



ABC-method of differentiated teaching and learning

- **A-level:**
 - the students that struggle or need extra time before they are able to repeat, describe or/and recognize academic theory or/and assignments
- Blooms: **knowledge and comprehension**

SCIENCEALENTER

The ScienceCenter logo, three overlapping circles, is located at the top right of the slide. Below it, the word 'SCIENCEALENTER' is written vertically in black capital letters. The slide has a white background with a black border. Faint, light blue circular lines are visible in the bottom right corner.

ABC-method of differentiated teaching and learning



- B-level:
 - The majority of the class
 - The students that work well, but still every now and then need some help or/and support in order to work with academically theory or/and assignments
- Blooms: knowledge, comprehension and **application**

ABC-method of differentiated teaching and learning



- C-level:
 - The best students – the talented and the highly abled students – the students that think and act fast and are able to come up with surprising solutions and new ways of solving an assignment
- Blooms: knowledge, comprehension, application, **analysis, synthesis and evaluation**

ABC-method – the four perspectives



- The intellectual/cognitive perspective
 - What the student should be able to learn working with the theme
- Communication
 - How the student should be able to express himself/herself working with the theme

ABC-method – the four perspectives



- The methodical and creative perspective
 - Which methods the student should be able to use working with the theme
- The personal and social perspective
 - How the student should be able to work with the theme alone and together with others

The Ugly Duckling

year 6



- The fairy tale “The Ugly Duckling “ applied to the ABC-method of differentiated teaching and learning

Science

year 4 – year 7



- Year 4
 - Electricity
 - Aim: how do we use electricity in our everyday life?
- Year 7
 - Acids and alkalis – pH-scale
 - Aim: determine whether a fluid is acidic or alkaline

Math year 6

- Equations
 - Simple equation (perhaps using centicubes)
 - Linear equations in a co-ordinate system
 - Linear equations – find the formula for a linear equation from two points

The TASC-wheel Thinking Actively in a Social Context



The TASC-wheel

Thinking Actively in a Social Context



- Gather/organize
 - What do the student already know
- Identify
 - Find out what the assignment is about
 - Let the students come up with their understanding of the assignment

The TASC-wheel

Thinking Actively in a Social Context



- Generate
 - How many ideas do we have?
 - No idea is to silly
- Decide
 - Find the best idea
 - Different groups/students may have different ideas

The TASC-wheel

Thinking Actively in a Social Context



- Implement
 - Plan how to do the job
 - Perhaps need for rethinking decisions
 - Log books
- Evaluate
 - How did it go?
 - Reflecting on the process and the result

The TASC-wheel

Thinking Actively in a Social Context



- Communicate
 - Share the result
 - All can learn from hearing other students
- Learn from experience
 - Reflect on lesson learned
 - What have we learned that we can use in another situation?

The TASC-wheel Thinking Actively in a Social Context



A		B		C	
Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
Well-defined problem	Well-defined problem	Well-defined problem	Well-defined problem	Well-defined problem	No well-defined problem or theme
Precise objectives	Precise objectives	Precise objectives	Precise objectives	Precise objectives	Set own objectives for the problem
Well-known technique/method	Choose the right method	New methods or known methods but in a new way	Encourage to find their own answer of the problem	Encourage to find their own criteria to find the best possible method and answer to solve the problem	Set own criteria of how to work
Correct answer	Correct answer	Correct answer	Choose between different methods to find the best possible answer		Find their own method to find the best possible solution of the problem
Fixed boundaries	Fixed boundaries	Fairly fixed boundaries	The objectives are precise but how they are met is free – choose between different methods to find the best possible answer	The objectives are precise but they have to set their own criteria in order to find the best possible method and answer to the problem	No boundaries
Structure to a great extent	Present different methods	Introduced to new methods or encourage to try out known methods in a new way			No precise objectives Choose between methods of their own choice in order to find the best possible solution of the problem

6 types of questions

- Type 1
 - Well defines problem and precise objectives
 - Well-known methods and correct answer
 - Structure to a great extend
- The student know exactly what to do and how to do it



6 types of questions



- Type 2
 - Well defined problem and precise objectives
 - Choose the right method(s) to find the right answer
 - Fixed boundaries
- The student know what to do but can choose between different methods

6 types of questions



- Type 3
 - Well defined problem and precise objectives
 - New methods or known methods in a new way and find the correct answer
 - Introduced to new methods or encouraged to try out known methods in a new way
- The student know what to do but have room to do it inside fairly fixed boundaries

6 types of questions



- Type 4
 - Well defined problem and precise objectives
 - Choose between different methods to find the best possible answer
- The student decide how to solve the problem
 - and which methods it wants to choose

6 types of questions



- Type 5
 - Well defined problem and precise objectives
 - The student decides itself which criteria it wants to set in order to find the best possible method and answer to the problem
- The student is free to decide how to solve the problem as long at the objectives are met

6 types of questions



- Type 6
 - A problem, but it is not well defined
 - The student has to set their own objectives and criteria on how to solve the problem in the best possible way
- The student has to be able to see the big picture of the problem in order to solve the problem in the best possible way









The middle section of the slide contains the Sciencetalenter logo and name in the top left corner. Below this is a black banner with the text "se mere på" and "www.sciencetalenter.dk" in white, sans-serif font. Underneath the banner is a photograph of four young people (three boys and one girl) looking intently at something off-camera. The background of the slide is white with faint, light-colored curved lines in the bottom right corner.