Problem-solving skills

ACE - Grow Your Skills

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Problem-solving skills

Recognizing a problem and making a plan to solve it.

Description

Problem-solving thinking is a process in which you recognize and explore (complex) problems in different situations in order to systematically come up with different possible solutions. You can choose the most appropriate approachand also argue and evaluate this choice.

Problem-solving skills are necessary to participate in our increasingly complex society in which various problems arise. By possessing these skills you are better able to adapt to new social and academic situations. Such as the transition from high school to higher education. You can practice problem-solving by learning from your experiences and testing your devised solutions.

Watch this video

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Tips

To train problem-solving thinking, it helps to:

- *ask good questions.*
- *devise and test a solution.*
- *practice reasoning.*
- *reflect on the chosen solution strategy and learn from it.*

5min **Assignment 1** *Choose your strategy*

Practice with different solution strategies and improve your problem-solving skills.

Step 1: Describe a problem or challenge you are currently facing.

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Step 2: Select one of the strategies below.

Strategy 1: Devise solutions and test them (Generate-and-test)	**Strategy 2:** Analogical reasoning	**Strategy 3:** Brainstorming	**Strategy 4:** Use worked-out examples
Think of possible solutions to a problem or task and test these solutions. If the first solution does not work, move on to the next most likely solution to the problem, repeat until the problem is solved.	Take a previous problem you already solved, similar to the current situation. See if you can use elements of that previous solution now as well.	Define the problem and think of possible solutions. Devise criteria for evaluating the solutions and use these criteria to choose the best solution.	Find a worked-out example that describes the steps to solve a problem. Go through the same steps to solve your problem.

Step 3: Solve the problem using the chosen strategy. Write down your conclusion.

Solution: _____

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Step 4: Reflect on the process. What went well and what could be improved? Write this down.

Reflection: _____

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⏱ **Assignment 2** *Investigating and solving a problem*
Explore your preferences in problem-solving strategies.

Step 1: Describe three problems you are experiencing right now.

Problem: _____

Problem: _____

Problem: _____

Step 2: Choose which problem you want to work on. Write down 5 possible solutions to the problem.

Problem: _____

Solutions:

1 _____

2 _____

3 _____

4 _____

5 _____

Step 3: Now reflect on your solutions using the questions below. Write down your reflection.

1 What do you notice in this analysis?

2 Are there any connections to be found between the solutions?

3 What knowledge and skills do you need to further solve the problem?

4 Can you come up with a solution strategy?

5 Looking at the possible solutions, do you notice a pattern in it? What pattern?

6 Can you use this pattern later? Why or why not?

7 Discuss your findings with someone else. Does that person have any additional solutions or tips?

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