



# Global Junior Challenge

Projects to share the future

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## Project Location

**Country:**

Poland

**City:**

Kraków (Network office)

## Organization

**Organization Name:**

Stowarzyszenie Edukacji Pozaformalnej MERITUM / MERITUM Association for Non-Formal Education

**Organization Type:**

Association

## Website

[www.gopro.edu.pl](http://www.gopro.edu.pl)

## Privacy Law

Consenso al trattamento dei dati personali

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## Project Type

Education up to 15 years

## Project Description

**Description Frase (max. 500 characters):**

GO\_PRO! Regional Programming Centers works as a network of public libraries, where youth have possibility to learn basic programming skills using innovative robotic tools

### **Project Summary (max. 2000 characters):**

We believe that programming skills should not be reserved only for professionals. In modern society, the lack of understanding of the basics of computer science is the new equivalent of illiteracy.

GO\_PRO! Network is developing mostly in rural areas in part of Poland with biggest ICT exclusion. The main rule of the network is that it should promote programming classes among whole local community, especially girls and people with disabilities. The main rule of the network is also, that all education activities should be free of charge for everyone.

The capacity shall be built with cooperation with public libraries. Libraries are institutions of public trust, which effectively prevent social exclusion. The role and tasks of public libraries go beyond the collection and sharing of books. They can and should participate in the wide dissemination of knowledge and culture. This project stimulated the international trend of transformation of libraries into social life centers, modern point of access to knowledge and culture.

Within the project we have:

1. Prepared 40 Librarians to be GO\_PRO! Trainers (3 days training)
2. Equipped 20 Public rural libraries with IT equipment (interactive projectors, All-in-One computers, tablets, Lego Mindstorms EV3 sets - they gave become Local Programming Centers)
3. Within Libraries GO\_PRO! trainers lead 500 hours of workshops for 1400 youth
4. In every Programming Center Coders Club was opened - Coder Clubs are based on challenges. Each week there is a new problem, new challenge, which Club has to solve together! They need to learn new thing about algorithm, build a robot using Lego Mindstorms, and then program it properly. Sometimes the challenges forces youth to divide into smaller groups. They compete with each other to create best solution, this way they are stimulated to give all their energy and enthusiasm to solve particular problem the best possible way.

The contract with libraries will last till the end of 2020 to continue work on GO\_PRO! centers (news form workshop are published on [gopro.edu.pl](http://gopro.edu.pl) page). In 2015 and 2016 new GO\_PRO! centers will be opened from national and European funds and from private donations.

### **How long has your project been running?**

2014-06-29 22:00:00

### **Objectives and Innovative Aspects**

The main objective of the project was to create space for the development of key competences (ICT) in the field of programming for children and youth.

Specific goals

1. Creation of extracurricular programming education points (GO\_PRO!) in 20 municipalities in Poland (VIII ? XII 2014)

2. Improving knowledge and competence in teaching the basics of programming (algorithmic) in 40 library workers in Poland (X 2014) ? make them ?GO\_PRO!?! trainers
3. Increasing the knowledge and expertise in the creation of algorithms, creative problem solving and creativity in 1200 pupils/students attending classes/workshops in GO\_PRO! Centers (X ? XII 2014)
4. Increase motivation to learn programming at least half (600) of pupils/students attending classes/workshops in GO\_PRO! Centers (X ? XII 2014)

Specific Goal 1 and 2 were realized through the creation of the concept of teaching, developing training materials and education toolkits, creation of webportal for communication and developing GO\_PRO! network, as well as the transfer of equipment (digital projectors, all-in-one computers, tablets, Lego Mindstorms sets) and training of employees in 20 public libraries in Poland

Specific Goal 3 was achieved by performing in 20 GO\_PRO! Centers at least 25 hours of programming lessons and creation of "Coder Clubs". Children and young people were able to meet there and together with ?mentors? solve logical problems and create programs addressed to the specific problems

Specific Goal 4 was carried out in a similar manner to the specific goal 3, but here it is worth noting that the motivation was built by the education methods that address some specific issues, as well as the use of innovative, enjoyable educational methods, such as Lego Mindstorms.

## Results

**Describe the results achieved by your project How do you measure (parameters) these. (max. 2000 characters):**

Action project results (measured during external evaluation process) - VII - XII 2014  
 Evaluation methods: 1. GO\_PRO trainers course direct interviews with participants, knowledge tests, desk research on project content materials, online survey (37) 2. Youth workshops - ex-ante and ex-post questionnaires (726) Results: 1. 40 librarians were qualified to be GO\_PRO! trainers and were prepared to lead workshops with Youth 2. 39,4% of youth said that their are very very motivated to continue their experience with programming, another 25,6% said that their are rather interested in that. 28,4% said that their knowledge of programming became incredibly greater, 32,1% said that it increased and another 21,7% said that it become slightly bigger, only 4,3% said that they didn't learned anything new. In all programming workshops there were 1400 youth participants (age 11-15) during project period. Another 2100 were participating in workshops during period I - VII 2015. Added Value Initiation of the project ended in XII 2014, but it will be carried out as a GO\_PRO! Program. In next years, with support of public and private bodies we would like to open new centers. The existing GO\_PRO! Network sign contracts to continue courses within Coder Clubs at least till the end of 2020. During this year thousands of young Poles had been inspired to develop ICT skills. Each GO\_PRO! trainer was prepared also to encourage young girls to take part in the workshops, also to make sure, that they will have equal access to such a future-oriented skills. Continuation and nominations 1. Reading and Writing Foundation (Brussels, Library 2020 program) granted GO\_PRO! network one of eight of their advocacy grant to promote libraries as ICT education centers 2. World Summit on the Information Society nominated GO\_PRO! for their annual award in category of capacity building as one of 30 best world initiatives

**How many users interact with your project monthly and what are the preferred forms of interaction? (max. 500 characters):**

Right now there are 20 Programming Centers operational.  
In every Center there are about 40-50 Youth participating in programming lessons and Coder Clubs each month (2100 altogether)

Youth participate in:

1. GO\_PRO! training's carried out by prepared librarians (GO\_PRO! trainers)
2. Coders Clubs (meeting once per week) where Youth receive various tasks to carried out themselves with minor support of GO\_PRO! trainers when necessary

## **Sustainability**

**What is the full duration of your project (from beginning to end)?:**

More than 6 years

**What is the approximate total budget for your project (in Euro)?:**

From 75.001 to 500.000 Euro

**What is the source of funding for your project?:**

Grants

**Specify:**

Association working in the field of innovative methods and technologies in education

**Is your project economically self sufficient now?:**

Yes

**Since when?:**

2014-12-30 23:00:00

## **Transferability**

**Has your project been replicated/adapted elsewhere?:**

No

**What lessons can others learn from your project? (max. 1500 characters):**

Where to teach programming? Schools? Yes! But also?

The computer classes in Poland appears as early as at 1st year of primary school. The new core curriculum strongly emphasis ICT classes at all stages of learning. But the effects of these changes will have to wait. We see many problems with the implementation of the objectives of the core curriculum. The teacher preparation standards has no single word about programming. Therefore full implementation of the programming curriculum in formal learning paths will be time consuming. Both will require preparation of a comprehensive program, as well as teachers.

Meanwhile, programming workshops are quite good after-school projects. They are designed to have almost immediate gratification. They are based on the intrinsic motivation of students, intensively using techniques such as gamification.

The basic idea is to use the existing infrastructure, only reconfigure it. To create GO\_PRO! Centers we cooperated with Public Libraries. Well-equipped educational centers created conditions for modern programming education. In partnerships with local schools libraries organize interesting IT lessons, but also allows (during so called Coder Clubs) youth to develop programming skills during their free time.

**Are you available to help others to start or work on similar projects?:**

Yes

## Background Information

### Barriers and Solutions (max. 1000 characters):

Main barrier for teaching youth? How to be effective, how to get their attention? The key to effective IT education seems to be finding the right balance between teaching the basics and awakening of passion to code in youth. The Digital Center report (2013) indicates that non-school initiatives in the field of programming teaching provide rapid, almost immediate feedback, often very specific (drawings, visuals). We developed special training guidelines for GO\_PRO! Centers, it stressed concrete nature of the feedback - not general feedback (you are great), but feedback based on very concrete results ? moving-robot, flashing lights, playing sounds. This is crucial if we take into account the fact that children under a certain age think very specifically and visual feedback gets easier to them. Within this project we developed two concepts of teaching: 1. Planning algorithms - creating logical sequences, solve problems and find solutions. Special equipment was purchased for GO\_PRO! Centers, such as interactive projectors, tablets, touch screen computers. 2. Programming robots - based on the unique robotics solution such as Lego Mindstorms EV3

### Future plans and wish list (max. 750 characters):

The project increased the institutional capacity of 20 public libraries in Poland, which became local centers of education in the field of new technologies, with the right equipment, teaching concepts and prepared trainers. The project - through the provision of materials on the website, has a chance to reach out and encourage other libraries and cultural, educational facilities in Poland, and contribute to creative, innovative teaching the basics of programming. Project was finished in December 2014, but it was just the beginning of GO\_PRO! Centers idea. Program of developing GO\_PRO! Networks starts in January 2015 and will aim at developing programming skills in Youth in Poland and abroad. New libraries and other facilities will join us soon!

non-formal education [1] Meritum [2] Lego EV3 [3] Centers [4] Programming [5] Librariesm IT skills [6]

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[1] <http://2017.gjc.it/en/category/keywords-separate-with-commas/non-formal-education>

[2] <http://2017.gjc.it/en/category/keywords-separate-with-commas/meritum>

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