

GOOD PRACTICES IN UKRAINE

DDMATH PROJECT

Digital learning in mathematics

for blind students

ERASMUS+ Program

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DDMATH



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Project within the ERASMUS+ program - School Education Gateway - Action
KA2 - Strategic partnerships for digital education KA226 - Convention n. 2020-1-
IT02-KA226-SCH-09557

Project number: ERASMUS+ Programme - School Education Gateway - Action KA2 - Strategic Partnerships for Digital Education KA226 - Convention No. 2020-1-IT02-KA226-SCH-09557
Title: Good practices in Ukraine
Type: PUBLIC
Term as per contract: Additional document
Actual completion date: Additional document
Authors: M. S.
Abstract: This paper mentions the educational situation for blind students in Ukraine
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Interview

On 26 August 2020 from the contact form of the DDMATH project a message was received from M.S. a former Ukrainian student from Kiev, who offered her availability to the project for the localisation of Lambda 2.0 into a Ukrainian language version. After this initial contact, an interview was initiated that touched on various topics starting with the school situation and inclusion in Ukraine and in particular the study of mathematics and the experience with the Lambda programme.

Sara: I ask you what school you are at or have attended.

M.S. I am a blind Ukrainian student, and I used the Lambda software in my studies. I have just finished high school.

Sara: So using Lambda you are also familiar with the DDMATH project. Lambda was helpful to you in your studies.

M.S. Yes it was very helpful, it was recommended to me by Tyflocomp in Bratislava and I would like to translate it into Ukrainian so that it can also be useful for students who only know Ukrainian and not English or Italian. Would it be possible to send me the files in English to translate the software?

Sara: What mathematical syntax do you use in Ukraine

M.S. we use syntax according to the Marburg rules.

Sara: It would be a wonderful opportunity; I think the technical staff can dialogue with you for this project. Once the Ukrainian version is made, you can freely distribute it to students in your country.

M.S. I apologise for not answering earlier. I had some problems with my computer.

I think distributing a free version would be a very good idea. I did the translation, but the person who wanted to help me was not able to do it and I did it myself. I'm not sure if I did it correctly, but if so, could I test it somehow?

Also, lambda2 doesn't seem to work with the nvda addon I had. Does it only work with Jaws now, or are there nvda scripts for it?

Sara: With the DDMATH project we are making scripts for NVDA which you will find on the project website in the coming months.

Sara: Can you introduce me to the situation of schools and inclusion in your country?

M.S. Schools in Ukraine generally follow a 12-year education system consisting of elementary, middle, and high schools. At the elementary level, which lasts four years, students learn the basics of mathematics, science, literature, and other subjects. The intermediate level, which lasts five years, includes more advanced courses and preparation for university entrance exams. Finally, the high school level lasts three years (four for children with disabilities) and provides specialized education and preparation for future careers.

In addition to regular schools, Ukraine has specialized schools and institutes focused on certain subjects and professional areas, including schools for the blind. They offer additional classes that teach mobility and other skills that are essential for the daily life of visually impaired students. These classes include orientation and mobility training, which teaches students how to navigate their surroundings independently, and daily living skills, which focus on self-care and home management. In addition to academic subjects, blind schools also provide vocational training that prepares students for future careers, such as massage therapy, and music.

Sara: How is didactics set up for the study of mathematics?

M.S. Approved textbooks and other teaching materials are used for students studying mathematics in Ukraine, and braille transcriptions are available for blind

students. Braille graphic materials are also printed on special printers to help in the study of mathematical concepts. While there are many programs and online resources available to help students learn and practice math skills, the use of technologies is still developing in Ukraine, and it is unlikely that many blind students use lambda for their studies.

Specialized teachers for blind students are available in Ukraine, and they usually have specialized training and education in the education of visually impaired people. They often take further training after completing their initial university studies. To become a specialized teacher for the blind in Ukraine, people can take additional courses after completing their initial university studies or enroll in a special university in Kyiv.

Sara: Is there an inclusive education system in Ukraine?

Ukraine does not have a highly developed inclusive education system, but more and more children with disabilities are choosing regular schools because technology can make learning easier. There is a special organization in Ukraine that supports inclusive education and provides any possible assistance to children with disabilities who choose regular schools.

Sara: How is the situation for access to university and research in science for blind students?

M.S. Regarding scientific research, there are a number of universities and institutes in Ukraine that provide training and research opportunities in various scientific fields. These institutions have a variety of resources available to students, including state-of-the-art equipment and facilities, as well as opportunities to participate in research projects. Blind students may face additional challenges in scientific research, but with the support of specialized teachers and accommodations, they can still succeed.

In conclusion, Ukraine has a diverse educational system with a range of opportunities for students with different abilities and needs. Progress is being made



Evaluation plan

towards inclusive education and support for students with disabilities, and more and more children are beginning to use technology for learning, which provides them with greater opportunities for self-realization.

Sara: Thank you everything is very interesting. I hope that soon Lambda will be introduced and disseminated in the Ukrainian version for all blind students.