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Enhancing the cognitive and creative activity of students of the specialty
“Finance, banking and insurance” in the knowledge economy

Oksana I. Omelchenko

Simon Kuznets Kharkiv National University of Economics, Ukraine

Chaikovskoho street 12, 12, Kharkiv city, Ukraine, 61024

Candidate of Economic Sciences, Docent

Associate Professor at the Department of Banking

e-mail: ksu.omelchenko@gmail.com

Summary. There is a gradual evolutionary transition to a new economic system in the world caused by technological, financial and environmental changes. There is a transition to the newest high-tech, high-performance and flexible forms of production. It asserts the dominance of the knowledge economy and science becomes a direct productive force of society. It is safe to say that the formation, establishment and development of knowledge economy in the country will help increase its competitiveness.

Considering this the article analyzed the dynamics of scientific and technological activity in Ukraine for 10 years and identified a direct role of education in shaping the intellectual elite of society. The sphere of education is the most dynamic part due to the continuous increase in the number of students in higher education institutions. It is caused by the growing interest of the population to higher education, raising its prestige, increasing demand of the economic system.

It is proved that in the modern society interactive technologies of training are important for satisfaction of educational needs and facilitates the development of creative personality, which is able to make decisions in dynamic variable circumstances. The author defined their role including academic training for students in the process of gaining knowledge and skills. Also it emphasizes the need to

introduce competence approach to learning. Conceptual issues of shaping the professional competencies of the students are also discovered.

Keywords: competence, education, interactive technology, knowledge, knowledge economy, student centered approach, skills.

Introduction. The formation of the knowledge economy and the formation of leading positions of creative work put forward a number of theoretical problems caused by peculiarities of the age of prevalence information products and technologies.

The processes of globalization in a modern economy, growing competition in domestic and global markets, increased requirements to prices, quality products and services that activated the processes of mergers and acquisitions, the emergence of new firms and whole industries in the manufacturing, finance and innovation spheres are connected with the need to significantly increase the level and quality of the knowledge and constantly improve forms of exchanging of resources of knowledge.

The dynamic of the market processes of functioning of domestic enterprises and financial institutions requires raising the level and quality of students' education which provide management and organization of such enterprises.

All this determine the relevance of solving problems related to the preparation of specialists that meet current unstable and changing conditions of business entities functioning.

One of the perspective directions of improving the quality of future specialists' education is intensifying their educational and cognitive activities through the introduction the active methods of learning with emphasis on independent student's work into the learning process.

Materials and Methods. The transformation processes in Ukraine at this stage are aimed at overcoming the decline in production, improving living standards and stimulating the economic processes. That is why the choice of intense direction of economic development is not possible without stimulating scientific and technical activity. The priority of economic development is investment in human capital and

intellectual capital formation. Ukraine faces the task of forming its own innovation model, which involves the interaction of government, business and science. The state, first of all, must ensure the development of this model by creating the legal framework conditions for the effective operation of scientific and educational spheres and determine the priorities of innovation development.

Solving this urgent problem by domestic science poses new challenges as creating competitive technologies and implementation the results of scientific and technological activity in production.

Thus considering the objective need and social importance of quality training of future financiers and bankers in the economic universities and relevance of the formation of their practical skills in management it is important to determine the role and place of academic training in their professional study, to identify its key elements and ways of practical implementation to economic activities of higher education institutions.

Investigating the training of future professionals in higher education institutions has always paid proper attention. The methodological foundations of modern philosophy of education are studied by V. Andriushchenko, V. Kremen, I. Ziaziun [1; 2; 3; 4]; the problems of continuous professional education are studied by S. Honcharenko, N. Nychkalo [5; 6], the problems of professional training in higher education institutions are studied by A. Aleksyuk, N. Moiseiuk, O. Romanovskyi [7; 8]. Such aspects as overcoming the problems in economic education of future professionals are discovered by I. Itkin, V. Kozakov, H. Pobirchenko, I. Prokopenko [5; 9; 10; 11].

Development and implementation of modern educational technology of professional training of specialists are analyzed by V. Bepalko and O. Sysoiev [12], peculiarities of professional training of future specialists in the context of personality-oriented education are analyzed by H. Ball, V. Rybalka [13; 14].

Despite the presence of a significant amount of research, the problem of increasing the efficiency of practical training of future financiers and bankers in higher education institutions are not explained enough in theoretical, methodological

and methodical aspects. Aside researchers still remain problems of development the organizational pedagogical principles of using educational training in teaching students of such professional direction.

Discussion and results. The evolutionary transition to the knowledge economy is accompanied by a constant increase in the share of human capital in its total volume. In XVII - XVIII century the share of human capital in its total volume did not exceed 10%, at the beginning of the XIX-th century it increased to 33%. But it is significant that in the second half of the XX-th century the rate of growth of the share of human capital was the most intense. For the countries of the West this share in the period from 1913 to 1973 increased from 31% to 57% and after a quarter-century reached almost 70%.

So, in XXI century no natural resources, no territory, but high technology, knowledge, intelligence will form the core of the knowledge economy, will be a source of well-being and quality of life of the country. That is why it is necessary to coordinate actions aimed at modernizing the economy and society in the scientific, technological, organizational and industrial areas with the dominance of education, science and innovation for creation conditions for stable economic growth in the country.

Scientific and technical activity is an activity aimed at obtaining and using new knowledge to solve technology, engineering, economic, social and other issues, and the functioning of science, technology and manufacturing as an unified system. It includes the entire process of creating innovative products – from the idea to its implementation in the production or sale. The main scientific, technical and technological potential remained in the base areas, but it is not used in full. There are problems of technological backwardness of Ukraine, lack of public and private sector funding for scientific and technical activity, lack of well-developed motivational factors of scientific and technological potential [14; 15].

According to the results of investigation scientific and technical sphere in Ukraine is characterized by the following trends (table 1, table 2) [16].

Table 1

The dynamics of completed scientific and technical works in Ukraine

Period	The amount of scientific and technical activities at current prices, %	Fundamental research, %	Applied research, %	Developments, %	Scientific and technical services, %
2001/2000	14,99	32,52	-30,18	19,06	77,49
2002/2001	9,75	20,27	12,69	5,27	14,05
2003/2002	32,96	15,60	25,09	37,04	45,92
2004/2003	23,87	28,20	33,48	16,51	39,39
2005/2004	17,17	43,26	23,57	8,71	15,21
2006/2005	11,12	26,48	18,71	13,91	-21,26
2007/2006	25,14	31,81	34,59	20,48	20,70
2008/2007	27,43	28,15	36,47	23,77	28,48
2009/2008	1,34	-0,56	-8,65	3,12	13,45
2010/2009	14,02	14,18	14,53	19,48	-7,63
2011/2010	4,89	0,80	15,44	-1,01	26,05
2012/2011	8,72	18,86	10,23	7,70	-6,84
2013/2012	4,70	2,81	1,46	7,50	1,82
2014/2013	-7,05	-8,17	-8,51	-7,47	-0,11
2015/2014	15,16	-0,39	18,90	22,12	10,40

The amount of scientific and technical activities at current prices according to the table. 1 from 2000 to 2015 increased in 2000-2015, except the 2014 because of the unfavorable political and economic conditions and military events. Dynamics of fundamental research is oscillatory in nature and in recent years had a negative direction. Number of applied research was changing more unstably, but its growth was outstripping the growth of Fundamental research. Demand on developments in recent years also increased. The amount of Scientific and technical services since 2010 decreased, and the positive trend showed up only in 2015.

In total change in all indicators is unstable. It is confirmed by the coefficient of variation which was ranging from 45% to 59%. All these speak about a high and a very high level of volatility (the amount of scientific and technical activities at current prices – 52%; fundamental research – 59%; applied research – 58%; developments – 49%; scientific and technical services – 45%). But still characterize positively the development of scientific and technical sphere in Ukraine except of 2014 in connection with mentioned events.

Despite the fact that the scientific and technical activities increased, the share of

completed scientific and technical activities in GDP decreased from 0,95% in 2010 to 0,64% in 2015, also has been reduced the number of organizations that perform research and development, the number of scientists (table 2).

Table 2

The dynamics of scientific personnel and innovation in Ukraine

Period	The share of enterprises engaged in innovation, %	Spending of enterprises on research and development, %	Number of organizations that perform research and development, %	The number of scientists, %	The share of enterprises implemented innovations, %	Number of implemented new processes, %
2001/2000	-8,33	-35,61	-0,74	-6,15	-3,38	1,28
2002/2001	9,09	57,58	-0,14	-5,20	2,10	-19,63
2003/2002	-16,11	15,85	0,68	-2,43	-21,23	29,77
2004/2003	-9,27	42,31	1,21	1,68	-13,04	16,53
2005/2004	-13,14	37,50	0,33	-1,02	-18,00	4,69
2006/2005	-5,88	62,16	-3,84	-4,99	21,95	-36,67
2007/2006	26,79	-0,65	-3,31	-3,42	15,00	23,93
2008/2007	-8,45	26,07	-1,85	-2,77	-6,09	16,07
2009/2008	-1,54	-31,92	-2,76	-1,84	-0,93	14,94
2010/2009	7,81	17,68	-2,76	-3,07	7,48	7,92
2011/2010	17,39	8,38	-3,68	-5,13	11,30	22,86
2012/2011	7,41	10,78	-3,75	-3,46	6,25	-12,83
2013/2012	-3,45	36,96	-5,38	-5,09	0,00	-27,97
2014/2013	-4,17	7,09	-12,60	-10,85	-11,03	10,60
2015/2014	7,45	16,24	-2,10	-7,98	25,62	-30,18

The share of enterprises engaged in innovation changed chaotically and mainly decreased. Spending of enterprises on research and development increased except for 2001, 2007 and 2009. From 2010 the situation began to improve, which indicated the activity of enterprises in scientific and technical developments. Before 2006 the share of enterprises implemented innovations reduced, and from 2006 the company began to implement actively innovations in their work. However, the number of implemented new processes in recent years decreased.

The variation of these indicators also demonstrates the average level of volatility of scientific and technical sphere. Only the indicator of spending of enterprises on research and development is very unpredictable and changes rapidly.

There is the variation of mentioned indicators in 2000-2015: the share of

enterprises engaged in innovation – 14%; spending of enterprises on research and development – 59%; number of organizations that perform research and development – 13%; the number of scientists – 16%; the share of enterprises implemented innovations – 16%; number of implemented new processes – 22%; the share of completed scientific and technical activities in GDP – 19%.

The effectiveness of scientific and technical activity in Ukraine depends primarily on its incentives and support at all levels [17]. Thus there are a significant role of direct state support scientific and technological development and insufficient use of state indirect methods of stimulating the expansion of ties between science and industry. Also, stimulating enterprises to involve their own funds in research and development is at improper level. The analysis of scientific and technical activity financial and credit support indicates a small share of credit in the total of such funding. Condition of lending Ukraine's economy by the banking system as a whole is characterized by a lack of focus on the ensuring the long-term innovation processes [18].

Therefore, the main causes of the current state of scientific and technical activity are: reducing the number of scientific and technical organizations; aging of laboratory equipment; low demand for domestic scientific production; decreased interest in scientific institutions by the state and the private sector; outflow of scientific personnel abroad; aging of scientific personnel; reduction of qualified support staff in scientific and technical sphere.

Despite the general acceptance of the priority of scientific and technical processes for economic development in Ukraine, the current state of the financial providing proves its crisis, the failure to establish the necessary conditions for the implementation of the existing innovation potential.

In conditions of existence listed obstacles to the development of the knowledge economy, mostly financial obstacles, the ways of integration science, education and business should be improved. In this context, education is a direct producer of knowledge and is an active participant in the process of transformation this knowledge in new products, technologies and services. The professional training has

considerable influence on the development of the country on the basis of the knowledge economy. There is a problem of retraining of personnel and orientation high education institutions for training professionals that are able to implement and maintain new technological processes.

The global transformation processes in higher education require a transition in education from the traditional passive accumulation of knowledge to motivated mastering by the students methods of obtaining scientific information and skills to implement their knowledge in professional activity, require the transition to a competency-based education. In this regard, the educational process in modern higher education institution should be aimed at training fully formed professional, mobile on the labor market, multilingual and computer competent.

Particular attention deserves playing techniques that will not only allow students to acquire the necessary knowledge, practical skills, but also provide flexibility in the formation of thinking, teamwork, creativity.

There is possible to intensify educational and cognitive activity of students in higher educational institutions by using interactive forms and methods of study that would develop communicative, cognitive and creative activity of students and provide forming of knowledge and skills that are necessary for their future professional activity.

The introduction of training in the educational process is effective at this point. It will help students to acquire practical skills by solving various problems of different types of complexity and difficulty, to form a set of professional competences.

Reforming higher economic education and its orientation to the demands of the global economic community created the need of qualitative changes in the professional study of future financiers and bankers, in particular, to improve their practical training.

Future specialist in economics should be able to apply his knowledge in practice, to work at a high management level and have the skills for the realization and analysis of economic and industrial activity. Solving these problems is possible

with the implementation of educational training in the educational process in universities. This includes the development and justification of its practical model, identifying the conditions of its implementation and identification of effectiveness criteria.

The implementation of educational training in the future specialists study aims to adapt them to the conditions of future professional activity, to develop creative personality, to satisfy the professional interests and needs of education, to form professional mobility, competence and competitiveness on the labor market. There are many definitions of “training”: training, learning, education, preparation, but in the most general form it can be interpreted as follows: training is a group of methods aimed at developing the capacity for learning and mastering any complex activity.

The aim of training for the students of specialty “Finance, banking and insurance” is specified by the following theses:

1. The development of logical thinking, cognitive activity during consolidation learned material, skills of bank documents registration.
2. Formation of skills of teamwork and developing business communication skills.
3. Stimulating interest to future profession, educating responsibility for ongoing banking operations.
4. Formation holistic perception of the creditrelationship features between banks and customers, testing method of determination creditworthiness of the borrower and sufficiency of loan security, execution of the credit agreement.

The defining aspect of the effective learning activity is an independent student’s work and his motivation caused by intellectual initiative and cognitive interests.

The conditions of stimulating the motivation of training participants are grouped in fig.1 [19; 20; 21].

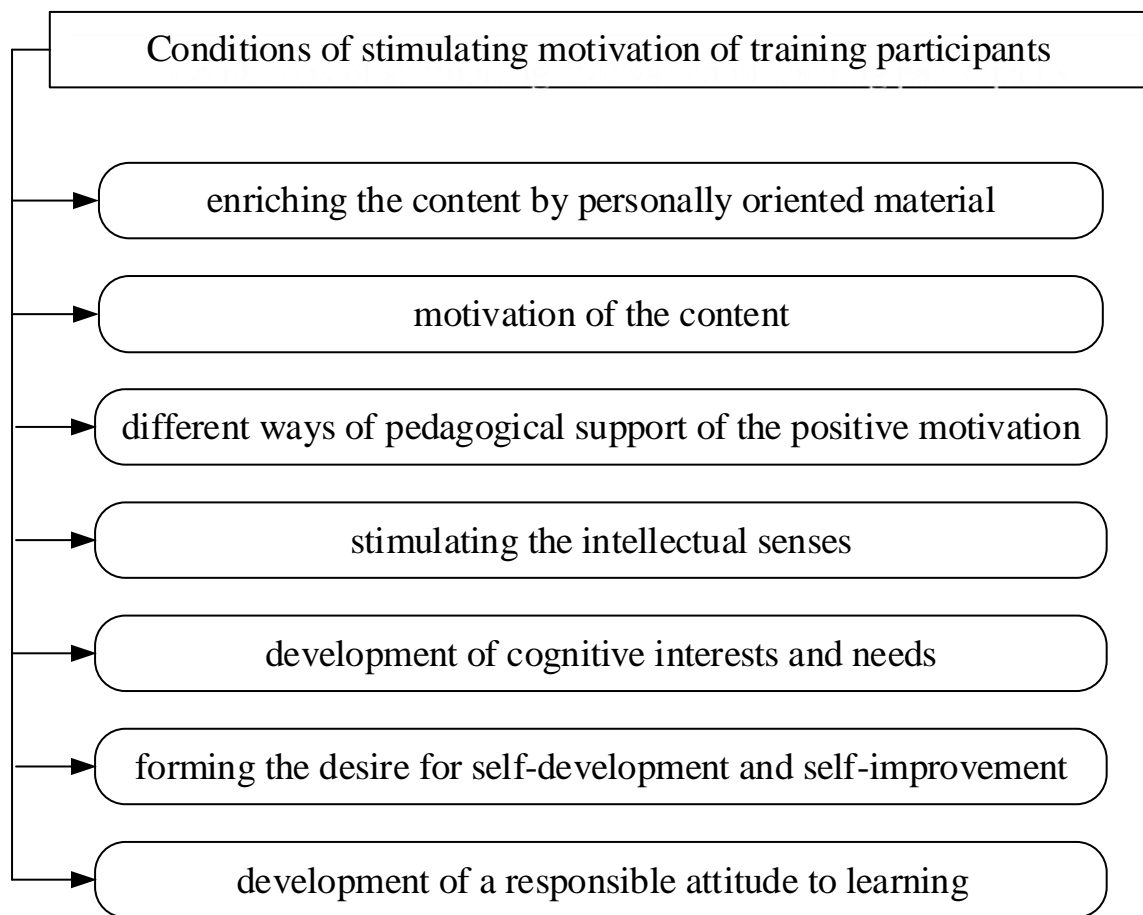


Fig. 1. Formation of motivation of training participants

These conditions can be displayed in appropriate training goals. The expression of formation of the student's motivational component of the ability to study may include such characteristics of their attitude to learning:

- the ability to define the purpose of activity;
- the developed curiosity, cognitive interest;
- the need for independent search and learning of new knowledge;
- the intelligent positive feelings.

The content component includes two subsystems: already learned knowledge, skills, which are the foundation for study, and knowledge and new ways of acting that are subject of future learning.

The level of interaction known with new knowledge determines the different levels of the process of learning; reproductive or partly searching, creative.

Taking into account the changes in society and the radical changes at all

educational levels, the main purpose of higher education is the formation of a fully developed and gifted person. It will use knowledge not only in its further professional activity, but also constantly update and replenish them and be fully aware person.

One of the most important features of higher education today is the increasing importance of professional competence of the future specialist. It is important to be not only a qualified specialist, but also competent.

The competent specialist differs from the qualified by the fact that he not only has certain knowledge and skills necessary for his productive professional activity, but also realize them in his work. He is always self-developing and goes beyond his discipline, think that his profession is a great value.

Nowadays, the need for competence is the most important feature and the need of every person. Competence helps specialist solve effectively various tasks related to his professional activity [22]. That is why training should focus on the formation the set of competencies of future professionals.

The scientists define the notion of competence as the ability to meet successfully individual and social needs, act and perform tasks [23].

Today in many European countries regarding the educational content there are taken steps to provide a framework to ensure that the basic learning outcomes are based on achieving the required competencies by the students.

Implementation of key competencies into the education process and monitoring the quality of education in European countries is gradually, accompanied by a wide discussion and scientific and didactic materials.

Thus, the term “competence” regarding the personality is an integral characteristic, which consists of a set of general, special competencies. Each separate competence is not simply the sum of knowledge, understandings, skills, communication abilities, autonomy and responsibility, which are formed as a result of teaching and practice, it has all the features of the system and therefore contains a synergistic component, and it is the real meaning of competence [22].

Every specialist depending on his abilities, psychological characteristics, quality of knowledge and practical activity manages each competence more or less

effectively. Competence as a category is reproduced by individual as the ability to realize it. Specifying the nature of competencies presented in fig. 2 [22; 23].

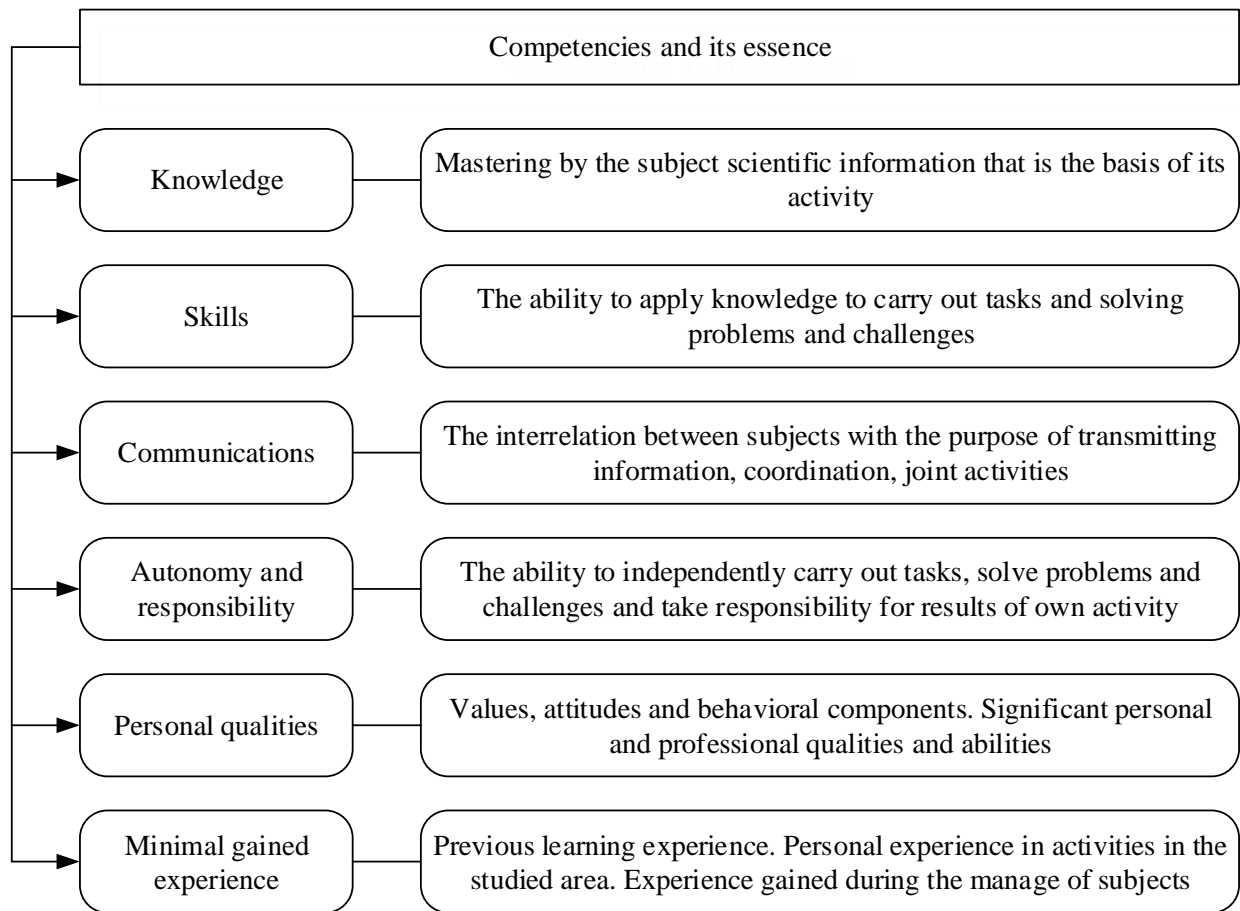


Fig. 2. The essence of student's competencies

In view of this aspects the outcome of learning of the students (specialty "Finance, banking and insurance") should be implemented in the formation of their ability to:

- manage finances state institutions;
- organize finances of enterprises;
- manage financial flows;
- carry out operations at the bank;
- carry out tax planning for companies and banks;
- work in consulting business;
- conduct an economic analysis of banking operations;

perform the functions of heads of organizational units of banks, companies and tax authorities.

With this in mind, training as part of the active form of the acquisition of knowledge and skills is aimed at developing competencies of students (fig. 3).

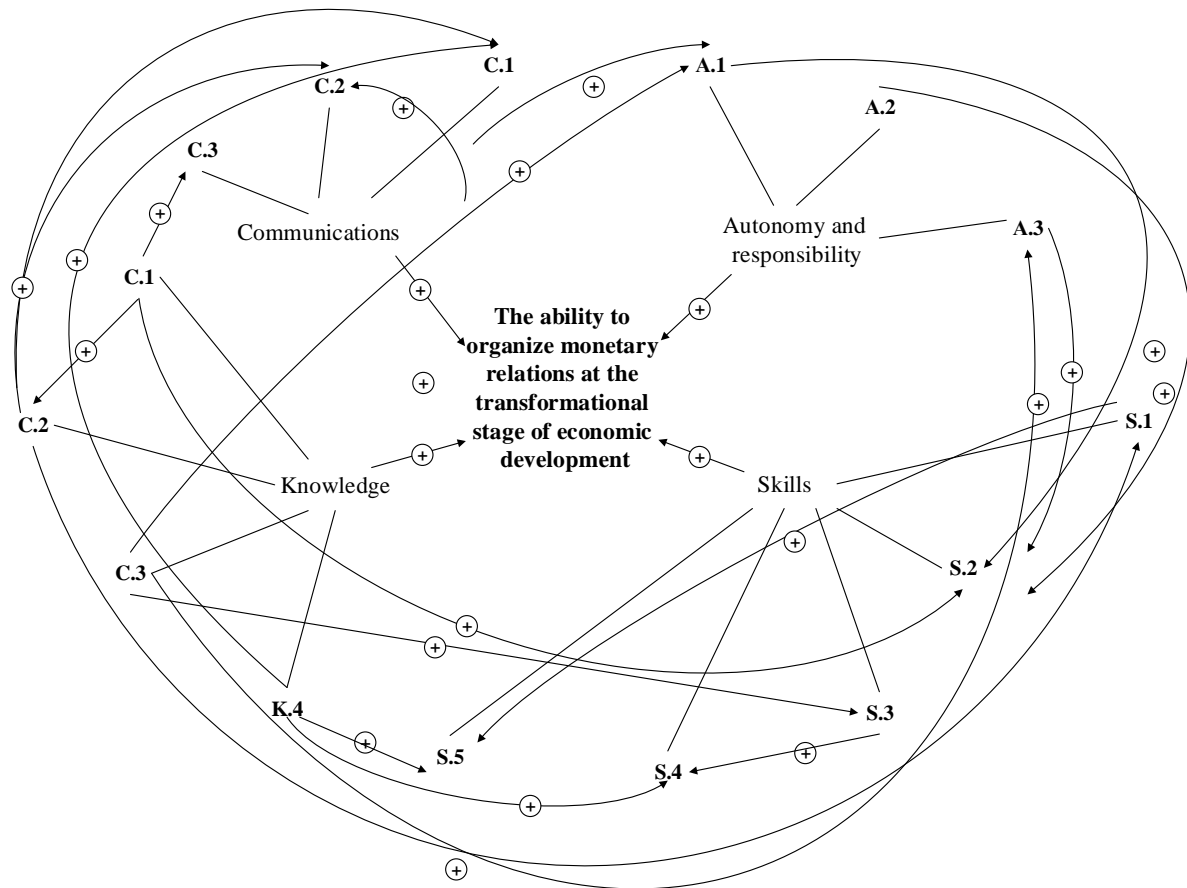


Fig. 3. The cognitive card of the communications of the components of the specially-subject competences formed during training

The legend on fig. 3 presents the following competencies:

Knowledge (Minimal gained experience):

K.1. – Knowing the nature of the conceptual apparatus in the financial and credit sphere.

K.2. – Understanding the multidimensional nature of monetary relations and ways of its realization.

K.3. – Knowing the tools cash flow management.

K.4. – Knowing the specifics of the organization and activities of financial

institutions in Ukraine.

Skills:

S.1. – Skill to analyze sectors of money market and activities of its subjects.

S.2. – Skill to conduct business negotiations, to present own developments and prove own opinion.

S.3. – Skill to make loan repayment schedules, make the accrual of interest on deposits, taking into account inflation.

S.4. – Skill to issue credit and deposit agreements.

S.5. – Skill to analyze documents that are regulating the operation of banks.

Communications:

C.1. – Establishing communication contact with different types of money market subjects.

C.2. – Providing information about the features, advantages and disadvantages of different types of credit and deposit contracts.

C.3. – Presenting own findings and substantiated proposals to experts and layman.

Autonomy and responsibility:

A.1. – The responsibility for making decisions on the banking institutions.

A.2. – The ability to further education and self-improvement and training others.

A.3. – Responsibility for decision-making under conditions of uncertainty.

The cognitive card formalized causal link between factors- reasons (components of competencies) and factor-effects (general competence of training). As all components help to form general competence of students' the connection between these factors is positive (+).

In conclusion it should be noted that the results of the analysis of the state of economist's professional activity showed the contradiction between the social order to prepare professionals with creative thinking, forms of interaction and cooperation with people, quickly and effectively solving the management problem, and the real solution of this problem in higher education institutions. Eliminate these contradictions is possible by establishing a system of economic education which is

adequate to social needs, introduction of new technologies of preparation of economists.

Summing up the specification of the set of professional competences and defining the role of educational training in the process of managing by the students of the specialty “Finance, banking and insurance” practical skills, we emphasize that the introduction of interactive teaching methods and ways of presentation the materials combined with independent work of students will help create the base for their further professional growth, and guarantee the formation the future expert in this field.

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