# Reflection Report

## Submitted by: Assemgul Syzdykova

| | |
|---|---|
| **Full Name:** | Assemgul Syzdykova |
| **External ID:** | 0925CbAT39 |
| **Gender:** | Female |
| **Age:** | 51 |
| **Submitted At:** | 2025-04-19 21:37 |

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

CBC, CBE, CBA – is a unified, interrelated and holistic system of competency-based education. I learned that competency-based education doesn't just impart knowledge, but it builds life skills. CBC shows which knowledge and skills are important. CBE - learning by doing. CBA verifies what students have learned. During the “Computer Science” courses, I realized that competence–based approach is effectively implemented in practice. In the classes, I applied the CBC, CBE, CBA principles in the research and project activities of the students. For example, when studying “Computer Modeling”, I set the task not only to master the tool for formation of mathematical literacy, but also to solve practice-oriented tasks in case format. Each case was designed with clearly defined learning objectives. What worked well? Competency-based education requires a systematic approach, where each element plays an important role. CBC focuses on the developing competencies: practical projects implementation, where students not only study computer modeling, but also apply it to solve professional tasks. CBE focuses on achieving specific competencies: digital literacy, research and design thinking, through practical application of knowledge and skills. CBA - assessment is based on the ability to demonstrate practical skills such as creating models and problem solving in professional practice. This approach proved to be effective, as students developed essential skills. What could be improved was detailed feedback, allowing students to analyze their actions further and understand how to improve their results. This approach helps to make learning not only be conscious but also applicable in real life. In practice, integration of CBC,

CBE, CBA principles ensures the effectiveness of the educational process, since only constructive alignment of all learning stages allows to achieve high-quality and sustainable results. Implementing flexible learning rate proved successful, which increased students' motivation and allowed them to master the material more consciously and practically.

## 2. Curriculum Development and Learning Goals

Studying CBC approach, I realized high-quality learning objectives are based on SMART and are aimed at achieving key competencies. Objectives set the direction for the entire course, defining content, teaching methods, assessment forms, ensuring constructive alignment, where all elements are coordinated and contribute to achieving the outcomes. In practice, the course of functional literacy for computer science educators was focused on mastering teaching methodologies with competency-based approach CBC. The key objective was the ability to design a short-term lesson plan based on clearly defined learning objectives, appropriate types of activities, and authentic assessment. The work was conducted in stages: first, students analyzed objectives from the curriculum, then formulated the lesson objective using SMART, developed tasks reflecting the development of key competencies, selected appropriate assessment methods. What worked well was the successful application of the principles of constructive alignment: learning objectives, learning activities, and assessment were logically interconnected. Tasks were developed which focused on the development of critical thinking, collaboration, digital literacy. What could be improved is that educators often use vague formulations, which makes their implementation and evaluation difficult. Assessment formats were not fully thought through. There were no clear success criteria or goal achievement indicators, especially student progress on individual levels. During courses, it was possible to successfully implement and observe key CBC principles, giving clear directions, setting specific goals focused on practical skills. This allowed educators to master the concept of functional literacy by applying it in practice. Regular work with formulations, refining them according to SMART, makes objectives more achievable and understandable. A competency-based course curriculum is the design of education focused on specific outcomes in the development of necessary competencies. It requires the educator to focus not only on the content of the course but also on the learning outcomes that can be observed and assessed.

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

While studying about assessment quality: validity, reliability, fairness, I realized how critically important these concepts are for creating a truly effective assessment system.

Competency-Based Assessment are validity – the test measures correct skills; reliability ensures consistent results; fairness creates equal conditions. I developed tests for the course “Developing Digital Competencies of Educators”. The test included tasks with one correct answer choice, covered key concepts of pedagogical design, digital educational resources, ADDIE model, digital learning tools. Validity refers to the ability to accurately measure the stated learning objectives. Each question is constructed based on the key components of the course that reflects content validity, providing full coverage of studied topics and competencies. Improvement: instead of relying solely on multiple-choice questions, incorporating different types of question– short-answer questions, practical tasks, and case studies can provide a more comprehensive assessment of a wide range of skills. Test reliability is the consistency of results under the same conditions. The test includes questions with clearly defined correct answers, minimizing subjectivity in scoring. This contributes to a more consistent and fair evaluation process. Improving assessments by incorporating diverse task formats: matching tasks, case analyses, brief scenarios requiring decision-making, tasks to evaluate students’ understanding of the material. Fairness - maintained through clear language, absence of terms without explanations, orientation of equal, fair opportunities for success, regardless of one's background, language and abilities. The questions cover different aspects of digital didactics, which enables to take into account different professional interests and teaching styles. Educators are assessed under the same conditions, including silence and equal time. To align with the Competency-Based Assessment (CBA) and the Competency-Based Education (CBE) principles, it is important to further enhance the test by diversifying task types, incorporating practice-oriented formats. For example, offering task variations or adaptive difficulty levels can help accommodate different learning styles

## 4. Grading and Standard Setting

I recognized the importance of clear performance standards and a transparent scoring system that is aligned with the stated learning outcomes. Grading and standard setting are carried out through Competency-Based Assessment CBA. The aim is not simply to assign a grade, but to offer constructive feedback that fosters, directs ongoing learning and development. In the course, assessment is carried out in several ways: formative, conducted during the completion of practical, project-based, creative assignments. summative, includes final testing. Each lesson is accompanied by clear assessment criteria. For example: quality of the project assignment; alignment of lesson objectives with the SMART-criteria; using Bloom's taxonomy. What worked well in the art education courses – final assessment uses tests on the main topics of the module. The system uses a criterion-based interpretating assessments – when the student's achievements are compared with predetermined standards. The test consists of 24 questions. Standard benchmarks are used as thresholds to determine achievement levels:

90-100% – excellent (21-24 points); 75-89% – good (18-20 points); 50-74% – satisfactory (12-17 points); Below 50% – unsatisfactory (fewer than 12 points). These thresholds are aligned with generally accepted educational standards and internal regulations of the advanced training. After completing the test, number of correct answers is converted into a percentage grade. Formula: percentage score = (Correct answers / Total number of questions) × 100. Transparency is ensured through the clear definition of the number of questions, score ranges, and percentage thresholds. Fairness is maintained by administering tests of the same volume and structure to all participants. Alignment with learning objectives is achieved by designing tests based on key course topics, which serves as a tool for monitoring the achievement of stated learning outcomes. It is possible to differentiate the number of test questions based on the volume of topics and include practice-oriented tasks.

## 5. Use of Rubrics

Working with rubrics within the competency-based approach provides a systematic, objective, transparent method to assessment. I realized that rubric is not just an assessment, but a means of improving the learning quality. It allows to accurately define expected learning outcomes, highlights observable behaviors, ensure validity, alignment between tasks, criteria and learning objectives. In practice, when completing a project "Design of a national product", it was proposed to develop a model of a decorative product with national ornament elements. The rubrics included: organization and composition, originality and creativity, compliance with cultural traditions, literacy and design. Levels: Beginner, Professional, Advanced. Example for criteria “Organization and composition”, assessed how coherently, logically presented ideas and project elements. The work had a clear structure that made it easy to perceive information. Using rubric helped educators provide individualized guidance while maintaining unified learning standards. Clear assessment criteria helped student to develop responsibility for the learning process, they were more active in analyzing requirements, clarifying details and striving to improve work quality. Using rubrics as a tool for preliminary guidance and self-monitoring proved to be effective. Educators used them as a checklist, which significantly increased the level of learner autonomy contributing to objectives and consistent assessment. However, there were some difficulties. During the process, certain descriptors were formulated too broadly, which made them difficult for students to interpret. In the future, I am planning to avoid evaluative language such as “good”, instead use precise, measurable characteristics of educators’ activities. With the help of rubric, educators conducted self-assessment and received feedback aimed at identifying growth areas and improving their professional activities. The effectiveness of using rubrics depends on factors, including transparency, clarity; criteria clarity, descriptors; alignment of the rubric with learning objectives; structure; feedback; differentiation. These factors create a unified foundation for fair, transparent, differentiated, and

formative assessment.

### Digital Signature (CMS):

MIINQAYJKoZIhvcNAQcCoIINMTCCDS0CAQExDjAMBggqgw4DCgEDAwUAMAsGCSqGSIb3DQEHAaCCBFkwggRVMIID