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Tests as tools to assess knowledge, skills and values/
responsibilities

DigiProf



Bloom's taxonomy





The most popular form of digital assessment is testing

It aims to checking the **lowest level of cognitive abilities**, i.e. at the level of knowledge, to determine the ability to repeat, remember, explain, for that purpose, tests are created, during which students must choose the correct answer or mark selected features of one or another phenomenon or concept

Knowledge / Remembering



Testing tools can:

- To complete **even more complex knowledge and skills assessment tasks**
- To create very interesting situations if teachers use their creative abilities and prepare more complex, tasks (that is even applicable for closed-test tasks)
- You need to decide which skills you want to assess and how

Testing tools can:

- The questions should be presented in such a way that the students could not only recognize, name or explain, but also
- demonstrate their critical thinking, higher cognitive level abilities (synthesis/analysis, evaluation and creativity)
- It depends on the formulation of the intended learning outcomes of the course.

Creativity

Evaluation

Analysis

Application

Understanding

**Knowledge/
Remembering**



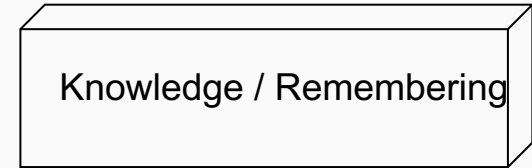
Importance of the information provided in the course description

- Teacher should use the intended learning outcomes as a guidance to determine how to best assess whether the student has gained certain skills and competences.
- Teacher should aim for "measurable" evidence, which should be demonstrated by the student's response
- Depending on the level of ability and the nature of the "evidence" requested, teacher can choose one of the test question formats.



Knowledge / Memory

- If the purpose of the assessment is to evaluate **knowledge or remembering level** abilities, the test questions can be very basic, using one of many types of answers, asking to recognize the answer, remember and record a short answer, and, also, mark whether it is a true or false statement.





Appropriate question types to assess student's content knowledge or remembering abilities

- Yes/No or True/False
- Short answer (to be recorded)
- Choose the missing words
- Loading answers / stressing the answer / matching (Drag and drop, Matching) / Loading an element into the text
- Finding a match
- Multiple choice




Assessing student's content knowledge or remembering abilities

Sample question:
Yes/No or True/False

Question 1

Not yet
answered

Marked out of
1.00

 Flag question

Question 1

Select one:

True

False



Assessing student's content knowledge or remembering abilities

Sample question:
Short answer

Question **1**

Not yet
answered

Marked out of
1.00

what is a short answer?

Answer:



Assessing student's content knowledge or remembering abilities

Sample question:

Select missing words

Question **1**

Not yet
answered

Marked out of
1.00

Sun is a

.



Assessing student's content knowledge or remembering abilities

Sample question:
Embedded Answers
(Cloze)

Preview question: Cloze

Question 1

Not yet answered

Points out of 11.00

Fill in the blanks. Misspelled words will be marked as incorrect.

We the of the United States, in order to form a more perfect .

establish , insure , provide for the common

, promote the general , and secure the of liberty

to ourselves and our , do ordain and establish this Constitution for the United States of America.

- winstday
- wensday
- wednesday

is the correct spelling of the day that occurs immediately after Tuesday.

There are hours in a day.



Assessing student's content knowledge or remembering abilities

Sample question:

Drag and drop matching

Question 1
Not yet answered
Marked out of 1.00

Drag-and-Drop Matching Questions Examples

Earth is a

Sun is a



Assessing student's content knowledge or remembering abilities

Sample question:
Drag and drop into text

Drag and drop into text
without different groups

Question 1
Not yet answered
Points out of 1.00

The biggest planet in the solar system is , and the smallest planet is . Used to be the smallest planet, but is now considered a dwarf planet.

- Jupiter
- Mercury
- Pluto
- Venus
- Mars
- Earth
- Neptune
- Uranus
- Saturn

Question 1
Not yet answered
Points out of 1.00

The biggest planet in the solar system is , and the smallest planet is . Used to be the smallest planet, but is now considered a dwarf planet.

- Jupiter
- Neptune
- Uranus
- Saturn
- Mercury
- Venus
- Mars
- Pluto
- Earth

Drag and drop into text
with different groups.



Assessing student's content knowledge or remembering abilities

Sample question:
Matching

Question **1**

Not yet
answered

Marked out of
1.00

Matching question example

Earth is

Choose... ▾

Sun is

Choose... ▾



Assessing student's content knowledge or remembering abilities

Sample question:
Multiple choice

Question **1**

Not yet
answered

Marked out of
1.00

Multiple choice question

- a. Choice 1
- b. Choice 2



Level of Understanding

- If the purpose of the assessment is to assess the ability to explain a phenomenon or concept, **the abilities at the level of understanding or perception are measured**
- then one of the many answer options is usually chosen (when the answers are not open-ended), or
- open-ended question form where the student can write an explanation
- can be an answer option that allows you to choose several correct answers, recognizing features, statements, assigning them to one object or phenomenon.

Understanding



Level of Understanding

Sample question:
Essay (1), (when a template
is provided for writing text
and you are asked to upload
what you have written)

Question **1**

Not yet
answered

Marked out of
1.00

how to add essay question?

Rich text editor toolbar with icons for: undo, bold, italic, text color, background color, bulleted list, numbered list, link, unlink, insert image, and insert video.

Start again

Save

Fill in correct responses

Submit and finish

Close preview

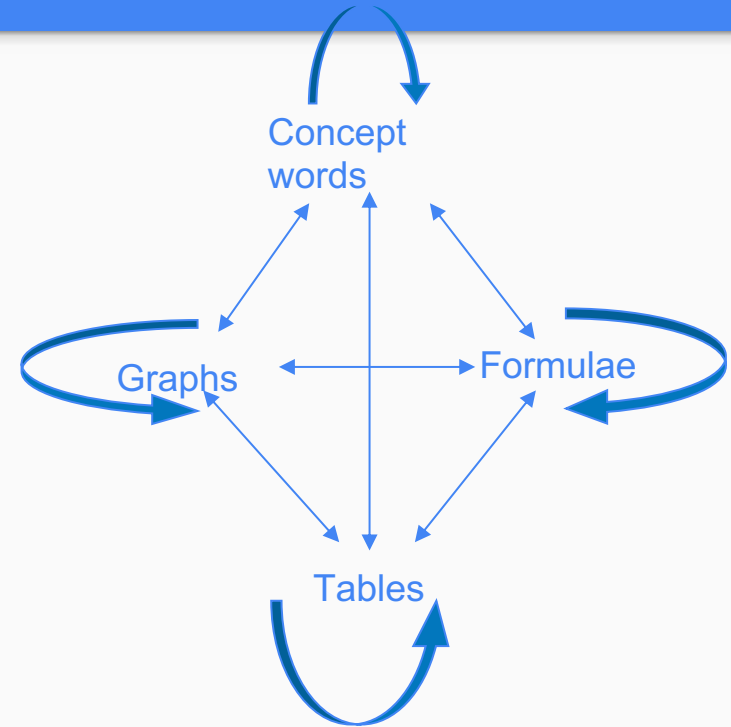


A question with delayed feedback

- Recommendations for preparation:
 - Formulate the question in such a way that students understand that you are asking them to write down one/two words
 - You can use "delayed feedback" to provide an explanation under the written answer and closed questions:
 - it will require more time for evaluation
 - but will better demonstrate student's understanding

Level of Understanding

- Ask students to explain the information in different forms
 - the same content presented in text, video, audio formats,
 - link information presented in text format with visual material;
 - link the information presented in text format with graphical (statistical or other) information





Level of Understanding

Sample question:
Essay (2), (when a template
is provided for writing text
and you are asked to answer
in the window provided)

Question 1

Not yet
answered

Marked out of
10.00

In Moodle You can add activities and resources:

The screenshot shows a Moodle question editor interface. At the top, there is a toolbar with various icons for text formatting (bold, italic, underline, link, unlink, list, list with numbers, list with letters, list with Roman numerals), alignment (left, center, right), and other functions (undo, redo, help). Below the toolbar, there is a list of activities and resources:

- 1. Task
It can be used..
It can not be used..
- 2. Quiz
It can be used..
It can not be used..
- 3. ...



Level of Application

- The ability to analyze information and apply knowledge can be well assessed along with the application of students' critical thinking skills



Answering the test questions, students should critically evaluate the situation and realize that:

- *the test question is not always adequate or appropriate (this should warn students that they must use their critical thinking skills and evaluate the test questions)*
- *the question is not always formulated correctly, the question may be formulated and presented in an absurd form, but the student should recognize the fake and choose the appropriate answer option*
- *the wording of the question does not always contain enough information, i.e., the question is formulated in such a way that information is missing*



Assessment of knowledge application, analysis, evaluation and creativity skills

- Comparing the facts or situations presented in the study material and providing a reasoned evaluation of the comparative objects
- to find out whether the teacher is not trying to mislead the student by formulating test question one way or another or identify discrepancies with the facts or information presented in the study material
- and to determine whether the teacher's purposefully formulated question is logical and provides enough information for the student's answer, perhaps there is not a single correct answer option among the answers



Assessment of knowledge application, analysis, evaluation and creativity skills

- Critically assess the existing possibility to choose all the given answer options, justifying the choice
- Determine that the teacher's purposefully formulated question does not require a student's answer and none of the provided answer options correspond to the facts presented in the study material
- Create new arguments or evaluation criteria to justify or evaluate a situation or learning object, etc.



Moodle tests: general recommendations

- Include **at least one open question** in the test;
- Try to create closed questions using the advantages of technology - automatic correction;
- Use random questions;
- Give different weights to different questions on the test;
- Calculate the time for the test according to the number of questions;
- Use question shuffling option.



Moodle Tests: The Intricacies of Settings

- If you are organizing the test in the Moodle environment for the first time, ask an the specialist to review the settings
- "Do students really have to press/take the test" before the time expires? Is automatic delivery better?
- Consider what you will show during the test and what after it is over?
- If there are those who did not pass the test, maybe it is worth not showing anything until everyone passes?
- "Penalty" for incorrect answers to closed questions is recommended



Moodle tests: information for students about the test

- It is recommended not to hide the test but to enable its automatic opening time if you hide it, students will not receive reminders, the test will not be displayed on the calendar and timeline, students may not find it, etc.
- If the test settings are set correctly, students will definitely not reach it before-hand and will not see the questions



Moodle tests: information for students about the test

In the test description, specify:

- how many questions will there be?
- If the pages are used - will they be able to return?
- Information about Internet connection
- Can students use the material in Moodle (if so - recommend downloading or opening the material in advance)
- What to do if there are problems during the test?
- What are the requirements for student preparation before the test if, e.g., Safe Exam Browser is used?