

Towards the Improvement of IT Education Programs

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The article highlights inadequacy of IT education programs in relation to the industry requirements. Interaction patterns between Russian universities and the leading IT companies in order to revise IT education programs are suggested.

Key words: *educational program improvement, information technologies, cooperation between IT companies and Russian universities.*



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Introduction

Information and communication technologies (ICT) sphere is one of the fastest growing sectors of the economy. In order to prepare engineers to meet the requirements of this industry, IT education programs must be constantly revised and modernized. However, this type of work is not commonly accepted by Higher Education Establishments. Therefore, to address new challenges in IT training, definite organizational changes, involving not only academic administration but also teaching personnel must be arranged.

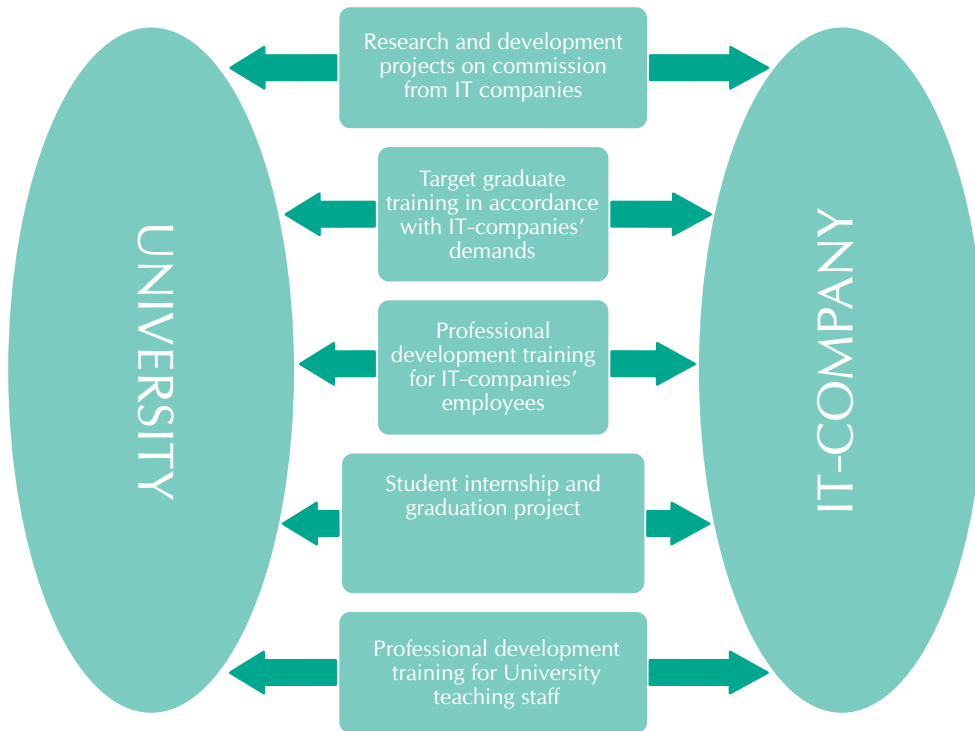
Along with the continuing professional development of teaching staff, it is very important to consider the demands and requirements of leading enterprises for the content of education programs, the level of

graduate knowledge and skills acquired during an education period.

Ways the industry can influence education program content

Pskov State University has recently conducted research on the ways Russian universities and leading IT companies can interact with each other [1]. The basic interaction areas between IT companies and universities are given in fig. 1.

Specifically, survey research based on interview methods was also conducted. Survey respondents, representatives of IT companies answered the questions concerning development of IT education programs regarding the requirements and demands of the sector.

Fig.1. Basic Interaction Areas between IT Companies and Universities


According to the results obtained, the influence of IT companies on the content of education programs is currently maintained through the following ways:

- Development and implementation of joint education programs (Bachelor's degree, Master's degree programs, short-time courses and workshop sessions).
- Launching of enhanced professional development courses focused on learning the technologies which have been developed by IT companies or/and are widely applied in this economy sector.

However, the representatives of IT companies also have pointed out that most new graduates lack even the fundamental knowledge in basic subjects which are studied within the current information and communication

technology programs provided by universities. The representatives of IT companies strongly recommend to revise education programs so that students can dedicate more time to studying cloud computing technology, distributed computing technology, Java programming language, Microsoft.NET Framework, and ERP systems.

IT company-university interaction

Answering survey questions, the representatives of IT companies highlighted the necessity of developing unified information resource to maintain interaction between IT companies and universities.

Such information resource will allow IT companies to post their considerations and preferences concerning the content and structure of IT education programs, announce forthcoming research and development events and activities, allocate information about job placement

and student internship. The development and implementation of this resource with all above-mentioned functions is considered to be a rather important step to maintain interaction between universities and business in terms of education program revision and enhancement of IT student training.

The basic modules of the proposed information system which is planned to handle above-mentioned tasks are given in fig. 2.

Access to information will be possible through regional domains in correspondence with university locations or without any regional restrictions. With the help of this information resource, universities can post their current IT education programs, while IT companies will be able to comment and make a persuasive argument about the content of current education programs, which will be considered by universities in further enhancement of IT students training.

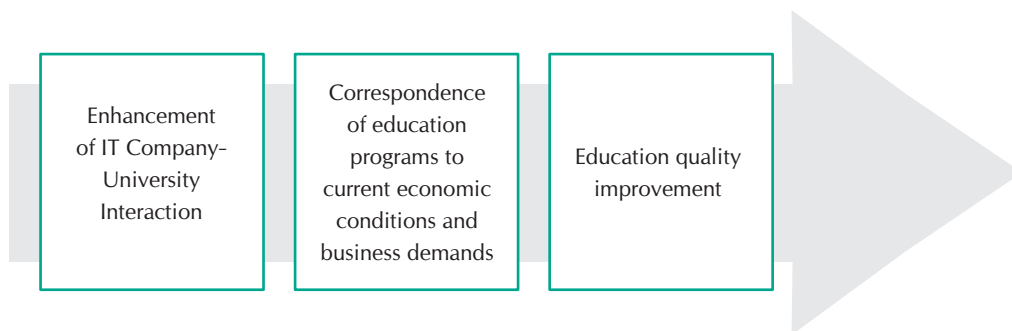
Conclusion

The proposed interaction pattern and information resource will allow universities to adjust education programs to rapidly changing requirements of information and communication technology sector, which in its turn will contribute to training highly-qualified engineers equipped with necessary professional skills which correspond to the requirements of modern IT sector employers (fig.3).

Fig. 2. Basic Modules of the Proposed Information System for IT Company-University Interaction



Fig. 3. Expected Outcomes of the Proposed Network Information System



REFERENCES

1. Bruttan, Y.V. Efficiency Evaluation of IT Company-University Interaction / S.M. Verteshev, Y.V. Bruttan, A.N. Fedoseev // Pskov State University Bulletin. Economic and Engineering Sciences. - 2012. - № 2. - P. 122-126.