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**MUNICIPALITY OF PLOVDIV**

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**TO**

**MR STEFAN STOYANOV**

**DEPUTY MAYOR OF THE MUNICIPALITY OF PLOVDIV FOR EDUCATION,  
DEVELOPMENT, EUROPEAN POLICIES AND INTERNATIONAL  
COLLABORATION**

***Re: A proposal for inclusion of conceptual ideas and applicable practices related to the implementation of Project No 562113-EPP-1-2015-1-BG-EPPKA3-PI-FORWARD “Using Mobile Technology to Improve Policy Reform for Inclusion of Disadvantaged Groups in Education mRIDGE”, under Erasmus+ Programme of the European Commission, in the Strategy for Development of Education in the Municipality of Plovdiv for the period 2017-2022, prepared by the Municipality of Plovdiv.***

**DEAR Mr STOYANOV,**

The Municipality of Plovdiv is a partner to mRIDGE Project, Using Mobile Technology to Improve Policy Reform for Inclusion of Disadvantaged Groups in Education, under Erasmus+ Programme. The objective of the Project is the creation of digital training resources for mobile devices for the improvement of the educational integration of students who are in a disadvantaged position in the educational system – groups at risk, whose ethnic and cultural



characteristics, special needs or social and economic status significantly reduce their opportunity to receive adequate education.

The objectives of this Project are related also to overcoming the imbalance between the availability of mobile devices and the lack of proposals for educational resources addressed to various groups of users in different educational and social contexts.

The use of mobile devices and the related digital resources for the purposes of educational and social integration is an innovative solution for the demand that has occurred in society:

Mobile technologies give freedom, both to teachers for a complex performance, and to students for a longer investigation of the problem in line with their educational needs, which, according to constructivist views, is a condition for a demonstration of independence and initiative.

The application of these technologies overcomes the limitations associated with the time, place and volume of education content. Students can make use of these technologies, both in the classroom and outside it, at any time which is convenient for them, also gaining access to an abundance of information resources.

Using these technologies does not require preliminary preparation of the students. The interactive multimedia products usually correspond to their intuitive perceptions and their personal preferences, and offer very good opportunities for building a constant interest and lasting motivation.

One of the latest trends in the learning process is related to the integration of popular and widely used electronic technologies. People tend to associate electronic technologies mostly with mobile devices.

The benefit from this type of innovative learning is based on the fact that students embrace with eagerness and enthusiasm anything new which is related to technologies. Innovations in the field of technology applied to education lead to improved motivation for active participation in the learning process, significant improvement of the process of acquisition of learning



content and, due to the use of more senses, to opportunities to facilitate the process of learning for persons in a disadvantaged position, which makes learning more efficient.

The research made to the Project are guided by the presumption that the digital resources developed with the assistance of mobile technologies and the utilisation of these technologies in the distribution of digital resources in the process of learning lead to keeping children of Roma origin at school, better use of learning content and materials in the training of students with special educational needs, opportunity for better integration of students from disadvantaged groups in the existing educational system and eventually inclusion in the system of persons who have been isolated due to social and economic reasons.

Within the Project, a SYSTEM of mobile applications with "added reality" has been adapted for educational purposes with the following variants:

"Added reality" technology has been used for the visualisation of models of objects which can be viewed on the screen of a smartphone or a tablet. These objects (text and illustrations – photos, images, etc.) determine the content and the context of the additional digital resources provided for students by the "added reality" technology.

Special foil is used for image identification on textbook pages, which has a QR (*Quick Response*) code printed on it. The transparent foil is placed on a page in the textbook. The QR code is a barcode which is scanned through the specialised software upon directing the mobile device camera towards it. After the image has been scanned, the QR code activates the audio-visual and multimedia content which is displayed on the screen of the student's mobile device.

The only materials used are the textbook, the mobile device and the transparent foil with the relevant QR code.

This variant of use of the "added reality" technology is applied in two possible ways:

For the student: After scanning the QR code on the transparent foil, the content is visualised on the display of the multimedia device. Transparent foils with the relevant QR code are provided for each page of the textbook for which multimedia content has been created.

For the teacher: After scanning the QR code on the transparent foil, on the display of the multimedia device is visualised the content which contains methodological guidance for the



teacher, which help the teacher to activate the cognitive activity of the students in the process of study of a particular object or process.

Since 2016/2017 school year, Prof Stoyan Belinov Secondary School for Students with Impaired Hearing (Plovdiv) and Geo Milev Primary School (Sadovo) have been making pilot application of mobile technologies in the natural science lessons. Both schools have reported high level of satisfaction with the application of mobile technologies on the part of students and teachers.

An increased interest has been registered in Roma students at Geo Milev Primary School towards the learning content and through it to towards the school as a whole, and the number of student absences has been reduced. The model of use of mobile technologies in lesson units is becoming the basis for reorientation of the strategic objectives of the school and for work on a strategy for the application of mobility in other school subjects as well.

The results of the pilot experiments at Prof Stoyan Belinov Secondary School for Students with Impaired Hearing (Plovdiv) show that students are handling well mobile technologies and show keen interest in working with tablets. They think that team work with mobile technologies brings them more joy than individual or isolated work. It is also easier to accept failure with mobile technologies because the lesson is transferred to a large extent for them in the field of play, entertainment, modern, i.e. "their" world. Therefore, mobile technologies help them to express themselves more adequately, compensating for any existing deficiencies in their physical, psychological and emotional development. Mobile technologies are completely applicable in the learning process of special schools.

It is a common view that mobile technologies actually provide an endless number of possibilities to make a lesson more diverse, more interesting, more accessible and more suitable to one or another specific group of users.

In connection with the statements made above, we propose that the conceptual ideas and indications of the results of the pilot tests applied during the current implementation of Project No 562113-EPP-1-2015-1-BG-EPPKA3-PI-FORWARD, Using Mobile Technology to Improve Policy Reform for Inclusion of Disadvantaged Groups in Education, funded under the



Erasmus+ Programme, underlay as fundamental principles the Strategy Development of Education in the Municipality of Plovdiv for the period 2017-2022, which will make possible their more sustainable transfer in local and regional educational policies on the territory of the city of Plovdiv and the region, and will allow their further establishment as a successful practice on a national level.

I would like to request your assistance for the inclusion of the proposed concepts in the Strategy for Development of Education in the Municipality of Plovdiv for the period 2017-2022, prepared by the Municipality of Plovdiv.

- Attachment:** 1. A summary of the current results of the pilot application of Mobile Added Reality at Prof Stoyan Belinov Secondary School for Students with Impaired Hearing (Plovdiv);
2. A summary of the current results of the pilot application of Mobile Added Reality at Geo Milev Primary School (Sadovo).

**Kind regards,**

Signed (*illegible*)

**Donka Shtilyanova**

**Head of Education Department, Municipality of Plovdiv**

**(Research Activity Expert to the Project, pursuant to Order No 16OA2507/20 September 2016 by the Mayor of the Municipality of Plovdiv)**

In coordination with: Signed (*illegible*)

Plamena Terzieva

Head of Team,

pursuant to Order No 16OA2507/20 September 2016 by the Mayor of the Municipality of Plovdiv

Made by: Signed (*illegible*)

Donka Shtilyanova

Research Activity Expert to the Project,

pursuant to Order No 16OA2507/20 September 2016 by the Mayor of the Municipality of Plovdiv