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WSPÓŁWYDAWCA: FUNDACJA PROMOCJI I AKREDYTACJ KIERUNKÓW EKONOMICZNYCH


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# The organization of the 'Little Medic' project in the opinions of teachers – group tutors

*The project on the popularization of the life sciences among children from primary schools – the 'Little Medic', has been implemented for six years as part of the cooperation of the Poznan University of Medical Sciences and the Polish Academy of Children (PAD). In the Spring semester of the 2016/2017 academic year, the workshops carried out as part of the University of a Young Explorer were also included in the project. The whole initiative is non-profit. The classes are aimed at children between 6 and 12 years of age and are based on promoting autonomy and creativity among the youngest students. Their goal is to stimulate cognitive activity, popularize knowledge and maintain children's primal curiosity about the world. The participation in the project enables children to get access to the latest achievements of science and scientists, as well as to develop their scientific passions.*

*Additionally, it provides an opportunity to share the passions with peers in unique circumstances. Thanks to this, learning becomes an incredible adventure and a personal experience for children. It is also a new didactic experience for academic lecturers because children are entirely different recipients than university students.*

## The outline of the 'Little Medic' project

The classes organized within the project take place once a month in the hall of the Congress and Teaching Centre of Poznan University of Medical Sciences and last 90 minutes. Children participate in the cycle of classes together with school teachers who nominated them for the project. Little Medics meet regularly from October to June, discover the secrets of medical knowledge and share their passions and interests with their peers. The objectives of the project are presented in Table 1.

During the academic year, young students take part in 18 lectures, conducted both by the academics as well as by their peers. At the beginning of the academic year, during the inauguration ceremony, they take an oath, sing the students' hymn Gaudeamus igitur and receive their indexes, in which they collect stamps during the year – the entries. Children actively participate in classes, giving lectures to their peers (the youngest lecturers are 7 years old) and helping to organize meetings on a voluntary basis. During the formal vote of acceptance at the end of the academic year, they receive diplomas. Table 2. presents the framework program of the meetings.

**Table 1. The mission of the 'Little Medic' project**

| |
|---|
| – supporting the development of the scientific potential of children and youth |
| – enabling access to the latest scientific achievements and scientists |
| – arousing interest in medical sciences and familiarizing the young students with the basics of research methods |
| – developing children's scientific passions and providing the opportunity to share them with peers |
| – promoting healthy lifestyle and pro-health attitudes among children |
| – shaping healthy eating habits and hygiene among children |
| – presenting knowledge in the field of human anatomy and body functioning, medical rescue, diagnosis and treatment of diseases, prophylaxis, and pharmacy |
| – university's promotion |

Source: Author's own study.

In the academic year 2015/2016, the children's university activities were expanded by a research projects competition for Little Medics. It is aimed at school groups that have taken up research on any topic in the

**Table 2. The framework programme of the meetings**

| Registration of participants |
|---|
| 20–30 minutes: the lecture by the Young Speaker |
| 10–15 minutes: questions to the speaker |
| 20–30 minutes: the presentation by an academic lecturer |
| 10–15 minutes: questions to the speaker |

Source: Author's own study.

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field of broadly understood natural sciences and are willing to present how they planned their research, carried it out and what results has been achieved. That is to encourage children and their teachers to actively participate in the project, not only through individual presentations but also by group co-working in school conditions[1].

The students of the 'Little Medic' project participate in other projects as well. They take an active part in the annual International Conference for Children in Gdansk. *During the conference, specialists from various disciplines conduct academic lectures and workshops for students between 6 to 12 years of age. Young Scientists aged 6–12 years have an opportunity to share their scientific passions during their lectures and workshops by presenting their knowledge to peers and adults* (Polska Akademia Dzieci, 2018). They also participated twice in the 'Lectures of Free Children' within the scope of Poznan Malta Festival. The project organizers have been cooperating with the Redemptoris Missio Humanitarian Foundation for several years. Every year, young students are also involved in the 'Bandage to the rescue' campaign, promoting it in their schools. Thanks to the involvement of students and teachers participating in the project, many dressing materials are collected for the Foundation. In this way, volunteering is promoted. The project organizers also established cooperation with the Bone Marrow Team – an organization supporting and promoting the bone marrow donation, conducting educational activity on hematopoietic system diseases treated with bone marrow transplantation. Some students' organizations (listed in Table 3.) support the project as well. Their members serve as volunteers and help to organize the meetings.

## The opinions of teachers participating in the 'Little Medic' project

The surveys have been conducted every year since 2013, at the turn of April and May. Their goal was to get to know the opinions of teachers participating in the 'Little Medic' project on the usefulness, quality, organization, and conditions for conducting classes, the proposed thematic scope and the competences of lecturers and coordinators. Additionally, in 2017/2018, an additional questionnaire was prepared to obtain better characteristics of the participating groups (students and their teachers).

### Research material and methods

A total of 177 teachers (169 women and 8 men) and group supervisors participated in the research carried out during the six years of the project's activity. The respondents were representatives of 92 schools – including 66 from Poznan and 26 from other cities in the Wielkopolska Voivodeship (Table 4.).

Seven questions were assessing the usefulness, quality and thematic scope of the classes, the competences of lecturers and coordinators as well as learning conditions and classes' organization and a few socio-demographic questions included in a questionnaire. The answers were categorized on a scale from 1 to 5, with 1 meaning very bad and a 5 very good. A more detailed survey aimed at obtaining the characteristics of project participants was conducted in the years 2017–2018. It contained additional questions related to demographic aspects as well as teachers' qualifications and professional experience.

**Table 3. Student organizations involved in the project**

| Organization name | Type of the engagement |
|---|---|
| IFMSA – International Association of Medical Students | registration of participants, then organizational aspects of the meetings |
| Students' Scientific Circle of Ethics and Bioethics | registration of participants, then organizational aspects of the meetings |
| ASRiMK – Academic Rescue and Disaster Medicine Society | Ensuring safety during the meetings, organizing the rescue presentations at the end of the project |

Source: Author's own study.

**Table 4. The 'Little Medic' project in numbers in the years 2012–2018**

| Years | 2012/2013 | 2013/2014 | 2014/2015 | 2015/2016 | 2016/2017 | 2017/2018 |
|---|---|---|---|---|---|---|
| Number of participants | 380 | 380 | 380 | 390 | 400 | 400 |
| Total number of schools | 17 | 16 | 16 | 15 | 15 | 13 |
| Schools from Poznan | 10 | 13 | 12 | 12 | 11 | 8 |

Source: Author's own study.

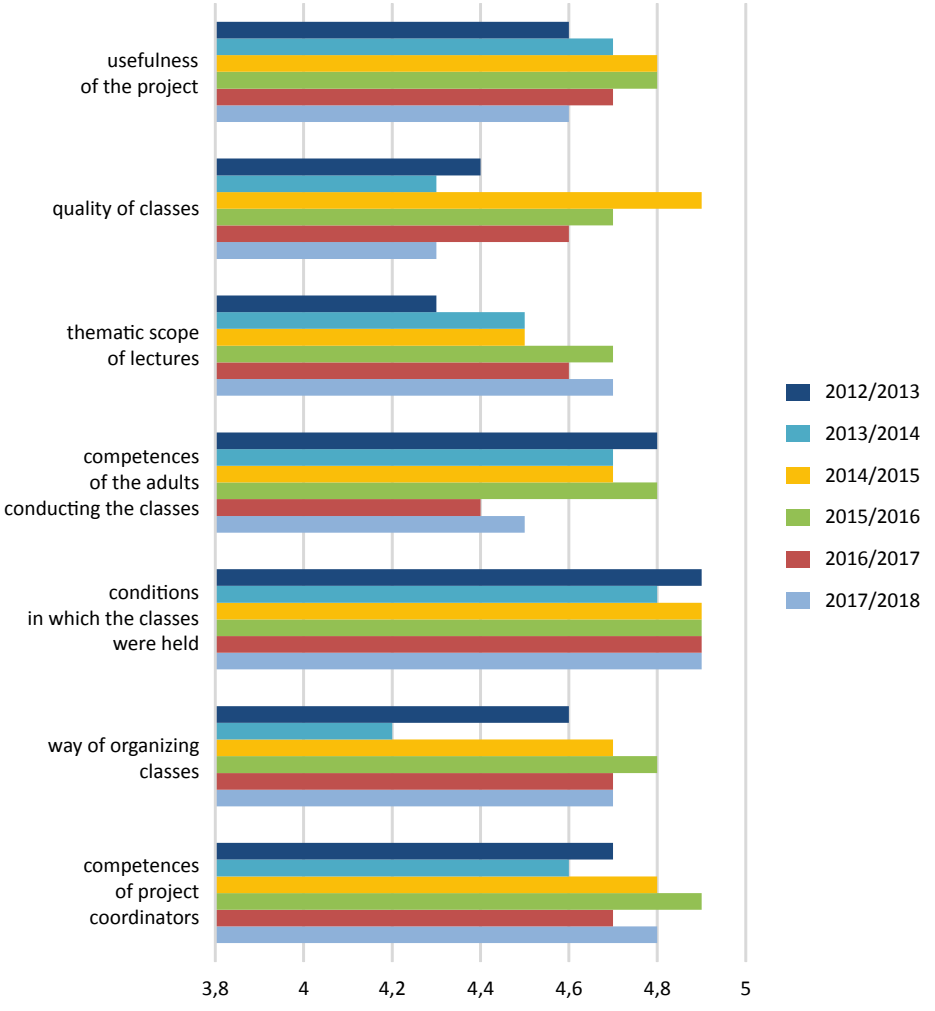
[1] The promotion of the project takes place mainly via the internet, through the 'Little Medic' website (http://malymedyk.ump.edu.pl), containing information about the project and on Facebook, (https://www.facebook.com/MalyMedykUmp), where one can find news, meetings and photo galleries.

### The results of evaluation surveys in the years 2012–2018

Figures 1–8 present the average ratings regarding different aspects of the project, such as:

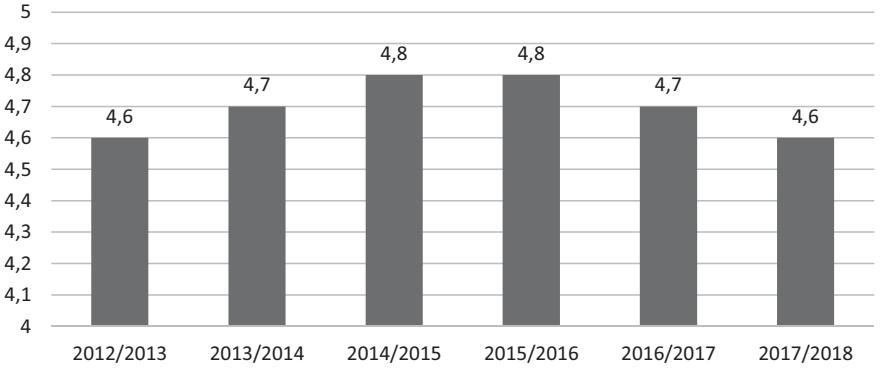
- the usefulness of the project;
- the quality of classes;
- the thematic scope of lectures;
- the competences of the adults conducting the classes;
- the conditions in which the classes were held;
- the way of organizing classes;
- the competences of the project coordinators.

**Figure 1. Average evaluation of the project, in subsequent years**




Source: Author's own study.

**Figure 2. Evaluation of the usefulness of the project in subsequent years**




Source: Author's own study.

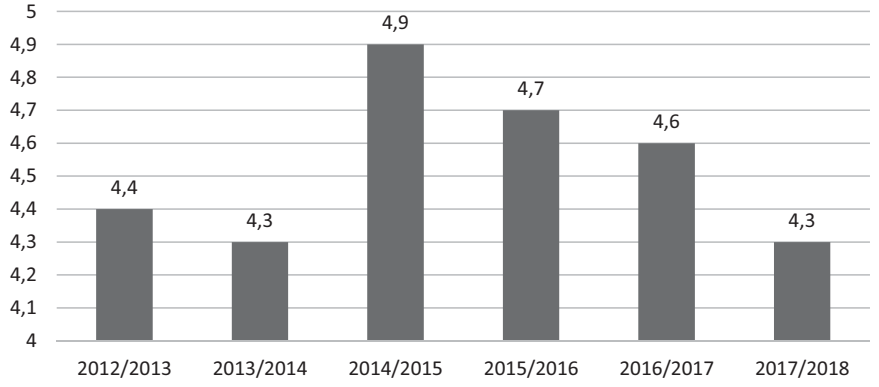
Every year, from it's very beginning the project was very well evaluated by teachers, the lowest average grade was 4.2 and it concerned the organization of classes in the academic year 2013/2014.

The assessments in individual years of the project in all analyzed aspects are very similar.

Teachers-tutors rated the project above average in all categories, and the conditions for conducting classes reached the highest score, which is not surprising as the classes take place in the modern infrastructure of the Poznan University of Medical Sciences. In the last years, a constant high grade was given to the choice of the class topics, the coordinators' competences and the way the project was organized.

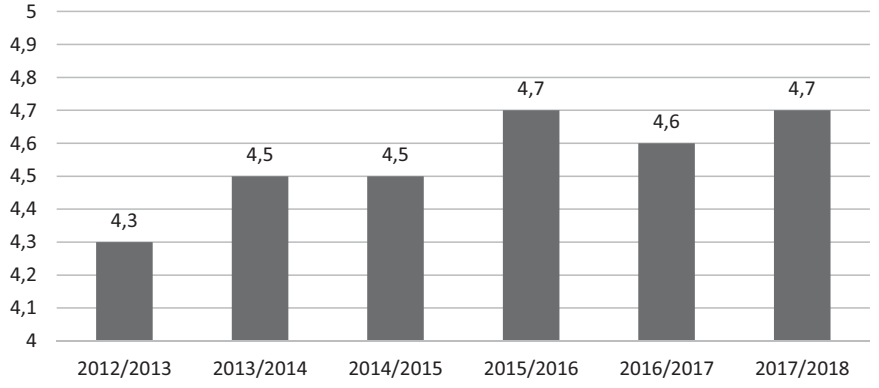
The average grades from the last year are collected in Table 5.

**Figure 3. Evaluation of the quality of classes in subsequent years**



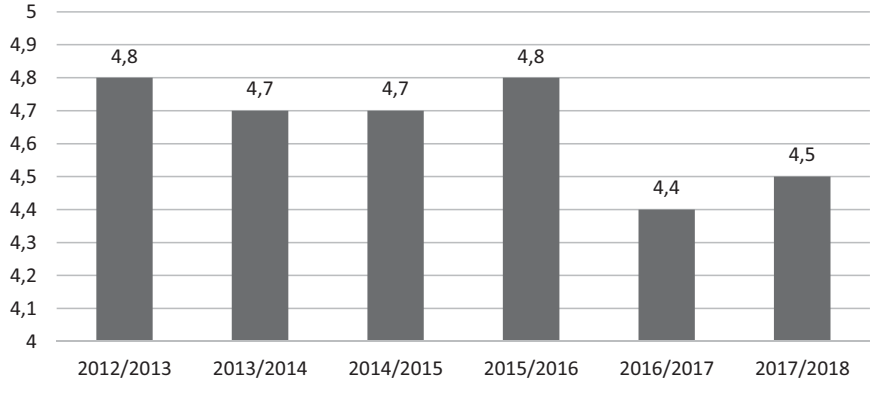

Source: Author's own study.

**Figure 4. Evaluation of the thematic scope of lectures in subsequent years**



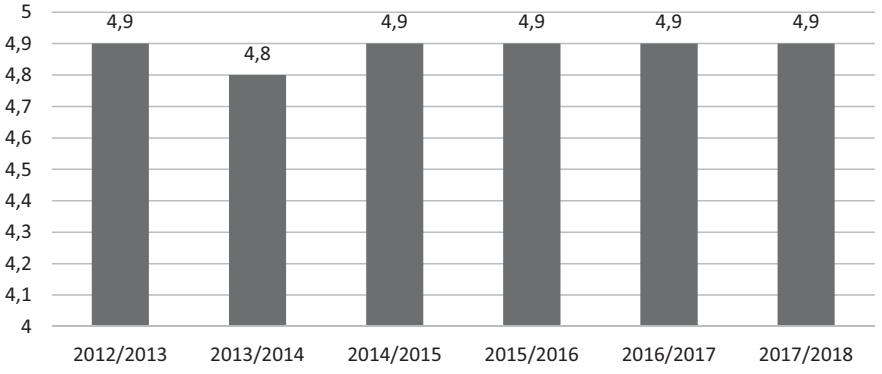

Source: Author's own study.

**Figure 5. Evaluation of competences of adult lecturers in subsequent years**



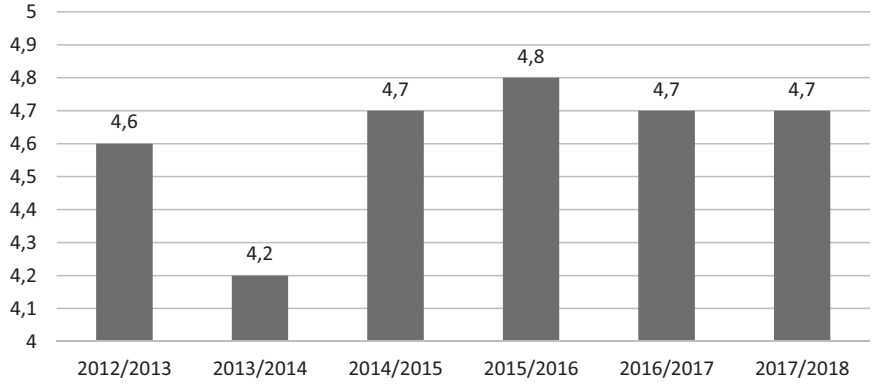

Source: Author's own study.

**Figure 6. Evaluation of the conditions in which the classes took place in subsequent years**



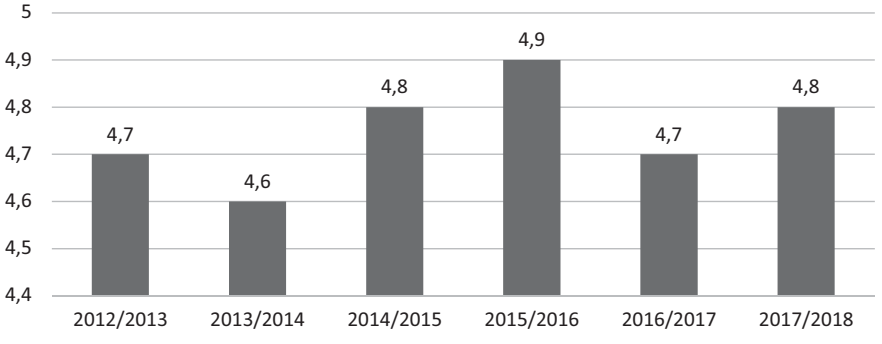

Source: Author's own study.

**Figure 7. Evaluation of the way the classes were organized in subsequent years**




Source: Author's own study.

**Figure 8. Evaluation of competences of project coordinators in subsequent years**




Source: Author's own study.

**Table 5. The average grades from the last year**

| Question | The average grade |
|---|---|
| The usefulness of the project | 4,6 |
| The quality of classes | 4,3 |
| The thematic scope of the lectures | 4,7 |
| The competences of adults conducting classes | 4,5 |
| The conditions in which the classes were held | 4,96 |
| The way of organizing classes | 4,7 |
| The competences of project coordinators | 4,8 |

Source: Author's own study.

### The results of additional surveys

As it was already mentioned the additional questionnaire was carried out in the years 2017–2018. Tables 6–8 present the opinions of 26 teachers from schools participating in the project.

Teachers with seniority over 20 years as well as people representing rural places assessed the project best. The observation of the latter group may result from the teachers' conviction about the special educational needs of children who learn far from large urban agglomerations, which limits their contacts with scientific communities.

**Table 6. The average quality assessment of the 'Little Medic' project depending on the school location**

| School location | Number of surveys | The average ± standard deviation | Median (minimum – maximum) |
|---|---|---|---|
| A big city (over 500 000 inhabitants) | 15 | 4,67 ± 0,32 | 4,71 (4–5) |
| An average city (20–500 thousand inhabitants) | 4 | 4,89 ±0,14 | 4,93 (4,7–5) |
| A small city (up to 20 thousand residents) | 5 | 4,31 ±0,43 | 4 (4–4,86) |
| A village | 2 | 4,93 ±0,1 | 4,93 (4,86–5) |

Source: Author's own study.

**Table 7. The average quality assessment of the 'Little Medic' project depending on the age of the teachers**

| Age | Number of urveys | The average ± standard deviation | Median (minimum – maximum) |
|---|---|---|---|
| 25–40 years | 17 | 4,61 ±0,38 | 4,71 (4 – 5) |
| 40–60 years | 9 | 4,73 ±0,31 | 4,71 (4 – 5) |

Source: Author's own study.

**Table 8. The average quality assessment of the 'Little Medic' project depending on teachers' seniority**

| Seniority | Number of surveys | The average ± standard deviation | Median (minimum – maximum) |
|---|---|---|---|
| Below 5 years | 7 | 4,61 ±0,28 | 4,57 (4,14 – 5) |
| 5–10 years | 7 | 4,71 ±0,37 | 4,86 (4 – 5) |
| 11–20 years | 7 | 4,57 ±0,53 | 5,00 (4 – 5) |
| > 20 years | 5 | 4,74 ±0,16 | 4,71 (4,57 – 5) |

Source: Author's own study.

## Discussion of the survey results

The 'Little Medic' project is part of a wider initiative – PAD[2], which provides the broadly understood extracurricular education for children aged 6 to 12. Numerous university centers in Poland are involved in that initiative. The organizer of the 'Little Medic' is Poznan University of Medical Sciences. Over 2300 children from nearly 100 schools from Poznan and the places nearby participated in the project during the past of 6 years.

The idea of promoting knowledge in the field of biological and medical sciences, combined with actions inspiring and motivating school students to explore the secrets of research work, is quite common in many regions of the world. In each case, however, it may have a different form resulting from local specificity and technical or financial possibilities. In the United States, for instance, the Little Medical School®[3] project is being implemented, which includes lectures and practical classes for school-age children (primary and middle school) interested in medicine. The classes are conducted in dozens of American cities, as well as in several locations outside the US. The latter is possible by a franchise agreement. The fee necessary to take over the rights to carry out the project ranges from 50 000 to 400 000 US dollars. Under this agreement, among others, initial training for staff and logistic support necessary for the further promotion of educational activities in a given region are provided. Classes are interactive. Young students

[2] http://academyofkidspoland.wixsite.com/polskaakademiadzieci
[3] www.littlemedicalschool.com

learn about the physiology of the human body, explore the secrets of medical diagnostics, learn the principles of first aid, acquire some medical skills (they can, for example, participate in the course: basics of surgical stitching). At the end of the program, students get special diplomas certifying the graduation (Little Medical School, 2018).

A good example of similar educational activities conducted in Europe is the Children's University in Vienna[4], under the patronage of the largest Viennese universities. The formula of the program is similar to one discussed earlier in this article. It mainly includes hands-on, interactive workshops, in which young medical students working in small groups have an opportunity to acquire specific practical skills. Students can participate in lecture and seminar cycles. Classes usually last from 4 to 5 days and are organized during the summer holiday. Apart from the medical issues, some other are also discussed: their scope is quite broad – from art and theatre, through law, theology or history to computer science, the choice depends on the interests of a particular group of participants (Kinderuni Wien, 2018).

The classes conducted as part of the 'Little Medic' initiative have a slightly different formula. They mainly include a series of lectures, prepared and held by children and by full-time research and teaching staff. The whole course lasts a year and resembles an academic year in its scheme, with its official beginning and ending, the main point of which is awarding diplomas. Despite organizational differences, compared to the educational initiatives discussed in the USA or Austria, there are though some features common to the projects listed. First of all, it is their goal. Both initiatives – the American and the Polish – aim at stimulating the development of school children's interests through the promotion of knowledge in the field of medical sciences. Concerning the 'Little Medic' program, data derived from the surveys carried out every year confirm that the adopted formula of the classes and the usefulness of the whole project are assessed very well by teachers. Therefore, it becomes crucial nowadays to identify areas in the Polish education system in which the significant deficiencies exist and to what extent the initiatives like 'Little Medic' could help to eliminate those deficits. The issue seems to be particularly crucial in the context of ongoing changes in the way of organizing early childhood education in our country in recent years.

The report *Education of Children and Young People – the selected challenges and areas of inequality*, published in 2017 by the Institute of Pedagogy of the University of Wroclaw reveals that one of such problematic areas is supporting exceptionally gifted youngest students in the development of their unique skills and talents. The lack of appropriate didactic competence among teachers may result in them being not able to adjust the lessons to diversified potential (and in consequence – different expectations) of their pupils. As a result, it may lead to insufficient stimulation of children for further development and going beyond the adopted programme framework and content of the textbooks (Plichta, 2017, p. 165). The data published by the Supreme Audit Office in 2016 point to this problem and confirm a decline in the effectiveness of education, especially in profiled schools, where the ability to arouse students' interest in a narrower thematic area is crucial for the effectiveness of the education process (NIK, 2016). For example, according to those data, every second graduate of the primary school of sports championships does not continue education at a middle school of the same kind, and almost two-thirds of middle school graduates resign from further education profiled in this way. That is indeed a significant problem of the school education system in Poland, as it is the teacher and their classes that are considered to be one of the main factors stimulating the development of students' interests (Buchcic, 2015, p. 9). Therefore, the fact that teachers regard the 'Little Medic' project as important and evaluate its content very well may to some extent testify that it meets the teachers' expectations and at least partially fills the gap in ways to stimulate the development of students' interests. In this particular case, the classes cover the subject of biological and medical sciences, in which direct contact with the discussed issues is of great importance. The research conducted by Elżbieta Buchcic indicates the crucial role of activating methods in education in the field of natural sciences because they allow a student to participate actively in the didactic process, and to co-decide on what and how to learn (Buchcic, 2015, pp. 8–22). Only such an active form of education gives an opportunity to arouse students' interests, which in turn promotes the development of passion and learning. The classes implemented as part of the 'Little Medic' project meet the indicated criteria.

Julian Piotr Sawiński, a member of the editorial team of edunews.pl portal on modern education and also employed at the Teacher Education Centre in Koszalin approaches the issue of raising the cognitive interest of young listeners in a slightly wider manner. Referring to various educational and psychological theories (such as proposed by Edouard Claparede or Stefan Baley, for instance), he indicates that this process should possess the following key features. It should stimulate a positive attitude and curiosity of young students, should also direct them towards independent learning, should awaken their passion and develop hobbies, and be interesting (Sawiński, 2010). The indicated components are all present in the classes offered by the 'Little Medic' project team. Therefore, this initiative seems to be a valuable element supporting the educational process – especially early school education, mainly by stimulating cognitive interests of students, which – according to the

[4] www.kinderuni.at

theories mentioned above – form the foundation of an effective teaching system. The high average grades given by teachers who play a vital role in the education system in Poland prove the importance of the educational activities conducted within the project.

In connection with the pursued goals, and most likely with the highly attractive subject concerning medicine, the 'Little Medic' project enjoys great interest. It is probably also important for the participants that there are no participation fees, which distinguishes the project from the Little Medical School® initiative in the USA. A significantly good assessment of the conditions in which the classes are conducted as well as the greatly appreciated competences of the project coordinators and lecturers are also of key importance. The indicated popularity is visible also in the recruitment process – usually after only two or three days, there are no places in the groups left. The teachers from the Children's University in Vienna have a similar experience; the recruitment process is highly formalized and multi-stage because the number of students willing to participate in the classes is much higher than the number of places available.

The possibility of conducting lectures by students constitutes the additional educational value of the 'Little Medic' project and contributes to innovativeness and popularity of the whole initiative. The organizers try to ensure that to a particular school group belong students from different classes. Though it may be more convenient for a given school to create the group based on one chosen class in practice it results in lower interest and engagement of the participants. Creating the mixed groups in which there are students from different classes (i.e., 3, 4 and 5) encourages the transfer of knowledge from the lectures at children's university to school. The students inspired by the lectures of their peers can present their lectures at school or in a class.

The results of an additional survey conducted only in 2017/2018 have brought the information about the geographical reach of the 'Little Medic' project, the seniority status and professional qualifications of teachers and tutors of students' groups. They have been collocated with the evaluation data from the same period. Although there were no statistically significant differences between particular subgroups, one may spot some regularities. It turned out that older teachers with the longest seniority and also representing rural schools, gave the project highest scores. It is difficult to explain these phenomena clearly. Perhaps older teachers, longer involved in their profession, notice more distinctively the lack of opportunities to stimulate the interests of their students.

In contrast, younger teachers, who achieved their educational competences in more modern reality, are better acquainted with new methods and means of teaching. This fact might have slightly diminished the importance of the project in the eyes of this group of teachers. On the other hand, a better evaluation of the project by non-Poznan school teachers may reflect the lower opportunities for extracurricular additional education activities in the case of children from outside the large agglomeration. In this context, the possibility of free participation in some extra activities is particularly valuable. The above observations are a sufficient incentive to continue this part of the survey – apart from the evaluation questionnaires, used by the organizers from the very beginning – in the next years of classes conducted under the 'Little Medic' project.

## Conclusions

The main goal of the 'Little Medic' project is to stimulate the development of students' interest in the issues related to human health. During the recent years it has been proved that the project activities may efficiently supplement the school-children educational process in the Wielkopolska Voivodeship in the field of biological and medical sciences. Also, the very good opinions of teachers representing schools that participate in the project confirm the high quality of classes. The tutors of young students highly appreciate the idea of the project, the scope of the issues being discussed, as well as the organizational aspects of the initiative. Similar projects are also implemented in other cities, and other countries as well – both in Europe and beyond. Each of them has its specific conditions and rules of conduct, depending on the individual situation in a given region. The afore-mentioned projects, however, are based on a similar idea, have common educational goals and they all confirm the high interest in the subject of medicine among children in the early school age.

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## Abstract

*The 'Little Medic' project has been carried out at Poznan University of Medical Sciences for six years. It enjoys great popularity. Every year, about 400 pupils from primary schools from Poznan and the surrounding area in the age of 6–12 participate in it.*

*The study aims to present the organizational specificity of the 'Little Medic' project, and the opinions about it expressed by teachers participating in the project with their students. At the end of each academic year, teachers take part in an anonymous survey summarizing and assessing the project.*

*The first part of the article presents the method of the 'Little Medic' project organization. In particular, it describes the elements distinguishing the project from other children's universities in Poland. The second part presents the analysis of evaluation data collected during the six years of the project.*

*Long experience in running classes for children as part of the 'Little Medic' project allows for conclusions about the usefulness and innovativeness of this form of lesson conduct, and the survey results confirm the high level of teachers' satisfaction with the proposed way of organizing classes.*


**Key words**: children's university; children's education; health education


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# Learn more

**EUCU.net – European Children's Universities Network**

EUCU.NET was created in 2008 as a EU co-funded project.
After the project end in 2010 activities continued because of the interest and need for cooperation and exchange. Therefore EUCU.NET was established as a self-financed NPO in 2011.

Source: https://eucu.net