



Innovation and Science at schools, in management and teaching

Course details

The courses below are implemented by In Dialogue and the University of Halle, Germany. Locations for the courses will be Linz (AT), Halle (DE), Prague (CZ), Copenhagen (DK), and Gouda (NL).

All courses are planned to run for 4 days, plus a welcome evening. Furthermore, all courses have a maximum of 16 participants, unless agreed differently.

The In Dialogue courses

In Dialogue offers a set of courses within the area of management and guidance. Overall the courses focus on exploring the human factor in science education and innovation and to develop educational approaches that give the students the knowledge and competences to work in teams and structures that foster innovation within science. By human factor is understood the fact that humans are social beings. Knowledge and competences cannot be seen as purely individual traits, but have to be witnessed and put into play in stimulating contexts. Factors to look at that could contribute to innovation and therefore has to be included also in educational approaches could be: Social skills/ group work, reward systems, dealing with failure, dealing with time-pressure, sharing knowledge, inquiry and curiosity, reflective capacity and leadership

Managing strategic processes

Managing change towards innovation

The course targets management teams who wish to create sustainable change in their team, unit or organisation when it comes to the human factor in innovation and science (2-3 managers per school). The course will focus on how to create clarity and set the framework, ensuring that change processes lead towards organisational goals. Furthermore the team will look at how to build commitment among important stakeholders, on planning and facilitating a successful change process as well as on the follow-up, ensuring that new initiatives are embedded in the daily practice. The management teams will work on their own change ideas, though with a common focus on factors that facilitate or limit innovation and development.





Leadership based coaching

Creating clarity and involvement in complex surroundings

The course offers headmasters/executives as well as others with leadership tasks a valuable opportunity to expand their toolbox with leadership-based coaching tools (it can be attended individually). Leadership based coaching is different than normal coaching as it is based on a transparent power-relationship between the manager and the staff-member while still focusing on reflective capacity, inquiry, curiosity, involvement in dialogue and co-creation around ways to reach goals and deal with challenges. The content of the coaching sessions is framed by the organisational structure and strategic goals and therefore offers an opportunity to link strategies with the daily work of staff or middle-managers. The course will focus on leadership based coaching tools for individuals and teams.

Measuring progress towards success

Learning from the past to give directions for the future

The focus of the course will be on planning and conducting participatory evaluations. The participant will learn how to involve diverse relevant stakeholders in setting indicators of success as well as describing strategies assumed to lead to certain results. In this way everyone involved develops a common language as well as a deeper understanding of the system at work. This enables the organisation to discuss results and reflect upon steps to take to improve the work. Learning arises from taking part in the whole process rather than from being presented for the end-results of the analysis and the recommendations by the evaluator. The participants will work on developing an evaluation process for their own organisation, though with a common focus on factors that facilitates innovation in science education and beyond.

Strength based coaching and guidance of students

Letting students grow from their strengths and nurturing the human factor in the science teaching

The strength-based approach to coaching offers a palette of questions that helps the focus persons set goals and overcome individual difficulties or challenges in teamwork in a relatively short time. The focus of the coaching techniques is on what works rather than what doesn't work. The participating teacher will get a chance to practice different coaching techniques that draw out resources, create new perspectives and alternative ways of dealing with difficulties. The techniques will offer new ways of nurturing social skills, supporting teamwork among students, of dealing with failure, sharing knowledge, stimulate inquiry, curiosity, and reflective capacity. The techniques will be applied both at individual and team level.





Energy-booster for innovation and science teachers

Developing curiosity and reflective practice among teachers and in relation to the so-called human factor in science

This course focuses on teachers of science and innovation who wish to stimulate the human factor in their teaching, but fear what is inside Pandora's Box. In a safe surrounding the teachers will get a chance to be coached, reflect upon and work with cases from their daily practice. They will get new insights and inspiration to deal with challenging situations, such as fear of failure, teamwork that gets stuck and pupils/ students in difficulties. Throughout the course we assume that a lot of knowledge already exists about good educational practice, but what has to be strengthened are the concrete methods to share this knowledge, reflect upon practice, and innovate the pedagogical practice among teachers. The teachers will leave the course with tools to continue the reflection with their colleagues.

Courses offered by the University of Halle Faculty of Natural Science - Biological Science

Science and the world we live in

Cutting-edge Science development in the light of Ethics

New scientific and technological developments are more and more seen with doubt and fear among the public: Gene-engineering, fracking, wind-power plants, nanotechnology are only a few examples of this. These topics therefore offer a rich source for teaching Science in everyday context. We will look at an inquiry based approach towards Science and Technology, based on data gathered by the learners themselves and including a discussion on the outcomes of their research. Finally, they will debate the topics equipped with these scientific results and enriched by ethic dimensions.

The course will be offered by experts in Science teaching and supported by experts in ethical questions. This combination offers a wide range of argumentation, leading beyond the classroom into educating engaged and informed citizens.

Citizen Science with students at schools

Engaging the public in the scientific process and its outcome

The new outlines of EU-programs in Science and Technology are oriented at Responsible Research and Innovation (RRI). This means that diverse actors such as citizens, policy makers, businesses etc work together with the researchers during the whole process of research and innovation in order to discuss needs, values and expectations and align the process and outcome along the way. This new collaboration is subsumed by the term "citizen science". Citizen Science also means that the scientific research is conducted in part by amateur or non-professional scientists.





This course will introduce methods to engage students into citizen science using other students as the public to involve. This could include research on, e.g. apps for mobile devices to search for biodiversity, cultural heritage or everyday usage of public places.

Science in Context

The only way to teach Science effectively?

Any learning needs an appropriate, convincing context. Teaching Science in Context means to organize learning environments, in which students are able to raise their own questions, search for methods to conduct research on these questions, research in a lab and gaining evidence, and discuss the results in the group. This process called IBSE (Inquiry Based Science Education) will provide deep insight into scientific methods, into the process of science itself and will help to build deeper understanding. We will illustrate the work with several examples; however, the participants will create their own learning environments for their work in their schools.

