

# L1

## Thinking and Learning to Learn

The ability to think and learning how to learn form the groundwork for lifelong learning. Building on those skills helps people reach their personal development goals, such as understanding the relationships between everything, the ability to self-motivate and set personal targets, as well as independence. At the same time, it's important to study and evaluate the personal experiences and feelings that arise from your learning. Ability to think and learning how to learn are both competences that remain interconnected with all other 21st Century Skills throughout life.

THEME 1:

# Enquiry-based Learning

Skill 1:

# Managing an enquiry-based learning style

Managing an enquiry-based learning style includes the ability to search, produce, evaluate, edit, and publish data and ideas. It is essential students learn how to set personal goals, plan their studies, and assess their progress, independently as well as collaboratively. In managing an enquiry-based learning style it is important that students take responsibility for their own, as well as their group's, learning, on top of understanding the process for succeeding using an enquiry-based learning method.

## LEVEL 0

The teacher does not direct students to work in accordance with enquiry-based learning principles at all.

## LEVEL 1

Students familiarise themselves with all the different stages of an enquiry-based learning method, such as research, production of data, evaluation, editing and publishing. The teacher directs students into an enquiry-based learning style by setting questions for students to answer.

## LEVEL 2

Students are directed to set their own questions and answer them using an enquiry-based learning method. Students learn, with the aid of the teacher and other students, to set themselves goals, research data from a wide range of sources, plan their study methods, produce answers to the set questions, and evaluate their own progress. The results are presented to the rest of the group and edited according to the feedback.

## LEVEL 3

Students are able to independently study real world phenomena from their surroundings and determine questions related to them.

Students are directed towards long-term enquiry-based learning projects, in which they learn to independently define the phenomenon to be studied, the problem being studied, set goals, research data from a wide range of sources using multiple methods, plan their study methods, produce answers to their own questions, setting follow-up questions, evaluating their progress, and editing their results based on their own, and their peers' evaluations. The teacher enables cross-subject study methods and directs students to exploit external aid (e.g. connecting with experts familiar with the studied phenomenon). The findings will ideally be published outside of one's own class or school.

Skill 2:

# Critical Thinking

Understanding the diversity of information and the ability to think critically and question concepts, are fundamental skills in interpreting and understanding data. Information can be formed in a variety of ways: from a diverse range of sources, personal experiences, authority or even deductive reasoning to name a few. Generally, real world phenomena are not black and white, but rather they are related to numerous perspectives and disagreements and thus the school community should support students in interpreting ambiguous and conflicting information. It is fundamental to attain an ability in assessing the credibility of information.

## LEVEL 0

The teacher does not direct the students to examine different ways data is made and how it is conceived, nor do they teach data credibility assessment skills.

## LEVEL 1

The teacher directs students to listen to others' viewpoints and respect differing opinions. Led by the teacher, the students go over the various ways information is produced and conceived, for example by understanding the difference between an argument and an opinion.

## LEVEL 2

Students research the multiple ways information can be produced and how differently constructed perspectives and thoughts have been formed and how they are distinct from one another. Students are encouraged to attempt different ways to question and examine information, comprising arguments from factual data, and interpreting ambiguous or conflicting data. Assessing the credibility of information is also practiced.

## LEVEL 3

Students learn to independently build arguments, improve their argumentation skills, and observe real world societal phenomenon through a critical lens. Students get to analyse numerous sources and evaluate data from multiple perspectives. The ability to assess the credibility of data is deepened and many methods for evaluating credibility are taught.

## Tip

What kind of conception of knowledge is predominant in the subject you teach and how does this differ between different subjects?



Skill 3:

# Creative and Insightful Thinking

Creative thinking requires time and space for pondering, inventing and discovering. Unprejudiced study of new perspectives and subjects aids in overcoming barriers to higher thought. Gamification and playfulness can also ease the ability to be creative and imaginative. It is important to understand that creativity is not some mystical birth-right which an individual is born with, but instead it can be learned.

Creativity requires skills, knowledge, enriching human interactions, and social support for understanding the emotional factors behind creativity. Fostering creative activity can be encouraged through trying the different stages of the creative process and the modes of operation related to that stage. If the creative process is unfamiliar, it is difficult to innovate. Results are not the primary objective in creative activities, but rather systematically going through all the stages of the creative process.

The creative process can be divided into distinct stages, such as preparation, incubation, realisation, honing the idea, and finally publishing. The process is not linear and it is common to jump to any stage if necessary. The creative process demands persistence and progress usually occurs in small increments. Truly ground-breaking and innovative thinking is born from significantly developing one's own abilities and knowledge, as well as surrounding oneself with supportive people.



## LEVEL 0

The teacher is not enabling learning situations where students' imagination and creativity are given time and space to be realised.

## LEVEL 1

The teacher allows for time and space for students to be reflective, imaginative and creative, and offers positive experiences of success arising from creative thinking. Students are encouraged to connect differing perspectives, utilise their imaginations, and bring forth new ideas.

## LEVEL 2

Directed by the teacher, students are set learning assignments with which they are able to familiarise themselves with all the stages in the creative process and sample the different approaches each of them have. Students learn how to create a social atmosphere that fosters creativity, such as respect for others' views etc. The teacher's assessment focuses on the the creative process, not the end result.

## LEVEL 3

Students are directed into interactive, independent and long-term creative processes. During this the students become familiarised with all the stages of the creative process and learn to manage their emotional state during the process, as well as adapting other methods and equipment. Students are independently fostering an encouraging and creative debating environment, in which all are free to express their views. The students also learn to assess their own, and others', creative processes.

## Tip

Creative thinking is not exclusively related to the Arts and can be practiced in all subject matters! Think of different ways in which you could foster creative thinking in learning situations, such as by trying out new learning methods, changing your learning environment, or utilising technology.



THEME 2:

# Me as a Learner

Skill 1:

# Responsibility over your own Learning

The student is not a passive actor, but rather has a significant role in their own learning. The student's ability to be an effective learner can be reinforced by guiding them towards understanding that they are stakeholders in their own learning. Self-confidence and independent learning management skills improve as the student garners positive experiences from being vested in their own education. Self-image and confidence in one's own abilities have a stark effect on learning success, for example by how a student reacts to facing new challenges and how ambitious their personal goals are.

## LEVEL 0

The teacher does not allow students to take any kind of responsibility for their learning whatsoever. The teacher does not provide space and time for student observations or questions.

## LEVEL 1

The teacher encourages students to pose questions and freely express their thoughts. The teacher also provides students with options and a freedom of choice for their learning. The teacher gives attention to student insights, experiences, and queries. Students are allowed to take some responsibility over the fundamental aspects of their own learning, but otherwise the teacher sets a strict framework for studying.

## LEVEL 2

The teacher directs students to utilise information independently, brain-storm, and have initiative. Students are clearly given opportunities to take responsibility over their own learning, e.g. by selecting their syllabus and learning methods. Under teacher supervision the students set personal goals for their own learning and consider the ways these can be reached. Students are guided to map out their own knowledge and skills, while sparing a thought for what they should learn in the future.

## LEVEL 3

Students are given the opportunity to take initiative in planning and executing long-term projects both independently and in a group. Students set goals, pick their own learning methods and syllables, and assess their own and others' progress. Students learn to independently evaluate their current knowledge and skills, and consequently learn to plan out their own future learning with the aid of constructive feedback.

## Tip

A weekly 'Thinking and Learning to Learn'-class: an open discussion where students discuss learning-related topics, such as intelligence, talent, emotions, the 'flow' etc., and how certain things can affect learning. When the teacher vocalises learning-related terminology, it facilitates the student's ability to process learning-related phenomena.



Skill 2:

# Discovering your own strengths and appropriate learning strategies

Identifying your own strengths, habits, and learning strategies aids in developing one's ability to think and learn how to learn. When the student visualises their own habits as a learner, they can consciously begin to develop themselves. On top of visualising the content of learning, it is important to map out one's own learning process. Making the learning process transparent helps students understand all the facets of learning and how learning can be influenced.

However, one should be careful when discussing different learning styles, since despite us having inclinations in how we process information, studies do not support the idea that each individual has a pre-determined learning style. Instead, we are more versatile as learners than commonly thought and are able to learn new study methods and can adjust our styles to solve the question at hand.

## LEVEL 0

The teacher does not teach students to examine their own learning habits or familiarise themselves with different learning strategies. Teaching is solely derived from the syllabus.

## LEVEL 1

The teacher educates students about the multiple methods to learn and gives attention to the students' different learning strategies. Under teacher supervision various learning strategies are covered, and attempted.

## LEVEL 2

Students are guided in discovering their own strengths as learners, and are taught to exploit various learning strategies. Poor learning strategies and habits are to be discarded. Students are also directed to self-assess their learning strategies and habits.

## LEVEL 3

Students are presented with opportunities to experience varied learning situations, in which they can systematically utilise their learning strategies. It is important to learn how different strategies can be applied according to specific situations and tasks. Students also learn to independently assess others', as well as their own, strategies and strengths, how they can be improved, and how different learning habits could potentially be combined to improve learning effectiveness.

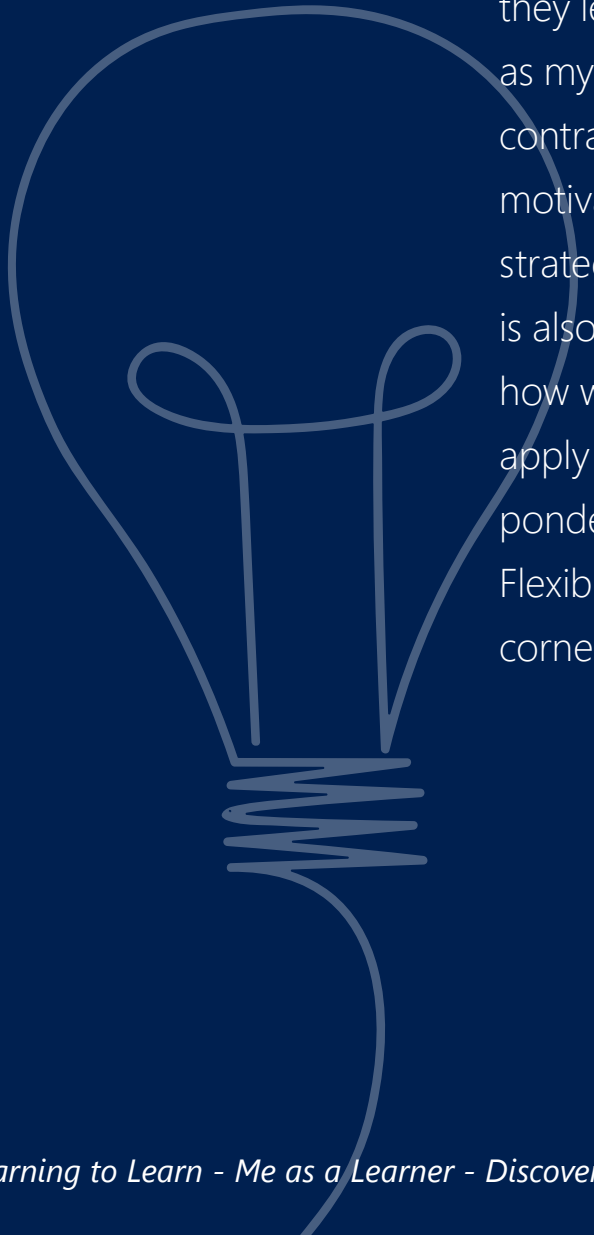


## Tip

Different learning methods and strategies can be appropriate for certain subjects and learning situations. Consider which methods could be appropriate for your own subject. Are you able to try alternative methods and in what ways do learning processes vary in different learning situations?



## Tip



The so-called “Sensory Channel Theories” in learning, which postulate that individuals can be divided into distinct categories according to whether they learn best through seeing, hearing, or feeling, have been recognised as myths. Although people are distinct from one another, the most vital contrasts are in fact related to cognitive readiness, temperament and motivation, to name a few. It is more useful to master one effective learning strategy rather than be categorised into one static learning style group. It is also more helpful to consider what learners have in common, instead of how we differ. However, it is recommended to understand and practically apply other learning strategies and techniques while simultaneously pondering which strategy and method suits those different situations. Flexibility and the ability to adapt strategies to the task at hand is the cornerstone of effective learning.

Skill 3:

# Creating your own Learning Path

Reflecting over one's own learning goals and choices helps in creating a learning path for oneself. Students are supported in researching opportunities and are provided support in making both long-term, and short-term commitments in the fields they are interested in. In contemplating these decisions and opportunities, it is important to be unprejudiced and encourage questioning of preconceived understandings of career paths (e.g. gender stereotypes). The objective is to teach students the ways in which they can independently influence their own futures.

## LEVEL 0

The teacher does not go through with students the different opportunities related to learning or the future.

## LEVEL 1

The teacher informs students about all the different education-related options and opportunities available to them. These options and opportunities are always examined in an unprejudiced manner. Furthermore, students are supported in identifying some professions, in which their own strengths or interests could be utilised.

## LEVEL 2

Students are directed to consider their own interests and strengths in relation to different educational opportunities, as well to set appropriate learning objectives. The teacher integrates student interests and learning objectives into study tasks, with which students are aided in realising the value of the competences they have acquired in their education and free time for reaching their desired careers.

## LEVEL 3

Students research different kinds of learning paths and learning-related opportunities, while reflecting on their personal interests, strengths, and personal development needs. Students are guided in planning their personal paths for the future, while setting themselves short- and long-term goals and regularly self-assessing their completion. Students learn to question pre-conceived notions of certain education- and professional paths. However, it is fundamental to learn how one can self-sufficiently influence their own future.

## Tip

In a group with your students, consider what kinds of school subject combinations are required in different professions and aim to come up with some brand new school subjects, that seem tailored to the learning of a specific profession.



THEME 3:

# Learning Community

Skill 1:

# Collaboration Skills

The purpose of the ability to co-operate is for students to learn how to actively listen to each other and debate respectfully so as to ensure everyone feels they are members of the group. The teacher has a vital role in enabling the learning of social interaction skills and setting an example for effective communication.

The teacher also should foster a culture of interaction in the classroom, school, as well as in wider learning environments. It is important to direct students to work and develop ideas together in a group, which also serves to improve their thinking skills.

## LEVEL 0

The teacher does not create learning situations where students could practice collaboration skills. Students work primarily alone and do not consciously develop their cooperation skills.

## LEVEL 1

The teacher plans learning situations with which students may practice their collaboration skills, such as listening to others, engaging in respectful dialogue, as well as asking for, and giving, help.

## LEVEL 2

Students are guided to independently foster a cooperative atmosphere, in which social interaction and respectful peer collaboration between students is emphasised. Students learn group-related skills and learn to utilise group collaboration to improve their own thinking

## LEVEL 3

Students learn to group independently into various themes and sizes of groups, and deepen previously taught collaboration skills even further. The students gain collaborative experience not only through these groups, but also through extra-curricular activities outside of the school community. It is also important that students learn how insights produced in different groups can be exploited for developing one's own learning and thinking.



Skill 2:

# Communal Learning and Knowledge Building

Social interaction that aims to deliver diversified learning and create new knowledge can give birth to something greater than the sum of its parts. We can overcome our individual limitations by truly learning to collaborate with one another. Students can learn the value of collaborative work by sharing responsibilities over mutual learning goals, and exerting oneself to reach those goals while supporting your peers.

## LEVEL 0

The teacher does not enable communal learning and knowledge building, but rather teaching is especially teacher-led and students work alone. Even if the students are grouped, they do not learn to set group objectives.

## LEVEL 1

Under teacher supervision students attempt setting mutual learning objectives and outline how responsibility is shared between different group roles in order to reach their common goals. The teacher encourages students to discuss their group dynamic, such as how group studying is organised and how consensus is achieved for group decisions.

## LEVEL 2

The teacher aids students in forming a constructive and sincere collaborative atmosphere, with which students are able to resolve differences and make compromises for reaching certain mutual objectives. The students learn to produce and connect data, while simultaneously developing their own knowledge through this collaboration.

## LEVEL 3

Students learn to share responsibilities and form groups independently that serve to achieve mutual goals and inspire the formation of new ideas. Each member of a group has a role and is given a responsibility, which is known to all other group members. Students practice various modes of operation for achieving their common goals. They learn to evaluate working methods and how well goals are reached. The individual's and group's know-how continually improves as the group works towards reaching its goals.



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