Step-by-step action plan for learning tasks

When carrying out learning tasks, students work according to a fixed step-by-step plan. This way they can make an assignment better (fewer errors and higher figures) and faster (time savings).

8 steps

- Orientation
- Activation of priory knowledge
- Goal setting
- Planning
- Systematical execution
- Monitoring
- Evaluation
- Reflective evaluation

"The children in my class are not stressed anymore by when they make a mistake. They are more successful and more self-confident."

Jana Šopejstalová
ZŠ a MŠ Holoubkov skola
Czech Republic

In the TETT Metacognitive Skills, each student individually explains what the student can do and what the role of the teacher is if the pupil cannot get it done independently. Focus is is on the coaching role of the teacher who mainly should ask questions and intervene as little as possible if the student already performs skillfully. Learning a strategy which is just a little bit different than the student is used to can be confusing and could lead to the situation that the student no longer applies his own strategy. Observation of metacognitive skills of students must therefore precede their practice. If the specific skill is already there, the exercise is not necessary and will probably even cause disadvantage. In principle therefore, metacognitive instruction is customized.

👍 *Tip!*

Step-by-step plans and examples of lessons can be downloaded from the TETT.

In Metacognitive instruction "modeling" is essential. In the TETT Metacognitive Skills is described how to do that.

Executive functions and metacognition

Executive functions (EF) are basic mental capacities that become available to the child through maturation of the brain. An important example is inhibition or the control over impulses: A stop function by which action tendencies can be interrupted when something goes wrong. A second example is elementary planning of action sequences. Elementary planning is required for the execution of complex actions.

In very young children (< 4 yrs.), EFs are still absent. But from 4–5 yrs. on,

the brain has become matured for developing EFs.

Inhibition and elementary planning are prerequisite to applying metacognitive skills. Inhibition is needed to first read the assignment before starting with task execution, or to check your outcome before giving the answer. Elementary planning is prerequisite to goal-directed planning as a metacognitive skill.

Thus, the development of EFs precedes the development of metacognitive skills.

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TETT Talent Education Toolkit for Teachers
English

Metacognitive Skills
Toolkit for Teachers

Recent studies in secondary schools have shown that a quarter of all pupils indicated they were often bored, because the subject material does not match with their learning needs. With gifted pupils, the percentage reaches 56%. This has motivated the Erasmus+ project Talent Education, aimed at preventing or combatting underperformance.

In project Talent Education, teachers, scientists and trainers joined forces to develop new teaching methods adjusted to the learning needs of various groups of children and adolescents.

The TETT is a joint toolkit enabling teachers to adapt their instructions to the learning needs of their pupils in practical ways.

The TETT includes methods, step-by-step plans, lesson examples and manuals.

TETT comprises four separate toolkits:

- TETT **Design Thinking** for primary and secondary education

- TETT **Practical Differentiation** for secondary education

- TETT **Metacognitive Skills** for primary education

- TETT **Challenging Young Children** for preschool and kindergarten education

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What are metacognitive skills?

Metacognition pertains to the knowledge and skills for organizing, guiding, and controlling one's own thinking, actions, and learning processes. It concerns the skills for:

- task orientation (what am I to do?),
- goal setting (what am I to achieve?),
- planning (how do I reach that goal?),
- a systematical approach (step-by-step),
- monitoring oneself during task execution (am I not making mistakes, do I understand all of it?),
- evaluating the outcome (is the answer correct?)
- reflection (what can I learn from this episode?).

Students with good metacognitive skills are at the helm of their own learning process, through which they can execute a learning task more effectively.

👉 *Tip!*
You will find an explanation of every step in the TETT Metacognitive Skills.

"Thanks to the Metacognition training learning is easier for my pupils. They listen closely when I explain tasks. They use always simple steps now for organizing their knowledge and they check their work better."

Jana Šopejstalová
ZŠ a MŠ Holoubkov skola
Czech Republic

Can metacognitive skills be trained?

Yes they can, provided that...

- Metacognitive instructions should be integrated with a learning task in order to be successful. By applying metacognitive skill to a concrete learning task, students are informed of *What* to do *When* and *How*. Therefore, separate study-skill lessons do not make sense.

👉 *Tip!*
Important for metacognitive skills is the **WWW&H** rule: **Wh**at to do **Wh**en, **W**hy that is needed, and **H**ow to do that.

- Students should be explicitly informed about the benefits of metacognitive activities in order to make them exert the extra effort required for these activities. This concerns the *Why* of metacognitive skills. Students are especially sensitive to concrete arguments of gaining time, making fewer errors, and obtaining higher marks.

- Metacognitive instruction should be given over a prolonged period of time to bring about (enduring) effects. Practice makes perfect.

Metacognition and learning performance

Metacognition determines learning performances to a large extent (up to 40%). As such, metacognition is more important to the learning process than intelligence, social-economical background, and motivation. Metacognitive skills can be acquired and enhanced by instruction and training. Research has shown that adequate metacognitive instruction and training

lead to lasting improvements in metacognitive skills and, consequently, to better learning performances.

Research* has shown that almost half of the intellectually gifted students appear to be metacognitively weak to very weak. Possibly, these gifted students are insufficiently challenged in regular education to develop their metacogni-

tive skills. On school they still can rely on their intelligence. Whenever the learning matter becomes more complex, however, they are at risk for study delay and drop out

Research: The methodology Metacognitive Skills is based on a variety of research studies. References ae presented in the TETT Metacognitive Skills.