THE STUDY ON THE IMPLEMENTATION DOK (DEPTH OF KNOWLEDGE) FRAMEWORK FOR TEACHING EFL AND DESIGNING INSTRUCTIONAL TASKS

Kunto'g'diyeva Inobatxon G'ofurovna

The 1st year master's student of the Department of English literature and Language of Asian International University

Abstract: This article describes Depth of Knowledge (DOK) framework. And it aims to develop the communicative competence of students. Learning foreign languages leads to finding a job easily anywhere in the world for people. Moreover, Depth of Knowledge (DOK) with each other from tasks can help develop good atmosphere between students. People who can speak English may contribute to developing their countries by exchanging experiences.

Key words: DOK, Norman Webb, framework, teaching EFL, Concept, implementation, Bloom's Taxonomy, Communicative competence, classroom activities, language education, language for specific purposes (LSP), English Language Teaching (ELT), pedagogy, skills second language (L2) research.

History of Depth of Knowledge (DOK)

The Depth of Knowledge (DOK) framework was developed by Norman Webb in the late 1990s, primarily for the purpose of assessing the rigor of academic standards and assessment tasks. Unlike earlier frameworks like Bloom's Taxonomy, which categorized cognitive skills in hierarchical order, DOK focused more on the complexity of the cognitive process involved in completing tasks.

Here's a more detailed look at the history of DOK:

1. Origins and Development (Late 1990s). Norman Webb's Role:

The DOK framework was created by Norman Webb, an educational researcher and professor at the University of Wisconsin-Madison. Webb developed DOK as part of a project to evaluate state standards and their alignment with assessments. Webb was working with educational policymakers and educators who were concerned about ensuring that state assessments measured not only factual recall but also higher-order thinking and problem-solving skills. The framework was initially designed to help understand and classify the cognitive demand of tasks based on their complexity and thinking level. Webb was interested in assessing how well students could demonstrate their learning beyond just recalling facts.

2. Early Use in Education (1997) Webb's Research:

In 1997, Webb conducted research that ultimately led to the formal development of the DOK framework. He analyzed state standards and assessment items from different U.S. states to evaluate their cognitive demand. Webb discovered that many assessments only measured surface-level learning (e.g., basic recall or recognition of facts), and deeper cognitive processes such as application, analysis, and synthesis were often underrepresented or not fully addressed.



4. Adoption and Implementation (2000s)

Educational Standards and Assessments: In the early 2000s, DOK became widely used to evaluate and align educational standards and state assessments in the United States. It was incorporated into many state and national assessments, helping to ensure that rigorous and higher-order thinking skills were emphasized in both teaching and testing. Webb's DOK levels were used to improve the quality of assessments, particularly in the areas of mathematics, reading, and science. Educators began using DOK to design assessments and tasks that were aligned with both content standards and the depth of understanding required to master them.

Integration with Common Core:

The Common Core State Standards (CCSS), introduced in the United States in 2010, further encouraged the use of DOK to ensure that assessments were measuring students' abilities to engage in higher-level thinking and problem-solving. DOK's focus on depth of learning and higher-order cognitive skills aligned with the Common Core's emphasis on critical thinking and problem-solving.

5. DOK in Today's Education System

Current Uses of DOK:

Today, DOK is widely used in curriculum design, assessment development, and classroom instruction to ensure that students are encouraged to engage deeply with content and develop critical thinking and problem-solving skills. It is particularly useful in standards-based assessments such as state exams and national testing programs (e.g., SAT, ACT) to measure not only recall and comprehension but also application, analysis, and extended thinking.

DOK and Instructional Design:

DOK is also commonly used by teachers to create instructional activities and lesson plans that are appropriately challenging and aligned with learning objectives at different cognitive levels. Teachers use DOK to scaffold instruction, making sure that students first master foundational skills (DOK Level 1) before moving on to more complex tasks (DOK Level 2 and beyond).

6. Criticism and Evolution

While DOK has become an important framework in educational assessment, it has also faced some criticisms:

Clarity of Distinction: Some educators have pointed out that the differences between the levels of DOK can be subtle, making it difficult to distinguish between tasks at different levels. For example, Level 3 and Level 4 tasks often overlap in terms of critical thinking, leading to challenges in consistently applying the framework. Overemphasis on Rigor: Some critics argue that the framework's emphasis on rigor might overshadow the importance of foundational knowledge and skills that students need to acquire before engaging in higher-level thinking. In response to these concerns, some adaptations of DOK have been made to clarify the levels and better guide educators in using it effectively.

7. DOK in the Global Context



MASTERS SCIENTIFIC JOURNAL

27 January / 2025 /13- NUMBER

While DOK was initially developed in the United States, its impact has spread internationally. Educators in countries around the world have adopted the DOK framework to guide curriculum development and assessment practices. In Australia, for example, the DOK framework is used to evaluate the cognitive rigor of assessments in national exams. In other countries that emphasize standards-based education, the DOK framework has become a helpful tool in aligning teaching strategies with assessment standards that require higher-order cognitive processes.

What is DOK?

Depth of Knowledge (DOK) is a framework designed to assess the complexity of tasks in terms of the cognitive skills required to complete them. Developed by Norman Webb in 1997, the framework categorizes tasks based on the level of mental effort needed. It's used primarily in education to understand how demanding a given question or task is, in order to align instruction, assessments, and curriculum to challenge students appropriately. Webb's DOK is a way of measuring not just content knowledge, but how deeply students understand the material and the thinking skills they apply to it. It's especially important for educators, curriculum designers, and assessment developers because it helps identify whether tasks are too simple or too advanced for students.

The 4 Levels of DOK Explained

DOK Level 1: Recall and Reproduction

Focus: Simple recall of facts, definitions, and basic procedures. Cognitive Demand: This level requires students to remember or recognize basic information. It's about recalling previously learned material, facts, or basic skills without modification or higher-level thinking.

DOK Level 2: Skills and Concepts

Focus: Application of skills, concepts, and understanding to solve problems or answer questions. Cognitive Demand: This level requires students to make decisions about how to approach a problem, interpret data, or perform a simple process, often with a set method. It involves applying basic knowledge to new situations. Examples:Interpretation: "Interpret the meaning of a graph or data set."

Classification: "Classify triangles based on side lengths and angles." Simple Procedure: "Write an essay explaining the cause and effect of the Civil War."

DOK Level 3: Strategic Thinking

Focus: Higher-order thinking, requiring reasoning, planning, and the use of evidence. Cognitive Demand: This level involves reasoning and problem-solving, requiring students to think critically and strategically. Students must plan, analyze, and consider multiple aspects of a problem. Tasks often have more than one possible answer and require justification. Examples:Analysis: "Compare and contrast two historical events, analyzing their impact on modern society." Evaluation: "Develop a persuasive argument based on evidence from multiple sources." Problem Solving: "Create a detailed plan for a science experiment to test the effects of light on plant growth."

DOK Level 4: Extended Thinking

Focus: Complex reasoning over extended periods, requiring synthesis, analysis, and creativity. Cognitive Demand: At this level, tasks require students to engage in extended inquiry, synthesis of information from various sources, and creation of innovative solutions. It often involves projects or long-term assignments. Examples: Research: "Conduct a research project over several weeks, collect data, and present your findings with an analysis of results." Creation: "Design a new product or system based on research, testing, and data analysis." Complex Synthesis: "Propose a new solution to a global environmental issue, supported by both research and data analysis."

Why is DOK Important?

The DOK framework helps to ensure that students are engaged in tasks that not only ask for recall but also demand critical thinking and problem-solving. The benefits include:

1. Alignment with Rigorous Standards: It helps ensure that assessments and learning tasks are aligned with higher standards of learning. Many education systems (like Common Core in the U.S.) require tasks at DOK Levels 3 and 4 for true mastery.

2. Differentiated Instruction: Understanding DOK allows teachers to tailor their instruction to address the various levels of complexity needed to reach all students.

3. Curriculum Development: Educators can use DOK to plan the progression of content across a year, making sure students gradually encounter tasks that deepen their cognitive skills.

4. Assessment Design: It helps in developing fair and challenging assessments. For example, a test may have a mix of DOK Levels 1, 2, and 3 questions to ensure a comprehensive evaluation of student skills.

Application of DOK in Education

1. Formative Assessments: Teachers can use DOK to gauge how well students are mastering concepts and adjust instruction accordingly.

2. Lesson Planning: Teachers can design lessons that guide students through progressively complex cognitive tasks.

3. State Assessments: Many standardized tests, such as state assessments or college entrance exams, use DOK to ensure that questions require more than just basic recall.

The difference between Bloom's Taxonomy and DOK

Sometimes people confuse DOK with Bloom's Taxonomy, but there are key differences. Bloom's Taxonomy focuses on the types of cognitive skills (e.g., remembering, understanding, applying, analyzing, evaluating, and creating), whereas DOK focuses on the complexity of the tasks being performed, regardless of the cognitive process involved. The Bloom's Taxonomy and Depth of Knowledge (DOK) frameworks are both widely used to categorize and assess different levels of cognitive learning, but they have different focuses and structures. Let's explore the key differences between Bloom's Taxonomy and DOK in detail:



1. Focus and Purpose

Bloom's Taxonomy: Focus: Bloom's Taxonomy focuses on classifying cognitive skills into levels based on complexity and the process of thinking. It was originally developed by Benjamin Bloom in 1956 and revised in 2001. Bloom's Taxonomy is designed to provide a framework for creating educational objectives that increase in cognitive complexity. Purpose: The primary purpose is to classify educational goals or learning objectives in a hierarchical manner. It helps educators design curriculum, instruction, and assessment based on the level of cognitive demands required for each objective.

Depth of Knowledge (DOK):Focus: DOK focuses on the depth and complexity of understanding required to complete a task or solve a problem. It was developed by Norman Webb in 1997 and emphasizes the level of thinking needed for tasks rather than categorizing cognitive skills. Purpose: DOK is primarily used to assess the level of rigor required in assessments or tasks, rather than just focusing on the categorization of cognitive skills. It is concerned with how much mental effort is needed to complete a task, rather than the specific cognitive skills themselves.

2. Framework Structure

Bloom's Taxonomy: Levels: Bloom's Taxonomy is divided into six cognitive levels (revised version):

1. Remembering: Recall basic facts, terms, and concepts.

2. Understanding: Comprehend the meaning of information.

3. Applying: Use knowledge in practical situations.

4. Analyzing: Break information into components and examine relationships.

5. Evaluating: Make judgments based on criteria and standards.

6. Creating: Generate new ideas or constructs based on the learned material.

Progression: Bloom's Taxonomy moves from lower-order thinking skills (LOTS) to higher-order thinking skills (HOTS). The levels build on each other, with each higher level requiring more complex cognitive processing.

DOK (Depth of Knowledge):

Levels: DOK is divided into four levels based on cognitive depth:

1. Level 1 – Recall and Reproduction: Basic recall of facts, definitions, or simple procedures.

2. Level 2 – Skills and Concepts: Application of concepts and skills in straightforward situations.

3. Level 3 – Strategic Thinking: Involves reasoning, planning, and thinking strategically to solve problems or make decisions.

4. Level 4 – Extended Thinking: Complex tasks requiring extended investigation, synthesis, and creative problem-solving over time.

Progression: DOK is more concerned with the level of cognitive effort involved in a task, and tasks are considered to be more or less complex depending on the thinking required, rather than based on the cognitive skills used.

3. Task Complexity and Cognitive Demand



Bloom's Taxonomy:

Task Complexity: Tasks in Bloom's Taxonomy are designed to require specific cognitive skills at each level. For example, a task at the "remembering" level might involve recalling facts, while a task at the "creating" level would require the synthesis of information and new idea generation. Cognitive Demand: The demand is on what cognitive skills (e.g., recall, analysis, evaluation) are required for a task. It doesn't explicitly measure how much thinking or effort is required to complete the task.

DOK (Depth of Knowledge): Task Complexity: DOK assesses the complexity of tasks based on the depth of thinking involved. A task with DOK Level 4 would require extended investigation, critical thinking, and the synthesis of various sources of information. Cognitive Demand: The emphasis is on the depth and rigor of thinking required, such as whether the task requires a simple recall of facts (DOK 1) or involves complex, extended research (DOK 4).

4. How They Are Used

Bloom's Taxonomy:

Usage in Education: Bloom's Taxonomy is primarily used to design learning objectives, assessments, and instructional activities. It provides a hierarchical model to help teachers focus on creating and developing learning objectives that increase in cognitive demand as students progress.

Goal: The goal of Bloom's Taxonomy is to help educators create a balanced approach to teaching, ensuring that lower evels of thinking are mastered before moving on to more complex skills.

DOK (Depth of Knowledge): Usage in Education: DOK is used to classify the depth of tasks, assessments, and activities based on the level of cognitive rigor. It is widely used in standards-based assessments, such as state assessments, to ensure that students are being assessed at varying levels of cognitive complexity.

Goal: The goal of DOK is to ensure that tasks and assessments require an appropriate level of depth, challenging students not only to recall facts but also to engage in critical thinking and problem-solving.

While Bloom's Taxonomy categorizes cognitive skills and provides a framework for structuring learning objectives, DOK emphasizes the depth of thinking and cognitive effort required for tasks.

Bloom's Taxonomy is more focused on the types of thinking (e.g., remembering, analyzing, creating), while DOK focuses on how deeply a student needs to engage with the content (e.g., recall, analysis, extended investigation).

Both frameworks are useful tools for designing instruction, assessments, and developing critical thinking skills in students, but they serve different purposes and provide distinct insights into educational practice.

In summary, DOK is an essential educational framework for understanding the level of cognitive challenge required for a task. It helps create tasks that push students toward higher-order thinking and ensures a deeper, more meaningful learning experience.

REFERENCES:

1.Brookes, B. C. (1964). The Teaching of English to Scientists and Enginners. In Quirk, R & Smith, A. H. (Eds.), The Teaching of English. London: Oxford University Press.

2.Ellis, R. (2003). Task-based language learning and teaching. Oxford: Oxford University Press.

3. Gaur, R. (2008). Developing an interdisciplinary approach in ELT: The case of India. TESL EJ. Vol. 12, No. 3.

4. Hubbard, P and Levy, M. (2006). Teacher Education in CALL, Amsterdam: Benjamins.

5. Hutchinson, T and Warters, A.(1987). English foe Specific Purposes: A learnercentred approach. Cambridge: Cambridge University Press.

6. Hymes, D.(1972). On Communication Competence. In J.B. Pride and J.Holmes (eds)

