



OUT OF FORTY

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Abstract

There are 40 mega-regions which produce most of world's wealth, generate majority of patents and attract the best scientists. Others regions have been unsuccessfully trying to copy these mega-regions. The problems are huge difference in culture tradition and history, making it impossible to simply copy them. This paper describes a model of practical education, which will help "out of forty regions" to develop faster. The main idea is to build trans-disciplinary teams of students and seniors with rich experience in different topics. These teams will try to resolve problems, develop new products or services. IPAK and Inova4t successfully realized a pilot project in which students from together with senior scientists and businessmen developed software package to support people with speech imperatives. In future we plan to realize several similar projects, with the aim to generate commercial products. Such approach could be used for faster development of "out of forty" regions.

Key Words: Mega regions, development, students, seniors.

INTRODUCTION

In accordance with data form the bestseller Who is Your City (Florida, 2008) just 40 Mega-Regions dominate the World economy. While those account for just 17% of the World's population, they generate two thirds of its GDP and over 85% of its innovation (measured by patents and scientific papers). All others regions are permanently trying to copy and transfer the good practices from those 40 Mega-Regions. In most case the results of all these efforts are very poor. The main causes of such poor results are big differences in culture, tradition, history so it is impossible simple to copy solutions working well in one environment to another one with a different culture, tradition and history. For example there were several attempts to copy Silicon Valley in different part of the world (Silicon Panama, Silicon Alps, ...). Although the institutions like science, technological parks, cluster, venture capital were copied the final results was not Silicon Valley somewhere but a lot of money spent with no expected big results (Florida, 2003).

For less developed countries this is a huge problem because after strong investment and big expectations results are disappointed. We believe that "copy paste" solution does not work and that each region has to start from their conditions and developed the solutions, which will be based on culture, tradition, history and economic potential of region. Such approach will give much better results.

IPAK institute at Velenje and Inova4t are trying to develop the model called Out of Forty, which will use the local human potentials for socio-economic development of local communities. The success of model is strongly dependent on education, training and support of local communities.



MODEL

The “Out of Forty” approach, states that smaller environments that have the misfortune of not being included in these 40 mega regions must find their own way, existing opportunities and niches for development, based mostly on human resources that they have. Mostly, because development of human resources is much less expensive than e.g. investment into buildings and equipment and proves to be more successful.

In this model we suggest to organize a one week camp that would develop this alternative approach. Students and senior experts groups will work together in small workgroups and develop their ideas. The members of teams that they will learn to cooperate and respect each other, while envisioning a common future. The students will also acquire knowledge, skills and experience in problem solving, team work, designing and development of new product or service, a new idea, manufacturing and marketing of product or service, etc.

In addition to composing teams from different age (young energetic students and seniors with strong knowledge, skills, experience and social networks), we plan to bring together students from different science fields - technical faculties and social science faculties, in order to promote trans-disciplinary approach that is still lacking during their study. The event will also feature a selected lectures and workshops on the following topics: Idea generation, Intellectual property rights and protection of these rights, Design of a new product and services, Innovation systems, services and databases, How to start your own business, Ethical business practices and responsibility, Design, Promotion, Team work and Project management. Thus the knowledge the students will acquire will contain many different perspectives.

The participating students and experts from different regions and fields will be selected and put in contact with each other in order to foster communication and exchange ideas. This way the collaboration at the camp will be intense and fruitful. After completion of the project, all implemented activities, outcomes, experiences and ideas that were developed, will be presented in the publication, which will be distributed to universities in both entities of Bosnia and Herzegovina, to serve as a model and guideline for future continued development of inter-ethnic collaboration and progress. This way the students will also gain experience on how to write and publish papers regarding their work, at the same time promoting the project activities and transferring positive experiences back to their regions and institutions.

The long term results of above described activities will be as follows:

- The new product or service which will be sold on market.
- The new company or institute.
- The increase of employability in local community.
- The positive mind set will be developed what is extremely important for young generation.
- The knowledge and social networks of seniors will be not lost.
- The quality of life of participating persons will be improved.

The above described model requires strong collaboration of different generations, support of local business and community, a lot of creativity and entrepreneurial spirit however it could be realized and support of socio-economic development of “out of forty regions”.

PILOT IMPLEMENTATION

In year 2011 a pilot implementation of the model has been realized as collaboration of Inova4T company from Tuzla, Bosnia and Herzegovina, and IPAK Institute from Velenje, Slovenia.

The mixed team of students of Electrical Engineering Department and students from Educational Rehabilitation Department of Tuzla University was formed in the March of 2011. Together with teachers from Educational Rehabilitation Department of Tuzla University they decided to develop software package for logopedic treatment of children with speech disabilities. The problem was interesting especially because there are not

similar packages in Bosnian language. The personnel from Inova4T and IPAK institute supported the efforts of this mixed team. Several seniors with expert knowledge supported the development of package.

In April 2011 the camp was organized at IPAK institute at Velenje. There were three students from Electrical Department responsible for coding and four students from Educational and Rehabilitational Department. The camp was very intensive, in the morning students were visiting local software companies and institutions supporting disadvantaged people in the afternoon till late in the night students were working together on the development of software package. In the week of intensive work a working prototype was developed.

Returning back to Tuzla students continued to work on package improving and adding new functions. Now the software is tested by different experts and teachers at Educational and Rehabilitational department at Tuzla. The software package has several modules namely: learning letters, learning words, learning sounds. The design was simple and attractive for children as can be seen on Fig 1.

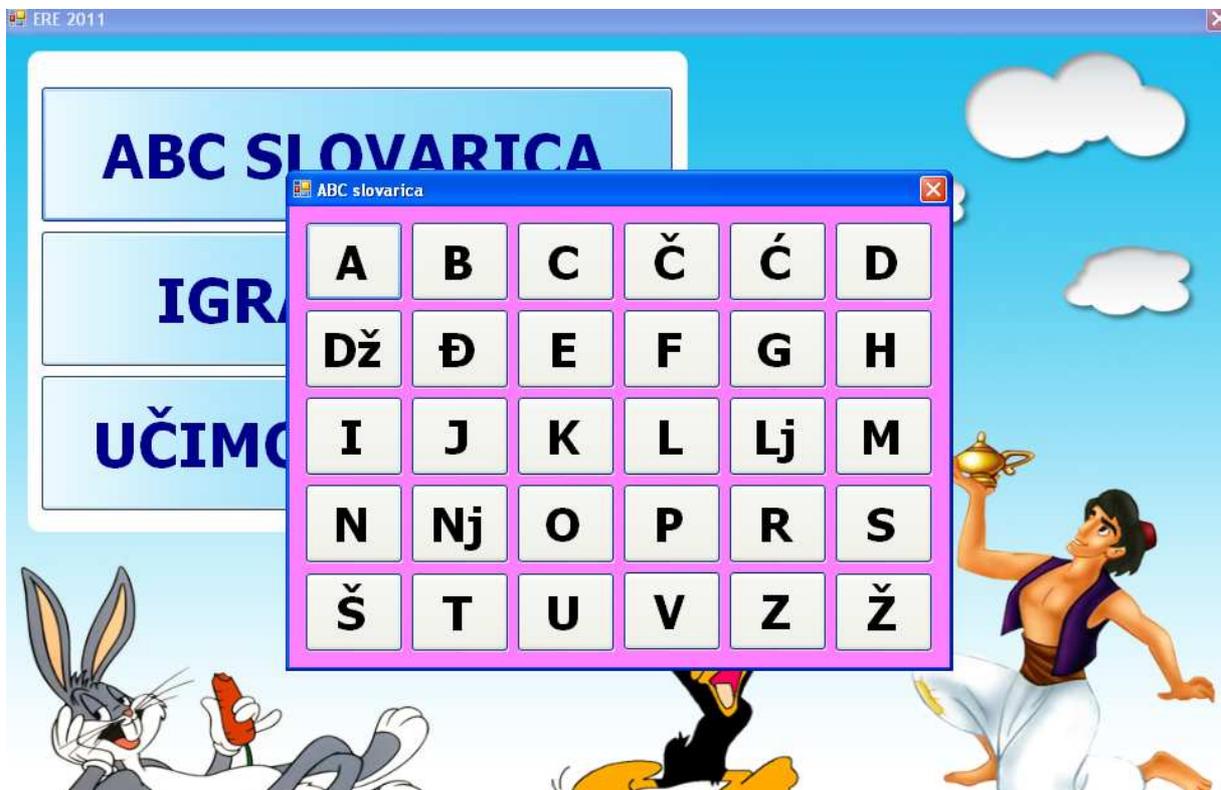


Fig 1: Screen for learning letters.

The principle of learning is simple for letters child has to repeat the letters spoken by speaker, for learning words it has to select the picture which presents the word spoken by speaker as it is illustrated on Fig 2.



Fig 2: Learning the words.

To teach children to speak correctly for each letter there is short video presentation as it is shown on Fig. 3.

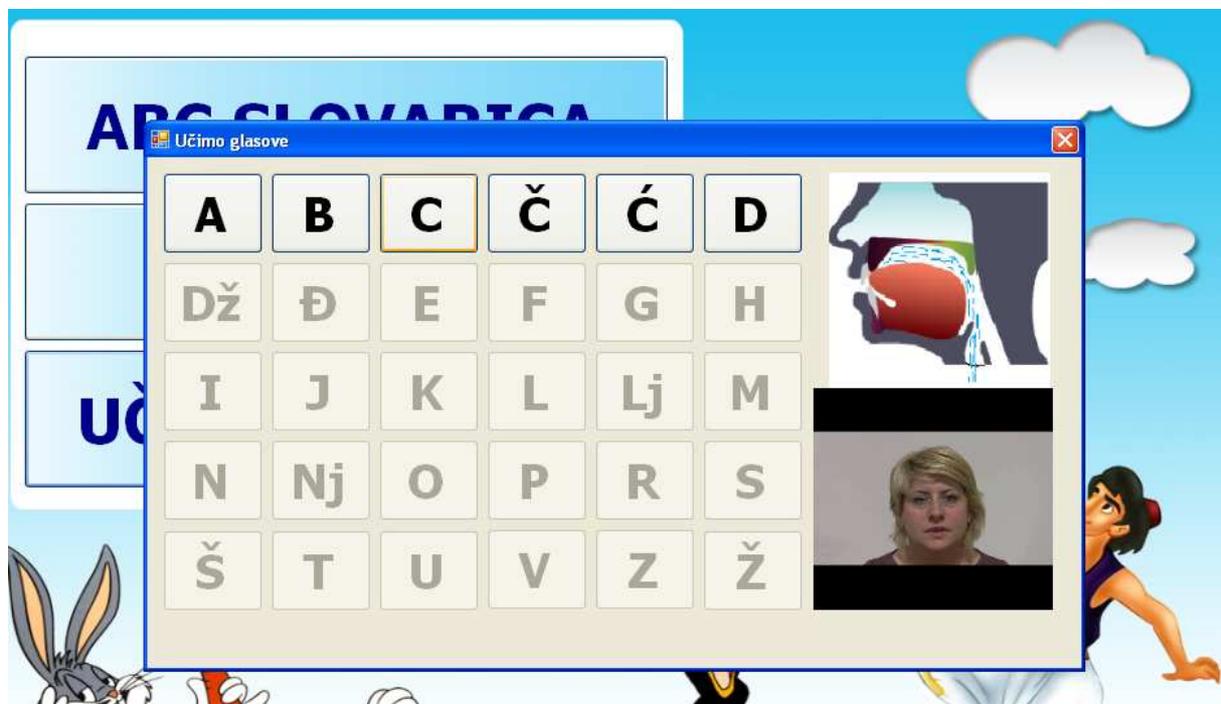


Fig 3: Learning sounds

The experience we achieved with pilot implementation of model is very positive. It is shown that it is possible to build small groups of students and seniors who work together and develop new product which has potential



market. Of course there is a lot place for improvement especially in the field of commercialization of developed products. Involvement of students of economy and marketing in the team in early phases of development would significantly increase the possibilities for selling the products or services.

In this year we plan to organize a couple of camps with students coming from different parts of former Yugoslavia, to include more seniors, and companies who are interested for solving of some problems they have in production, development or some other fields of their activities. This will give new knowledge and experience, which will be useful for further development and implementation of Out of Forty model.

CONCLUSION

The simple and efficient model for socio-economic development of local communities in regions, which are out of most developed regions in the world was developed and tested. The model is based on small teams of students and seniors working on looking for solution of some problems in community, industry or development of new services or products, which have commercial value. The pilot realization of proposed "Out of Forty" was successful and confirmed basic assumption made by the authors of the models. This model is valuable approach to education which combines "learning by doing" and intergenerational learning. Authors will continue to develop and implement the model hoping that it will be accepted globally as efficient use of human resource potentials in different countries.

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