

## Czech Republic

### Gymnasium "Prirodni skola"

*This (state-subsidized private) school for students aged 12 to 20, is specialized in science; students need to pass an entrance exam before inscribing. The objective of the school is to allow children to work independently under the provision of relevant short-term feedback on their decisions. The curriculum of most subjects is divided into study requirements that students must meet within three-month periods by delivering different proofs of knowledge (e.g., presentations, portfolios). Students can direct their course of education both by deciding when to fulfil given requirements, and by choosing among different requirements in some subjects. In addition to traditional classroom training, students learn in cross-curricular research projects, both on "project-Wednesday" and during school tours (in total ca. six weeks per school year during which students and teachers live together). Students' social development is fostered through work of a student advisory board, a system of patrons (older students helping younger students), and peer teaching.*

**Main Focus of Innovation:** CONTENT, ORGANISATION

#### General Information

**Name of the ILE:** Gymnasium "Prirodni skola"

**Location/Address:** Prague 9, Frycovicka 462, 199 00

**Website:** [www.prirodniskola.cz](http://www.prirodniskola.cz)

**Rationale**

*Why do you suggest that it should be included in the project? How does it respond to 21<sup>st</sup> century learning challenges?*

We think that our system and methods combining student-oriented education focusing on the development of individuals, cross-curricular education, and the upbringing of decent and active people with their own opinions might be found inspiring by other schools.

Our school provides students with the possibility of individual development based on their own interests. We try to motivate our students to lead an active life, to be aware of one's responsibility for one's actions, to adopt and develop critical thinking in real-life contexts, and to be sensitive to other people.

**Learning Aims / Intended Learning Outcomes of the ILE**

*What are the core learning aims and which knowledge, skills or attitudes are to be acquired? (These may include outcomes related to learners' social, interpersonal, or meta-cognitive development)*

**Basic Principles – Aims of Education**

The primary goal of a school is to enable a student to live a fully-fledged life here and now, not just to prepare them for a life somewhere and sometime in the future.

The most crucial goal of education is to enable a human being to find own way of living. All the knowledge and skills one gains; all the habits and social roles one adopts; and all the partial goals one achieves merely serve the ultimate aim of finding one's own path, and of accomplishing one's life's mission. The first prerequisite of such a search lies in a child's emancipation in the field of his or her rights and possibilities, but also his or her duties and responsibilities. The second premise – a more pragmatic one – lies in setting up a system that would allow children to find their own way within the structure, and to decide independently about their proceedings; also, it should provide children with relevant short-term feedback reflecting on their decisions. This search for one's own personality is carried about in a number of individual decisions over the many specific tasks every child faces.

A school should educate young people in the broadest sense of the word. The perspective is thus not limited merely on life at this time and in this particular country, but prepares the students for a life as it might look in twenty, forty or sixty years anywhere in the world, and in any possible situation.

Education is not carried out primarily through words, but by setting up an example, by means of specific activities, by the environment and the people surrounding me, by the way I am.

Education must be a mutually enriching process both for the students and the teachers. Everybody learns from one another, and whoever is not willing to learn can hardly stay for too long at Nature School.

One's true fulfilment lies in the fellowship with others. Every individual should be allowed to find own place in a collective in which he/she feels at home. Everybody should learn to cooperate, to be enriched by other people and to enrich others in turn, to step out of the narrow entrapment of one's selfishness. The ultimate model of a successful and effective educational collective – a school – can be seen in the concept of the traditional large family, whose significance is generally fading, and whose role is thus being taken over by school.

Education and learning should be directed upwards – towards one's own transcendence. It is one's own transcendence that should represent the deepest orientation of a human being.

Generally speaking, our aim is to lead young people:

- to self-knowledge and self-education
- to be able to cooperate within a group, and to function effectively in various social roles (also in executive and organizational positions)
- to the perception of the surrounding world and to the inner identification with it – i.e. with the school community, with the home region, with humankind at large; to the internal acceptance of one's responsibility for all that; and to one's willingness to contribute to the good around us
- to personal courage; to one's readiness to fight for a righteous thing; to prefer offering help to others over one's own interests
- to be able and willing to learn new things, and to penetrate the essence of any matter; to be able to find appropriate information independently; to consider cross-curricular relations; to form one's own opinions; to search for the truth; to be able to create, express, and defend one's own opinion.

In the present-day world, the importance of the search for information, for their interpretation, and for team work is growing. Thanks to the many projects the students take part in and to the educational system as such our students learn to cope with such tasks.

Being aware of the quickening pace at which the world around us changes, we try to prepare our students for such changes, and we also try to teach them to learn new things.

Another significant aspect of the surrounding world lies in the absence of constant values, and the increasing general frustration on the part of humankind. The search for one's own identity and life position, the realization of the values "worth living for and worth all the effort" that we strive to pass on to our students, represents a crucial aspect of the system. The validity of our goals and the way we try to achieve them are testified by the positive feedback we get from people with whom we share the results of our work – parents, students and teachers of other schools, or members of communities that take part in our students' activities.

### **Learners**

*Which group(s) of learners is it aiming at? Who is eligible to take part? How many learners are there? What are their ages?*

Our school specializes in science, particularly in biology, chemistry, but also in geography and geology. However, also students whose study preferences lie within the field of humanities can assert themselves at our school. The study school tours provide a wide range of activities in sociology, history, theatre, and film-making (both feature films and cartoons) each students can choose from according to their interests.

Anybody who has passed the entrance exams and is willing to and able to accept the basic principles of our school and meet the ensuing requirements is eligible to take part.

Number of students: 65 in total (age 12 – 20). The maximum is 70 students.

### **Facilitators**

*Who are the teachers/facilitators? Who are the leaders? What are their professional backgrounds? What are their roles?*

The teaching staff consists of five women and six men. The average age is 32 years; the age spread ranges from 26 to 59 years.

The head teacher is in charge of the school as such. Many administrative matters fall within the responsibility of the school secretary, and a significant part of the administrative-technical (operational) tasks is divided among the teachers.

Most of our teachers either studied teaching programmes at specialized faculties (for instance Faculty of Mathematics and Physics – Charles University in Prague), or graduated from the Faculty of Education (Charles University in Prague) or at faculties of education at other universities. Several members of the teaching staff are trained specialists in various fields of study, and graduates of supplementary teaching programmes.

Apart from teaching, the teachers participate actively in the preparation and realization of individual projects (both within project Wednesdays and school tours). Considerable attention is paid to individual work with students, and much emphasis is put on the level of specialist guidance of students' works, both individual and team-work. The teachers' free time is also partly dedicated to school – except for the above-mentioned also in a number of voluntary trips and happenings with students.

### **Organization of the ILE**

*How is learning organised? How do learners and facilitators interact? What kind of pedagogy do they follow? What curriculum is used?*

Curriculum: Educational Plan “Nature School – the Way is the Target” /available at school web pages/.

The learning process consists partly of the traditional classroom training divided into lessons, partly of school cross-curricular projects carried out at school, during school tours (these make up about one and a half month of every school year), or during the weekly “project Wednesdays”.

The curriculum of most of the subjects is divided into several thematic areas – the so-called study requirements or conditions. Every student has to prove his or her knowledge within a specific area by meeting the appropriate study requirement, i.e. by passing a written test. Supposing that the student is not contented with the result, he or she can take a re-sit within ten days. If the student does not write the test, oral examination can be used instead. Some study requirements consist for instance in the preparation of an experiment and its execution and explanation in front of the class; in the observation of plants or animals and an ensuing observation report; in an oral report on a chosen topic; one can meet a study requirement by presenting one's properly kept notebook or one's portfolio; by creating a teaching aid; by proposing and carrying out an idea concerning the covered topics, etc. There is a specified list of study requirements each student is bound to meet in every subject within a three-month period (usually 4 to 6 in every subject). It is up to them to choose the right time for each of the study conditions.

The interaction between students and teachers at our school can be qualified as exceptional. Teachers spend a lot of time with students even outside lessons on many occasions: during project work, during oral study requirement examinations, and also on school tours where students sometimes take over the role of teachers, giving lectures or preparing programmes for their peers, and enabling the teachers to assume the roles of advisors and co-operators.

We build on prior learning, particularly as far as the previous experience of children from youth clubs (co-operative skills, orientation in the countryside), sport clubs (physical efficiency, team work) is concerned. A certain amount of previous knowledge from basic schools represents one of the basic prerequisite of one's future study at Nature School, and also constitutes the groundwork upon which new knowledge acquired in individual subjects is based.

Those students who enter our school with a specific strong interest or with exceptional knowledge and abilities in a certain field can become members of specialized teams that help with the preparation of projects; later on they take part in peer-teaching activities, and come up with their own ideas as to the direction and focus of future projects according to their interests.

The evaluation and organization system of education at Nature School (the so-called “study requirement system”) compels a student to organize - individually or with the help of others - his or her process of knowledge acquisition and verification. Selected areas of the curriculum are obligatory for all students, who, however, can decide about when to prove their knowledge.

Other areas are obligatory-selective – students have to meet a given number of requirements, but they can choose from more possibilities, and thus actively direct the course of their education.

Various matters concerning the learning process – and, more generally, the process of education as such – are regularly discussed by the members of the Student Advisory Board who are also allowed to take part in teachers' meetings. Those students who express their interest in such activity are allowed to take part in the preparation of school tours, or in the preparation of individual lessons. Also, the topics and specific forms of research and art projects are directly shaped by the students themselves.

Peer-teaching also plays a very important role – students teach one another at breaks, before school or in the afternoons. This peer-teaching mechanism is entirely in the hands of the students; direct involvement on the part of teachers is minimal.

Students in upper level give lectures to younger ones. Of course under the supervision of our teachers. (the so-called “teaching practice“). Each student has his/her own older student (patron) who helps him/her with the study.

In research and art projects there is huge responsibility for a leadership of particular teams delegated directly to experienced students. They teach their less experienced schoolmates.

Motivation to learn is built on following principles:

- 1) Clear structure of study requirements in particular subjects (the study requirements system) + delegation of responsibility for study achievements to students.
- 2) Students participate in the preparation and organization of the educational process.
- 3) Connecting the results of the educational process to the future students' development – participation at the project Expedition, helping other students etc.
- 4) We use activating teaching methods, particularly at projects (team work, experiential education).
- 5) Accent to usefulness of educational achievements for students – presentation of the results of projects at schools, art shows, cooperation with children's home etc.

Our school system is inspired by several pedagogical systems but none of them is accepted completely. For example we can name Scouting, Dalton Plan, pedagogical system of J. Korczak and many others.

Discovering and problem solving methods are inherently parts of the educational system of Nature School. We can see that on many occasions - during classes (for example during a debate on latest political problems), during examination (conditions focused on observing animals or plants, experiment preparation work), at school tours (art work - film, theatre; first aid training), within the scope of project Wednesdays, but above all at the School Expedition (a month long project in which students work in co-ed teams on their own research or documentation themes. Their work includes defining of problems and objectives, defining of methods of the process, data collection, their analysis, interpretation and presentation.

The project School Expedition is divided into three phases.

1. At first, teachers together with students choose a destination. Then students choose the topics of their work. Teachers just supervise the process and approve the teams. Students usually choose biological (animal mortality on the roads, relation between the forest diversity and the diversity of animal species), cultural (history of the monastery in Tepla) or mixed topics (influence of the monastery on the landscape development). The first phase is finished with literature search, designing of the methods and preparation work (foundations, equipment).
2. The second phase is a phase of research work which lasts two weeks in the chosen destination.
3. In the third phase students analyze and interpret the data, create Power Point presentations and prepare own presentations at first for their colleagues and parents then for the public of the destination which they researched.

Lots of projects are focused on emotional experience and its development. In that, the atmosphere of our school plays a very important role. It is hard to prove that perhaps we can say that our students like being at school. Our school tours, where students and teachers live together last 1, 5 month (altogether) in a school year, are very important as well.

Emotional development can be well observed during the cooperation of students and teachers at the school tour focused on art projects. There students (in co-ed teams) make films or cartoons, rehearse stage plays and present them.

That emotional aspect can be found even in other projects - for example project Shoa focused on fact analyses wanted (as a side objective) to bring closer to students an emotional atmosphere of the times.

Social development forms the base of our pedagogical system - work of the Student Advisory Board, system of patrons (mutual help of students), peer learning, team and co-ed work etc. Social skills are developed in particular at cooperation with the Children's Home in Pysely. Many cultural events organized by our students or active cooperation with local authorities on current topics prove that our system of social development works well.

The system of Nature School intuitively supports the development of metacognitive skills (enables students to manage their educational process). Lately, we have been working on that systematically. As an example we can mention meetings of students with some external experts and supervisors of projects where they discuss pros and cons of their work and how to gain better results.

We try to create such conditions which could be motivating for a wide range of students helping them to reach their individual goals. But nobody can move forward without his/her own effort and we do not want to substitute that process. Each student is an individual and we want to use this as an advance in our pedagogical effort. Our school offers much more individual and team activities than normal schools and we try to involve as many different students as possible to the preparation and realization of them. Skilled students help the others with their study, those who are good at organization help organize school events and projects, some students provide equipment and logistics at school tours. Wide ranges of themes of projects enable students to choose in accordance with their preferences.

### **Learning Context**

*In which context does learning take place? What does the physical learning environment look like? Are community resources used to facilitate learning and how?*

Our school is really small. We rent one floor in the school building of the Frycovicka elementary school. Each class has its classroom. Further we have three staffrooms and two language studies. If we need more workspace we rent them from the elementary school when needed. All students go swimming to the swimming pool in Holesovice which is nearby.

The educational process partly takes place in the school building. But an important part takes place in other locations – museums, libraries, theatres, exhibitions or excursions to companies (for example Czech energetic focused tour took place in thermal, water and wind power plants), resorts (regular first aid training), transport vehicles, meetings and particularly in the nature (a week-long tour in tee-pees , trips, school expedition).

Our school supports a long-term cooperation of our students with the Children's Home in Pysely, Faculty of Biology and Faculty of Education of the Charles University in Prague. We contact other organizations for short term cooperation when needed, usually at projects. Last year we cooperated with the civic association Czech West (gypsy affairs), Becov and Touzím Castle Administration (civil-historical research), Tepla Monastery Administration (research of collapsed villages), Elementary School Tepla (environmental programme for their students) etc.

Some parents of our students are members of the School Board and Board of Administration (the school is a civic association). Both the boards can significantly affect our school work. Numbers of parents participate in providing some school activities - external experts, fundraising, sponsoring, technical support of school tours and excursions etc.

We discuss the philosophy of our school with parents at regular meetings. Parents are often invited to school events - particularly to School Academy and public presentations of projects.

### **History of ILE**

*Who initiated it? For what reasons was it started and with what purpose? Have these changed since?*

It was initiated by the current headmaster Frantisek Tichy, who had been developing the system of Nature School (in Czech language Prirodni skola) already for the purpose of his thesis before the school was founded, and who had also tested elements of the system in his work with children collectives (school camps, summer camps).

After the fall of Communism in 1989, the structure of school education changed only very slowly, and modern teaching approaches were very difficult to put through. Mr. Tichy tried to propose such changes at state schools himself, but to little success.

The post-revolutionary Czech educational system did not pay appropriate attention to the personal development of young people; to the training of cooperation and active participation in the learning process on the part of the students; and, also, to their own observational and experimental activities. The easiest way to go about this was to found an entire new school – small as far as the number of students and teachers is concerned – that would prioritize these principles right from the start.

Even after 16 years the main reasons have not changed. The actual transformation process of the Czech educational system in the view of the above-mentioned aspects is very slow; and therefore the emphasis we have always put on these values remains as strong as ever. Over the years, moreover, the importance of the social and personal facet of education (as opposed to cognitive) has generally increased; and so have also the demands on the level of expertise both in classroom education and in cross-curricular projects (research or art). The quality of the material resources and equipment available for educational purposes is gradually improving, as well.

The teaching staff being quite small (around 10 people), the transformation – or rather the execution – of the pedagogical principles concerns the whole collective. Mutual confrontation and coordination of the learning process takes part at regular meetings (several times a month), during annual summer five-day gatherings, and on many informal occasions both at school and during school tours. Upcoming problems are discussed over on a regular basis; each of us is responsible for individual aspects of the process, so that every member assumes an important position within the team.

### **Funding of the ILE**

*How is it funded?*

Our school is financed from three sources. The school budget is dependent on the first two of them.

1. State subsidy guaranteed by the School Law (provided by Municipal Council of Prague) – salary financing.
2. School fees, paid by parents of students – financing of operational payments, equipment etc.
3. Sponsoring.

### **Learning Outcomes**

*What are the learning outcomes achieved by the ILE, including academic, social, interpersonal and meta-cognitive outcomes? How is learning assessed?*

We get information about cognitive knowledge directly from students' reactions, tests, oral examination and portfolios. Each year we participate in comparative testing organized by educational agencies SCIO and Kalibro.

As for social, metacognitive and other skills of our students, we do not gather the information systematically, but our students show them in everyday life at school and school tours.

For example they regularly (several times a year) organize free time activities for children from the Children's Home in Pysely. If needed, the information can be found in research works and a student magazine.

Once in three months we usually monitor how the students meet study requirements and conditions. Each student is evaluated when fulfils all compulsory conditions and a given number of optional ones. The results are monitored by testing, oral examination, evaluation of portfolios and evaluation of practice (recognition of products of nature, performing of experiments, observations, model researches).

We continuously use a formative evaluation particularly at school tours and the school expedition. The evaluation is usually realized by feedback on current work. Some of the teachers use that evaluation more, some of them less than the others.

We still do not develop students' auto evaluation in a formal way but it exists informally at the school expedition where students take over the responsibility for organization of their research work. This is the way which forces them to evaluate the processes, daily results and planning to control the work.

### **Documentation describing or evaluating the ILE**

*Is there documentation on this learning environment? Is there a website? Films? Research reports or evaluations? Other forms of documentation? (please supply references or links)*

School documents are organized in several ways:

- a) In annual reports (annual evaluation, inspections etc.). They are worked out for state authorities by law.
- b) In evaluation reports of school tours and photos from school events.
- c) In project outputs. Such as research works, expedition magazines, posters, presentations and public lectures, films and stage plays.

There are two web pages of our school at the moment. The official one and the students' pages. The students' pages are much more up-to-date, offer more relevant information for students and are more attractive as well. The official pages are a bit outdated. We are working on their reconstruction to reflect contemporary conditions.

Other forms of a school presentation are posters (about school or particular projects), web pages (the official and student ones), project outputs, expedition magazines, films and associated web pages of other people and organizations. We present them at exhibitions held to the projects, student presentations at schools and other events.