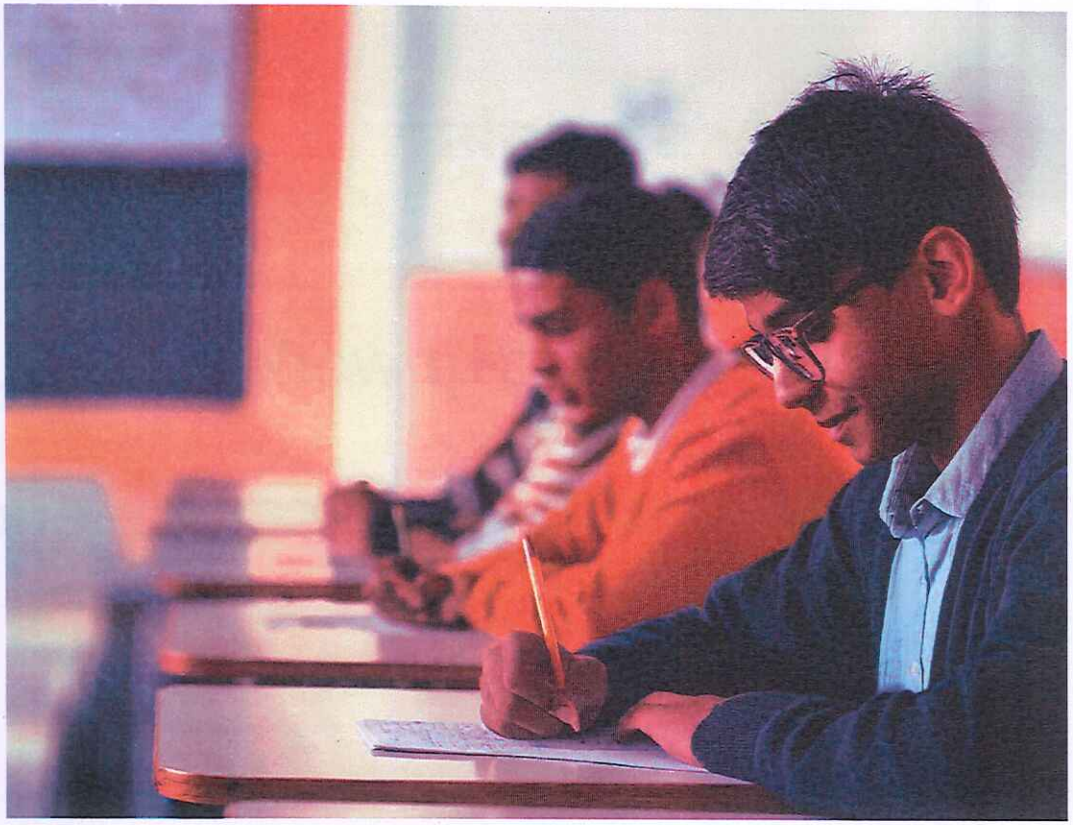


Unit 5_2

Today's goals

- **Analyze** group work criteria
- **Formulate** action competence-oriented assessements

Steps of today's lesson

- Group work criteria
- Action competence-oriented assessment criteria
- Evaluation

Group Work

Why Use Group Work?


• Builds job-relevant skills


• Boosts **motivation**


• Enables active learning

What Makes Group Work Effective?

- Cooperation, not competition

- Clear **task** with real-world relevance
- **Action competence-oriented** task

- Clear roles in the group (each member has responsibility, e.g. speaker, timekeeper, recorder)

What Makes Group Work Effective?

- Peer exchange. Learners explain ideas each other – deepens understanding

- Learner autonomy

- Clear goals and timelines

Benefits for Learners

- **Action competence** (learners make decisions, solve problems, present outcomes)

- Communication skills (learners practice argumentation, active listening, consensus-building)

- Everyone gets involved

Benefits for Learners

- Teamwork and responsibility (boosts motivation)
- Differentiation (group can work at different levels or speed)
- Real-world preparation (teamwork is essential in most professions)

Tips for You as Teacher

Structure the process.

Encourage reflection (let groups discuss at the end: what went well, what was difficult, what could be improved?).

Shift your role!

(be a guide or a coach, **NOT in the centre of attention**!)

Tips for You as Teacher

"Nobody learns in isolation“.

In the workplace, **collaboration** is key.

Good group work prepares students for real professional challenges.

Task 1

Task: In the script U5_2 you find on page 2 a handout. Compare these elements with your own group work tasks. What do you already implement in your lessons, in the tasks? What should you improve or change in your lesson plans?
After 10 min.: Share your keynotes/ideas with your partner.

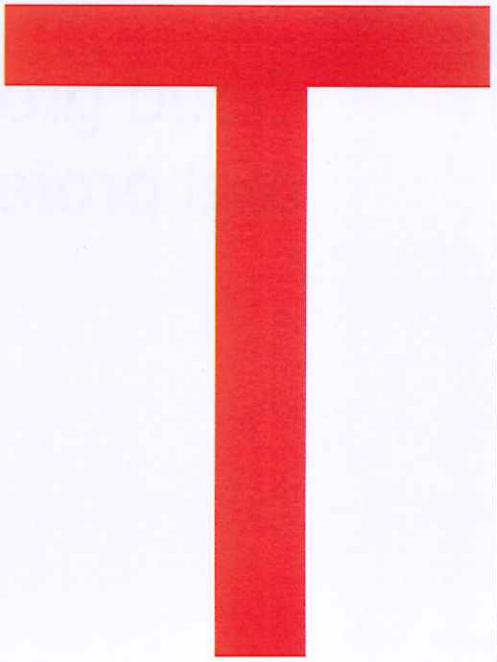
Interaction pattern: Individual work / Partner work

Location: Classroom

Resources: Script

Product: Keywords

Time: 10 min.
10 min.



Task 2

Task: In a lesson, tasks should always have different C-Levels. Not only C-1, C-2. With the task, students should be **activated**. Find on page 4-9 the Bloom's revised taxonomy. Formulate **2 group work** tasks, in **different** levels, accordings to these levels.

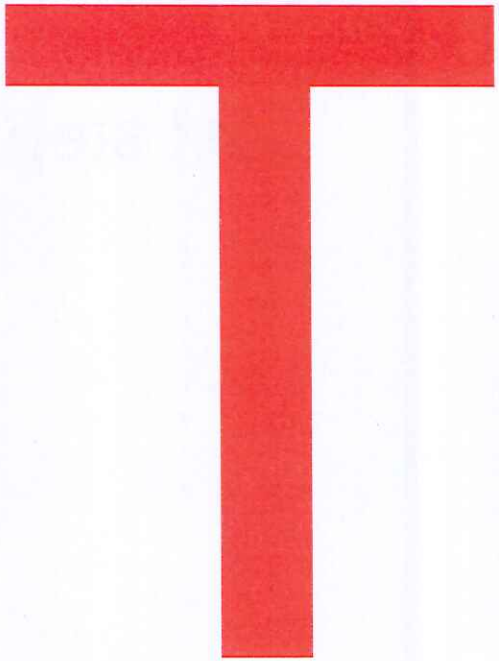
Interaction pattern: Individual or partner work

Location: Classroom

Resources: Script

Product: Keywords

Time: 20 min.



When the group work task is completed

Presentations are done.

Evaluation is done.

Last step: reflection, to train the 4 Cs

Task 3

Task: In the script U5_2 you find on page 3 a list of criteria for the evaluation of the group work. If you want to train the students in reflection and evaluation, you should also let them **evaluate** their **collaboration** skills. Analyze the criteria in the script, page 3. Select 12 criteria for your lessons and create a guide for your lessons. Share it with your partner, explaining and arguing.

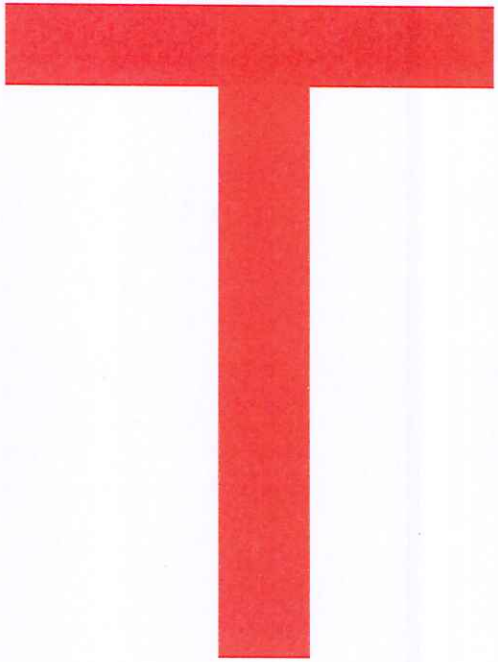
Interaction pattern: Individual work / Partner work

Location: Classroom

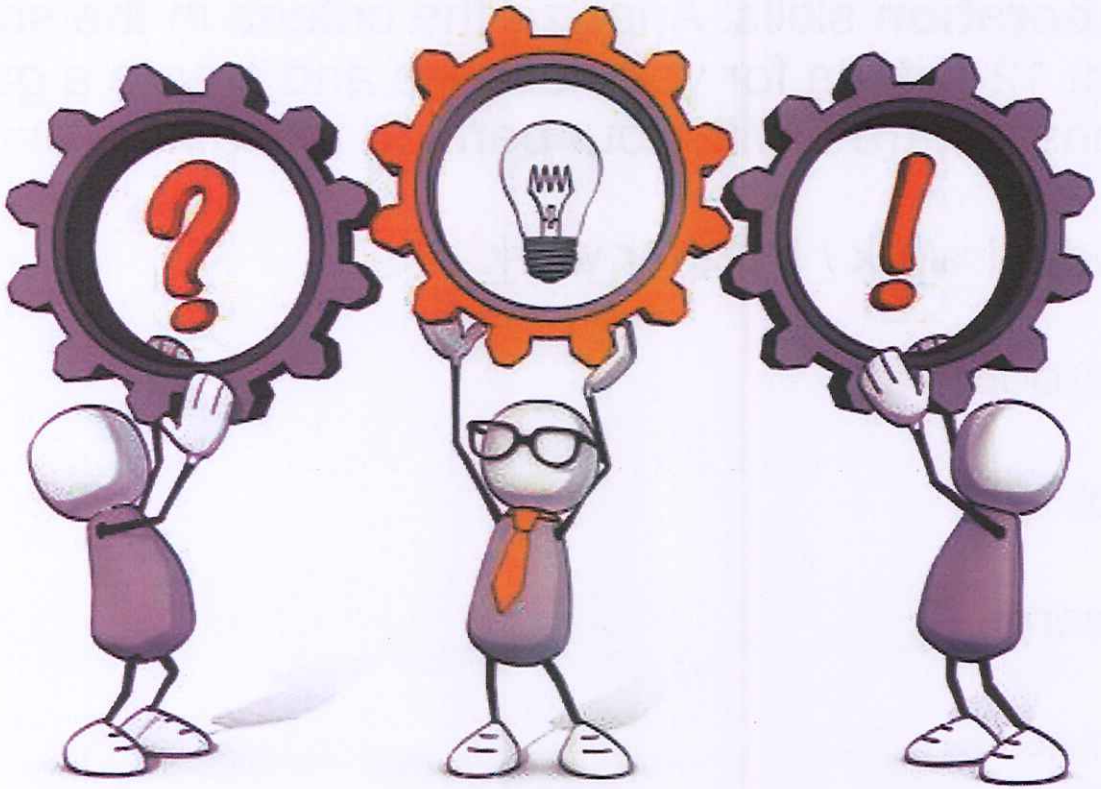
Resources: Script

Product: Keywords

Time: 10 min.
5 min.



Time for statements, reflections, questions



ACO Assessment / Examination

ACO Assessment / Examination

Most exam questions are focused on *memorization* (Bloom Level 1)

BUT: BSDU trains for *workplace readiness*
Real skills require problem-solving, decision-making, and action

Exams must reflect what students can do, not just what they remember.

If teaching is action-oriented, assessment must be, too.

ACO Assessment / Examination

Exams must reflect:

Problem-solving ability

Use of knowledge in context

Critical thinking, Communication, Collaboration, Creativity

Key Elements of Strong Exam Questions:

To write effective, action-oriented questions:

1. Use **real-life problems** from the workplace
2. Choose an appropriate **Bloom Level (1–6)**
3. Integrate at least one **4C skill**
4. Ask students to **solve, decide, justify, design, evaluate**
5. Avoid fact-only questions (Level 1)

Always ask: "Would this happen in the real job?"

At least one 4C should be visible in a good question.

Competency	What it means in exams
* Critical Thinking	Analyze a situation, choose between options, justify actions
* Communication	Explain a decision, write a report, argue a position
* Collaboration	Work in groups, give peer feedback, evaluate team performance
* Creativity	Develop a new solution, improve a product, think outside the box

From Weak to Strong (with Bloom & 4Cs)

Topic: Hotel kitchen hygiene (Food Production Faculty)

Weak question (Bloom 1):
What are three rules of hygiene?

Strong Question (Bloom 5 + 4Cs):
Your hotel kitchen fails a hygiene inspection. Write a corrective action plan for the team. Justify your priorities. (Critical Thinking, Communication)

Final Tips for your Faculty

Mix **Bloom levels** in one exam
(e.g., 2 questions at Level 2, 2 at Level 4, 1 at Level 6)

An exam or assessment can include also MC and True/False questions on these levels

Review questions in pairs or teams in your faculty before finalizing

Common Mistakes to Avoid

Using only Bloom Level 1 (e.g., definitions, lists)

Copy-pasting from textbooks or old exams

No real-world context or problem-solving

Questions too vague, too broad, or too theoretical

Ignoring the learning outcomes of the course

Ask yourself:
"Does this exam test what the job would actually require?"

Task 4

Task: In the script 5_2, page 4-9, you find the C-Levels. On page 10 tips for applying them. Use them for creating ACO assessment questions (at least 2-3). There are examples for each faculty on page 11-18. The checklist on page 19 helps you to improve your assessment/exam questions.

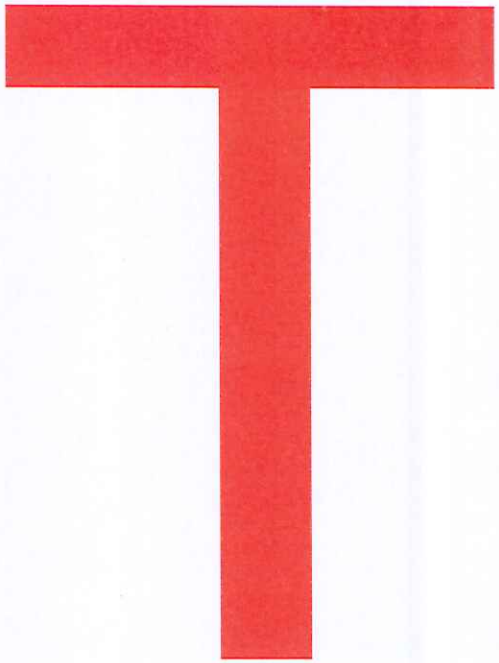
Interaction pattern: Individual or partner work

Location: Classroom

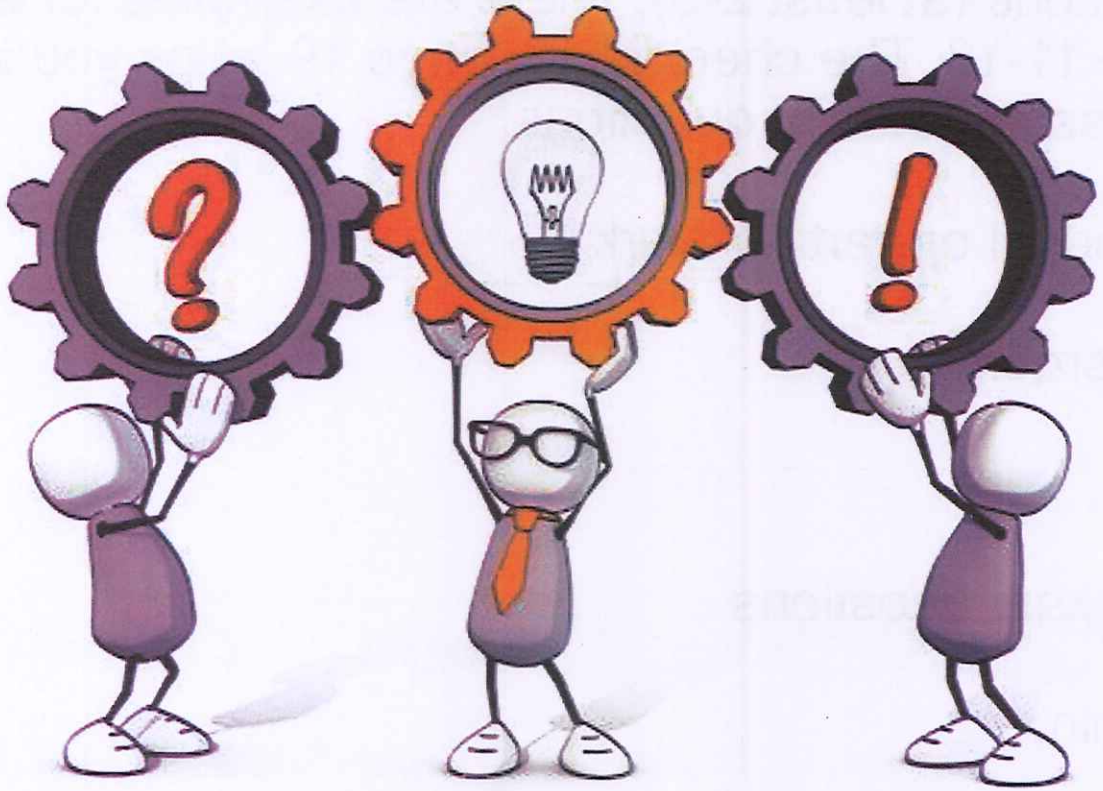
Resources:

Product: 2-3 exam questions

Time: 30 min.



Time for statements, reflections, questions



Steps of today's lesson

- Group work criteria ✓
- Action competence-oriented assessment criteria ✓
- Evaluation ✓

And what about today's goals?

- **Analyze** group work criteria
- **Formulate** action competence-oriented assessements

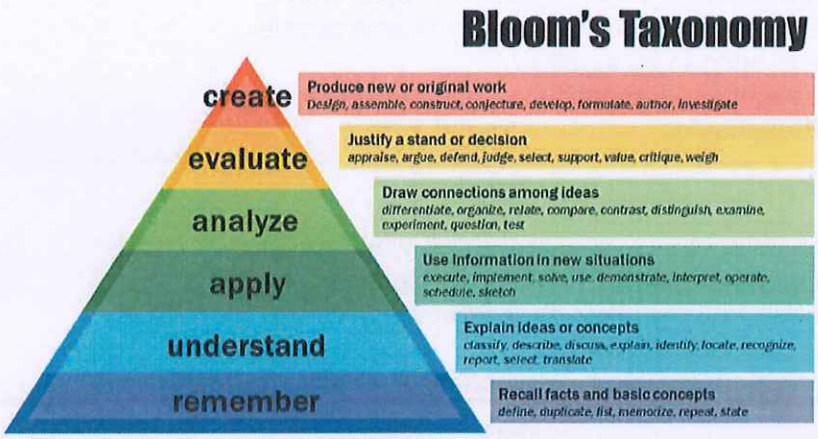
Thank you for your attention!

Didactics at the BSDU
Unit 5_2

Method: Group Work

Bloom's Taxonomy Levels

Action Competence-Oriented Assessment



Handout: Designing Effective Group Work

Didactic overview & practical implementation

1. Why group work?

- Promotes **communication**, **cooperation** and a change of perspective
- Supports **independent** and social learning
- Ideal for **action competence-oriented** lessons

2. Didactic principles

- Learning objective orientation: What should the learners be able to do/know at the end?
- Social form as a **method**: Group work is not an end in itself
- Important: Clear structure, transparent expectations, accompanying reflection

3. Forms of group work

Shape	Description	Example
Partner work	Two people working together	Text analysis
Small groups	3-6 people work on a task	Project work
Expert groups (Jigsaw)	Groups develop sub-topics and bring them together	Theme puzzle
Think-Pair-Share	Reflection - Exchange - Presentation	Opinion formation

4. Success factors

- Clarity of task: Formulate action competence-oriented task & work assignment clearly
- Group composition: make use of heterogeneity - divide up if necessary
- **Allocation of roles: e.g. speaker, minute taker, time keeper**
- **Time structure: realistic time planning + buffer**
- Moderation by teacher: active support, targeted intervention

5. Reflection & evaluation

- **Make results visible** (poster, presentation, minutes)
- Feedback: collegial, by the teacher, through self-reflection
- **Methods for reflection**:
  - Flashlight
  - feedback cards
  - Localization game

6. Frequent stumbling blocks

- Unclear assignment of tasks
- Unfair distribution of tasks
- Social conflicts
- Lack of responsibility for results

7. Tips from the field

- Prepare and introduce group work in a targeted manner
- Define group rules together
- Allow time for evaluation
- Always end with a reflection impulse

Evaluation of the group work

Date:

Topic:

Names of the group members:

Task:
Fill in the table as it was for you *personally*. Be honest and think carefully before you tick the appropriate places.

Time: 5 minutes

Goal:
You consciously reflect on the group work you have done.
You perceive yourself during the group work.
You optimize your work and group behavior for the next group work.

Criteria	- 2	- 1	0	+ 1	+ 2
I was motivated and interested.					
I was looking for ideas and new approaches.					
I have faithfully adhered to the order.					
I handled the material with care.					
I have worked properly.					
I worked systematically and with clarity.					
I persevered and worked with perseverance.					
I was hard-working and committed.					
I was reliable and fair.					
I was cooperative.					
I was a team player and social.					
I was able to communicate well in the group.					
I was good at giving and receiving critic.					
I was able to overcome conflicts.					
The quality of our work was important to me.					
I am proud of our work, of our product.					

Bloom's Revised Taxonomy

There are six levels of cognitive learning according to the revised version of Bloom's Taxonomy. Each level is conceptually different. The six levels are remembering, understanding, applying, analyzing, evaluating, and creating.

Using Bloom's Revised Taxonomy in Assessment

These levels can be helpful in developing learning outcomes because certain verbs are particularly appropriate at each level and not appropriate at other levels (though some verbs are useful at multiple levels). A student might list presidents or proteins or participles to demonstrate that they remember something they learned but generating a list does not demonstrate (for example) that the student is capable of evaluating the contribution of multiple presidents to American politics or explaining protein folding or distinguishing between active and passive participles.

Remember – Level 1

Definition: retrieve, recall, or recognize relevant knowledge from long-term memory (e.g., recall dates of important events in U.S. history, remember the components of a bacterial cell). Appropriate learning outcome verbs for this level include: *cite, define, describe, identify, label, list, match, name, outline, quote, recall, report, reproduce, retrieve, show, state, tabulate, and tell.*

Understand – Level 2

Definition: demonstrate comprehension through one or more forms of explanation (e.g., classify a mental illness, compare ritual practices in two different religions). Appropriate learning outcome verbs for this level include: *abstract, arrange, articulate, associate, categorize, clarify, classify, compare, compute, conclude, contrast, defend, diagram, differentiate, discuss, distinguish, estimate, exemplify, explain, extend, extrapolate, generalize, give examples of, illustrate, infer, interpolate, interpret, match, outline, paraphrase, predict, rearrange, reorder, rephrase, represent, restate, summarize, transform, and translate.*

Apply – Level 3

Definition: use information or a skill in a new situation (e.g., use Newton's second law to solve a problem for which it is appropriate, carry out a multivariate statistical analysis using a data set not previously encountered). Appropriate learning outcome verbs for this level include: *apply, calculate, carry out, classify, complete, compute, demonstrate, dramatize, employ, examine, execute, experiment, generalize, illustrate, implement, infer, interpret, manipulate, modify, operate, organize, outline, predict, solve, transfer, translate, and use.*

Analyze – Level 4

Definition: break material into its constituent parts and determine how the parts relate to one another and/or to an overall structure or purpose (e.g., analyze the relationship between different flora and fauna in an ecological setting; analyze the relationship between different characters in a play; analyze the relationship between different institutions in a society). Appropriate learning outcome verbs for this level include: *analyze, arrange, break down, categorize, classify, compare, connect, contrast, deconstruct, detect, diagram,*

differentiate, discriminate, distinguish, divide, explain, identify, integrate, inventory, order, organize, relate, separate, and structure.

Evaluate – Level 5

Definition: make judgments based on criteria and standards (e.g., detect inconsistencies or fallacies within a process or product, determine whether a scientist's conclusions follow from observed data, judge which of two methods is the way to solve a given problem, determine the quality of a product based on disciplinary criteria). Appropriate learning outcome verbs for this level include: *appraise, apprise, argue, assess, compare, conclude, consider, contrast, convince, criticize, critique, decide, determine, discriminate, evaluate, grade, judge, justify, measure, rank, rate, recommend, review, score, select, standardize, support, test, and validate.*

Create – Level 6

Definitions: put elements together to form a new coherent or functional whole; reorganize elements into a new pattern or structure (design a new set for a theater production, write a thesis, develop an alternative hypothesis based on criteria, invent a product, compose a piece of music, write a play). Appropriate learning outcome verbs for this level include: *arrange, assemble, build, collect, combine, compile, compose, constitute, construct, create, design, develop, devise, formulate, generate, hypothesize, integrate, invent, make, manage, modify, organize, perform, plan, prepare, produce, propose, rearrange, reconstruct, reorganize, revise, rewrite, specify, synthesize, and write.*

Bloom's Taxonomy – Levels

Remember Verbs C-Level 1

- Commemorate
- Define
- Describe
- Identify
- Label
- List
- Match
- Outline
- Recall
- Recollect
- Recognize
- Remind
- Retrieve
- Write
- *Cite, quote, recall, report, reproduce, show, state, tabulate, tell*

Understand Verbs C-Level 2

- Associate
- Characterize
- Classify
- Compare
- Conceive
- Describe
- Discern
- Discuss
- Distinguish
- Explain
- Interpolate
- Predict
- Summarize
- Visualize

- *abstract, arrange, articulate, categorize, clarify, compute, conclude, contrast, defend, diagram, differentiate, estimate, exemplify, extend, extrapolate, generalize, give examples of, illustrate, infer, interpret, match, outline, paraphrase, rearrange, reorder, rephrase, represent, restate, summarize, transform, and translate*

Apply Verbs C-Level 3

- Adapt
- Administer
- Assign
- Calculate
- Classify
- Complete
- Demonstrate
- Determine
- Employ
- Implement
- Investigate
- Plot
- Process
- Show
- Solve
- Transcribe
- *apply, carry out, compute, dramatize, examine, execute, experiment, generalize, illustrate, infer, interpret, manipulate, modify, operate, organize, outline, predict, transfer, translate, use*

Analyze Verbs C-Level 4

- Audit
- Break down
- Characterize
- Compare
- Diagnose
- Distinguish
- Explain
- Explore

- Figure out
- Identify
- Inspect
- Investigate
- Scrutinize
- Relate
- Study
- *analyze, arrange, categorize, classify, connect, contrast, deconstruct, detect, diagram, differentiate, discriminate, divide, identify, integrate, inventory, order, organize, separate, structure*

Evaluate Verbs C-Level 5

- Appraise
- Assess
- Calculate
- Compare
- Critique
- Determine
- Estimate
- Gauge
- Interpret
- Predict
- Rank
- Rate
- Summarize
- Take measure
- Validate
- *argue, compare, conclude, consider, contrast, convince, decide, discriminate, evaluate, grade, judge, justify, measure, recommend, score, select, standardize, support, test*

Create Verbs C-Level 6

- Arrange
- Build
- Categorize
- Compose
- Develop
- Devise
- Establish
- Formate
- Generate
- Integrate
- Model
- Prescribe
- Produce
- Reconstruct
- Rewrite
- Summarize
- *collect, combine, compile, constitute, construct, create, design, hypothesize, invent, make, manage, modify, organize, perform, plan, prepare, propose, rearrange, reconstruct, reorganize, revise, specify, synthesize, write*

Tips for Applying Bloom's Taxonomy to Assessment

Bloom's Taxonomy is most commonly used to assess learning on a variety of cognitive levels. These assessments are checkpoints for each stage of learning so that both teachers and students are prepared for deeper conceptual understanding.

The following are tips for applying Bloom's Taxonomy for more effective assessment:

1. Always keep the hierarchy in mind.

When selecting learning goals for the semester, it's important to remember that Bloom's Taxonomy follows a hierarchy, with the lowest level of cognition at the bottom. Therefore, creating exam questions according to expected learning ability in relation to those levels is crucial. For example, exams given toward the beginning of the semester might consist only of questions that apply to the Remembering level of Bloom's, followed by (as well as combined with) questions that pertain to Understanding and Applying.

2. Introduce exam items that explore higher levels of cognition gradually.

Once students have mastered the learning objectives tied to the lower levels of Bloom's Taxonomy, educators can begin integrating questions from each of the higher levels. As the semester develops and students gain a stronger understanding of the material, instructors can place less emphasis on the lower levels of Bloom's Taxonomy in favor of the higher levels.

3. Analyze assessment results and readjust course objectives accordingly.

After reviewing assessments, educators can determine which learning objectives, in relation to Bloom's Taxonomy, may need to be revisited.

Using Bloom's Taxonomy in assessments, as well as other aspects of learning, is an effective way to support learning improvement and develop a strong curriculum.

Action Competence-Oriented Examination Tasks

1. Faculty of Automotive Skills

- **Bloom level 1:**
  "What is an internal combustion engine?"
- **Action competence-oriented:**
  "A customer reports a loss of power in the engine. Describe the test steps and explain how you systematically find the cause of the fault."
- **Bloom level 6 (Design):**
  "A customer wants to convert their vehicle to an electric drive system. Develop a conversion concept, select suitable components and justify your choice, taking performance, costs and safety regulations into account."

---

2. Faculty of Electrical Skills

- **Bloom level 1:**
  "What does alternate current mean?"
- **Action competence-oriented:**
  "You are to equip a residential building with an emergency power system. Choose a suitable solution and give technical reasons for your decision."
- **Bloom level 5 (Evaluate):**
  "Two alternative wiring concepts for a factory building are available - one is cost-intensive, the other is energy-saving but more complex to install. Evaluate both variants in terms of efficiency, safety and maintenance effort and make a recommendation."

---

3. Faculty of Manufacturing Skills

- **Bloom level 1:**
  "What is CNC?"
- **Competence-oriented:**
  "You will be given a technical drawing with tight tolerances. Create the appropriate CNC program and explain your choice of machining strategy."
- **Bloom level 6 (Design):**
  "A customer requires a custom manufactured component with high precision. Design the complete manufacturing process - from material selection to final inspection - and justify your decisions in terms of cost-effectiveness and quality assurance."

---

4. Faculty of Refrigeration & Air Conditioning Skills

- **Bloom level 1:**
  "What is a thermostat?"
- **Action competence-oriented:**
  "A customer complains about uneven cooling in the cold room. Describe the diagnostic process and suggest specific measures."

- **Bloom level 5 (Evaluate):**
  "Two air conditioning systems are to be evaluated for a new hotel. One scores with low operating costs, the other with short installation time. Compare the systems and recommend the more suitable one - with reasons."

---

5. Faculty of Computing Skills

- **Bloom level 1:**
  "What is a variable?"
- **Action competence-oriented:**
  "Design a student data management program and explain how to ensure data validation and user-friendliness."
- **Bloom level 6 (Design):**
  "A small business needs an information system to manage customer data, invoices, and service requests. Design a system architecture including database structure and user interface. Justify your conceptual decisions."

---

6. Faculty of Food Production Skills

- **Bloom level 1:**
  "What does mise en place mean?"
- **Action competence-oriented:**
  "You are in charge of a large event with an international audience. Plan the kitchen operation considering timing, staff and menu variety."
- **Bloom level 5/6:**
  You are a chef in a hotel with an international clientele. Your task is to develop a 3-course menu for 80 guests that considers seasonal and regional ingredients. When planning, consider the processes in the kitchen, preparation times, storage and presentation.

---

7. Faculty of Healthcare & Paramedic Skills

- **Bloom level 1:**
  "What is blood pressure?"
- **Action competence-oriented:**
  "A patient suddenly has high blood pressure. Describe your immediate measures and explain their medical justification."
- **Bloom Level 5 (Rate):**
  "An emergency response team has two options for patient care after a mass casualty incident - transport to the nearest hospital or set up a mobile treatment center at the scene. Compare the options in terms of time pressure and resources and make a reasoned decision."

---

8. Faculty of General Education

- **Bloom level 1:**
  "What is critical thinking?"
- **Action competence-oriented:**
  "Read a newspaper article on a current topic and analyze argumentation, language and possible manipulation techniques."
- **Bloom level 6: (Design)**
- *"You have to prepare and moderate a panel discussion with students on the topic of 'Artificial intelligence in the world of work'. Develop a structure for the discussion, formulate balanced introductory questions, and plan how you will encourage participants to take a reflective position. Then reflect on how you would assess the quality of the arguments and provide feedback."*

---

9. Faculty of Woodworking Skills

- **Bloom level 1:**
  "What is a mortise and tenon joint?"
- **Action competence-oriented:**
  "You are to design a sturdy wooden table for everyday use. Select suitable wooden joints, create a technical drawing and explain why your selection is suitable in terms of load-bearing capacity and aesthetics."
- **Bloom Level 6 (Design):**
  "You will be given the brief to design bespoke furniture for a library with a particular focus on sustainability and longevity. Develop an overall concept from the choice of materials to the type of construction and surface treatment. Justify your decisions."

---

10. Faculty of Facility Management Skills

- **Bloom level 1:**
  "What is a cleaning plan?"
- **Action competence-oriented:**
  "You will take responsibility for cleanliness in a hospital wing with high visitor frequency. Develop a cleaning plan that considers hygiene requirements as well as shift schedules and peak times. Give reasons for your decisions."
- **Action competence-oriented (Bloom level 6):**
  "The water pump in Ashiana, 12th floor, has been causing problems for seven months. Repeated attempts have been made to repair it, but all have been unsuccessful. The pump makes noise even when the water is not running in the apartments. Analyze the current situation, compare at least two alternative concepts (incl. outsourcing vs. in-house), and develop an improved plan. Present your recommendation with a comprehensible justification."
- *"A newly built university campus is about to open. Develop an integrative facility management concept for cleaning, maintenance, energy and waste management. Take sustainability, efficiency and user-friendliness into account."*

Evaluation grid (max. 40 points)

Criterion	Max. Points	Description
1. problem and cause identification	8	Relevant problems are analyzed systematically and comprehensibly.
2. comparison of models	6	At least two solutions are compared in a differentiated manner (e.g. advantages/disadvantages).
3. design of the new concept	12	Detailed, realistic and realizable concept with clear elements.
4. justification & evaluation of the proposal	8	Decisions are logical, practical and well reflected.
5. structure & clarity of presentation	6	Logical structure, clear language, comprehensible organization.

Overall grade:

- **36-40 points:** Very good
- **30-35 points:** Good
- **24-29 points:** Satisfactory
- **18-23 points:** Sufficient
- **< 18 points:** Not passed

Action Competence-Oriented Examination Tasks (Bloom Level 5/6)

1. Facility Management - Cleaning

You will be responsible for the cleanliness of a hospital wing with a high visitor frequency. Develop a cleaning plan that considers hygiene requirements as well as shift schedules and peak times. Justify your decisions.

Evaluation grid (max. 40 points)

- Problem and cause identification (8 P): Relevant problems are systematically analyzed.
- Comparison of cleaning models (6 P): Two models are compared in a differentiated way.
- Design of the new concept (12 P): Detailed, realistic concept with clear elements.
- Justification & evaluation (8 P): Decisions are logical and practical.
- Structure & clarity (6 P): Logical structure and comprehensible presentation.

---

2. Automotive Skills - E-vehicle conversion

A customer wants to convert their vehicle to an electric drive system. Develop a conversion concept, select suitable components and justify your choice, taking performance, costs and safety regulations into account.

Evaluation grid (max. 40 points)

- Technical analysis (8 P): Challenges well recognized and clearly described.
- Comparison of conversion systems (6 P): Two systems presented in differentiated form.
- Concept development (12 P): Realistic concept with clear planning.
- Rating (8 P): Aspects such as safety and cost-effectiveness well considered.
- Presentation of the solution (6 P): Logical and clearly presented.

---

3. Computing Skills - IT System Development

A company wants to manage customer data, invoices and service requests digitally. Develop a concept for a software solution including database structure, user interface and rights management. Evaluate your solution in terms of security and user-friendliness.

Evaluation grid (max. 40 points)

- Requirements analysis (8 P): Requirements formulated in a practical way.
- System comparison (6 P): Technical justification of alternatives.

- Technical concept (12 P): Sophisticated architecture with a clear structure.
- Justification & evaluation (8 P): Arguments for security & usability are valid.
- Form & presentation (6 P): Clear, technically correct presentation.

---

4. Food Production - Menu planning for hotel restaurant

You are a chef in a hotel with an international clientele. Your task to prepare a 3-course menu for

80 guests that takes seasonal and regional ingredients into account. When planning,

consider the processes in the kitchen, preparation times, storage and presentation.

Evaluation grid (max. 40 points)

- Menu planning (8 P): Selection of dishes is balanced, creative and realistic.
- Organization of kitchen processes (10 P): Preparation steps and timing structured in a sensible way.
- Use of regional/seasonal ingredients (6 P): Choice of ingredients is justified and sustainable.
- Hygiene and storage concept (8 P): Measures are clear and technically correct.
- Presentation & justification (8 P): Clear structure, comprehensible and professionally presented.

---

5. Healthcare & Paramedic - Mass casualty

You lead a rescue team in an accident with 20 casualties. Create a triage plan, organize

first aid, initiate measures to prevent errors and reflect on psychological stress in the

team.

Evaluation grid (max. 40 points)

- Triage & situation assessment (10 P): Assess the situation correctly and safely.
- Supply strategy (8 P): Roles and processes planned sensibly.
- Error prevention (8 P): Convincing quality assurance measures.
- Team leadership & aftercare (6 P): Stresses recognized, measures named.
- Structure & presentation (8 P): Clearly and comprehensibly documented.

---

6. Woodworking Skills - Library furniture

You will design robust, sustainable furniture for a public library. Develop a concept including a sketch, select suitable wood joints and justify your decisions, considering stress and ease of repair.

Evaluation grid (max. 40 points)

- Needs analysis (8 P): Context of use and requirements clearly stated.
- Connection techniques (6 P): Correct and comparative presentation of construction methods.
- Furniture concept (12 P): Technically coherent, functional design.
- Quality & justification (8 P): Practical justifications, sustainable solutions.
- Presentation (6 P): Structured sketch and documentation.

---

7. Manufacturing Skills - CNC component planning

An industrial customer requires a precise machine part. Develop a CNC production plan (tool, sequence, control) and evaluate an alternative with conventional production.

Evaluation grid (max. 40 points)

- Requirements analysis (8 P): Technical drawing correctly interpreted.
- CNC production plan (12 P): Convincing tool selection, process and control.
- Error analysis (8 P): Risks identified, measures derived.
- Comparison of production methods (6 P): Decision comprehensibly justified.
- Documentation (6 P): Clean and technically correct presentation.

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8. General Education - Critical argumentation

Analyze a current newspaper article on a controversial topic. Recognize the structure of the argument, evaluate the arguments, formulate a well-founded counter-position and reflect on the importance of such skills in professional life.

Evaluation grid (max. 40 points)

- Analysis of the argumentation (8 P): Statements and structure well recorded.
- Evaluation of the arguments (8 P): Critical and differentiated.
- Own argumentation (8 P): Convincing and well-founded.
- Professional relevance (8 P): Relevance presented in a reflective manner.
- Clarity of presentation (8 P): Comprehensible, logical, well structured.

9. Electrical Skills - PV system evaluation

A production building is to be supplied with grid power and photovoltaics. Analyze the requirements, compare two systems, evaluate them in terms of cost-effectiveness and maintenance, and recommend a solution.

Evaluation grid (max. 40 points)

- Needs analysis (8 P): Realistic and practical needs.
- System comparison (8 P): Alternatives described technically correctly.
- Evaluation (8 P): Decision based on clear criteria.
- Recommendation (8 P): Technically justified, comprehensible.
- Customer-oriented presentation (8 P): Clearly and comprehensibly presented.

10. Refrigeration & AC - Supermarket refrigeration problem

There are temperature fluctuations in the refrigerated area of a supermarket. Analyze the cause, check the system, compare two solutions and recommend a measure with documentation.

Evaluation grid (max. 40 points)

- Troubleshooting (10 P): Cause thoroughly analyzed.
- Measurement technology (6 P): Theory correctly applied.
- Solution comparison (8 P): Variants weighed up in a well-founded manner.
- Recommendation (8 P): Realistic, technically coherent solution.
- Report (8 P): Objective and clearly formulated.

Checklist: Is Your Exam Question Competence-Oriented?

Use this checklist to review each exam question you create. A strong question should trigger real-world action and thinking, not just recall.

Yes / No	Guiding Question
	Is the question based on a **realistic work situation**?
	Does it require **action**, not just **recall**?
	Is a specific **task** or **problem** presented?
	Must the student **decide, choose, evaluate, or create** something?
	Is at least one **4C (e.g., Critical Thinking or Communication)** involved?
	Is the expected **output/performance** clearly described?
	Is the question open enough to allow for **individual solutions** or reasoning?
	Is it aligned with a **learning outcome** or workplace **competency**?
	Can you imagine this task being given in a real **job setting**?

Action Competence-Oriented MC and True/False Questions

Each faculty has one example of a multiple-choice question and one true/false question. All questions are contextual, competency-based, and suitable for exams, assessments, classroom discussion, handouts, or digital quiz platforms like Kahoot.

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1. Manufacturing Skills

Multiple Choice:
You notice a strange vibration during lathe machine operation. What should you do first?
A) Increase the speed
B) Stop the machine and inspect
C) Continue working, it's normal
D) Call the supervisor immediately
Correct Answer: B

True/False:
True or False: A loose workpiece can still be machined safely at low speed.
Explain your answer. What risks are involved?

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2. Computing Skills

Multiple Choice:
Your client needs a database that tracks sales in real time. Which type of database system is most appropriate?
A) Flat file
B) Relational
C) Blockchain
D) Graph
Correct Answer: B

True/False:
True or False: Testing a website only on desktop browsers is sufficient for professional deployment.
Explain your answer. What should a good testing process include?

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3. Facility Management

Multiple Choice:
You find a chemical spill near the guest lobby. What is the most responsible action?
A) Wipe it quickly without signage
B) Call for help, leave it as it is
C) Block the area and clean it with proper gear
D) Cover it with newspaper
Correct Answer: C

True/False:
True or False: Mixing cleaning agents can increase their effectiveness.
Explain your answer. Mention one potential danger.

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4. Health Care

Multiple Choice:
A patient with high fever refuses medication. What is your best immediate action?
A) Force medication
B) Inform the doctor and document refusal
C) Ignore it
D) Ask another nurse to handle it
Correct Answer: B

True/False:
True or False: Patient records can be shared with family without permission.
Explain your answer based on confidentiality protocols.

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5. Solar Technology

Multiple Choice:
You are installing panels on a cloudy day. What is your priority before connection?
A) Ignore weather – proceed fast
B) Ensure secure mounting and grounding
C) Skip grounding to save time
D) Use tape to cover loose wires
Correct Answer: B

True/False:
True or False: Solar panels do not generate any voltage when it's cloudy.
Explain your answer using basic photovoltaic principles.

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6. Food Production

Multiple Choice:
A guest complains of a sour taste in the chicken dish. What should you do first?
A) Taste it and apologize if necessary
B) Offer a refund without checking
C) Argue with the guest
D) Remove the dish silently
Correct Answer: A

True/False:
True or False: Cooked food can be safely stored at room temperature for up to 6 hours.
Explain your answer based on food safety rules.