

## **ПЛАТФОРМА 1:**

### ***Інноваційні методи іншомовної підготовки фахівців***

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#### **VISUALIZATION AS AN INTERMEDIATE LINK:**

#### **LEARNING RESOURCES AND OUTCOMES**

In the pandemic epoch and global challenges enhancing information and digital competence of scientific and pedagogical staff is a great concern. Education is a mirror of any social processes and changes. Nowadays, it's impossible to imagine a labour market without competitive graduates improving the 21st century skills regularly. Modern education systems focus on cognitive mechanisms of learning. Human activity deals with the external (physical) and internal (mental) aspects (motivational, cognitive and regulatory). Therefore, personal cognitive and intellectual development is a priority of the educational process, which is realised through formation of students' critical and creative thinking skills [2, p.349].

The purpose of the study is to highlight visualization as an intermediate link between learning resources and outcomes:

Constituents of the educational process such as setting and assessment of course work, development of learning resources and visual aids, classroom practice, computer assisted language learning enable to enhance collaboration between a

teacher and students in ESL classes. Teachers plan educational goals and objectives with the help of visualization based on revised Bloom's taxonomy.

The taxonomy implies the following digital planning verbs that are considered as key concepts: remembering, understanding, applying, analyzing, evaluating, creating. They deal with a number of instructive verbs [3].

It should be noted that the human psyche is an integrity. However, each mental process has its own feature. It is necessary to implement such teaching methods that will develop the entire complex of intellectual abilities. Creative and critical thinking is one of the 21<sup>st</sup> century skills. Creative thinking is about using person's abilities. It deals with strategies how to come up with new solutions to problems and challenges. In its turn, *critical thinking focuses on some evidence that is involved to support a particular argument or conclusion*. It makes students get out of their comfort zone and challenge their misconceptions about the reality. To enforce this goal different information technologies and tools are used.

It is known that any information is presented into two types, in particular, a form (numerical, textual, graphic, sound, multimedia, interactive) and a method of obtaining information (numerical, textual, graphic, sound, multimedia, interactive).

Knowledge, that passes a stage of personal appropriation (internalization), is especially important. Visualization is a way of developing educational, cognitive and informational competences. The ability to create the interactive content and present information using visual images is an integral part of any competent facilitator on the basis of revised Bloom's taxonomy. Visualization acts as an intermediate link between the educational resources and the learning outcomes. It develops a number of professional sub-competences. These innovative techniques help students simplify and optimize processes of perception and cognition.

The classification of visualization techniques includes: Mindmap, Timeline, Infographics, Scribing. Each type of visualization has its own peculiarities and advantages. Mind maps deal with schemes. The following online mind map template

services are at the disposal of teachers. These websites are the most popular: [https://www.lucidchart.com/pages/landing/mind\\_mapping](https://www.lucidchart.com/pages/landing/mind_mapping); <https://venngage.com/blog/mind-map-templates/>; <https://www.imindq.com/mind-map-templates>.

Timelines help students memorize information for a long period of time. Free timelines resources are the following: <http://www.timetoast.com>; <https://www.tiki-toki.com>; <http://whenintime.com/>, etc.

Infographics in the form of interactive posters, tag clouds, visual organizers convey information logically and briefly. Educational infographics are graphic visual representations of information, data. These include an e-placard, a tag cloud (words), and visual organizers. There are many modern digital resources for creating infographics: MS Office software (Microsoft Power Point, Microsoft Word) and the AdobeFlash package; Internet services (Prezi, Glogster, Thinglink, LIno it, Padlet, Cacao), WordArt.com (before Tagul.com), ImageChef etc. Scribing is a dynamic, simultaneous process of information presentation and its visual display in real time [1, p.10 ].

Thus, we can emphasize that visualization helps teachers design and organize a learning process more efficiently. Implementation of these innovations gives students opportunities to get rid of minor details, simplify and optimize cognitive processes and learning outcomes.

## REFERENCES

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3. 126 Bloom's Digital Taxonomy Verbs For Digital Learning by TeachThought Staff [Electronic resource] , updated on July 29, 2018. available at : <https://www.teachthought.com/critical-thinking/126-blooms-taxonomy-verbs-digital-learning> (дата звернення:25 .03.2021)