HOW TO LEARN IN THE CLOUDS

Final publication of
"Head in the Clouds:
Digital Learning to Overcome School Failure"

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Foreword

We do not know what the future will look like. But we can be sure about one thing - it will be the future for which we have to learn, and in which we continue learning. The world is changing dramatically and constantly. The top 10 in-demand jobs in 2010 didn´t exist in 2004. We are currently preparing students for jobs that don´t exist yet. Students of today will possibly have more than 10 jobs by the age of 38[1]. Emerging new technologies along with new industries reshape the way we think about education and learning. The demand for quality learning is high, and it is up to us - educators, parents, educators, policy makers - to look for better ways of education.

This is nothing new. Many of us regularly learn online, attend after-work lessons, send children to specialized courses and programmes - still there are communities in our nearest vicinity, within European countries and neighbourhood, with limited access to even very basic education. The communities we worked with belong to this category.

This publication is a story of a project, where we have tried to develop innovative educational practices for the most vulnerable Roma communities in Europe. How it came about and what of our experience can be used in your daily practice, is what you can take from this publication.

Below we have summarized the outcomes of a three-year effort of a consortium of seven partners in five countries lead by the Vienna University of Technology in implementing a strategic partnership in the field of school education. This Erasmus+ project dealt with the prevention of early school leaving, the development of basic and transversal skills and the enhancement of digital education in the context of minorities, mainly Roma. Educational disadvantages and exclusion lead to lacking integration in the labour market and exclusion from society in general, which is a vicious circle in minority communities this project aimed to break.

In three locations in Slovakia, Romania and Kosovo the project implemented an innovative educational approach with more than 100 participating children and youth. In their afterschool and youth programmes educators used tools and specifically designed learning materials to engage children and youth in their own learning process. We started from the educational model of SOLE. These letters stand for Self-organized Learning Environments[2] and represents a widely

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[1] https://teachingandlearninginhighered.org/2013/07/15/preparing-students-for-what-we-cant-prepare-them-for/

[2] https://en.wikipedia.org/wiki/Self_Organised_Learning_Environment

recognized alternative educational method that supports an individual learning process according to student's abilities, needs and interests.

This project was made possible only due to the support of the European Union within Erasmus+ Strategic Partnership Programme as well as understanding, cooperation and assistance of our partners, namely Technical University Košice, GAIA, Verein Offenes Lernen, Fundatia Crestina Diakonia Filiala Sfantu Gheorghe, Súkromná Základná Škola and SCIO, as well as our sponsors Verband Oesterreichischer Software Industrie, LieberLieber Software, Sparx Systems and Oesterreichische Computer Gesellschaft.

At this point, we would like to thank all supporters and partners, and also encourage others to set on a journey to find ways to improve education of children in the 21st century.

While this Strategic Partnership was funded by Erasmus+, this publication represents the views of the consortium, not automatically Erasmus+ or European Union as such.

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Introduction
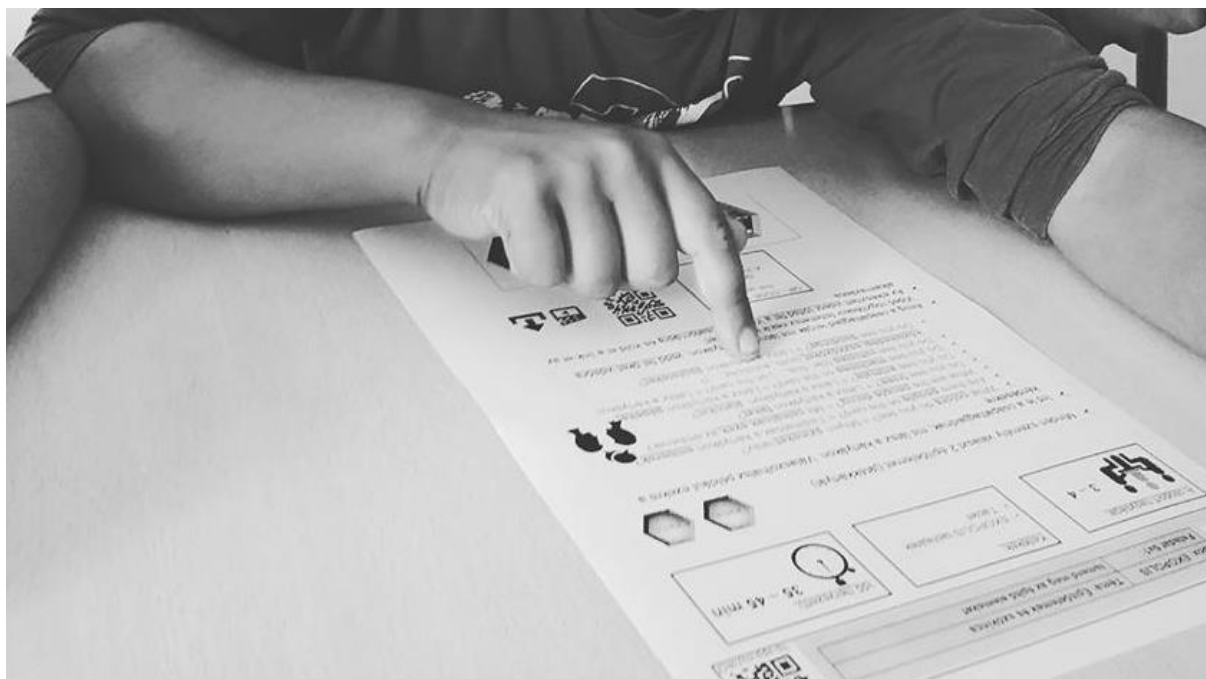
In this picture you see the hand of a boy (let´s call him David) from an excluded Romanian settlement of Valea Crişului near Brasov. He's 10 years old and the statistical science already knows he's most likely to have a similar fate like a number of his relatives and acquaintances - he'll never go to high school, he'll never know any foreign language, and he'll never learn to solve logarithmic equations. But what is worse - he will stay functionally illiterate (below OECD PISA literacy level 2). Also, the statistics predict that he will die sooner than his more fortunate peers of more affluent communities.

How do we know this?

The recent OECD studies (e.g. PISA 2015[3]) have shown that socio-economically disadvantaged students across OECD countries are almost three times more likely than advantaged students not to attain the baseline of proficiency e.g. in reading or science.

Additionally, the recent McKinsey study[4] lists Romania among countries where socioeconomic background heavily influences education performance. Hence, if you are illfortunate to be born to a family with low social or economic background, the Romanian formal education strand will not

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[3] http://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

[4] https://www.mckinsey.com/~/media/mckinsey/industries/social%20sector/our%20insights/drivers%20of%20student%20performance%20insights%20from%20europe/drivers-of-student-performance-insights-from-europe-the-book.ashx

help you to break out of this vicious circle of poverty. And this applies to many other educational systems as well.

David and his parents know that. So why should he go to school at all then?

Some people might think that such cases are rare in Europe. However, the opposite is true. Our belief in solitariness of formal education gets broken down with every further research conducted such as PISA, PIRLS and others. Our traditional system of formal education – with a teacher or professor in front of a classroom of passive listeners, backed up with a blackboard and lots of chalk – is becoming increasingly unfit for the very purpose of learning. What's more, the needs of specific groups of people (such as David and his friends) are not met in the current system. In some countries, the dependence of learning outcomes on socio-economic status is nowadays still increasing[5].

Europe is increasingly accommodating new people from different parts of the world who have little or no experience and background in traditional formal schooling. This means that such families do not know how/cannot support their children on their formal educational path. On average across OECD countries, and after taking their socio-economic status into account, immigrant students are more than twice as likely as their non-immigrant peers to perform below the baseline level of proficiency[6].

As can be seen from the chart below, countries like Romania, Bulgaria, Slovakia, Kosovo or Greece offer children from vulnerable communities insufficient assistance in overcoming educational difficulties. These difficulties are not related to the cognitive abilities of the children but only to their socio-economic backgrounds.

Considering this, the question may be raised whether in today's Europe we offer equal educational conditions for all children and if not, what we can do to overcome this challenge.
Making sure all students have *equal* access to resources is an important goal. All students should have the resources necessary for a high-quality education. But the truth remains that some students need *more* to get there. Here's where *equity* comes in. The students who are furthest

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[5] https://ec.europa.eu/education/sites/education/files/monitor2017-summary_en.pdf
[6] https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

behind — most often low-income students require more of those resources to catch up, succeed, and eventually, close the achievement gap.

Below you can see a chart overtaken from PISA 2015 results, showing how socioeconomic background influences student achievement in European countries.
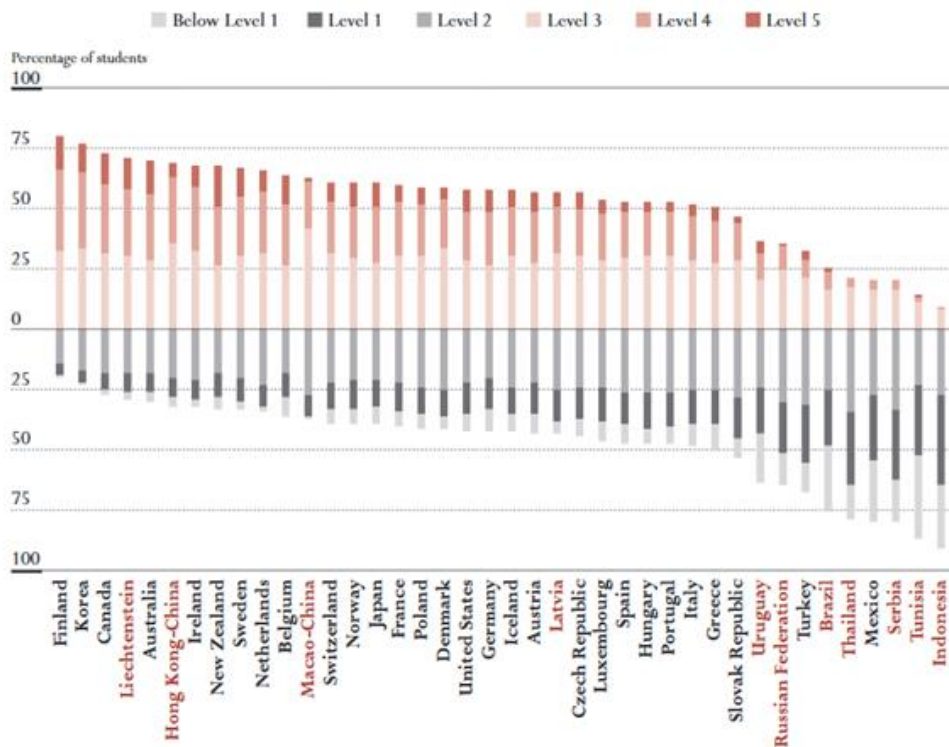
Chart 1: HOW SOCIOECONOMIC BACKGROUND INFLUENCES PERFORMANCE

**Chart 2: PERCENTAGE OF STUDENTS AT EACH LEVEL OF PROFICIENCY
ON THE READING SCALE**

Countries are ranked in descending order of percentage of 15-year-olds in Levels 3, 4 and 5.
Source: OECD PISA 2003 database, Table 6.1.

If we look at the OECD data on the distribution of reading levels among European countries, we can see a great between-countries disparity in level distribution that cannot be explained by normal Gaussian probability distribution.

If we compare the number of students listed in lower levels in Slovakia with the same strand in Finland – there is a significant difference. Hence if our David was born in Finland, his chances of becoming a diligent reader would have been much higher.

This is a serious threat to further development of many European countries where up to a third of 15-year-olds have serious deficiencies in their ability to use reading literacy as a tool for the acquisition of knowledge and skills in other areas. After 8 or more years of regular school attendance. These people will be hardly employable in the era of industry 4.0, the constant shortening of the innovation cycle and the increasing influence of information and disinformation. Disparities are therefore observable in and between countries.

Traditional formal education systems in some of our countries were built on the assumption that the family, neighbourhood, or community would provide sufficient learning assistance. Where this

help is available, the traditional model of formal education has worked fairly well. However, in a situation where family or community surroundings do not have such capability, the traditional model seems inadequate, not providing for the necessary equality.

Boundaries Becoming Blurry

This growing trend of interest in education has strengthened the importance of learning that goes beyond the traditional school environment. Many educational professionals around the world have been looking for new ways to streamline teaching methods. In families, in schools, at work, in communities.

What we learn in formal settings (schools, colleges, training centres etc.) is only one part of acquiring knowledge and skills. Learning one set of skills at school, a vocational/technical college or at university is no longer sufficient preparation to equip people with the knowledge, skills and competences they will require for the duration of their working lives[7]. We learn in non-formal and informal settings too (e.g. in community learning clubs, sports associations, within the family, when playing videogames, in daily community life).

Many educational specialists and reformers, such as the Next Generation Science Standards (NGSS), Common Core State Standards Mathematical Practices (CCSMP), and Partnership for 21st Century Learning (P-21) challenge educators to provide students with better fit-for-the-purpose learning experiences that address the needs of learners in today's society. These new standards represent a paradigm shift taking us away from the meticulous at-school-only content memorization of the era of enlightenment, toward more dynamic learning opportunities addressing the whole learner at various places and times: at home, work, school – everywhere. The traditional division of learning between formal, non-formal and informal education is becoming obsolete and boundaries seem rather blurry.

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[7] 2007 OECD Policy Briefing.

Slumdog Millionaire or a Light at the End of the Vicious Circle?

There are millions of children like David in the world. Some of them go to school, others don´t. However, as can be seen from the OECD data shown above, the efficiency of such formal education (as measured by standardized tests) is significantly lower than in the case of children coming from more affluent backgrounds.

If formal schooling fails, does it mean they *Davids* are not able to learn? A similar question was raised years ago by Sugata Mitra, a programmer and scientist from Calcutta who invented his experiment known as The Hole in the Wall. The experiment was fairly simple: we place a computer connected to the internet in an Indian slum in the hole in the wall and then watch what is going to happen. So what happened? Apart from the fact that his experiment inspired the author of the book, which was later used as a basis of the film Slumdog Millionaire, the children from the slum without the prior knowledge of English and computer science soon learned how to use the computer without the need for any adult intervention.

Mitra has repeatedly carried out his experiment at various places in India and claims that children are able to learn things that no one would ever guess they could ever learn, such as how a neural network works or how DNA replicates.

These experiments gave rise gradually to an educational method called SOLE, an abbreviation for the Self Organized Learning Environment. The essence of SOLE is to support the natural curiosity of children by asking them a suitable non-trivial question or an interesting topic and providing them with rich resources where they can find the answer (which obviously does not mean that we put a book open on the reply page right below our nose). Then let them talk to each other. So the educator acts here as a facilitator or guide rather than a pure transmitter of readymade knowledge[8].

Of Atoms and Men

Mitra's approach has earned millions of supporters and opponents around the world. One of the frequent objections is that it makes no sense to let the children look for answers themselves if we can tell them all we need and it will be much faster. Some admit that teaching children without educator guidance makes sense in Indian slums, where educators may not be readily available.

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[8] See eg. https://www.theschoolinthecloud.org/

But does it make sense to do it in Europe, where an educator can tell her children if Hamlet eventually decided to be or not to be?

Maybe it depends on what you want to put emphasis on in education. We can show it with the example of an atom. If you want your child to master the structure of the atom quickly, you can explain to her how such an atom looks. But when you think the aim of learning is something other than just to know what an atom is composed of, that is, to be able to deal with a situation where e.g. CERN researchers confirm the existence of particles that we have not yet explored, it seems that the SOLE and other similar methods based on constructivism and self-directed learning could be very useful.

When using such approach, children may acquire a given piece of knowledge at a slower pace, but gain an invaluable bonus - learn to learn independently, in other words develop their learner autonomy.

The Project

Mitra´s experiments have earned millions of fans around the world. In 2013 he received the TED award of $1,000,000 for his famous video.

However, numerous critics often point out that the SOLE method lacks empirical evidence, studies, analyses. Does the SOLE method really work? Can it be used in European countries? Can it be adopted in non-formal settings in countries as diverse as Kosovo, Slovakia or Romania? And in schools? Should it be modified? Does the SOLE method help develop learner autonomy or other skills? Can it be utilized en masse in our countries? Can it be adopted by local communities? Can it help overcome barriers built by socioeconomic burdens? Eventually, will David benefit from such   education?
These questions needed to be answered and that´s why we created our project Head in the Cloud[9]. To research what can be done in order to help these children.

The Approach

Although were inspired by Sugata Mitra's experiments, it is worth pointing out here that our approach differs greatly from them. In the course of the analysis of needs, we found that

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[9] https://brainsintheclouds.eu/.

application of the method in an unchanged form would be difficult in our locations and would potentially not lead to the intended goals. That is why we chose a customized educational approach and materials only initially inspired by the SOLE method, which aims at minimal teacher invasion and maximum learner autonomy, yet uses some elements of directed or semi-directed instruction. This approach proved to be appropriate in the given circumstances. In the following, we always refer to the modified form of SOLE, not to the original work of Sugata Mitra.

Our approach was largely driven by the intention to develop and research the concept of learner autonomy, that will be described later.

The Consortium

In order to reach our goals we have established an international partnership.

The consortium consists of organizations with sufficient experience with project management and IT and digital literacy (Vienna University of Technology), designing new pedagogical methods and tools (Verein Offenes Lernen), educational measurement (SCIO), work with vulnerable groups (Technical University of Košice) and especially those who are directly present in communities on day-to-day basis and who´s participation is fundamental and irreplaceable: Súkromná základná škola in Košice (Slovakia), Fundatia Crestina Diakonia Filiala Sfantu Gheorghe (Romania) and Gaia (Kosovo).

Picture taken at the Consortium kick-off meeting in Vienna, March 2016.

The Locations

Romania

The Head in the Clouds program took place close to Sfântu Gheorghe (capital city of the Covasna County located in central Romania), in the village of Valea Crisului.

The CFD organizes an after-school programme for children from age 8 to 13. These students come from a community of 80-100 members whom all refer to themselves as Hungarian and communicate in the Hungarian language—they do not have proper knowledge of he Romanian language. Their location of residence can be described as a ghetto-like environment. The

educators worked with the students from 12h to 16h30 every day and dedicated one session per week to the Head in the Clouds boxes. Although closely related to school activities, the work of the after-school programme can be regarded as non-formal education with a more or less stable number of learners.

Slovakia

The implementing partner in the Slovak Republic was Súkromná Základná Škola (SZŠ), a school that includes a Roma language curriculum. 200 Roma children attend the school and are from a poverty-stricken community in the Lunik IX settlement. The settlement was built as an ABC—the abbreviation stands for Armada (army), Bezpecnost (security or police), and Cigani (Gypsy or Roma)—housing estate for the Roma around 1974. Estimated inhabitants were 2500 at the time, however, it has grown three times as large since then. According to the school's report the per capita household income of the segregated Roma is one third of the general population´s while only 7 percent are employed and 49 percent of those above the age of 15 have never worked. Almost 38 percent of those above the age of 16 have difficulty reading and writing. The school embedded Head in the Clouds programme into its regular formal curriculum, allowing for up to 2 hours a week of learning.

Kosovo

GAIA was the implementing partner in Kosovo. The organization's activities focus on education and the integration of marginalized minorities, mainly the Roma, Ashkali, and Balkan Egyptians. Approximately one third of this population lives in absolute poverty according to the GAIA report. The organization believes that the enrolement rate for compulsory education is above 84.9 percent while is drops to 30 percent for secondary education. The lack of inclusive and quality education for Roma, Ashkali, and Balkan Egyptians is an indication of low literacy rates among this population. Security concerns, lack of financial means, distance to educational facilities, and cost of school supplies such as notebooks, pencils, and clothes are some of the reasons this minority population claims to prevent them from attending school or drop out at an early stage of their education. Roma children generally attend schools with the Serbian curriculum while the Ashkali and Balkan Egyptians attend schools with the Albanian curriculum.

GAIA set up a non-formal education centre called Imaginatorium offering a school preparatory programme (ages 5 to 7), a language club (ages 7 to 9), and homework assistance (ages 7 to 15) to a group of 20 to 100 students. Within Head in the Cloud, GAIA facilitated a weekend programme

aiming at incorporating as many children as possible. The numbers of children have fluctuated significantly depending on season, situation in families etc. The children were absolutely free to join or refuse activities offered by the Centre.

The Communities

In all three localities, we have worked with communities that are commonly referred to as Roma by their neighbours. However, it must be borne in mind that these communities are very heterogeneous. While in Slovakia Romany is the language of the first choice, and children and their parents often consider themselves to be Roma, most of the population our target group in Romania consider themselves to be ethnic Hungarians. Knowledge of Romani is practically non-existent and the language of the first choice is Hungarian. In Kosovo, the situation is even more diverse. Three communities live together: Roma, Ashkali and Balkan Egyptians, using their own ethnolects of Romani. There are clear social boundaries between the three communities, supported also by differences in religion. These boundaries and specifics were taken into account.

The Themes

From the beginning, we were aware that it was not possible to take ready-made educational materials created for children elsewhere and to place them in a local European context. On the contrary. Local context and needs are a key prerequisite for success. Therefore, our partners in each of the localities (Slovakia, Kosovo, Romania) conducted an analysis of educational needs in order to identify themes and objectives that will meet the needs of children, communities and educators.

The themes were carefully selected after needs assessment, encompassing various domains like programming, environmental thinking, film making, music, English, basic literacy etc. Next to the educational content the emphasis was equally put on the development of transversal skills, such as collaboration, critical thinking, digital literacy and learner autonomy.

The themes were later transformed into six boxes – physical products full of rich educational material and tools.

Each of the box is implemented for a time period of 2 months in each of the three implementing partners locations in Kosovo, Romania and Slovakia.

Despite the short time (the project started in September 2015), already in October 2016 Fundatia Crestina Diakonia Filiala Sfantu Gheorghe, GAIA and Sukromna Zakladna Skola started to use the developed educational material with the children and youth. The last box reached the children in late 2017.

Children of Valea Crişului during their work on the project.

Project Timeline

09/15	• Expected official start of the project
03/16	• Kick-off meeting in Vienna • Start of the needs assessment
05/16	• Project meeting in Prague • Presentation of the outcomes of the needs assessment • Start of Box development • Starting work on evaluation methodology
08/16	• First training in Romania • Presentation of box development • Presentation of the evaluation methodology • Starting work on the documentary
10/16	• Start of implementation in locations • Ongoing evaluation, feedback and box improvement
05/17	• Project meeting in Košice • Discussion on the developments
01/18	• Finalizing implementation • Evaluation of the overall outcomes
04/18	• Second training in Košice
First multiplier event (Košice)	• Presentation of the outcomes • Presentation of the documentary

Here is the overview of the six boxes created.

Video Box

The first educational box worked with the topic of video making. The aim was to train kids and youth how to use mobile devices and computers as well as to understand the functionality of these devices and make use of the internet in order to solve tasks.

Our David has never worked before with such devices, therefore he had to learn it before he could go on with other activities.

This box was the first because we thought that children can use the skills learnt in Video Box throughout the project duration. The box itself includes the challenge for kids to create a storybook, take pictures and videos, edit them to short videos, do interviews and encouraged the students to improve interpersonal competencies when introducing how to give constructive feedback.

IT 101 Box

In our daily lives digital literacy is becoming the main transversal skill that every person needs to have. For this reason we prepared tasks for the children in which they playfully developed an understanding and skills in the field, e.g. knowledge on how a computer is assembled, first programming skills, how to use different online services and for which purposes. To do so the IT 101 Box includes tasks such as assembling and connecting a Raspberry Pi[10], connecting to WiFi, using Google applications and other online platforms, understanding and making folder systems, writing letters, using the calculator, do's and don'ts of the internet or using Scratch.

Our David has never worked with a computer yet. Therefore, he may have distorted perception of what computers can do and what they cannot do. That's why it was good for him to get a better picture of the real possibilities of computers.

English Box

In the initial needs assessment knowledge of English was identified as a transversal competence that could support the children and youth in their future. For this reason the English box includes various activities and materials to develop and improve English language skills, as well as

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[10] https://www.raspberrypi.org/

interest, starting at the very basics: spelling, pronunciation and how to make a sentence. For more advanced children other tasks were created, including tasks with the aim to construct family trees, record messages with mobile devices and to discuss "big questions" of general education.

Many relatives of our David emigrated abroad. Many of them live in England or other countries. He can very well understand the importance of it and is willing to learn it.

Ekopolis Box

Based on the fact that environmental education was one of the fields that both educators and youth workers unexceptionally wanted to cover within the project, the Ekopolis box provided children and youth with the opportunity to do so. Ekopolis is a board game developed by the project partner SCIO. It playfully teaches young people about ecology and sustainable cities and towns. At the same time the box introduces kids to many new ecological and urban space concepts as well as related English vocabulary.

Ecology for our David does not mean just recycling. It's also a need to get habits that can save the health of him and his family. David does not yet know that bathing in the poisoned lake next to the coal-fired power station in Gračanica can be dangerous.

The Ekopolis Box teaches about environmental issues based on a board game with a whole variety of created follow-up activities, exercises and hand-on tasks covering associated topics. The box includes topics such as understanding the basic concept of "environment", sources of pollution and how to avoid pollution, a short insight into energy generation as well as buildings and areas we can find in our environment, town our city, what are the purposes of these buildings and how do they impact our environment, the ecological footprint, the topic of recycling etc.

Programming Box

Already as part of the IT 101 box children started to develop first programming skills. This programming box allows them to become more confident and to deepen their knowledge and skills. The box is divided into four parts, working with MaKeyMaKeys[11], Minecraft[12], Ozobots[13] and WeDos[14].

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[11] https://makeymakey.com/
[12] https://minecraft.net/en-us/
[13] https://ozobot.com/
[14] https://education.lego.com/en-us/training/wedo

David has already become familiar with computers in IT101 Box. Here he can make his first stepts on the road to becoming a programmer.

Students took part in hands-on programming and engineering activities, learn about electric circuits and engaged in handicraft work – e.g students develop banana pianos. By working with the included materials, the programming box aims at triggering and fostering students' creativity, logical and computational thinking skills as well as problem-solving competencies.

Real Life Box

The development and materials of the Real Life Box were based on the feedback from children, youth, parents, local stakeholders, educators and youth workers with regards to the work done until then. The tasks were designed to fit the needs of the children and youth in fields that have been observed as challenges. Activities of this box include Roma culture, history, customs and traditions, personal hygiene, functioning of different relationships, repairing stuff, first aid, going on a trip, how to behave in a restaurant etc. The activities demand and foster creativity, team spirit, sensitivity to others and communication skills.

Real life is full of difficulties for David. This Box helps him to get habits and skills that can make his life easier.

Ethics

During the project we were aware that we are working with children and communities and we come into contact with personal and other sensitive data. Therefore, from the beginning, we have incorporated the possibility of using anonymization into the data collection methodology where children have passed on their information under a picture they have chosen without naming a specific name.

We also deemed important to inform children, parents and the wider community about what we were doing with participating children and youth.

Our partners in the three locations have done a great job of paying great care by circumventing individual families, informing the community, organizing events where local community leaders were gathered, and were provided with true and previously undistorted information about the project and were given a chance to freely support or reject it.

It is also important to mention that the project was carried out on a voluntary basis, i.e. every family and child had the opportunity to refuse participation in project activities. Furthermore, we followed an internal rule of thumb that the interests of the child and community outweigh the interests of the project and research. E.g. when setting up the evaluation system, it turned out that an academically appropriate way would be to split the group into two, A and B, with one group participating in the project, and the other not. This, however, proved to be ethically unacceptable, as we would harm some children and community. That is why we have consciously given up this method.

Implementing partners committed to getting consent forms from the parents, therefore pictures displayed in this publication have been published with their approval.

Documentary

Should we paraphrase an old saying, we´d say "It´s better to see something once than to read about it a thousand pages."

Therefore we decided to produce a documentary about the process of "CloudLearning." In order to provide an objective picture, we equipped the communities with cameras and trained them how to record movies documenting all the joyful and the frustrating learning moments children and educators have experienced throughout the project.

All those interested in the movie are welcome to see it online here.

Training Outline

The project "Head in the Clouds" included two international training events with the general objectives of:

- acquainting the implementing teachers and youth workers with the approaches and tools,

- ensuring a close connection between developers (ICT and educational material) with implementing teachers and youth workers,

- giving the chance to plan the transnational connections of our educational boxes,

- giving the chance to teachers and youth workers to exchange experiences and ideas,

- letting teachers and youth workers experience learning with our educational boxes themselves,

- giving teachers and youth workers the chance to try out the methods from the learners and from the educators point of view,

- giving the chance for SCIO and Verein Offenes Lernen to train the teachers in the evaluation methods and in the usage of the hand-in application,

- giving the chance for GAIA to train the teachers in the creating of materials for the documentation,

- the second training also gives the opportunity to disseminate the outcomes of "Head in the Clouds" to further interested teachers and youth workers within the partners, and to reflect on and inspire each other how to keep working with the approach and the materials.

Both training events lasted five full working days and all partners were present. An experienced trainer of non-formal education lead through the two training weeks and the individual sessions themselves were held by the responsible partners in the consortium. All sessions were implemented using non-formal education principles and the methods and learning approach of the project tasks themselves. On a daily basis the participants of the training reflected on their developments and learning achievements. The outcomes of the reflections were used to adapt the following steps according to the needs of the participants.

Below you find first the training program for the first training week, which took place a month before the start of the implementation in August 2016 in Romania, and then of the second event in April 2018 in Slovakia, which took place after the implementation with the purpose to train further teachers and youth workers and update those who already implemented the developed materials on the changes, based on the evaluation and feedback of the trial implementation run.

Tab. 1: PROGRAM OF THE FIRST TRAINING WEEK

Day 1	Day 2	Day 3	Day 4	Day 5
Get-to-know; Hopes, fears and contributions; Group agreement	**Structure and handouts of boxes**	**Ekopolis box**	**Programming Box**	**Hand-in-App**
Coffee break				
Presentation of the program and project; Teambuilding Getting to know all the partners within the project; Erasmus+	**English Box**	**Ekopolis**	**Programming Box**	**Evaluation methods**
		Communication (between teachers) during the project	**Organising transnational sessions**	
Lunch				
Video making	**Testing the box in the afterschool program**	**IT Box**	**Video Box**	**Evaluation methods**
Coffee break				
SOLE	**Evaluation of the test**	**IT Box**	**Public presentation**	**Answering final questions, organisational points**
		Documentary		**Final evaluation; Certificates**

Tab. 2: PROGRAM OF THE SECOND TRAINING WEEK

Day 1	Day 2	Day 3	Day 4	Day 5
Get-to-know; Hopes, fears and contributions; Group agreement	**Evaluation methods and hand-in application**	**Trial experience – trying tasks with children**	**Public Event**	**Changes in the boxes 2 - 4**
Coffee break				
Presentation of the program and project; Teambuilding; Erasmus+	**Role of the teacher/ youth worker**	**Evaluating the experience**	**Public Event**	**Sustainability: Lessons learned from the project for our educational styles and organisational work**
Lunch				
SOLE and our adaptations	**Sharing experiences from the work in Slovakia**	**Sharing experiences from the work in Romania**	**Evaluation outcomes**	**The work continued: how will we all continue implementing and spreading the project's results and methodologies?**
Coffee break				
Structure, tasksheets and handouts of boxes	**Sharing experiences from the work in Kosovo**	**Free afternoon**	**Changes in the boxes 1 – 3**	**Final evaluation; Certificates**

If in your organization or institution you are planning a training for the educators working with you who will use the materials of "Head in the Clouds", you will probably have a different program based on your target group, the setting and the possibilities e.g. based on time constraints. We want to give you here some general recommendations:

> *The content of such a training should consist of 3 different aspects:*

1. **Teambuilding, evaluation and similar activities:**

   For leading the group through the training together you will need to use some NFE games and methods. This means that you let the participants introduce themselves and their experience, share their knowledge and form collaborations. The trainer is simply present to facilitate this process.

2. **The educational approach:**

   In the same way, make sure that roles, approach and background of the approach are explained with the usage of engaging and experiential learning methods, such as theatre, simulation games, research, group work, interactive presentations, arts, silent discussions, visual harvesting, barometer, world café, etc.

   A central topic of the methods developed in "Head in the Clouds" is to understand the roles, duties and responsibilities of the educators and learners, and how they interact with each other. To really go into detail we suggest a 3-steps process:

   a. presentation of the key words – <u>from teacher to facilitator</u>: through the formal school system we are in many countries still used to a teacher role in which the teacher transmits the learning content directly to the students through explanations and examples. He or she has a clear idea of what the learning outcome will be, gives the input and controls how far and in which direction it goes.
   In our approach the educator assumes rather the role of a facilitator of learning than a provider of information. He or she has the task of giving initial tasks/

short input if needed and then let the learners engage in their own learning process, only supporting if needed. This means that the educator gives up a part of the control he or she has over the content, the level and direction of learning for the sake of learner autonomy.

E.g. in the big questions of the English box we have some questions for which the learners in their research can reach very different conclusions when answering them. These differences will have to be accepted by the educators, and only through questions can they direct the student, if they see someone really leaving the path, not through giving information. Such questions can be "Are you sure the picture you are looking at is a crocodile?" instead of saying "This is a monkey, not a crocodile."

In other tasks, such as in the IT101 box, a clear outcome needs to be reached, such as the assembling and connection of tools. This can be done only in one way and therefore the learning outcome will be clearly defined, but instead of the educator explaining and showing how to do it, he or she will trust that learners have the ability to figure the steps out themselves, letting them try it. The understanding of how to do it, will be higher, as the learners experienced the assembling process themselves and reached the conclusions of how to do it themselves.

Accepting this new role is very essential for our educational boxes to work. One of the educators in the implementation of the project made this statement in the evaluation: "Me and my colleague tried for a day to assemble the Rasbperry Pis and did not manage. We called the technical contact, our contact at the Vienna University of Technology, and even with his support we did not manage. Finally, we asked one of the children to try. He was done after 5 minutes and everything was working." Many times we as educators will also have to accept and enjoy the fact that we can learn a lot from the learners we are working with, and maybe they know something better than us.

b. creating theatre plays in which the educators can show each other how they understood this through demonstration, which will give the trainers and other educators a chance to give each other feedback and to acquire an even deeper understanding of the roles of educators and learners, reflecting on aspects that are not clear;

c. a barometer discussion with concrete situations or questions that the educators have to take a position on: these depend on the setting in which you will later use the materials and serve the purpose of the educators to further understand their role. Such statements can be: "When a learner is facing a problem, it is my role to solve it for him/ her", "What children learn from their own effort is better, so you just need to give them the tools". The statements will be made aloud and the participants will have to position themselves on a line in the room according to how much they agree (between 100% yes and definitely no). After they have positioned themselves let them exchange on why they chose their location. If an argument convinces them to move they can also change their location and explain why.

3. **The educational materials:**
Let the participants of the training – the educators – experience the tasks themselves. First let them do tasks the way children would do them, by trying to fulfill them and entering the answers online.

Then only after all have finished their tasks and feel like they went through all the steps their learners will go through, let them discuss and reflect in smaller groups or the plenary: What did you like? What did you not like? What is not clear? Where did you struggle? Did you manage to overcome the struggle and how?

Before you as a trainer give the solutions to questions, first let the educators try to answer each other's questions. In the whole group they might have all the solutions already and just need to share them with each other.

➢ *The following topics should not be missing in the training:*

- Learner-centred education approaches
- Structure of tasks and boxes
- Evaluation methods
- Hand-in application
- The role of the educator
- An overview of the boxes
- Additionally to this, you need to decide how much time to dedicate on teambuilding and internal structures for working together, evaluating and reporting during the usage of the materials.