

Theoretical Knowledge Assessment (Miller's Triangle Method), Its Methodology and Advantageous Outcomes

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Abstract: This article discusses about general assessment concept and theoretical knowledge assessment which is one of the primary type. It is of great importance and used for measuring individual's theoretical expertise, knowledge quality, professional development, understanding of a subject. With a help of this assessment type, quality of education is monitored and an evaluation procedure is used to obtain information about the implementation of the educational program. Plus to this, in this article cited some methodology of this assessment type (Miller's Triangle).

Keywords: Assessment, theoretical knowledge assessment, advantageous outcomes, theoretical assessment methodology, Miller's Triangle method.

Introduction: One of the main components that determines the effectiveness of the education system is the assessment system. Assessment is a process of measuring the level of achievement of learning objectives at a certain stage of the educational process based on predetermined criteria, determining and analyzing the results, and represents the systematic collection, analysis and use of data on the knowledge acquired. Moreover, assessing process is a key factor of defining individual's both background knowledge and cognition. About this Indian research scholars Bilal Ahmad Bhat and Gh Jeelani Bhat have stated that "Assessment is an educational program that aims to measure the three domains of cognitive, affective, and psychomotor learning" [1;776-777]. Agreeing with this notion that without assessment we fail to realize a learner's psychology and cognitive development that help us evaluate correctly.

In the presented article we would like to write about theoretical knowledge assessment and one of its methodology called "Miller's Triangle". Daniel Bell (1973) first suggested this 'primacy of theoretical knowledge' (though the emphasis of his book was on the numerical growth of white-collar employment).

Theoretical knowledge assessment is the process of organizing and assessing students' knowledge to the point where they can clearly understand, repeat, and apply what they have learned, not just limited to the materials provided. A theoretical test involves asking the candidate questions or requiring him or her to perform specific tasks in the field of cognitive knowledge and skills, and analyzing the results of this activity. The theoretical test, sometimes called a knowledge test, is one of the most commonly used assessment methods. Such a test should not only confirm remembered knowledge, but above all enable the use of this knowledge to be assessed. It allows the use of clear evaluation criteria, while the design of the tools and organization of the assessment ensure its impartiality and reliability [2;1].

Theoretical knowledge assessment is crucial in education as it helps learners remind theory of a subject not limited information. It tests every learner's general comprehension of a subject and it leads them to apply the subject freely.

METHODOLOGY

Theoretical knowledge assessment offers methods

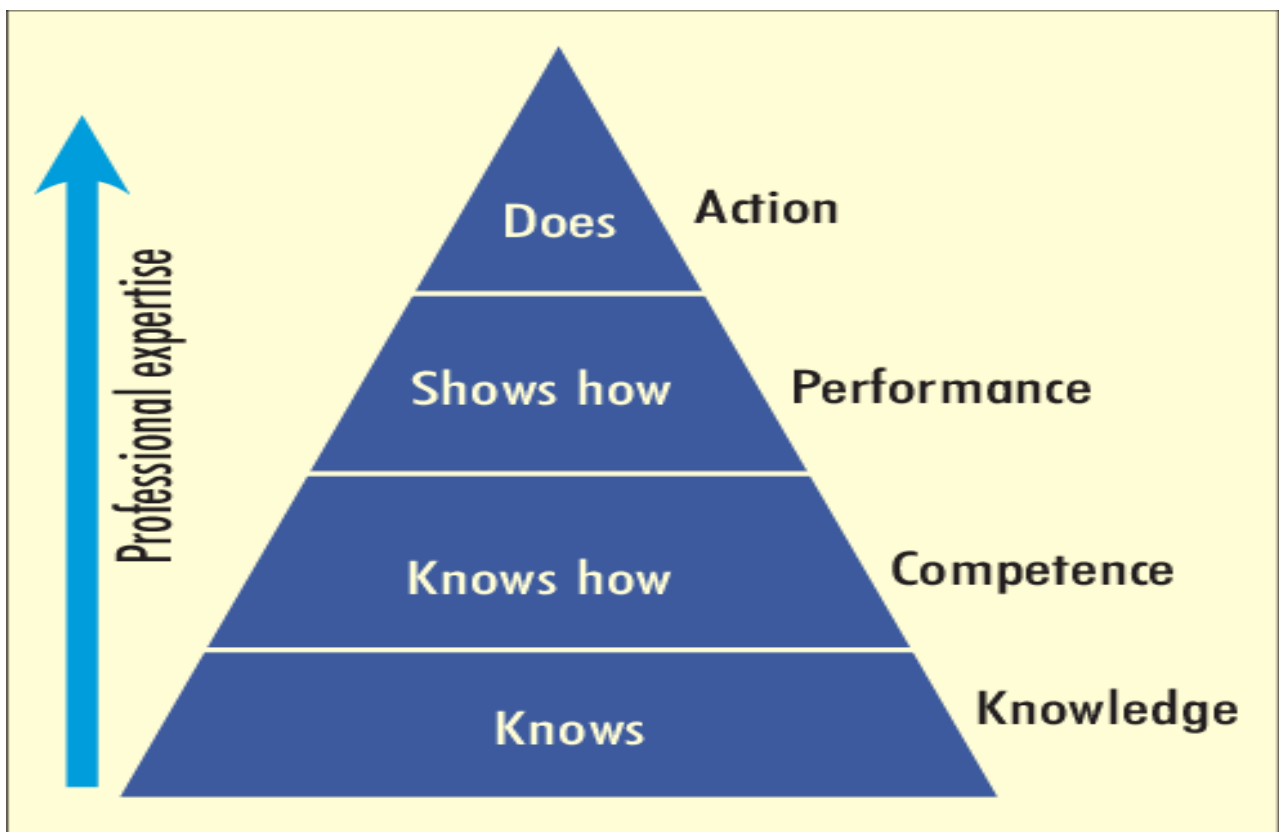
range from standardized tests and practical exercises to more dynamic approaches like discussions and self-assessment. The effectiveness of each method depends on the learning objectives and the specific content being assessed.

Here are the common methods for assessing theoretical knowledge: tests and exams, practical work, discussions and debates, self-assessment, checklists, case-studies, knowledge space theory(KST), Miller's Triangle. As mentioned above, we are going to give brief information and methodology about Miller's Triangle method.

In 1990 psychologist George Miller proposed a Miller's Triangle method for assessing clinical competence. Miller's pyramid is a hierarchical framework for clinical skill assessment in which each tier of the pyramid indicates the level of the learner's skill development. Each subsequent tier indicates a higher level of clinical development and serves as a foundation for subsequent higher-level tiers. Furthermore, it is a way of ranking clinical competence both in educational

settings and in the workplace. As a framework it distinguishes between knowledge at the lower levels and action in the higher levels. Miller's Pyramid presents a framework for assessing levels of clinical competence. In Miller's Pyramid, the cognitive levels of knowledge and application of knowledge (knows and knows how, respectively) underpin practical application of that knowledge (shows how) and the behavioral ability to apply what has been learned in a practice setting (does).⁴ We provide specific examples of assessment literacy approaches at each level and propose the assessment literacy pyramid (ALP) model as a useful framework for curriculum developers [3;158].

Miller's pyramid is usually described as having 4 levels; knows, knows how, shows how and does. Additional levels before these have been added to suggest that learners need to have heard about and have awareness of before knowing. Many commentators would stick with the original 4 levels.



Here's a breakdown of each level:

1. Knows:

This foundational level assesses a learner's basic knowledge and understanding of concepts, often through objective tests.

2. Knows how:

This level assesses the learner's ability to apply their knowledge, often through problem-solving, data

analysis, and developing management plans.

3. Shows how:

This level assesses the learner's performance in a simulated or observed clinical setting, where they demonstrate their skills.

4. Does:

This highest level assesses the learner's ability to perform tasks independently and effectively in a real

clinical environment, demonstrating their competence in practice.

Miller's framework emphasizes that different assessment methods should be used to evaluate learners at each level of the pyramid, reflecting the increasing complexity of clinical skills.

Miller's Triangle is mostly used for assessing clinical competence.

But in this article I would like to recommend to use this method for English subject. For example, Firstly, we explain a grammar rule "Present simple" to learners then the learners understand this rule. It is the level "Knows". Then the learners know this rule and are aware of general information of this grammar rule. It is the level "Knows how". The learner can find and distinguish this rule from other grammatical rules and be able to make examples. This level is called "Shows how". Finally, the learners can use this rule in everyday situations and make examples on their own. This level is called "Does". This method is crucial for learning any new grammatical rule because of its mentioned steps.

Analysis and Findings

In the Republic of Karakalpakstan, school N21 in Nukus region we experienced this method and it helped us deeply for our teaching process. Although this method is mostly used for clinical competence, it has played a vital role in educational process. After having experienced this method in our teaching way, I conducted a survey from the teachers working with me at the same school. Here are some teachers' views and they are positive about this method and are going to add this method to their teaching methodology.

Aygul says that Miller's Triangle method is especially good for beginner students. Because they are the age of receiving any new information carefully. And this method is a key for them to remind a new grammatical rule. Gulzar comments that students can achieve their goal with a help of this method. They can easily remind a lesson and use it in everyday situations. Biybinaz agrees that this method is not only for medical education but it is also created for assessment at schools. Guljamal shares her opinion by saying that it is a different and effective method for assessing student's knowledge. Elmira says that it is a good news for me for my teaching way. Gulnur compliments that this method motivates any students to learn, develops critical thinking and imagination.

CONCLUSION

To conclude, though this method is used in only medical knowledge assessment, I think it is also optimal version for educational purposes. As it helps students think creatively, use their imagination and gives

motivation, this method is recommended to experience in future teaching.

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