

Sparkling Science >
Science linking with School
School linking with Science

**Supporting Lifelong Learning
Competencies in Schools**

Recommendations from the Project
“Lifelong Learning Competencies”:
The Joint View of Students and
Scientists

RECOMMENDATIONS FOR PROMOTING LIFELONG LEARNING COMPETENCIES

Starting Point

Sparkling Science is a research promotion program of the Austrian Federal Ministry of Science and Research that is taking an unconventional path—unique within Europe—in supporting up-and-coming scientific talent. Academics work on their research projects side-by-side with children and adolescents, allowing their young colleagues to actively take on sections of the research and to work independently.

As part of the Sparkling Science research project “Lifelong Learning Competencies,” students and academics, jointly developed data collection instruments that were used in an Austrian-wide survey. On the basis of this survey, the students worked together with academics to develop recommendations for supporting academic motivation and learning strategies among students. Motivation to learn and knowledge of effective learning strategies are the foundation of academic success. Moreover, they form the foundation for successful lifelong learning outside of school. Therefore, promoting motivation and learning strategies represents an important component of fostering young scientific talent.

Further information about the project can be found at www.sparklingscience.at/en/.

Goals of the Recommendations

A multitude of recommendations about successful learning strategies for students already exist. But what do the young people say themselves? One goal of the project was to link scientific knowledge about lifelong learning with the students’ perspective. This synergy yielded practice-relevant recommendations that are directed towards students, teachers, parents, school principals, and the school administration.

The students’ perspective has been foregrounded, so that the recommendations have been written in the language and from the point-of-view of young people themselves. In terms of content, the students’ needs largely align with the research perspective. Therefore, the students’ recommendations have been partially supplemented by academic terminology and research findings.

Structure of the Recommendations

Specific recommendations can be found for the following five groups. We hope that they will be passed on to members of these respective groups.

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|-------------------------|--|
| → Students | Do you sometimes have no desire to learn? Here are some tips! |
| → Teachers | Unmotivated students? Here are some ways to generate enthusiasm! |
| → Parents | Unmotivated students? Here’s how to support your child! |
| → Principals | Increasing Lifelong Learning Competencies
Recommendations for Principals |
| → School Administration | Increasing Lifelong Learning Competencies
Recommendations for the School Administration |

TIPS FOR STUDENTS

Do you sometimes have no desire to learn? Here are some tips!

As part of the project “Lifelong Learning Competencies”, students explained what helps them:

- ✓ Sometimes I feel overwhelmed before a big homework assignment or a test because I have so much to study. In these cases, it helps to take a step back and get a more general view of the material and to break it up into smaller chunks.
- ✓ Sometimes I don't want to start studying. In these cases, it helps to think about how great it will be when I'm done studying. Then I'll be able to enjoy my free time without feeling guilty about it.
- ✓ When I start studying, I turn off my cell phone and the Internet. I also tell my family that I don't want to be disturbed.
- ✓ When I'm not getting anywhere with my studying, I take a short break and think about what the cause could be.
- ✓ When I don't understand something, I take a closer look at it. A lot of times I don't want to do this because it's so challenging, in which case I promise myself a reward. For example: I will watch my favourite TV show after I have finished studying. And most of the time I am happy to find that I actually did understand the material, even though it had seemed so difficult at the time.
- ✓ When I take a closer look at something, I do the following:
 - I read the entire thing once more, slowly.
 - I ask friends or my parents to explain it to me.
 - I read about it on the Internet or in a book.
 - I make a note to myself to ask my teacher about it in the next class period.
- ✓ When I get a homework assignment, test or paper back, the first things I notice are what I've done wrong! That can sometimes be really disappointing. That's why I then take a look at everything I've done right. That's a lot better!
- ✓ When I've made a mistake, I am sometimes disappointed or ashamed. Then I do the following:
 - I tell myself that everyone makes mistakes: my teachers, my parents, my fellow students and, yes, me too. Then making mistakes doesn't feel like such a bad thing anymore.
 - Sometimes I tell my friends about it. Good friends cheer me up.
 - I also take a look at why I made the mistake. Then I know what I can do better next time!
- ✓ Sometimes I study in a group with friends. Then I am able to see how they study. I can also ask them right away when I don't understand something.

RECOMMENDATIONS FOR TEACHERS

Unmotivated students? Here are some ways to generate enthusiasm!

As part of the project “Lifelong Learning Competencies”, students explained what type of teaching motivates them. Educational psychologists linked the students’ experiential knowledge to scholarly findings.

- ✓ **Promotion of an orientation towards learning goals**
The teacher helps us to place the class material in the context of our own experiences. Really, it’s most important that we understand the material and learn something new rather than just memorise it.
- ✓ **Give nuanced and concrete feedback**
We are acknowledged for what we have done well. This creates a good classroom atmosphere, and we know that our teacher sees our learning progress, not just our mistakes. After that, we discuss where a lot of us are still having problems and we figure out together how we can deal with it better. As a result, we commonly hear sentences during class like:
 - “This is correct. You did that really well!”
 - “You could still do these practical things to improve here.”
 - “With this, I can really see that you studied!”
- ✓ **Adopt an orientation towards individualised reference standards**
We discuss our performance with our teacher in one-on-one conversations. We never hear which of our fellow students is better or worse. That would make us feel insecure and unnerved as well as create a bad atmosphere in the classroom.
- ✓ **Responsibility for results is an important feature of successful teaching**
Our teacher feels responsible for our learning progress. When we are successful, our teacher feels successful as well. You could say that we are a team!
- ✓ **A teacher with a great degree of self-efficacy increases students’ motivation and performance**
When a lot of students are having problems with a specific piece of material, the teacher explains the content to us once more during class, and we ask questions. When a single student is having larger problems, the teacher talks to him or her about what the two of them can do about it together. The teacher never gives up on anyone!
- ✓ **Students’ freedom of choice fosters motivation for learning**
We are allowed to have a say in what material we will focus on and in how the class will be conducted.
- ✓ **A student-teacher relationship that both parties value influences student success**
Our teacher cares about us as an individual and doesn’t see us as one student among many. He/She sometimes asks us how we’re doing, and we can talk to her even about things outside school.

RECOMMENDATIONS FOR PARENTS

Unmotivated students? Here's how to support your child!

As part of the project “Lifelong Learning Competencies”, students worked together with academics to compile requests directed at parents. Could your child see things the same way?

- ✓ I would like support and backing from you and want you to take an interest in my studies no matter how old I am.
- ✓ You show me that you love me. Even if things aren't going so well in school right now.
- ✓ You show me that it's important to you that I learn something new and understand new things, both in school and in my free time. Grades are also interesting, but they aren't the most important thing.
- ✓ As a younger child, I usually want you to be in the same room or in a neighbouring room while I'm studying. Then I can ask you at any time if I have a question. It also helps me stay on task with my studying.
- ✓ As an older child, most of the time I would like to be able to study without disruptions. However, I also like it when you ask me every so often how my studying is going.
- ✓ Sometimes I feel overwhelmed before a big homework assignment or a test because I have so much to study. When you help me to take a more general view of things and to break the material into smaller bites, it always makes me feel a lot better.
- ✓ If at some point my studying isn't getting me anywhere, I want you to work together with me to find a solution. I like it when you offer me your help but not when you impose your help on me.
- ✓ If at some point I didn't do very well in school, I would like you to help me understand what didn't work out and why. By doing that, I can learn how I can do things better next time. This also builds my confidence. I don't learn anything from being shouted at or from not being allowed to watch TV (except that I might not want to tell you about my grades anymore).
- ✓ If at some point I'm not doing well in school, you can tell me:
“Don't take it so hard. If you want, we can look at what you can do better next time.
Together we will definitely find a way.”
- ✓ Don't compare me with my siblings. It is a lot more motivating to me when you celebrate my own learning progress with me.

RECOMMENDATIONS FOR PRINCIPALS

Increasing Lifelong Learning Competencies

As part of the project “Lifelong Learning Competencies”, students worked together with academics to compile recommendations for principals.

- ✓ **Promote holistic development and an orientation towards learning goals**
 Organise interdisciplinary theme days, school projects, and field trips.
- ✓ **Support the application of various learning strategies and of self-regulated learning**
 Make free remedial courses available to students; in these courses, the students should also learn how to study correctly.
- ✓ **Further teachers’ subject-related knowledge, knowledge of effective teaching, and self-efficacy**
 Ensure that teachers are up-to-date with their subjects; require content-related professional development; however, teachers should also learn how to teach proper study skills to and motivate students.
- ✓ **Improve students’ self-efficacy**
 Many students perceive an imbalance of power between the teacher and the class and therefore want a principal who is open to their concerns.
- ✓ **Improve knowledge of teacher effectiveness**
 Collect anonymous feedback from students and use it as the basis for periodic conversations with their teacher.
- ✓ **Impartial feedback**
 Separate teaching and grading: Have students write a number on their exam sheets instead of their names. Names are only revealed after the tests have been graded. Another possibility would be to have a teacher that doesn’t know the students to grade their written assignments.
- ✓ **Design a learning environment that promotes students’ learning and well-being**
 An appealing classroom design and good equipment and facilities.
- ✓ **Embrace your leadership role**
 Be assertive with teachers and students; have strict but fair rules of behavior.


RECOMMENDATIONS FOR SCHOOL ADMINISTRATION

Increasing Lifelong Learning Competencies

As part of the project “Lifelong Learning Competencies”, students compiled recommendations for decision-makers in the school administration. Academics combined these wishes and formulated them as recommendations.

Promote students’ motivation through:

- ✓ **An appealing learning environment**
 - Flexible school architecture: Rooms should be able to be quickly adapted to the needs of the class and of the students
 - Schools should be equipped with modern technology
- ✓ **Freedom of choice in the curriculum**
 - Diverse course offerings for students (optional tutorials, electives, etc.)
 - Funding for afternoon courses that boost lifelong learning competencies
 - Funding for remedial courses directly within schools
- ✓ **Well-trained teachers**
 - Teachers’ competencies should include: high knowledge of course content, know-how in dealing with stress and conflict situations, flexibility, an ability to cope with pressure, fairness, patience, and the ability to apply a background knowledge of development psychology to everyday school situations
 - Embed the development of lifelong learning competencies in teachers’ training and continuing education programs
 - Pedagogic and psychological education for student teachers at the universities
 - Regular supervision for all teachers
 - The ability to terminate teachers
- ✓ **Fairness in the daily routine and in grading**
 - Permanent contact and exchange with schools in order to be able to react quickly to day-to-day concerns and problems
 - Obtain students’ opinions through anonymous surveys
 - Establish a complaints office for students with the power to intervene in the school
 - Separate teaching and grading:
 - Students write a number on their exam sheets instead of their names. Names are only revealed after the tests have been graded.
 - Alternatively, a teacher that doesn’t know the students could grade their written assignments.



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