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ANALYSIS OF CRITICAL THINKING WITHIN THE CONTEXT OF BENJAMIN BLOOM`S TAXONOMY OF EDUCATIONAL OBJECTIVES[1]

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Abstract: *The paper reviews different thinking skills when learning a language. These can be classified into three types: basic comprehension, critical thinking, and creative thinking. All play a key role in learning and should appear at different points within a lesson, but not necessarily in any particular order. We believe that up to now the lack of a clear working model—along with a lack of clear examples of critical thinking activities—has prevented teachers from helping learners to practice critical thinking skills to full effect. Critical thinking is presented as a mindset that involves thinking reflectively (being curious), rationally (thinking analytically), and reasonably (coming to sensible conclusions).It is analysed on one hand within the framework of Bloom's taxonomy in a cumulative aspect: that is to say, each behaviour or mental process was built upon the preceding one, starting with the simplest and ending with the most complex.And on the other, within the framework of Krathwohl and Anderson`s vision who preferred to see these different skills as being of equal value, and employed at various times in learning.*

Critical thinking skills are not just a box of tools to be used when needed and then put away, but derive from a mindset that involves seeking knowledge in a particular way.The paper presents a model for the ELT learners to view critical thinking as a mindset that involves thinking reflectively (being curious), rationally (thinking analytically), and reasonably (coming to sensible conclusions).

Keywords: *Critical thinking skills, Reflective thinking, Rational thinking, Reasonable thinking*

INTRODUCTION

Critical thinking is an approach to learning that involves reflecting in a rational way to come to reasonable conclusions. It encourages learners to question the information put before them, as opposed to simply absorbing it. This opens a space for deeper learning and engagement with the object of learning within the frames of *three conceptual themes*. The *first theme* is that critical thinking involves reflective thinking, the habit of questioning assumptions and inquiring more deeply. John Dewey, who is credited with coining the term critical thinking, said, "If the suggestion that occurs is at once accepted, we have uncritical thinking, the minimum of reflection. To turn the thing over in mind, to reflect, means to hunt for additional evidence, for new data, that will develop the suggestion and will either bear it out or else make obvious its absurdity and irrelevance" (Dewey, 1910).

It demands we reflect on and explore more deeply the information and arguments presented to us. The *second theme* is that critical thinking implies rational thinking, the ability to follow arguments in a logical and disciplined way (Siegel, 1985; Cottrell, 2005).

Unsurprisingly, this aspect of critical thinking is the one most commonly emphasized by universities, especially when instructing students on how to do research and write essays.

Critical thinking is considered as the ability to think clearly and rationally about what to do or what to believe. The goal is to create thinkers who are, as Siegel (1985) puts it, "appropriately moved by reasons" and who "grasp the relevance of various reasons for judgements and evaluate the weight of such reasons properly. The learner is expected to be active and involving as "in an open system the learner is a researcher, not a spectator" (Doncheva, 2019). Closely connected to the second theme is the idea that critical thinking requires a reasonable approach, where individuals keep an objective, open mind and are sensitive to what is fair and balanced – *the third theme*.

[1] Presented a plenary report of October 18, 2019 with the original title: АНАЛИЗ НА КРИТИЧЕСКОТО МИСЛЕНЕ В КОНТЕКСТА НА ТАКСОНОМИЯТА НА БЕНДЖАМИН БЛУМ ЗА МИСЛОВНИТЕ УМЕНИЯ

EXPOSITION

In his 1956 work, A Taxonomy of Educational Objectives, Handbook 1: Cognitive Domain, Bloom investigated how different types of thinking lead to learning.

His work sought to build a classification of learner behaviour's in *the cognitive domain.* Bloom's taxonomy was cumulative: that is to say, each behaviour or mental process was built upon the preceding one, starting with the simplest and ending with the most complex.

First came knowledge, without which you could not have comprehension, then followed application, analysis, synthesis, and finally creation.

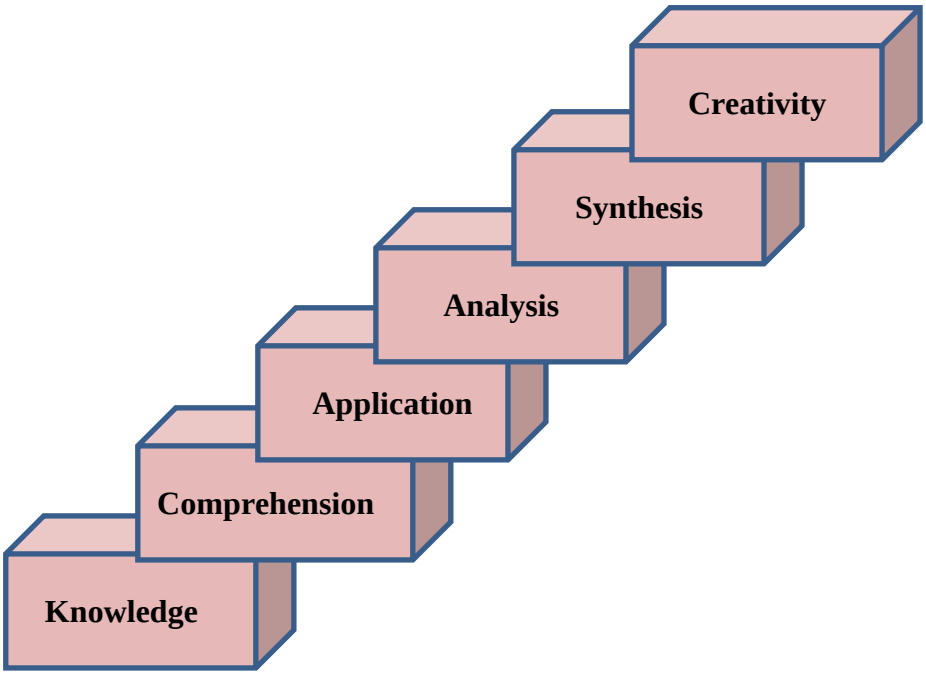

Fig. 1. A ranking ladder of the vertical interdependence of the six cognitive levels

Even though the six cognitive levels are still arranged in order from lower to higher as in Bloom's original taxonomy, Krathwohl and Anderson preferred to see these different skills as being of equal value, and employed at various times in learning (Anderson & Krathwohl, 2001)

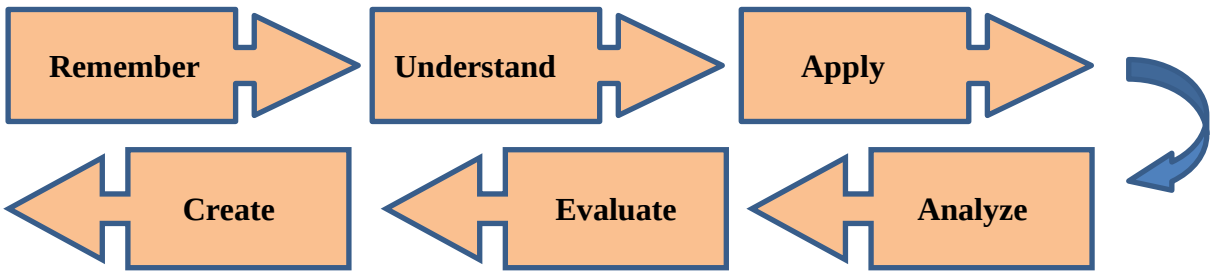

Fig. 2. A sequence chart of the horizontal interdependence of the six cognitive levels

In 2001, Bloom's colleague David Krathwohl and student Lorin Anderson revised the taxonomy by classifying the thinking skills.

In their schema, the different thinking skills were described using verbs rather than nouns, and were no longer seen as cumulative and hierarchical.

Six cognitive levels in verbs RUA2EC	Six cognitive levels in nouns KCA2SE
Remember	Knowledge
Understand	Comprehension
Apply	Application
Analyze	Analysis
Evaluate	Synthesis
Create	Creativity

Fig. 3. The six cognitive skills in verbs and nouns

Remembering involves students recognizing and recalling what has been taught. This could be tested, for example, by having students match a list of eight words to their definitions. Alternately, in a reading lesson, remembering could be tested by having students answer Who, What, and When questions, that is, questions that elicit a recall of key words and facts.

Understanding involves students constructing meaning by connecting new knowledge with existing knowledge. For example, in the ELT classroom a teacher could show students the rule for forming regular verbs in the simple past tense. As a result, students understand that when they see a verb ending in – ed, it indicates a past action. Because they already know the base form of various verbs and the present tense, they are now able to distinguish between past and present actions in reading or listening exercises.

Applying involves students testing out the newly gained knowledge, usually in a controlled way. Examples of applying include having students take a phrase heard in a recorded dialogue and use it in a similar dialogue with a partner. In many ways, the applying stage represents the first step toward the use of language for real communication.

Analyzing involves students breaking concepts down into individual parts and seeing how they contribute to overall structure or meaning.

At this point we move into so-called HIGHER-ORDER THINKING - an extension of Understanding and a prelude to Evaluating or Creating. Examples of analyzing include reading an argument and identifying supporting evidence or connecting questions with conclusions. It emphasizes also the scaffolding effect as "some form of scaffolding is essential for helping students to develop thinking skills and higher-order thinking skills" (Vicheva, 2019). Analysing can take place at text level, as in the above examples, or it can take place at the word or sentence level, for instance, when students try to work out a grammatical rule from language in context.

Evaluating involves students making judgments based on their own or someone else's criteria. Evaluating naturally flows from analysing. It is in these two levels of higher-order thinking that we see classroom activities that are typically described as critical thinking tasks, especially in the receptive skills of reading and listening.

Examples of such tasks include having students analyse a text to identify the different arguments, and then evaluate which are the most and least convincing; or having students solve a problem collaboratively by discussing the merits of different solutions, and then selecting the best plan of action to follow. Evaluating also includes checking and critiquing others' work, for example, watching peers give a presentation and then giving feedback on its communicative effectiveness.

Creating might suggest learners coming up with something wholly original or unique using language and concepts they have learned. In fact, this term describes the ability to synthesize knowledge "to form a new whole" (Anderson & Krathwohl, 2001).

In the language classroom, this is often what is called the production or free-practice stage of a lesson. Examples of creating might include telling a story, giving a presentation, taking part in a role- play, or writing a paragraph or essay.

The working model for critical thinking in ELT that we present is underpinned by three core beliefs about language learning:

• Effective language learning involves a balance of higher and lower order thinking skills.

• No one type of thinking (lower or higher order) is inferior or superior. Rather, educators and teachers should strive to achieve a balance between them.

• Critical thinking plays a key role in the deeper processing and production of language.

Learners employ different thinking skills when learning a language. These can be classified into three types: basic comprehension, critical thinking, and creative thinking.

All play a key role in learning and should appear at different points within a lesson, but not necessarily in any particular order. We believe that up to now the lack of a clear working model—along with a lack of clear examples of critical thinking activities—has prevented teachers from helping learners to practice critical thinking skills to full effect.

CONCLUSION

To sum up, in our working model, we would like learners to view critical thinking as a mindset that involves thinking reflectively (being curious), rationally (thinking analytically), and reasonably (coming to sensible conclusions).

Critical thinking skills are not just a box of tools to be used when needed and then put away, but derive from a mindset that involves seeking knowledge in a particular way.

A critical thinker's skills are in continual use, not just as an exercise, but also as part of a considered and holistic approach to learning. Just one note of caution here: This mindset, which Dewey (Dewey, 1910) called a "healthy scepticism," does not mean a subversive or cynical approach. Rather, it simply means a curious and considered one. The idea is not to challenge ideas aggressively, but to seek to understand how these ideas were arrived at. That is why we may claim that critical thinking is a *reasonable reflective thinking focused on deciding what to believe or do.*

The critical thinker must try to arrive at a conclusion that is reasonable, in other words, a conclusion that is as free from bias and prejudice as is possible.

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