

# Simulation System in Educational and Career Guidance State Policy of Ukraine

Vitalii Pazdrii<sup>1,2,3</sup>, Petr Banschykov<sup>2</sup>, Victoria Kosyk<sup>4</sup>, Irina Tropina<sup>5</sup>  
and Oleksandr Hryshchenko<sup>1</sup>

<sup>1</sup> Company of Intellectual Technology, 12Zh, Heroiv Stalingrada, Kyiv, 04210 Ukraine

<sup>2</sup> Kyiv National Economic University named after Vadym Hetman, 54/1, Peremogy avenue,  
Kyiv, 03057 Ukraine

<sup>3</sup> University of Management of Education, 52A, Sichovykh Strileiv str., Kyiv, 04053 Ukraine

<sup>4</sup> The Junior Academy of Sciences of Ukraine, 38-44, Degtyarivska str., Kyiv, 04119 Ukraine

<sup>5</sup> Institute of education content modernization, 36, Metropolitan Vasyl Lipkovsky str., Kyiv,  
03035, Ukraine

pazdriy.v@gmail.com, spgban@gmail.com, bpg@kneu.edu.ua,  
kosik0071@gmail.com, sevennn@ukr.net, gaalav@gmail.com

**Abstract.** This short paper described experience of using business-simulation into education and entrepreneurship supporting state policies. We are talking about All-Ukrainian business-tournament “Strategy of Firm”, which open opportunities for mass entrepreneurship education for young 13-17 years old. Continuation of tournament became state experiment project “Development business education in Ukraine as part of entrepreneurship supporting state policy”, which had started from schools in Kropyvnyckii (Central Ukraine).

**Keywords:** business-simulation, ViAL+, education, career-guidance, state policy, Strategy of Firm, business tournament, business school, ICT.

## 1 Introduction

In modern conditions of transformation in Ukraine there was a need to reform the system of economic education in schools. This step help young people better adapt to education at the university, modern labor market and new uncertainty world. Using of practical business competencies help build by youth their effective career. The need of development of entrepreneurship for youth as disclosed in the strategic document “Europe 2020”, based on three “pillars”: “Community of Innovation”, “Mobile Youth” and “New Abilities and Work” programs. These strategic documents were the impetus for the implementation of concrete steps in the field of business education. Also youth of Ukraine have need in entrepreneurial competence (more 55% of pupils from 13 to 17 said, that they vey wanted to receive skills of entrepreneurship) [1] and competence of entrepreneurship became priority of New Ukrainian School and new Law about Education.

The main problem of choose of occupation by youth in post-soviet countries is their indetermination. For example, many youth dream about business. But they don't understand all aspects of starting and realizing business, what skills they need for this. To remedy this situation, it is very important theoretical and practical education of entrepreneurship. And its must become part of educational and entrepreneurship supporting state policies. There are many ways for practical realized of his purpose. But our view is, there is very effective game and simulation technology as part of entrepreneurship education. And Ukraine has a lot of different projects in this sphere: facultative school of entrepreneurship, lessons of economics, tournament of economics, competition of business plans etc. But we describe only practical oriented steps: business tournaments, business-lessons, mass business-schools for youth, in which used simulation technology.

## **2 Ukrainian Business-simulation ViAL+ as technology of entrepreneurship education**

Business Simulation ViAL+ is a computer simulation system that creates a virtual economic environment by realistic reconstitution of industrial enterprises and creates a "live" competitive environment between the participants (Fig. 1). The main goal of the ViAL+ is forming of practical skills of problem-solving and decision-making in economic, management of production, distribution and competition at the market environment. Upon receiving a complete administrative and economic management of enterprise, the Participant receives the right of individual access to independent management of the enterprise main functions:

- organisation of production processes;
- main funds formation and management;
- staff recruitment and management;
- development and exploring of new kinds of products;
- management of production processes;
- management of product consumer appeal;
- marketing;
- organization of distribution;
- financial management of the enterprise, including through access to credit and deposit instruments;
- production efficiency increase;
- organization of accounting and formation of the company's balance sheet.

Participation in ViAL+ have four stages. The first during the period of 3-4 sessions participant in business simulation ViAL+ adapt to the simulation environment. Then the participation in business simulation ViAL+ gives an integrated vision of the company as a system, which, simultaneously, consists of interrelated functional units (8-10 sessions), an understanding of the cause-and-effect relations in economic management of the company in a competitive market environment (15-18 sessions). When the participant can consciously implement and correct the earlier formed plan of

action, he begins professional analysis of the results (after the 20th session). The reinforcement of acquired competences and practical skills is observed after 25 sessions.

Usually during the traditional career consultation teenagers are passive observers. Business Simulation ViAL+ turns them into the main creators of the competitive situation in the industry, immersed in the management activities. They win or lose as a result of their own decisions, learn to take into account the large amounts of diverse information and to concentrate on the minimum critical factors.

ViAL+ can open ways to practical entrepreneurship education, real choose occupation in economic, management an entrepreneurship spheres and also help to organise innovative events—business-tournaments, business schools and trainings, re-innovate economic education.

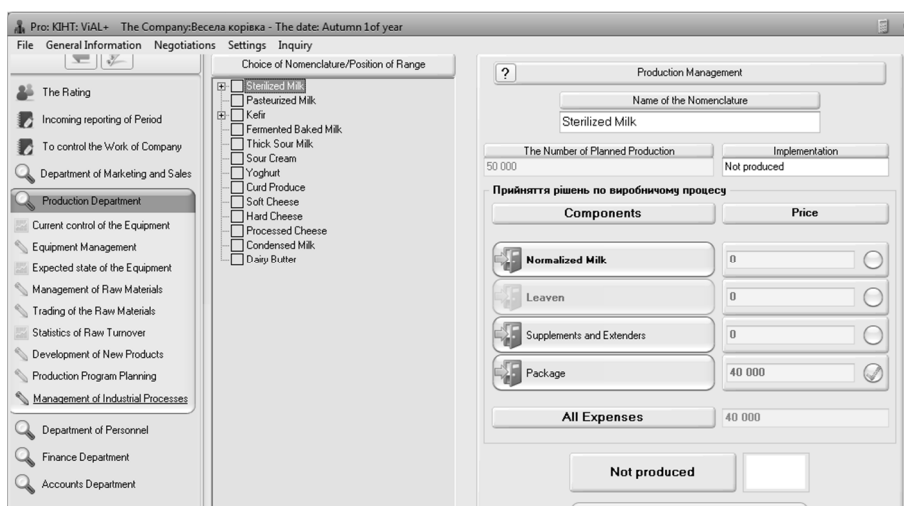


Fig. 1. Interface of User Module of business simulation ViAL+

### 3 Regular all-Ukrainian business-tournament “Strategy Firm”

All-Ukrainian Business-Tournament “Strategy Firm” is regular on-line tournament of making decision of management firm in business simulation ViAL+ from start to successful. Participants manage real economic processes at the competition between other participants. Main goal is build most profitably and effectively company and win competitors.

All processes of tournament are computer-aided and winners are determinate by automatic rating (consist from 12 indicators of results company – profit, market share, liquidity, profitability, using of resources). Participators must decide many realistic tasks in virtual conditions. During period of taking part on tournament participators form basic professional and life-need competences. Our tournament helps pupils

choose their occupation and specialization and increases students and teachers professional competences. This event is really example of career guidance tournament.

“Strategy Firm” became traditional in Ukraine and started new forms of partnership between economic universities, schools, gymnasiums, lyceums, businesses, local communities, local and state government (departments and Ministry of Education and Science) in questions of entrepreneurship education and choosing of occupation by youth. Turnir are supported by Ministry of Education and Science, Kyiv National Economic University, Company of Intellectual Technologies, NGO “Poruch”, Coca-Cola Hellenic, KPMG, METRO Cash&Carry, Kirovohradska Chamber of Commerce and Industry. The award ceremonies held in the Main Hall of Ministry of Education of Ukraine with the participation of heads of educational institutions. All finalists were awarded valuable gifts and monetary incentive.

Target groups are pupils, students, teachers and educators, families, who want to run business or/and rising by career from all regions of Ukraine and neighbours countries. There are 4 leagues such as Pupils, Students Leagues, League of Teachers and Family Leagues. Main stages of tournament are:

1. Online registration at the site: kint.com.ua until to third Monday of February.
2. Online selection stage – third Monday of February each year and three weeks duration – all registered, winners – 400 semi-finalists.
3. Online semi-final – three weeks after selection stage – 400 semi-finalists – to be defined 20 finalists at each league.
4. Offline final – third Wednesday-Friday of April – 80 finalists – 3 winners in each leagues.
5. Open and close tournament take place at the Ministry of Education and Science.

Throughout the tournaments were been posted more 750 press releases. On 2019 was registered 1,930 participants from 25 regions of Ukraine (including Donetsk, Luhansk regions, Poland, Estonia). Number of participants increase in 20 once from 126 in 2014 to 3000 in 2018. And generally we have 10889 participants during 2014-2019 (Fig. 2).

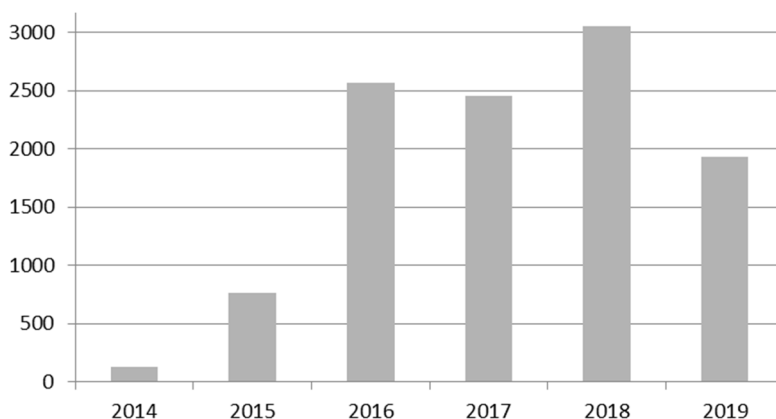


Fig. 2. Dynamics number of participants of tournament 2014-2019, persons

It became result of wide cooperation with Ministry of Education and Science, business and local communities. But in centre of all steps was understanding of needs entrepreneurship skills for youth and their future. This understanding providing to realization of state policy.

The participants said that tournament had helped to discover economics and business, to choose occupation spheres, to meet new friends from all Ukraine.

#### **4 Experiential science and applied project “Development of Business Education in Ukraine as an Element of the State Policy of Promoting Entrepreneurship Development”**

The next step of improving of business simulation technology to education became Decree of the Ministry of Education and Science of Ukraine No. 1221 dated 07.10.2016 “On carrying out experimental work of the all-Ukrainian level on the topic”. Development of business education in Ukraine as an element of the state policy of promoting entrepreneurship development [2]. According of this decree we start to draw up education programs for 8-11 classes (for pupils 13-17 years) as facultative, to continue organize locals and All-Ukrainian business-tournaments, to improve school of business leadership, to organize science and applied researches and other activities.

There were many projects of development of entrepreneurship education in Ukraine. But all they have failing— using of theoretical education without really practice [3]. And we know that entrepreneur will become only by practical. Our project is oriented by theoretical and practical education with using of business-simulation.

Ukrainian and foreign scientific researches show that the most effective is business education with simulation system, which is carried out in a competitive environment, developing healthy ambitions of young people, interested and motivating it to productive activity [3, 5, 6]. In addition, an improved system of school business education will enable for youth work in a team, to communicate effectively with partners and competitors, to negotiate with other people. At a time when young people are extremely lacking in communication, this is especially true.

The main idea of the research is forming methodological approaches to the introduction of entrepreneurship courses with simulations and games into school programme for 8-10 classes. These courses develop the skills of economic literacy, entrepreneurship, clear professional positioning and the development of accompanying “soft skills”: self-discipline, presentation, self-motivation, entrepreneurship, initiative.

The hypothesis of experimental work is business education in Ukraine needs some reform to ensure the most effective formulation and implementation of business knowledge in the business environment. The state educational policy can't be separated from the requirements of society and the priorities of the country, and therefore the practical significance of the experiment is to substantiate the innovations in the approaches to state regulation of entrepreneurship development by learning in the context of European integration processes. By this time in Ukraine more attention was paid exclusively to the economic and legal regulation of the functioning of

entrepreneurship, and not to the educational preparation and education of the entrepreneur himself. In view of this, the program will develop and substantiate recommendations for optimizing organizational relations between the subjects of management in the system of state regulation of entrepreneurship and education system; Their mutual influence was identified for the purpose of business development by consolidating the efforts of the state, public and business environment, forming and providing educational services to the stakeholders.

Technology of experimental science and applied project “Development of Business Education in Ukraine as an Element of the State Policy of Promoting Entrepreneurship Development” are business-simulation ViAL+.

The tasks of research are:

- carry out systematic analysis of domestic and foreign scientific literature, normative documents on the subject of research;
- to identify existing models of business education, to investigate their characteristics and efficiency in the conditions of the globalization of the world educational space;
- analyse the development of business education abroad;
- to reveal the economic significance of business education in the conditions of transformation of the national economy;
- to offer directions for the development and improvement of the management of the branch of business education in Ukraine;
- to substantiate the model of business knowledge formation with the help of education and science, business environment, civil society;
- to create and test a new course with using of business-simulation on business education in educational institutions;
- to prepare educational and methodological materials on the results of the introduction of innovative technology - business simulation - in the conditions of the organization of educational process of the educational institution;
- provide organizational, technical, and informative resources for immersing a student in the business environment by using business games and business simulations, as a result of which the student has the opportunity to feel differently in managerial roles with subsequent internships in business subjects.

During first stage of project were created and improved:

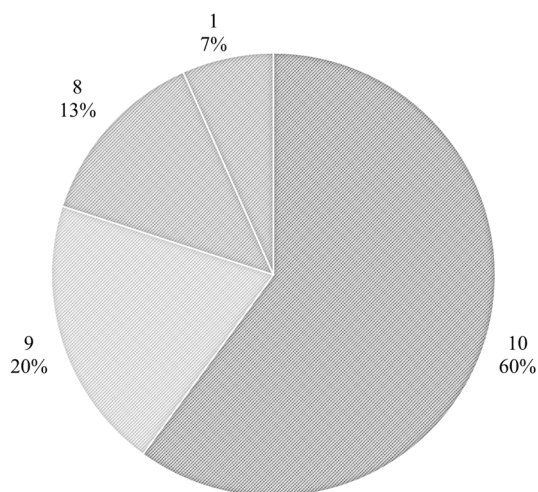
- program and lesson for pupils of 8-11 classes for 6 schools of Kropyvnyckii as pilot project;
- open lessons and competitions of advertising, products for pupil’s trainings companies. Participants of this events were pupils and teachers. But experts of competitions were owners, TOP-managers of TOP companies of Kropyvnyckii and Ukraine, Deputy of Ukrainian Parliament, local political and public activities;
- 4 local business-tournaments at the winters 2016-2018 years were classic competition of entrepreneurial and managerial skills such as All-Ukrainian Business-Tournament “Strategy Firm”;
- two Summers Schools of Business Leadership for teenagers 13-17 years old during 2-23’rd of June’17 and 1-20’th of June’18. Near 360 teenagers became participants

of this events. Summer School Business Leadership became innovative form of summer school for Ukraine. Program of School consisted of five parts: 1) theoretical training; 2) practical training in Business-simulation ViAL+ and 3) preparing advertising clips; 4) excursions to largest, middle and small enterprises; 5) consulting real farmer company.

- Entrepreneurship Forum 24<sup>th</sup> of November’18 – more 250 participants, includes first persons of politic, business elite and teachers, principals of schools.

There were 220 pupils of 16 classes of 5 schools became first participants of experimental projects. Teachers O. Zadorozhnij, S. Pustovoyt, O. Shylo became first who developed and improved businesses lessons in Kropyvnyckii. During 2017-2019 will be created programs for 9-11 classes and also scaled projects for other schools.

After finished courses of business we questioned pupils. And near 78-80% of pupils evaluated themselves level of business-skills as good and very good (8-10 point from 10). 80% of pupils said that facultative very useful (points 9-10 from 10, Fig.3). And near 90% said that want to continue lessons. 72,2% of participants very liked of taking part in Business-simulation ViAL+.



**Fig. 3.** Result of assessments of usefulness of business-lessons for pupils of 8 classes (self-assessments) from 1 to 10)

Very interesting were became open business lessons, Entrepreneurship Forum and other events for managers, owners, public local and all-Ukrainian leaders, municipal managers. Pupils spoke about their strategies and advertising campaign of trainings companies into Business-simulation ViAL+. For adults it was became shock. Because, in post-soviet school don't speak business, entrepreneurship, economy and aspects of managing of company. This situation is very crazy for Ukrainian education. And we educate and form life-oriented skills. But our events became real practice coordinate efforts of secondary and high education, business, public government and community.

For Ukraine, it is very seldom and sometimes unreal practice. We can do this. And experimental projects are continued.

## 5 Conclusions

Entrepreneurship education and providing ICT, simulation technology are important part of education state policy. Because we really forming economic active and initiative youth for Ukraine. And in future these persons make decisions in policy and forming state and local budget as employee and employers.

But, regardless of many successful stories and practice we have serious challenges in providing of business-simulation in education and career guidance practices:

- Troubles in preparing of IT-infrastructure of Ukrainian schools: old computers, not quickly Internet and others.
- Low level of computer preparing of teachers.
- Lack of money for projects. All initiatives were only volunteering and initiatives of some leaders and activities. But we haven't money supporting from state or local governments. Also business support by expert not money.
- Very high level of conservatism of teachers, business-leaders, public and society leaders. They sometimes think that business-simulation and ICT cannot educate of business. In some aspect, it's true. But business-simulation can build base for forming entrepreneurial minding and skills.
- Teachers aren't mental preparing to educate entrepreneurship and to use business-simulation in trainings.
- Low information interest of media to education events in Ukraine. Main topics of news are war at the East, scandals, negative events. But positive and useful practices are marginal on media.
- Generally low level of entrepreneurial and business culture in post-soviet countries.

For development entrepreneurship education and providing of business-simulation we must:

- Active information campaign for forming positive and corrective attitude to entrepreneurship.
- System of trainings about ICT and simulation technologies, entrepreneurship for teachers, directors and their deputies, specialists in educational methods, pedagogical scientists.
- Popularized business tournaments and mass business schools for open opportunities for entrepreneurship education.
- Development IT-infrastructure and change computers at the schools by using Ukrainian budget and European grants.
- Providing real computer courses for teachers and directors of schools.
- Providing individual parts of entrepreneurship education into New Ukrainian Schools.



## References

1. The New Ukrainian School. Conceptual principles of secondary school reform. <https://mon.gov.ua/storage/app/media/zagalna%20serednya/Book-ENG.pdf> (2016). Accessed 21 Mar 2019
2. Decree of the Ministry of Education and Science of Ukraine No. 1221 dated 07.10.2016 “On carrying out experimental and experimental work of the all-Ukrainian level on the topic “Development of business education in Ukraine as an element of the state policy of promoting entrepreneurship development”. [https://web.archive.org/web/20170401093411/http://old.mon.gov.ua/files/normative/2016-10-11/6293/nmo\\_1221.pdf](https://web.archive.org/web/20170401093411/http://old.mon.gov.ua/files/normative/2016-10-11/6293/nmo_1221.pdf) (2016). Accessed 21 Mar 2019
3. Bobinskaya, E., Shiyani, R., Tovkalo, M. (Eds.): Lessons with an Entrepreneurial Background: Educational materials. Owl, Warsaw (2014)
4. Kobernik, O.M. Theoretical and methodical principles of the competence approach in technological education. Modern information technologies and innovative methods of training in the training of specialists: methodology, theory, experience, problems. 37, 85–91 (2014)
5. DeSeCo. Definition and Selection of Competencies. Theoretical and Conceptual Foundations. <http://deseco.ch> (2016). Accessed 21 Mar 2019
6. Liashenko, M.: Formation of entrepreneurial competence of future teachers of technology. <https://www.cuspu.edu.ua/ua/ntmd/konferentsiy/conf-problemy-ta-inovatsii/sektsiia-2/4740-formuvannya-pidpryyemnytskoyi-kompetentnosti-u-maybutnikh-uchyteliv-tekhnologiy> (2016). Accessed 21 Mar 2019