clearly formulated descriptors, reflecting the student’s specific actions: 1. Records the current time shown on the clock. 2. Records the time one hour later. 3. Draws the clock hands showing the time one hour later. This approach makes assessment transparent and objective, allowing teachers to link the student’s work to the success criteria.

Each element can be assessed separately, which enhances the reliability of the assessment. Fairness is ensured through uniform assessment conditions and clear instructions for all students. Moreover, the task is visual and practical, requiring no advanced language or abstract reasoning skills, which is especially important for young learners and students with diverse levels of preparedness. It is also beneficial to provide feedback — an explanation of the mistakes — to enhance formative assessment and support the development of the skill.

5. Use of Rubrics

During the teacher training course, I used the proposed rubric to assess participants' project work. The rubric includes several criteria, but I will focus on two of them: "Content" and "Project Presentation". Each is assessed on a three-point scale: high, medium, and low level. This approach allowed me to analyze the results of the participants' work in a more structured and objective manner. Assessment through the rubric proved to be transparent and fair — participants are familiarized with the criteria and descriptors in advance. This provides clear guidelines for preparation and self-monitoring. Moreover, the use of specific language in the descriptors promotes consistency in assessment approaches, which is especially important when evaluating work as a group. A key strength of the rubric is its emphasis on completeness, argumentation, and coherence, both in the project content and in its presentation. This helps participants not only to structure their material more effectively but also to improve the overall quality of their work. In many cases, participants noted that having clear criteria helped them avoid excessive theorizing and make their projects more practice-oriented. At the same time, I see potential for expanding the rubric — for example, by adding criteria to assess originality of ideas, collaboration within the group, or the relevance of the project in a professional context. This would allow for a deeper evaluation of both professional and cross-disciplinary competencies. Working with this rubric reaffirmed for me that high-quality assessment tools not only ensure objectivity but also serve as valuable learning instruments that support the development of professional thinking. In the future, I plan to make more active use of rubrics as tools for both feedback and self-assessment.

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