

FINANCIAL LITERACY OF UNIVERSITY STUDENTS AND EFFECTS OF PRACTICAL EXPERIENCE

Josef Polák^{1*}, Zuzana Kozubíková², Aleš Kozubík³

¹ Ph.D., The College of Regional Development and Banking Institute College - AMBIS, a.s., The Czech Republic, josefpolak@centrum.cz

² Ph.D., Faculty of Management Science and Informatics, University of Žilina, Slovakia, zuko@frcatel.fri.uniza.sk

³ Ph.D., Faculty of Management Science and Informatics, University of Žilina, Slovakia, alesko@frcatel.fri.uniza.sk

*Corresponding Author

Abstract

Financial literacy belongs to the key components of education for life in modern society, its importance increasing steadily. In this article, we present the results of comparative research on financial literacy undertaken among part-time and full-time university students. The aim of the paper is to compare the levels of their financial literacy, verifying the assumption that everyday practical experience of the former group has a positive effect. To obtain reliable data, the research was conducted in the form of a questionnaire survey administered simultaneously at universities in two central European countries, both running management study programmes. In the first part of the questionnaire, the respondents' personal, self-assessment and socio-demographic data were examined. The second part was devoted to the knowledge and skills associated with various facets of financial literacy, using the questions on the ability to apply the acquired knowledge in specific practical situations. We focused on compound interest, inflation effect on the time value of money, annuity policies, debt repayments and basics of investing. In order to confirm the hypothesis about the impact of day-to-day practical experience on the overall level of financial literacy, the collected data were processed employing methods of statistical analysis. Having identified differences in respondents' average scores and their attitude to personal and self-assessment features, the present study has revealed some significant findings.

Keywords: financial literacy, financial management, self-assessment characteristics, personal characteristics, practical learning outcomes.

1 INTRODUCTION

Financial literacy has become an integral part of professional careers, personal lives and contemporary education. It is an important aspect of modern degree programmes, allowing graduates to make informed and effective decisions. "The graduate will be applied to the labour market s/he has knowledge of several disciplines and the ability to view the solution to the problems in the enterprise in terms of technology and economy as well" (Ďurišová & Kucharčíková, 2016).

Financial literacy is being explored from various perspectives. Xu & Zia (2012), for instance, examine the phenomenon in relation to income level in different countries. In low-income ones, the focus is on the

acquisition of "managerial capital", business skills and knowledge. These factors are crucial as they are often related to running one's own business, its prosperity fundamentally determining the family members' standards of living. In high-income countries, the population needs substantial knowledge of the financial market and its products, financial literacy being often regarded as a consumer protection complement. People are supposed to secure themselves financially and behave in a way that corresponds to a particular phase of their life. The above suggests that there are a number of characteristics and definitions of financial literacy.

According to Mandell (2007), it is "the ability to evaluate the new and complex financial instruments and make informed judgements about both: choices of instruments and extent of use that would be in their own best long-run interests". A pilot OECD/INFE study refers to financial literacy as "a combination of understanding, knowledge, skills, attitudes and behavioral patterns necessary to make the right financial decisions and, ultimately, to achieve personal financial well-being" (OECD & INFE, 2011).

For the purpose of the present paper, let us define a financially literate person according to Kozubíková (2015) as "someone who uses their ability to make a qualified judgment on the basis of their knowledge, skills, and experience to maintain balanced financial security throughout life." This requires planning of financial flows, which leads to "more uniform consumption throughout life, depending on the stage of the life cycle".

2 FINANCIAL LITERACY AND EDUCATION

There is mounting evidence suggesting that financial literacy exerts a positive impact on people's lives. Its research, according to Lusardi & Mitchell (2007), "allows us to evaluate financial knowledge during workers' prime earning years when they are making key financial decisions". The authors further argue that in all measurements and samples they examined, "financial literacy proves to be a key determinant of retirement planning". They also found that the respondents' literacy rate is higher "when they were exposed to economics in school and to company-based financial education programs". Banks & Olfeld (2008) and Fornero & Monticone (2011) point to the fact that people with low educational attainment also exhibit a lower than average level of financial awareness, identifying groups of such respondents. Ameriks, Caplin & Leahy (2003) and Lusardi & Mitchell (2011) bring the evidence that financial literacy impacts upon savings decisions with, emphasizing retirement financial security. Generally, people with higher education are better informed, which allows them to make rational decisions that correspond to their financial possibilities and investment opportunities. Women, adolescents, young adults, the elderly and people with a lower level of education in general are referred to as financially vulnerable population groups. Lusardi & Mitchell (2011) show that women have lower financial literacy rates than men and that they are aware of this deficit. It has also been confirmed that the elderly generation overestimates its financial literacy, the actual level being under average.

Jappelli & Padula (2013) argue that "[t]here is also considerable evidence that financial literacy affects saving and portfolio decisions". Their research deals with the illiteracy of households, exploring how improved financial literacy can influence household savings. The authors compiled an inspiring model which shows that „ financial literacy and wealth are determined jointly, and are positively correlated over the life cycle“. They proved a strong effect financial literacy has upon wealth accumulation and national savings. The outcomes indicate that active financial literacy policies have contributed to an increase in household savings. (For the same issue, see also Gale, Harris & Levine, 2012.)

The study by Dimitris, Jappelli & Padula (2010) also led to interesting outcomes, arguing that "the propensity to invest in stocks is strongly associated with cognitive abilities, for both direct stock market participation and indirect participation through mutual funds and retirement accounts".

During our research, we have worked out other factors that affect university students' financial literacy levels. In both our own and joint research projects pursued at universities at home and abroad, assumptions regarding the perception of the importance and self-assessment of financial literacy have been acknowledged; see, e.g. Kozubíková (2017), Kozubíková, Kozubík & Nožička (2017) and Rybička & Kozubík (2017). Significantly better results were achieved by students who consider financial literacy to be "vital" or "very important". The above mentioned studies are not the only ones confirming this, the same conclusions having been reported in other research papers as well.

3 DATA COLLECTION AND METHODS

We collected data through a questionnaire survey, focusing on students of four university faculties – three of them located in the Czech Republic and one in Slovakia, which run similar degree programmes.

The questionnaires were completed by management students of both full-time and part-time forms of study (part-time form of study is, alternatively, called “combined“, highlighting its mixed-mode format that blends traditional classroom and distance teaching and learning practices; in this paper, both the terms are used interchangeably). 600 questionnaires were administered to the students and after sorting them and removing those with malicious or incomplete responses, we obtained a sample of 494 usable questionnaires, the corresponding response rate being 82.33 percent.

The questionnaire contained two kinds of items. The purpose of the first set of questions was to gather respondents' personal characteristics such as gender, age, field and mode of study, and region of residence. There were also questions on students' prior financial education, the importance they attach to financial awareness, the assessment of their own rate of financial literacy and the way they make financial decisions.

In the second part, we verified the actual level of respondents' competence in the area of financial literacy. It contained thirteen simple, soft computing multiple-choice questions, each of them having four optional responses – one of them correct, two distracting and one enabling respondents to answer they “do not know”. Thematically, the questions can be divided into four categories covering:

- simple and compound interest calculations,
- annuities and debt amortization,
- basics of investing and
- financial decision-making.

Relevant statistics on the socio-demographic structure of the respondent sample are summarized in Table 1. The sample is broken down into two parts by the form of study. The gender composition of the part-time student subset is rather balanced, while in the full-time student sample female respondents predominate, which corresponds to the gender structure of applicants for management degree programmes. Further, we can see that Czech students slightly outnumber Slovak ones – given a higher number of Czech faculties – the actual proportion, however, not copying the three-to-one ratio since there are many Slovak students enrolled in Czech universities.

Table 1: Structure of the sample (Source: own elaboration)

Form of study	Number	Gender	Number	Nationality	Number
Full-time	372	Female	226	Czech	223
		Male	146	Slovak	149
Part-time	122	Female	64	Czech	109
		Male	58	Slovak	13

In order to analyse the influence of individual factors, we applied standard statistical tests. As the variances of the examined subsamples were different, the Welch t-test was preferred over the Student t-test. In this case, the testing criterion has the form

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}}$$

where \bar{X}_1, s_1^2 and N_1 are the 1st sample mean, sample variance and sample size, respectively, \bar{X}_2, s_2^2 and N_2 denoting the 2nd sample mean, sample variance and sample size, respectively. The associated number of degrees of freedom is then given by the formula

$$v \approx \frac{\left(\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}\right)^2}{\frac{s_1^4}{N_1^2 v_1} + \frac{s_2^4}{N_2^2 v_2}}$$

Here $v_1 = N_1 - 1$ and $v_2 = N_2 - 1$ are the degrees of freedom associated with the first and second sample variance estimates, respectively. All necessary calculations were carried out using the free open source statistical tool R.

4 RESULTS

Before analysing the performance of the two student groups and various factors' impact on the level of financial literacy, let us briefly evaluate the overall results of our survey. The age, it stands to reason, is an important factor. The age of full-time students is within the interval from 18 to 26 years, the ages of those studying part-time range between 21 and 55 years. Moreover, while the mean and median ages in the former group are 20.74 and 20 years, respectively, in the latter set of students they reach 31.55 and 30 years, respectively. The age variable thus indicates significantly that part-time students are more financially literate than their full-time counterparts.

There has been a noticeable shift in perceiving the importance of financial literacy. As can be seen in the left part of Fig. 1, the percentage of respondents considering that financial literacy is very important or even vitally important is considerably higher in the part-time mode of study. Significantly, the proportion of those who consider financial literacy to be of vital importance reaches nearly a quarter of this group. This can be explained by the higher age of students in this cohort and, consequently, by longer experience in managing both personal and corporate finance.

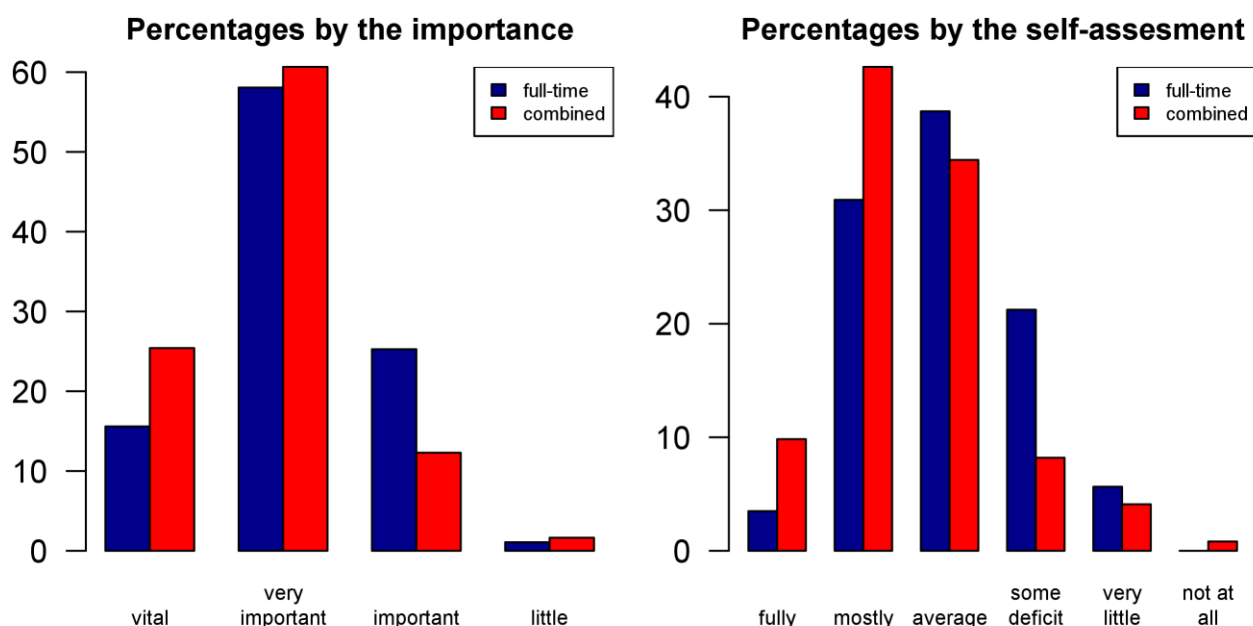


Figure 1: Percentages of respondents according to personal characteristics – perception of financial literacy importance (left) and self-assessment (right) (Source: Own elaboration)

In the next self-assessment question, we asked respondents how they would rate their own financial literacy, allowing them to choose from six options – fully financially literate, right decisions usually, average, some deficiency, very little and no literacy at all. Response proportions are illustrated in Fig. 1 on the right. This bar chart shows higher self-confidence among those who study part-time. As the results of the survey indicate, this increase in self-confidence is also justifiable.

The main objective of our research was to verify the hypothesis that part-time students achieve a higher level of financial literacy than their full-time fellow students. The statistics of both samples are summarized in Tab. 2. It is obvious that both the mean and median are significantly higher in the former set of students.

This can also be confirmed by statistical test of the hypothesis that the mean values of both samples are equal against a one-sided alternative that the average level of part-timers is higher than that of full-timers. Test results are displayed in Tab. 3. As follows from the table, the hypothesis that the means are equal in both groups can be rejected at the confidence level exceeding 99 percent.

Table 2: Sample statistics (Source: Own elaboration)

Form of study	Mean	Std. deviation	Median	Maximum	Minimum
Full-time	51.2%	19.2%	53.8%	92.3%	0%
Part-time	56.3%	16.0%	61.5%	84.6%	0%

Table 3: Results of hypothesis about zero difference between mean performance tests (Source: Own elaboration)

Form of study	Mean percentage	t-statistics	p-value
Full-time	51.19 %	-2.9012	0.002028
Part-time	56.31 %		

We can proceed with the more detailed outcome analysis by comparing the levels achieved in each category. For these purposes, we tested the hypothesis that the difference between the mean performances equals zero. The summary of results is presented in Tab. 4. It is evident that for annuities and debt redemptions, we can reject the hypothesis on the level of confidence exceeding 99 percent. Also, in financial decision-making category, we can reject the null hypothesis on the confidence level of almost 99 percent, and for simple and compound interest rates with more than 90 percent confidence, respectively. The results can thus be considered as balanced only in the category of basic investment principles.

Table 4: Results of hypothesis test about zero difference between mean performances by categories (Source: Own elaboration)

Category	Form of study	Mean percentage	t-statistics	p-value
Simple and compound interest	Full-time	30.64 %	-1.4631	0.07245
	Part-time	34.02 %		
Annuities and debt amortization	Full-time	59.54 %	-4.7728	$1.63 \cdot 10^{-6}$
	Part-time	75.41 %		
Basics of investing	Full-time	47.94 %	1.0336	0.8489
	Part-time	45.08 %		
Financial decision-making	Full-time	66.67 %	-2.1726	0.01549
	Part-time	73.50 %		

In the next step, we investigated whether the importance students attach to financial literacy would have a significant impact on their knowledge score. The results are shown in the boxplots in Fig. 2. It is clear that the median of the knowledge score increases depending on the rising level of the importance attributed to financial literacy. This is more evident in the case of part-time students; cf. the left subplot of the figure. However, in the full-time students' group, we can also observe a wide gap in the score if respondents attach very little importance to financial literacy.

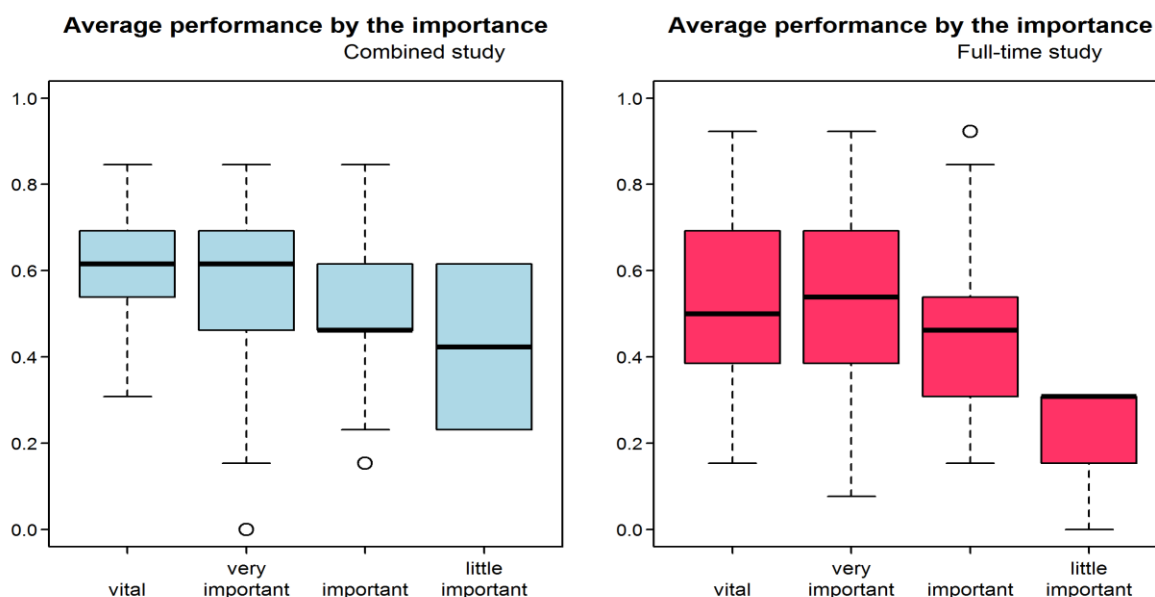


Figure 2: Average knowledge scores by importance attached to financial literacy (Source: Own elaboration)



Figure 3: Average knowledge scores by self-assessment (Source: Own elaboration)

Finally, we verified the objectivity of respondents' self-assessment. The results are presented graphically by boxplots in Fig. 3. The left one shows the results for part-time students, revealing that the score attained decreases according to the self-assessment. We therefore conclude that more experienced respondents are able to evaluate their financial competence in a more objective way. In the group of full-time students, on the other hand, the knowledge score remains stable, except for the last two options. It appears that their little experience in financial matters leads to the overconfidence effect.

5 DISCUSSION AND RECOMMENDATIONS

It is crucial to support students' understanding of the importance of financial skills and knowledge, given that the more weight they attribute to financial literacy, the higher the levels of their proficiency. This applies to both part-time (combined) and full-time students, the former showing a stronger correlation. They are the ones who have had prior work and life experience, having dealt with a lot of problems without family support.

Can formal schooling substitute for practically acquired life experience? The basic building block is undoubtedly the knowledge and ability to apply elementary mathematical methods which are taught at primary and secondary schools. This knowledge is difficult to catch up at a tertiary stage since higher education curricula are based on follow-up study programmes, the motivation for extra self-study being rather weak under the current socio-economic conditions. To put it simply, students prefer searching the Internet to thoroughly studying the subject matter.

Most part-time students have already come to realize that studying consciously is worth the effort, their learning outcomes being more affected by the discouraging effect of bad study manners and morals. Their experiential knowledge ought to be provided to their full-time fellow students, who have only completed secondary education. To show a possible pathway, we suggest that the so-called contextualized mid-term and long-term thinking consequential for their subsequent decision-making should be supported.

Thus, students have to pursue the ultimate purpose of the study programme, perceiving it as a comprehensive flexible educational and training package adjustable to the needs of their future profession by additional elective courses. The first level and a precondition of financial literacy training lies in the overall quality of studies – not just finance-oriented courses – that develop the student's personality as a whole. Learning must follow certain logic, encouraging the learner's long-term contextual thinking.

At the second level, i.e. during classroom instruction of finance courses, it is essential to stress the importance of the knowledge transferred and its linkage to other subjects and professional and private spheres. This can be achieved at the very beginning by explaining the links between different courses and giving useful examples adequate for the level of course graduates. A lot of teachers, however, do not respect their students' level of knowledge, not working with them properly, focusing only on lecturing in their particular subject matter, which may be subjectively perceived as consistent with the real needs of the students and college management. Their simple presumption is that "all the necessary knowledge available for everybody" and generally poor academic performance results from the declining level of both students and the entire system of education, their long-standing expertise in a given academic field being taken for granted.

Suppressing this chronic academic self-absorption and emphasizing the practical use of theoretical knowledge, the lecturer creates an appropriate combination that allows him/her to tap into understanding the student's needs as well as to improve teaching performance. This, however, does not substitute for a thorough grounding in the aforementioned primary or secondary school knowledge of mathematics and subjects covering financial literacy skills, while considering the actual level of students, their future employers' needs and local socio-economic environment. Basic knowledge gaps cannot be addressed only in the classroom; it is the existing educational framework applied by government regulatory bodies that requires a significant reform. But we have to bear in mind that any changes in the system of national education will be hindered by many years of systemic inertia, the principal causes of current problems having been rooted in measures adopted a long time ago.

Let us return to the efficiency of schooling. The teacher's personal contact with the sphere of practical experience, allowing him/her to provide illustrative examples, is another widely debated issue. In the field of financial literacy, such faculty-practice interactions may be facilitated by specialized internships and workshops held on topics concerning financial management, banking and law. Even now, however, academic staff are overloaded with excessive obligations. These current problems, which are not the subject of this paper, are being dealt with by competent authorities in the Czech and Slovak Republics. Without a satisfactory solution, it can be expected that the faculty at universities and colleges will not be able to maintain, let alone improve the standards of education corresponding to the dynamism of present requirements. The proposal to tackle the quality problem by substituting professional practitioners for theorists does not take into consideration all the duties imposed upon academics.

The above suggestions and insights are ineffective without another important factor, namely the student's own efforts to study conscientiously, even independently on one's own. Full-time students in particular rely on short-term memory spans. They approach individual subjects in isolation from each other and learn them just to pass exams, quickly losing the acquired knowledge. Therefore, it is complicated for the teacher to follow up previous lessons or make use of interdisciplinary relations.

Students are supposed to take a proactive attitude towards learning, aiming to a long-term, not just exam-focused acquisition of knowledge. If they do not remember what has been already learned, it is difficult to develop an interdisciplinary approach and a comprehensive understanding of the issue. It is thus unsustainable in the long term not to systematically respond to diminishing qualities of students who are

unable or unwilling to acquire the basic subject matter taught in previous semesters, not allowing the lecturer to pull the threads of the topic together. Moreover, showing too much consideration of weak students, the teacher tends to neglect the diligent ones (or vice versa), thus degrading the overall quality of instruction.

Regarding financial literacy, university students of economics are expected to be well-prepared for a future business career. Finance-oriented course contents overlapping with general subject areas, finance degree graduates are supposed to make informed personal decisions in wide spheres of influence, e.g. about taking out:

- a meaningful property mortgage,
- a student loan,
- an insurance policy,

or about opening a retirement savings account, etc. If they fail to make a rational decision at the very beginning, such an error may cause inertial risk of considerable losses.

Nevertheless, the provision of high-quality education and practical training in financial literacy boosts the graduates' natural confidence and successful application of the knowledge gained. As the results of the present research show, a self-confident student who keeps in touch with outside professional practitioners achieves realistically better test results and is therefore financially more literate. These outcomes lead to the above recommendations.

The following example of practical thinking in the financial context is described by Lánský & Mareš (2016). If the Czech National Bank announces changes in interest rates, the effects will be reflected in the prices of credit and savings products, affecting the consumption behaviour of both individuals and businesses. A proper presentation of the issue in the classroom along with the previous mathematics education and training in logical thinking bring about a clear understanding of complex financial market networks.

Further developments in the present research area are realistically expected. Specifically, in increasingly multicultural societies, integrating people from a variety of value and educational backgrounds, the need is being reinforced to appropriately educate foreign nationals who use different logic of reasoning. This is a challenge, however, that should not come on the agenda until the quality of education of the culturally homogeneous group is resolved. (The policy of multiculturalism and the population relocation is thoroughly explored, for example, by Palátová & Palát, 2017).

6 CONCLUSION

Current academic research has shown that the greater the importance attached to financial literacy, the better the results achieved. High achievers are mostly among part-time students, i.e. adults of working age, who capitalize upon their practical experience, fostering the sense of learning. These findings are consistent with the outcomes of a large study presented in Lusardi, Oggero & Yakoboski (2017). It has also been proved that part-timers are able to properly assess their general abilities affected by financial literacy. Full-time daily students' major problem is the reliance they place on short-term memory, focusing on individual exams, unable to see the studied issues proportionally from a long-term perspective as functionally related phenomena.

The lecturer is supposed to adapt his/her teaching to the educational level of students. It is advisable to include practical examples that facilitate learning, allowing students to grasp the subject matter and its significance for everyday life. Weaker students may need additional support. However, undue preference given to them comes at the expense of the accomplished ones, affecting the flow and quality of instruction. Previously acquired, hierarchically organized knowledge is the necessary building block of efficient learning and teaching, knowledge gaps representing a major stumbling block. Hence, the motivation to study systematically and independently is to be raised since it is one of the prerequisites of effective higher education. School assignments are to be designed and approached from the perspective of informed decisions made upon their completion, followed by comprehensive analysis of their practical (not just theoretically calculated) impacts, providing evidence for the (in)appropriateness of the decision.

There are broader aspects of the topic investigated that lie beyond the scope of this paper. High quality tertiary education needs long-term systemic measures reflecting critically on the declining level of university applicants, clearly defining essential requirements to be met by teachers and removing artificial barriers between theory and practice in higher education institutions. Importing most of the raw materials needed to maintain their industrial production, both the Czech Republic and Slovakia boast of their own skilled

workforce that holds the necessary qualifications. That is why the issue of financial literacy, which overlaps education and culture in general, is of utmost importance. Professional training in financial literacy makes the graduates aware of their natural self-entitlement, enabling them to fully exercise the skills and exploit the knowledge acquired.

REFERENCE LIST

- Ameriks, J., Caplin, A. & Leahy, J. (2003). Wealth Accumulation and the Propensity to Plan. *Quarterly Journal of Economics*, 118 (3), pp. 1007-1047.
- Banks, J. & Oldfield, Z. (2007). Understanding Pensions: Cognitive Functions, Numerical Ability and Retirement Saving. *Fiscal Studies*, 28 (2), pp. 143 -170.
- Đurišová, M. & Kucharčíková, A. (2016). The Issue of Costs in Teaching Economic Courses in Informatics. *The Online Journal of Science and Technology*, 6l (1), pp 77 – 81.
- Fornero, E. & Monticone, CH. (2011.) Financial literacy and pension plan participation in Italy. *Journal of Pension Economics and Finance*, 10 (04), pp 547-564.
- Gale, W.G., Harris, B.H. & Levine, R. (2012). Raising Household Saving: Does Financial Education Work? *Social Security Bulletin*, 72 (2).
- Christelis, D. Jappelli, T. & Padula, M. (2010). Cognitive Abilities and Portfolio Choice. *European Economic Review*, 54 (1), pp. 18–38.
- Jappelli, T. & Padula, M. (2013). Investment in Financial Literacy and Saving Decisions. *Journal of Banking and Finance*, 37 (8), pp. 2779–2792.
- Kozubíková, Z. (2015). Financial literacy as an important objective of the education in economics. In: *Knowledge for Market Use 2015: women in business in the past and present*. International scientific conference, Olomouc: Societas Scientiarum Olomucensis II, pp. 429-439. ISBN 978-80-87533-12-3.
- Kozubíková, Z. (2016). Financial Literacy in Selected Groups of The University Students. In: *Knowledge for Market Use 2016: Our Interconnected and Divided World*. International scientific conference, Olomouc: Societas Scientiarum Olomucensis II, pp. 222-230. ISBN: 978-80-87533-14-7.
- Kozubíková, Z. (2017). Analysis of The Impact of Economic Education on The Level of Financial Literacy. In: *Knowledge for Market Use 2017: People in Economics – Decisions, Behavior and Normative Models*. International scientific conference, Olomouc: Societas Scientiarum Olomucensis II, pp. 932-938. ISBN 978-80-87533-12-3.
- Kozubíková, Z., Kozubík, A. & Nožička, J. (2017). Financial Literacy of The University Students in The Technical Fields of Study. In: *ITEMA*, Belgrade: Association of Economists and Managers of the Balkans, Serbia, pp. 588-596. ISBN 978-86-80194-08-0.
- Lánský, J. & Mareš, D. (2016). The influence of diesel prices on inflation. *Actual Problems of Economics*. 186, p. 62-69. ISSN 1993-6788.
- Lusardi, A. & Mitchell, O., S. (2007) Financial Literacy and Retirement Planning: New Evidence from the Rand American Life Panel. *Working Paper No. 2007-157 of Michigan Retirement Research Center Research Paper*. Available at SSRN: <https://ssrn.com/abstract=1095869> or <http://dx.doi.org/10.2139/ssrn.1095869>.
- Lusardi, A. & Mitchell, O. (2011). Financial Literacy Around the World: An Overview. *CeRP – Journal of Pension Economics and Finance*, 10 (04), pp 497-508.
- Lusardi, A., & Mitchell, O. (2014). The Economic Importance of Financial Literacy: Theory and Evidence. *Journal of Economic Literature*, 52 (1), pp. 1-40.
- Lusardi, A., Oggero, N. & Yakoboski, P. J. (2017). The TIAA Institute/GFLEC Personal Finance Index: A New Measure of Financial Literacy. TIAA Institute, New York.

- Mandell, L. (2007). Financial literacy of high school students. In J.J. Xiao (Ed.), *Handbook of Consumer Finance Research*, pp. 163-183. New York, NY: Springer.
- OECD & INFE (2011). *Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for conducting an Internationally Comparable Survey of Financial literacy*. Paris: OECD.
- Palátová, Š. & Palát, M. (2017) Stages of development of international migration in Europe and its linkages to economic indicators. *Ekonomika Management Inovace*, 9, p. 25-33. ISSN 1804-1299.
- Rybička, J. & Kozubík, A. (2017). Self-reflection of the university students in financial literacy. In: *Knowledge for Market Use 2017: people in economics - decisions, behavior and normative models*. International scientific conference proceedings, Olomouc International scientific conference, Olomouc: Societas Scientiarum Olomucensis II, pp. 682-693. ISBN 978-80-87533-12-3.
- Xu, L., & Zia B. (2012). Financial Literacy around the World: An Overview of the Evidence with Practical Suggestions for the Way Forward. *Policy Research Working Paper 6107*, The World Bank.