

QUALITY ASSURANCE IN BUSINESS EDUCATION: ROLE OF INTERACTIVE TEACHING-LEARNING PROCESS AND EFFECTIVE EXAMINATION SYSTEM

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1. Stackelberg-Nash equilibrium in the education market in Latvia

Problems of higher education in Latvia (especially focused on the economics and business management education) in the socio-economical aspect have been conceptually analysed in the scientific paper by A. Jaunzems "Stackelberg-Nash alternatives in the education market in Latvia". Author of this paper has forty year experience in economics and management education. He has collected and documented a number of facts which are used for generalisation. Game theory allows to understand how the individual behaves as well as dialectics of formation of socio-economic situation. Game theory also explains social un-socialisation and rational individual antisocial behaviour.

Development of the game theory is related to publications by *Niccoló di Bernardo dei Machiavelli*, *Antoine Augustin Cournot*, *Heinrich Freiherr fon Stackelberg* and *John Forbes Nash*. It is likely that the game theory system 300 years B.C. was used by legendary philosopher *Kautilya* in his work "*Arthashastra*". Game theory and micro-analysis could be successfully used for diagnostics of matters of inefficient functioning of different socio-economic systems. With the help of game theory and micro analysis it is possible to create innovative methods of management, which do not involve high costs but can radically increase efficiency of the organization. Problems which before seemed meta-physical within the triple helix of game theory (*The Triple Helix: Gene, Organism, Environment*) are solved with the help of positive research methods.

The following statements are discussed and proved in the paper above.

1. Education market in economics and management in Latvia definitely is not the market of perfect competition together with the famous self-regulation potential of *invisible hand* described by Adam Smith when the interaction between the seller and buyer automatically reduce the product cost and increase the quality.
2. In the education market of economics and management in Latvia the main payer do not check the quantity and quality of the product but is delegating this control to the product sellers themselves so, education product can be classified as *credence goods*. Based on

reaction from producers due to the asymmetric information such Stackelberg-Nash equilibrium happen which decrease the quantity and quality of the product.

3. The main task of academic education is to attract smart young people, to select elite for management of state institutions and companies as well as for research and academic work in universities. Education is carrying out function of self-protection filter which prevent non-smart people to enter governmental institutions and to receive rights for making decisions. Education in Latvia for decades poorly was using the function of the social filter. Latent corruption has happened in several cycles and filling the socio-economic space with criminally low level of qualification of bachelors, masters and doctors thus has created bureaucratic subculture of decadency. This also confirm wrong, non-systemic and short sight decisions made by the government.

4. Poor knowledge of master students and doctoral students is very dangerous for socio-economic development of Latvia, as they cycle after cycle produce even more poor knowledge. There is an interaction between socio-economic subsystems, and negative synergy is developed which in return increases stability of the balance and produces a snowball effect.

5. If there would be introduced a regular and objective external audit for evaluation of student knowledge, skills and practice based on international criteria, and the price of product would be connected to the quality of the product, then the educational products can be classified as *search goods*. This would radically change behaviour of education producers. As a reaction of producers the Stackelberg-Nash equilibrium would gradually take place in the education market, which could increase the quality of the product. Objective external audit is a powerful method for decrease of information asymmetry which fits in universal scheme of internalisation of externalities.

6. Student knowledge audit should be external in relation to faculty and market intermediaries – rector and minster. Nash equilibrium meaning is based on the fact that the balance is reproducing itself and inner forces of the system cannot bring out the system from the Nash balance. Majority of players in the education market do not want changes and will be against them as they can loose benefits. Therefore, the proposal for a need to evaluate student knowledge based on high international criteria is not supported and there are statements that such an audit virtually is not possible to carry out or it will be ignored.

7. When evaluating quality of the study programme in economics and management the reference level is analogic programme in the leading higher education establishments of the world, leaving significant academic freedom for the faculty members. The study programme in terms of contents should be based on broadly used Western textbook system which in a

university would be displayed in the special stand for academic literature. Content of the study programme should be integrated, transparent, quickly updatable and easily auditing. Evaluation of the work of HEIs means fair evaluation of student knowledge, skills and competence in all subjects of the study programme based on high international criteria and as outcome students receive credit points but professors – reimbursement.

8. HEIs are spending taxpayer money. Therefore, to prevent misuse of governmental funds inhabitants of Latvia can legally request to introduce fair audit in order to evaluate outcome of the faculty in each HEI.

Remark 1. Management science defines the term Latvian state quite vague: so called mechanism of governmental decisions and the quality of decisions is far away from the basic requirements of the management science. Detailed research on individual values and group preferences dialectics as well as on group decision making mechanism have been carried out by the Nobel Prize winners *Kenneth J. Arrow*, *James M. Buchanan* [8, 9, 10, 11]. Complicated is also dialectics of the national state and globalized world. The role of education as the factor of human capital has been researched by the Nobel Prize winner *Gary S. Becker* [12]. Research with a special non-conformist aim on how the Latvian state is making decisions on education industry regulation and accumulation of knowledge capital is planned however, the research still lacks information.

Remark 2. Decadency Stackelberg-Nash alternative is an excellent example which shows how the game agents i.e. students, faculty members, rectors in a multiple ways adapt to the leader's wrongly selected strategy. This example is included in the latest textbook in microeconomics "Andrejs Jaunzems. Microeconomics. Theory and analysis. Ed. ac. B. Rivza– "Zelta Rudens". ISBN 978-9984-648-30-9. 2013. 900 p."

Remark 3. Usually, it is not possible to determine beginning of the negative trends. Each individual player does not determine the existence of Nash equilibrium. Based on objective circumstances each player says "I act as it is better for me because I am not an enemy to myself. If I'll do differently but the rest will continue to do the same, I will do worse". Even state leaders conclude that all negative is interconnected and there is some sort of the loop with no way out.

How to get out from the stagnating Stackelberg-Nash equilibrium?

Nash equilibrium situations which degrade socio-economic environment are difficult to overcome. The equilibrium self reproduces itself and the inner forces of system cannot bring

out the system from Nash equilibrium. Majority of players in the education market do not want changes and are against them because they can lose self-benefits. In accordance with the theory we can observe that idea about audit of student knowledge by many administrators in education is perceived as personal abuse.

Up to now competitiveness among higher education institutions is about where it is easier to study and to receive certificate of qualification approved by the Latvian government. Those HEIs which compete for real knowledge lose in this competition as students run away to “easier” universities. Ventspils University College with the help of Ventspils municipality is not going to wait for changes on the governmental level but already now will try to get out of the existing stagnating Stackelberg-Nash equilibrium and to reach really auditable student knowledge, skills and competence in thoroughly developed study programme. Study programmes in entrepreneurship and business will be the first where the auditing will be piloted in the Ventspils University College. In order to introduce honest competitiveness, transparent and standardised student examination must be introduced in all HEIs in Latvia.

2. How to reach highly auditable level of student knowledge, skills and competence in each course of the study programme

In the paper authors will discuss only two components of the interactive teaching-learning process i.e. the quality of those who are taught and quality of results of the teaching-learning process. In economic terms it means quality of raw material in production process and quality of the product which is crucial for successful competition in the education market.

2.1 Quality of students and recruitment of quality student contingent

Famous *Iohan-Amos Comenius*, 1592-1670 in his didactical studies special importance devotes to the agents of education market i.e. potential and preferences of persons who are taught. Student preferences determine choice of a university where location, living conditions, tuition fee, impression about the academic work of the HEI, opportunities of graduates to find a job and receive a competitive salary play important role. The main emphasis in this paper is concentrated on academic work and teaching-learning process. There is a myth that students as a minimum want to acquire knowledge, skills and competence according to the profession standard adopted by the respective ministry however, as a maximum they want to develop their personality. There is even older myth that there are not bad learners but bad teachers. Microanalysis categorically deny such general formulation however, it analyse empirical student preferences.

According to the classification by *Iohan-Amos Comenivs* learners are different depending on both physical and psychological type. Not all young people are able to receive the academic education. *Iohan-Amos Comenivs* in his work “*Didactica Magna*” revealed six types of natural abilities. There are well developed and limited abilities, easily manageable and those which cannot be managed – some are aiming for knowledge as they want it however, others are happy to do mechanical work. All in total six different types can be outlined.

Type A. Learners with a sharp mind who are aiming for knowledge and are easily manageable. They are better than others and show distinctive abilities during the classes. They do not need anything, they only want to be supplied by knowledge. They are growing as aristocratic plants.

Type B. Learners with a sharp mind, slower but are listening. They only need some small push.

Type C. Learners with a sharp mind who are curious to receive knowledge, however they do not have a discipline. Properly managed and behaved they can reach a lot in their lives.

Type D. They are eager for knowledge and obey discipline however, they are slower and lazy. They can follow the leader. Although they will reach their goal later, they can withstand more.

Type E. They are slow, lazy and not interested in anything.

Type F. They are slow and dumb learners and their status in most cases are hopeless.

This classification presented by *Iohan-Amos Comenivs* could be also transferred to students. It is similar as in production i.e. when creating education quality system one cannot ignore quality of the material. In February 26th, 2014 professor Vitauts Daujotis from Vilnius University in portal LETA revealed that “Young people have poor knowledge, Students who do not know how to solve elementary exercises in math enter universities, and the situation is getting worse. This year knowledge of the first year students in arithmetic who are studying chemistry was tested. The situation is tragic.” Professor observed that those students cannot think logically and study independently. However, they can enter the university as they mean income for the educational institution. Therefore, documents on education as well as evaluations and assessments made by local and international experts should stress not only quality of the faculty but also analyse contingent of students.

The issue on recruitment of quality student contingent is one of the most essential and also complex. Critical demographic situation and fairly high number of study places at universities which need to be filled according to the principle “money follows the student” determine that

each student means a resource of existence for the HEI. Centralised examinations in maths reveal that a number of A and B type learners each year decreases. However, all departments in universities including faculties of economics and management and entrepreneurship want to recruit A and B and perhaps C type students. Nevertheless, in a struggle for existence universities have to admit almost all types of students where E and F types have to pay study fees.

2.2. Examinations

To ensure results of the teaching-learning process didactical science pays a crucial role to objective examinations without any compromises. Quality of the education product should examine the one who pays for the product.

Only auditable student knowledge in all courses for which students receive credit points and lecturers are getting paid should be requested from the university. Audit of student knowledge can ensure a fair competition among students, professors, administration and universities. In order to reach a high level of student knowledge there can be used several didactical methods. Targeted competitiveness will renew self-regulation function of the education market so, universities will try the best to recruit the smartest secondary school graduates and will establish close cooperation with the schools. Least performing professors will have to improve their teaching or leave, universities who will repeatedly show poor auditing results will have to close down. There market economy principle “As there are more students who pass the audit, there should be more income” should be implemented.

Management axiom pinpoints that if there is a lack of external control of product quantity and quality than each organization sooner or later will start stagnating. Moreover, external audit of student knowledge will also increase importance and “weight” of university graduation diploma in the HEIs of Latvia.

2.3. Formation of foundation of broad fundamental knowledge

During the study process it is vital to gain updated knowledge which will allow to build a broad foundation of fundamental knowledge and will develop associative thinking and memory. Fundamental knowledge provides an opportunity to learn the whole life and to change qualification according to needs of the labour market. Independent educated personality is able to interpret information, be protected against manipulation and is able to

criticise. Therefore, it is essential that the student acquires as many of basic postulates of the fundamental mankind culture as possible.

Attraction of smartest young people who after the university graduation will form the senior management team of governmental institutions and companies, who will join the research and/or academic environment is the main task of academic education. Education acts as social self-protection filter which ensure that only relevant people are employed by governmental institutions and they gain the right to make decisions. The European Commission White Paper also stresses that in Europe prestige academic knowledge and high theoretical qualification is the best certificate for getting a job. Moreover, it has become almost as an absolute reference point for evaluating the competence. (European Commission White Paper “Teaching and learning – towards learning society). Prestige academic knowledge is needed also for students in Latvia therefore, higher education institutions in Latvia have to ensure that A, B and C type students are able to develop their competence and skills to the full extent.

3. Quality assurance algorithm for local realization

Quality of higher education in Latvia has been analysed and evaluated in several national and global policy documents and reports i.e. the annual Global Competitiveness Report evaluates primary, secondary and higher education in Latvia. Outcomes reflected in those documents relate also to business education. As discussed above, quality assurance plays the vital role in education process in all areas including teaching-learning interaction concerning education of entrepreneurs.

Quality assurance is essential aspect for Ventspils University College (VUC), its three faculties and 13 study programmes. Graduates from the VUC business programme are employed by different companies and institutions both on regional and national level. To ensure that the VUC students through the interactive teaching-learning process gain auditable knowledge, skills and competence, the quality assurance algorithm has been developed which include the following main cornerstones:

- individual recruitment of smart young people, establishment of mutual agreement about responsibility and cooperation between the student and the HEI on auditable results of the study process;
- logical, rational study programme following the best examples from the leading universities in the world;

- teaching side – relevant qualification of professors, faculty development, integration of courses in the programme;
- learning side – thoroughly organized and controlled individual work of the students;
- assessment – relevant content of examinations, procedures, results
- above all – academic environment, cult of knowledge and discipline

The algorithm will be piloted using the joint study programme “International Business and Export Management” which will be carried out at the Ventspils University College in cooperation with the Krems University of Applied Sciences in Austria. Recruitment of students will be based on previous performance results and admission interview. All results will be evaluated and selection of students will be done by the VUC and Krems joint Admission Committee. Well-developed quality assurance mechanism placed the study programme among top ranked programmes in Austria. The programme follows the best global examples in the subject area, requirements for each and every course including learning outcomes, assessment mechanism and teaching methods are described in detail and implemented. Faculty of the programme consisting of academia representatives from both universities based on clearly defined criteria are selected by the joint faculty selection panel. All courses in the programme are integrated and ensure balance between the theoretical part and practical side of the programme. Each module in the programme includes certain requirement for student individual work with clearly developed guidelines. As each study course contains a certain number of credit-points student knowledge will be assessed by different examinations, individual and group assignments and course works. Structure of the programme is built in a way to encourage students to join different research activities and to test applicability of different theoretical models learnt during the courses.

Graduates of this and other programmes related to entrepreneurship and business are demanded by Ventspils city municipality, Ventspils Freeport, international and national companies in Ventspils, Kurzeme region and in the country, therefore all parties involved highly support implementation of the quality assurance algorithm in all academic programmes at Ventspils University College. As the quality assurance issue in higher education recently became a top agenda item in the Ministry of Education and Science of Latvia and the Cabinet of Ministers, the quality assurance algorithm after piloting in VUC might be implemented also in universities and other HEIs in Latvia.

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