



Projects under the magnifying glass



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Introduction

The goal of the work titled " Projects under the magnifying glass " is to get to know the project method in practice. Beforehand we had discussed what do we know about the method and what questions do we have regarding its applications. We made our observations at the Science Fair in Szeged, which was a part of the Finnish StarT project, where the participating institutions showcased their projects to each other and those interested. After the presentations we could try out the tasks that had been carried out during the projects, and we could talk to the participating teachers and children.



What we already know

It is a motivational method. It is based on the interest of the students, the cooperation of the teachers and the students, and the learning process is implemented through a series of projects. It is inter- and multidisciplinary. It can be used in the teaching of every subject, and it lets the students utilize their knowledge of several subjects. During the projects the students examine the topics from a broad perspective through problem-centric and activity-oriented tasks. The teacher plays a facilitative role, and participates in the projects as a helper and an equal partner.

What we would like to learn

- How was the topic selected?
- Was it in connection with the class material?
- Who were the participants? Why?
- How much preparation was necessary?
- Did the additional workload cause difficulties?
- How much funding did the project require?
- To what extent was the implementation overseen?
- How long was the project?
- Were the students open to the method?
- Was there enough time to carry out the project?
- How much did the actual implementation differ from the original plan?
- How did you differentiate? How was it implemented?
- How successful was the cooperation?
(between teachers, between teachers and students, between students)
- To what extent did the teacher consider the students' opinion at the different stages of the project? – How much freedom did the students have?
- Were other people involved besides teachers and students?
- What do you remember about the planning and the implementation? (similarities, differences)
- What would you change? What would you keep?
- Were you satisfied with the final product? – Were you proud of the results?
- How was it useful?
- What skills did the project develop?
- Did you get to know the students better?

Kindergarten projects

Szivárvány Kindergarten

Kistelek

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The project method is not an unusual form of instruction in the Szivárvány Kindergarten, as the institution uses the method regularly throughout the school year, therefore joining the Finnish StarT program seemed to be a good opportunity. In the kindergarten each week has its own theme in connection with the current season or holidays. The teachers chose two projects to be presented, "The Mathematics of the Chestnut" and "Winter Health Week". Both of these projects were carried out in the Munchkin group.

The Mathematics of the Chestnut

How does mathematics fit in kindergarten education? Why the chestnut? These questions, and many more came up when we started our observation. The program aimed to develop various different skill areas. The main focus was on mathematics, but the

other tasks of kindergarten education were not neglected either, such as group activities, cooperation, helping each other, arts education, environmental education, and health education.

The chestnut was an ideal choice for the teachers since there is a huge tree next to the kindergarten, on which the students can observe the change of seasons. The kindergarten has already organized a number of projects for children, as every week has something interesting to offer.

But how did the relationship of the chestnut and mathematics start? According to the group's teacher the first and most important step was collecting chestnuts, and that was followed by various games. There was a chestnut-throwing competition. At this point the first mathematical concept was introduced: distance. They observed how far each of them can throw the produce, then they measured the distance with their own little steps. Then the children compared the distances.

Later they used the chestnuts to build the figure of Kippkopp, the little chestnut man. All the employees of the kindergarten took part in the preparations for this task, making the job of the teachers easier. One of the keystones of the arts education was building Kippkopp, as well as creating and decorating his garden. The other keystone was music, singing, dancing, and rhythm. The rhythmic exercises with autumn produce and playing music together helped in developing rhythmic skills and forming the community.

One of the most important goals was the integration of the daily Physical Education classes into the project, and connecting them to mathematics through exercises in which the children had to arrange the chestnuts in geometric shapes, then used the chestnuts in gymnastics exercises.

During the sessions the children found out about the concepts of weight

and shape, and they observed which chestnut has the most spherical shape and how much they weigh. They made chestnut cookies as well, which required various ingredients. These ingredients were in different states of matter and had to be measured differently.

The kindergarten teachers and the aides had exciting tasks in store for each day of the week, and the children were excited to participate. The sessions have been organized with small groups in mind, but all the interested children could participate.

The idea was really convincing, since it became clear from the picture and the way she talked that the kindergarten teacher is really dedicated to her work. The project as a whole was really inventive. It is incredible how much the children can learn if it is translated to their language.

In the Arany János Primary School we could try a few of the exercises, like recognizing the produce, leaves, and foliage of different trees, and completing a jigsaw puzzle of Kippkopp. The stall had been decorated with drawings and photos that gave us a look at the project.



Winter Health Week

The focus of the project was on healthy lifestyle and it incorporated activities aiding motor development, creating art together, and a visit to a health centre. The children made posters on healthy and unhealthy foods, found out about the job of the local nurses, and they had their height and weight measured, and their blood pressure tested. The teachers organized an open health day, where, the children did gymnastics exercises together with their parents. They learned about their internal organs (e.g. heart) through playful activities and made herbal tea together.

Since the project method already serves as the foundation of the kindergarten's education they did not have to look for a time, place, and participants. Due to the characteristics of this age group the children require more oversight during the activities, and their motivation solely depends on the enthusiasm of the teacher. Since there is no strict curriculum the teachers can be more flexible with the program and they can adapt the session to needs of the

group. The parents were involved in a lot of activities, and the teachers tried to motivate them to participate throughout the year. Most of the necessary tools and materials were available in the kindergarten, and all additional expenses were covered by the group money.

At the project presentation we and the schoolchildren could try some of the activities the kindergarten children had participated in during the project.



Teacher's comments

"The teacher organized the exercises and the material in a very logical way, it was clear that she is really experienced at this. The tasks were diverse and exciting. The location and the presenters made the project even more interesting. Getting to know a project so successful was a great experience. During my work I'd like to use this method because I saw that it can help in developing a wide range of skills."

„Working on the project, we had a chance to work with classmates we weren't really close to before – we got closer to each other. Working as a team has really brought the class together.”

Primary School Projects

**Teacher Training Primary and
Grammar School of the University
of Szeged,**

**Arany János Primary School
Szeged**

Zsófia Ferencz, Bettina Földes,

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We studied two elementary school projects, both of which are linked with several ties to natural sciences. Their aim was to make sure that the children would grow up to be responsible, environmentally conscious citizens who help shape the future.

The devotion of all participants played a very important role in the realization of both projects. The schools' administrations provided the necessary conditions and established the necessary professional contacts. The teachers coordinated the work of their classes and communicated their students' ideas. Students threw themselves into their projects with great enthusiasm. Parents' support was also vital for the success of the projects. Both teams received help from different organizations. These organizations share a sense of responsibility for the future, and they

were glad to help the schools to bring their ideas to life.

Although both projects were coordinated by the teachers, they did it so skillfully and with such empathy, that the students did not see it as an obligation and were glad to participate. Together they created a welcoming atmosphere, where everyone worked to achieve their goals, which they did with ease.

Students were aware that their teachers also put a lot of energy in the projects, and they were grateful for their efforts. Conversely, teachers appreciated their students' hard work. The forms of evaluation included formative assessment and even small prizes. The participants from both schools felt proud of what they created together, and had fond memories of the programs and working with the others.

The project method is regularly used in these schools, to treat various subjects, over various periods of time. Students and teachers are all feeling increasingly confident when working on projects. It is important to emphasize, that this method allows students to gain knowledge that is not included in the regular curriculum in Hungary in an experiential way. The project method gives schools more opportunities to get

to know their students, to improve their strengths, and to reduce inequalities. The method is ideal for differentiation; its complexity allows each student to find the role that fits them, which gives them confidence – and this confidence is the key to improvement.



Mysteries of the Multifaceted Forest

"THE FOREST IS THE ONLY LIBRARY
IN THE WORLD THAT PROVIDES YOU
WITH KNOWLEDGE EVEN WHEN
YOU ARE QUIET AND WALKING IN IT
WITH OPEN EYES."

*Dr. László Madaras, forest
engineer*

This was the slogan of the project of Teacher Training Primary and Grammar School of the University of Szeged, which involved a wide range of in-class and extracurricular activities. The creators of the project aimed to shape the way the students see nature and impart knowledge they can use in their daily life to be able to see nature as whole. The focus of the program was on understanding living beings and the relationship between certain phenomena. Besides acquiring knowledge the students took part in activities that helped them grow to like lesser-known and less popular animals. Through this experience the children learned to be more sensitive and tolerant of alterity.

The participants were 2nd to 4th grade students. It is a long-running program, and the teachers have acquired a lot of experience throughout the years that helps them in constantly improving the project. This made us realize that as prospective teachers we should always be open to learning new things and be ready to make changes in order to achieve better results in the future. Enthusiasm and creativity has no boundaries if it comes from the heart. This was clearly visible in the programs organized for the children and the way the final products were assessed.

The teachers told us that the project was generally low-budget, but the value of what it offers could hardly be

measured in money. We asked the children what did they get out of the activities. Several of them mentioned that now they are more confident in front of a crowd, the community has become stronger, and they have become more helpful and open towards each other. They got to learn about their own strengths, as well as their peers'; they have discovered their talents (which the teachers will be happy to improve in the future), and finally they have grown to love nature for the rest of their lives.

The fact that the children for whom this was the first time they experienced the project method would be happy to participate in similar projects in the future indicates the success of the project. The theoretical advantages of the methods have been proved in practice. The teachers got to know their students better, and the children also got closer to their teachers, as well as each other. Learning was easier and more effective with this method, it was enjoyable for everyone involved, and the students will be able to use the acquired knowledge in their daily lives. These new experiences will stay with them for a long time, making their lives a little more full.



A Bird-friendly Garden

Just like the previous one, this project involves children from different grades, it is improved continuously, and always aims to widen its student base. Adults and children are working together on making the urban school eco-friendly and sustainable. Three sub-projects are being carried out in the Arany János Primary School. One of them is composting, with one participating class, and they produce premium quality material. The second one, the herb garden involves mostly 1st to 4th grade students. This project is often used for in-class activities as well. The third project is the creation and maintenance of the bird-friendly garden with 370 participating students. The projects are interrelated, they augment each other.

The goal of the project's creators is to create an aesthetically pleasing environment for students, teachers, birds, and flowers alike. They are teaching the students to love nature and be responsible. They impart knowledge and experience that helps the students become responsible citizens and people who value the treasures of nature. We would be happy to see the kind of dedication these children show for nature in every school. The school aims

to set an example, so that others who have the means would start projects like this, since many people would support these initiatives

either financially, by providing professional aid, or with their enthusiasm. This project is supported by various organization and the parents. The school puts a lot of effort in maintaining its relationships, which is another example to follow.

The project method once again showed its numerous merits. The cooperation between students and teachers has been extremely successful, it can be felt in the school's atmosphere

that they trust each other. Children, big and small work together really well, they are considerate of each other. The older children help the younger ones, so they learn to be patient, while the younger children grow more confident. According to the teachers these processes fuel themselves. We also examined the ways of developing cooperative skills in the project, and we found several ideas we will be able to use in the future. We were not sure how open the teachers and

students are to the project method, but we received a reassuring answer. At the university we learned about non-traditional teaching

methods that are alluring to teachers due to their skill development potential and enjoyability, therefore we were happy to see that a project this complex can be realized with enough enthusiasm and dedication, and it is not only possible in theory.

We also asked the project organizers how much funding they required to carry out the project. We received an answer similar to the one we got in the other school, that it can be



considered low-budget. However, the acquired knowledge, experience, and the values imparted to the participants – not only to the students – are far more valuable. The school received a lot of financial support from organizations, the parents, and the school's own foundation also supported the program.

The project method has satisfied another criteria as well that we find very important. We asked the participants how much could they improve during the activities, which skills did they develop, and what new strengths they found in themselves. Children and adults alike proudly listed the changes they experienced. Besides the amplified factual knowledge many of them mentioned increased confidence and development in social relationships.

We were amazed by both projects because of their creativity and child-centeredness. These experiences encouraged us to use this promising method in the future, when we will be working as teachers. However, the most important thing that we saw was the atmosphere of trust between the children and the teachers that is full of possibilities and friendship, and promises continuous renewal.

Teacher's comments

"Nowadays, school also fulfils the role of the family, so it has an increasing role in the development of children. The Arany János Primary School offers students various after-school programs, where they are taught to care about nature and can acquire valuable skills such as cooperation, discipline, and precision. During the interviews, we constantly saw the enthusiasm of not only the teacher but also the students. It was truly amazing to see them in the school's garden, choosing to participate in the programs or projects instead of, say, hanging out on social media. I think this is what future schools should look like – schools that students enjoy attending; schools that do not simply focus on information-based education."

„It's better to work in groups because we pay more attention to the questions, and it's reassuring to know that we can count on others to help us.”

High School Projects

Alternative Secondary School of Economics Budapest, Teacher Training Primary and Grammar School of the University of Szeged

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Two projects have been submitted to this age group. The project done by students from the 9th year of the Alternative Secondary School of Economics in Budapest was entitled “Adapting? Or effecting change?” aimed to inform people of the best possible ways to adapt. The students created statues from waste, short films and a mobile application. These works can function very well as an eye-catching advertisement and they are fit for this modern, digital age. Learning about new methods and ideas is certainly

beneficial for students, and it might prove useful to them later. The project of a 10th-year class from the Teacher Training Primary and Grammar School of the University of Szeged entitled “In search of Vitamin C” enabled students to get familiar with experimenting in a laboratory and to learn more about the life of Albert Szent-Györgyi.

Students worked in groups of five, trying to detect vitamin C in various fruits and vegetables, which they ranked based on their average vitamin C content. As a field trip, they visited the memorial room of Albert Szent-Györgyi, attended a lecture at the university, travelled on a tram advertising vitamin C, and even received free samples from a medical company. We find it important to get students accustomed to the process of experimenting early on because it helps them develop a scientific mentality.

The most important aspect of the project method is choosing which topic to work on with the students. It is crucial to



choose a topic that the teachers are well versed in so that they can provide the students with relevant information. However, it is no less important for the task to be understandable for the children, and to be centered on a topic they are interested in. In the interview, both students and teachers have said that teachers only gave ideas and it was students who decided on the final version. Students were happy to have a free hand while choosing their topic and the teachers did not mind adjusting to their decisions. It was wonderful to see students and teachers make even such an important decision in harmony. In our view, the project method is a great way to develop a healthy relationship between students and teachers, and they can get to know various aspects of each other's personality.

The other crucial moment of project-work is forming groups. In both



teams, students could choose their group, which they really appreciated, because it allowed them to work with their friends.

In this friendly atmosphere, they could loosen up, which we consider very important. The teachers made the right decision when they chose not to interfere. Students also successfully dealt with the occasional problems. If someone could not make it to one of the events, they changed the schedule so that they could still finish their task.



The greatest advantage of the project method, as opposed to other, traditional methods, is that students receive information in a different way and in a new environment. This complex, experience-based method that uses hands-on tasks helps students retain more information.

During our conversation with the teacher managing the project, we realized that the project must have required a lot of organization. There is an infinity of tiny details to be reckoned with to ensure a smooth operation. First, the teacher has to do a huge amount of

work in preparation. During the project work, she stays in the background and assumes the role of the silent observer, and, occasionally, facilitator. Many works claim that “the project method has a motivating force.” We used to think that it is merely one of the many ways to motivate students, albeit a rather good one. However, now that we have seen it, our opinion has been fundamentally reformed. There is more to this method than simple motivation. As a teacher, seeing the children’s face light up with joy when they talked about their project makes up for all the difficulties.

When we introduce a new method, it is important to describe it in detail to the participants and to make sure that they are also emotionally engaged in the process. Based on the students’ responses, it seems that the new method was well received, and students enjoyed participating in the project work. Naturally, they were a little reluctant initially, but at the end of the project, they were really positive and said that they would participate in a similar project.



Teacher's comments

"I was moved by the story of one of the little boys. He told me that before the project he wasn't very confident, he was afraid to speak in front of the class during lessons. Now he has so much confidence that he often volunteers to do exercises at the blackboard. This is the best feedback a teacher can receive about the success of the project. The project method proved to be able to develop skills besides imparting knowledge, which is really important for primary school students."

Final Thoughts

We learned a lot while working on our project “Projects under the magnifying glass” and we had the opportunity experience firsthand where theory ends and practice begins. The students’ different projects proved without doubts that the project method requires a really complex way of thinking from teacher and students alike. However, the project method can also be described as complex in the sense that it enables students to learn about the same subject from multiple perspectives, as demonstrated by the mere diversity of the submitted projects. The method is multidisciplinary, as it involves multiple disciplines; and interdisciplinary, which means it can be used to teach different subjects. Since it allows more freedom to students than other, frontal methods, it is more suitable for motivating them and developing their abilities. The method also clearly has a positive effect on the student-teacher relationship. All respondents said that working together had improved their relationship with their teacher or students. We can say that the project method brings groups together through experience-based and problem-centred tasks. A successful application of this method takes a lot of planning and organizing from both teachers, students and outside partners, but is greatly facilitated by a supportive atmosphere.