

Timely Financial and Economic Literacy for School Children as Basis for Economic Growth in Future

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Abstract. High requirement for basic knowledge of entrepreneurial activity together with the need to complexly approach the process of development and implementation of measures in educational institutions increases, it is becoming more acute to study complex techniques for financial and economic literacy implemented in different countries for stabilization of personal finances, balancing consumption and savings, starting and developing small businesses, all resulting in national economic growth. Testing of an interactive game determined a wide range of possibilities of its implementation in education process. The main conclusions of the research ascertain that the greatest effect when developing interactive activities for financial and economic literacy is reached when experts from different professional backgrounds are involved.

1. Introduction

The financial and economic literacy is the most important factor of households' efficiency, an indicator of the quality of life in the country and a basis for potential for creation of small businesses and ensuring their growth. The world financial and economic crisis of 2014 has revealed problems in the area of balanced family budgets, planning and structuring of personal and family expenses, and financial and economic literacy of individuals, self-employed and entrepreneurs. The solution to these problems lies in scientific knowledge and modern techniques of financial education.

The topicality of the study of financial and economic literacy as a factor in the formation of economic growth is high due to the modern features of the world economy, characterized by frequent fluctuations in small cycles and financial crises.

The scientific importance of the research in the improvement of financial and economic literacy in different countries lies in the formation of an integrated system of scientifically based methods and approaches based on the needs of national economies, taking into account macroeconomic factors and forecasts. The theoretical basis of the research was the scientific works of Russian and international scientists – Kuzina O. E., Sinelnikova M. V., Dolmatova N. G., Chaprak N. V., Michael Porter, Martin Lewis, Bodo Schaeffer, concepts and strategies for the development of financial literacy of Great Britain, China, India, Spain, Russia and other countries.

2. Theoretical part. Comparing the experience of foreign countries in methodological support for financial literacy

The term "financial and economic literacy" unites two standard concepts of financial literacy and economic literacy. The financial literacy is aimed at acquiring and improving skills in personal finance management, and in ability to use modern financial instruments. The economic literacy is focused on development of knowledge, abilities, and skills in the area of entrepreneurship; and economic interactions in society which develop under certain economic conditions. It is expedient to give the following generalizing definition. The financial and economic literacy is knowledge and practical ability to effectively use the economic laws and financial and economic indicators underpinning economic behavior, on the basis of a comparative analysis of alternatives. Considering the educational base for creating economic potential of the country, the concept of financial and economic literacy is symbiotically justified as it assumes a complex of interconnected and interdependent techniques of financial and economic education of the general population of different age groups as well as the entrepreneurs.

In international practice there are different methodical approaches to financial and economic literacy. The concept of base knowledge and habits of financial literacy for adults in G20/OESR/MSFO countries supplemented with a concept for youth 15-18 years old includes knowledge and skills in possible use of the loans, management of personal debt, choosing and use of financial products and services including digital ones and finally management of investments and pension savings [2].

The concept includes main implementation elements: money and transactions, planning and management, risk and reward, and financial environment. Knowledge and skills for each area and subject are grouped according to certain categories in basic knowledge and key competences:

- *the awareness, knowledge and understanding* include information already received by an individual;
- *skills and behavior* describe knowledge and skills related to actions (skills, that are necessary to apply to achieve positive results as well as behavior models for reaching financial success);
- *confidence, motivation and relations* include internal, psychological mechanisms helping or interfering with decision-making, economic behavior and reaching success (including intelligence, feelings or emotions which compose the relations: confidence and personal motivation).

This concept is focused on knowledge, skills and habits in personal finance and personal consumption management. The third group of competences also includes a number of mechanisms motivating economic behavior that can help incentivize entrepreneurship. The majority of the countries implementing programs, concepts and the strategies aimed at increasing the level of financial literacy concentrate on financial education of primarily adult population from a perspective of balancing consumption and saving in economy, and fostering increase in level of entrepreneurial activity. Such programs are practiced in the USA (MyMoney. Five principles), the Netherlands (Proper handling with money: vectors of financial opportunities expansion), the EU (Competences of financial literacy for adults), India (The guide to financial literacy), Armenia (A matrix of financial competences for adults). Programs for all age groups which usually include both adult population and youth are implemented in Japan (The card of financial literacy), the Czech Republic (Standards of financial literacy), New Zealand (National strategy for financial opportunities), Hong Kong, China (The Hong Kong system of financial competences), and Portugal (Key competences by financial education for preschool children, school pupils and adults) [2].

The strategy of financial literacy (financial potential) of Great Britain is structured by region, social and age groups. Classification of development of financial opportunities at the age of 3-18 years, for example, includes a "one-step" access to education (through an interactive map helping to find financial services near the place of residence); forming a new view on becoming a financially sustainable nation through joint efforts (addressing five main areas: economy, credit, debt advising, information assistance aimed at financial security of people of pre-retirement and retirement age, and financial education); methodological support with manuals associated with education program in

England (Financial education textbook "Your Money Matters" [16]). This strategy is focused on information-based assistance involving all groups of the population to consuming financial services at a modern, digital level.

The Ministry of Finance and the Bank of Russia are implementing a large-scale project "Assistance to Increase the Level of Financial Literacy of the Population and to Develop Financial Education in the Russian Federation" [7] which is intended for general public, including school children, students of colleges and higher educational institutions as well as for adult population with low and average levels of income. The basis of the project for increasing financial literacy of the population are: forming habits of reasonable financial behavior, justified consumer decisions and a responsible attitude to personal finance and exercising users of financial services rights . The main components of the project are: strategy to increase financial literacy, assessment of financial literacy level among the population, educational programs for the population, information campaign for financial literacy and protection of rights of financial services consumers [7].

3. Symbiosis of knowledge as an effectiveness basis of methodology for financial and economic education

The combination of scientifically based approaches from various knowledge fields with the implementation of the methodology for increase of financial and economic literacy promotes the development of most efficient techniques given current trends in financial and economic education. For example, Money Advice Service of Great Britain (MAS) financed a number of researches on how children learn to manage money. The research proved that children's habits and attitude to money develop by the age of seven years, their calculation skills and ability correlate. It was also found out that teachers who were trained to use techniques of financial education positively influence students' results. Attention government paid to methodical provision of financial education has resulted in over 70% of high schools in England desiring to increase quantity and quality of the programs in financial literacy (financial potential) within education market [17]. Interaction of the government and educational institutions is exercised by means of exhibitions, for example, the Education Show 24 where monitoring is conducted on awareness about financial education importance, on availability of free resources by Mas and partners, and on schools identifying and overcoming hurdles to increasing the level of financial education, as well as defining the needs for governmental support.

Methodical approaches to develop programs and complex activities for increase of financial and economic literacy of school students and youth have to be focused on certain competences. The Ministry of Finance of the Russian Federation together with the World Bank developed the system (framework) for financial competence for adult population and school age pupils in Russia. Competences for pupils are used when developing specialized programs and particular activities for training academics responsible for conducting financial education module. For example on the subject "Income and Expenses" school pupils are to know basics of what income and expenses are, at advanced level have an understanding of sources of family income; to be able to estimate the monthly expenses at basic level, at the advanced level – to be able to control spontaneous purchases; to realize importance of the education for increase in personal income at basic level; at the advanced level – to take the responsibility for their financial decisions [7].

4. Practical part. The methodology for increasing financial-economic knowledge of elementary, middle and high school students, College students and University students

The methodology, developed by the author, complies with the system (framework) of financial competences of the Ministry of Finance of Russian Federation and envisages complex development of basic and advanced skills in financial and economic behavior. Important features of the method are: development of savings habits (immediate and incremental) plus in the long term investment habits, and development of basic skills for successful business behavior for youth entrepreneurship. Effectiveness and progress of the complex actions taken is further reached through close cooperation of teaching staff of financial and economic universities with municipal and/or regional governments in

the sectors of education, economics and finance, involving as well the heads of schools and experts from higher education institutions for teachers.

The technique includes a number of topical interactive activities within which students acquire knowledge and habits of competent financial and economic behavior. The flexibility of the technique allows to build activities into the current educational process and also to incorporate them into further vocational education or extracurricular activities. Testing of a set of interactive forms of conducting classes at schools, colleges and higher education institutions in Moscow in the period 2014-2019 showed the greatest efficiency of the following activities: a debate role-playing game "Do pupils need money?", puzzle game "Economy and finance today", interactive game "Family Budget plus Open Data", brainstorming meeting "Business idea for youth", interactive master class "Entrepreneur's instruction", panel discussion: Aquarium of contradictions "Specification of market freedoms in the environment of youth entrepreneurship".

Interactive game "Family Budget plus Open Data" has received the most use through an integrated approach to preparation, development, testing and implementation of an interactive activity aimed at increasing financial and economic literacy. The idea to develop an interactive game for increasing financial and economic literacy was a result of work of the Educational commission of Moscow's 814th School Management board (table 1).

Table 1. Subjects organizing and holding the interactive game "Family Budget plus Open Data" at schools.

Subject	Members
Head of School Council	proactive parents, teachers, representatives of the founder (Moscow Department of Education), managements of school
Pedagogical group of school	proactive school students of 5-11 grades
Administration of school	principal and deputy principals responsible for inclusion of financial literacy activities in the all-school plan for academic year
Financial University under the Government of the Russian Federation	experts in the sphere of economics and finance skilled in organizing professional orientation activities at schools and colleges
Institute of pedagogics and psychology of education of the Moscow city pedagogical university	experts in pedagogics having experience of "leaders", owning skills of formation and development of competences in pedagogical groups at schools as well as skills of organization of interactive activities for school students
Teachers of the basic and additional education	experts in organization and holding socially important after-hour activities

Source: author.

Table 1 shows that the more higher and secondary education experts are involved in implementation of activities for increasing financial and economic literacy, the higher will be the probability of the projects' implementation at a highly professional standard. The Moscow Department of Education has stated the goal of increasing financial literacy of school students, the founder's representative in school management board delivered this information, the school management supported the idea of developing and holding interactive activities, proactive parents-experts in economics and finance formulated the issue to be solved with modern methods aimed at increasing financial and economic literacy.

The interactive game "Family Budget plus Open Data" was developed by the author of article during the Hackathon "MosFinData" held by the Moscow Department of Finance on October 21-22,

2018. Work on the project included mandatory visualization of open data in the field of finance and economics, increase in availability for use by citizens, raising awareness of the population of changes in the financial sphere.

Mentor supervision of the experts from: Section for IT , Section for budgetary legal relationship development, Section for economic analysis and long-term budget forecasting the Moscow City's Finance Department; Department of PARMA Industry expertise; Department for strategic development of LLC BFT; Educational program "Journalism of data" of Higher School of Economics of National Research University; ANO Infokultura; Infographics study TASS [8] resulted in higher overall performance of the project due to the developers' close understanding of professional opinion in display of open data.

Participation in development of an interactive game of children from pedagogical group of school of the 814th Moscow with the author acting as head of the group resulted in a double positive effect from the project: increase in the level of financial and economic knowledge of the group (9th grade), and creation of an educational product ready to use at schools, colleges and higher education institutions.

The general algorithm of Interactive game "Family Budget plus Open Data" at a basic level includes five main stages:

- 1) Forming teams and random draw of the "families", different in structure and income level.
- 2) Structuring expenses within the level of the defined during first stage family income by means of open data and the online calculator of the family budget.
- 3) Restructuring of expenses, cutting excess expenditure thriftiness.
- 4) Searching for additional sources of family income through open data (grants, financial aid to incomplete or large families, etc.) and increase of family income.
- 5) Savings depending on their types, purposes and forms defined through the online calculator of the leading Russian banks, and receiving additional family income.

Participating in five main stages of the interactive game by school students allows them to understand the structure of family revenue and expenses, and to learn how to be thrifty and develop savings. Advanced level for senior pupils and students of colleges adds a sixth additional stage on comparison of family and city budgets through open data and online calculators that will increase the level of financial and economic knowledge in the field of budgeting at the municipal level.

5. Suggestions and results of implementation

An approbation of the Interactive game "Family Budget plus Open Data" took place within the Week of leaders' skill named "Theater of constellations – 2019" within the Institute of Pedagogics and Psychology of the Moscow City Pedagogical University which allowed to create additional pedagogical competences while implementing interactive activities, thanks to exchange of experience with participating students of the leaders' movement in Moscow. For example, preliminary professional orientation instructing of pedagogical groups of schools in economy, finance and pedagogics allows the organization of the Interactive game independently or with the participation of expert moderators with corresponding material support of a game (a computer class with Internet access, a multimedia projector). Preliminary preparation of cards of the family budget (differing by size of the total family income, structure and number of family members) demands research of modern data contained in open information sources and also references to additional sources of supplementary family income, banking and municipal online calculators. Distribution of financial and economic knowledge through teacher activity in schools and through the leaders' movement of students gives the chance to include interactive actions not only in all-school programs of increase in financial literacy, but also in programs of work of children's camps (municipal, sports, etc.) and more than that - in the program of the annual Festival of financial literacy in Moscow.

6. Financial and economic literacy as a factor of stabilization of economic growth in the country

An increase in financial and economic literacy of school students and youth at the present stage is the base of a stable financial position in the future, both for personal finance and the family budget. The rating by the index of financial literacy 2018 which is monitored by the Ministry of Finance of the Russian Federation shows close interrelation with financial position of family: the lowest indicator of knowledge in the field of finance, habits of management of finance, installations in the relation of finance - 10.73 points is the characteristic of families with very poor financial position; the highest – 12.71 points – for families with good financial position [11]. Increase in the level and quality of financial and economic knowledge fosters decrease in individual’s debt and increase in savings. Decrease in debt arrears increases solvent demand of individuals, self-employed and individual entrepreneurs that in turn increases business activity of youth and stimulates development of small business (figure 1).

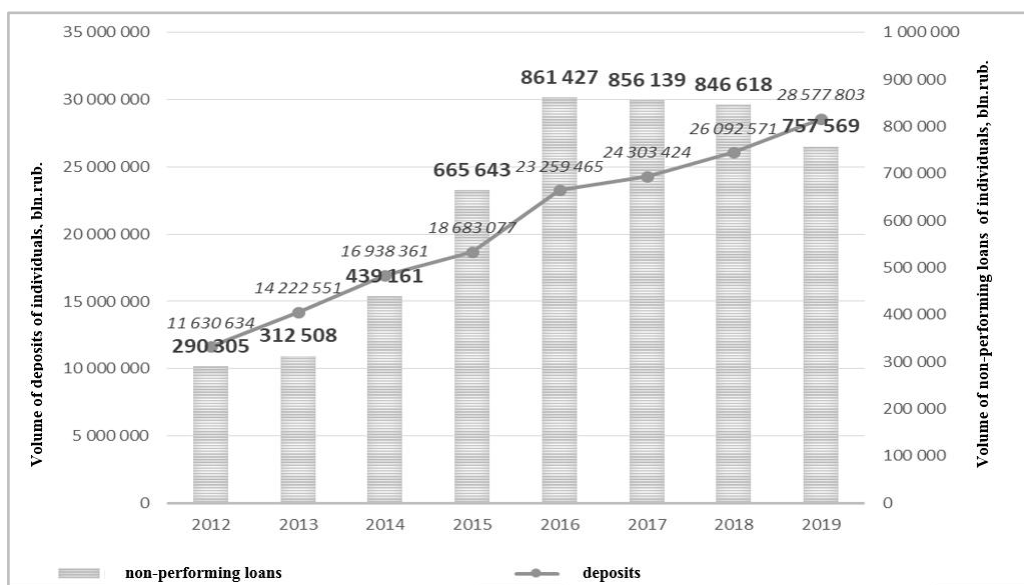


Figure 1. The volume of deposits (deposits) and arrears on the credits of individuals in Russia, in millions of rubles. Data sourced from Bank of Russia [18].

Figure 1 shows the positive dynamics of decrease in arrears on credits of individuals of 12% (from 861,427 million rubles to 757,569 million rubles) during 2016-2019 that in comparison with the period of growth of 2012-2016 by 2.97 times (from 290,305 million rubles to 861,427 million rubles) is a positive effect due to the diversification of the banking services supply and also due to implementation of the large-scale countrywide project aimed at increasing financial literacy of the nation. It is confirmed by growth of savings of individuals by 2.46 times (from 11,630,634 million rubles to 28,577,803 million rubles) during 2012-2019, including considerable gain of savings of 24.5% (from 18,683,077 million rubles to 23,259,465 million rubles) in the period 2015-2016 and their continued growth until the end of the studied period, recording 22.87% in the period 2016-2019.

Growth of savings and increase in level of management skills in household finance fosters increase in business activity of individual entrepreneurs and self-employed among youth. Therefore it is quite important to include in the complex of financial education also entrepreneurship and effective business behavior. The basic entrepreneurship skills gained within interactive and/or the practical activities for school pupils & college students will promote quantity larger number of successful youth startups, will allow to lower costs in startup stage and will increase the level of self-reliance of youth and will stimulate investments in business. Thus the potential of youth business will be implemented in real economic conditions in the medium-term period, and thanks to it the processes of internal reproduction and ensuring economic growth shall be stabilized.

6. Conclusion

Financial and economic literacy of the population in modern conditions is the basis of stable development of national economies, thus it is important to create, develop and constantly improve the methodological support for financial and economic education. It is advisable to involve different groups of specialists in the field of science, education, public administration, business, finance, IT technologies, media, etc. in the development and implementation of training methods and activities, as an interdisciplinary approach will help to find innovative solutions for improving financial and economic literacy of the population. Of particular importance is a scientifically based integrated approach to the development and testing of educational interactive activities for schoolchildren, college and university students, as these categories of the population in the near future will generate business activity in the country and have the greatest impact on economic growth.

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