ONLINE JOURNAL MODELLING THE NEW EUROPE
NO. 39 / 2022

DOI: 10.24193/OJMNE.2022.39.08

METHODS FOR DEVELOPING FINANCIAL LITERACY

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Abstract: *In the recent years, the world has experienced a great number of difficulties beyond the usual events, and it has become almost part of our lives to be constantly alert to the problems and difficulties caused by Covid-19. In higher and public education, both in Hungary and in other countries of Europe, we have witnessed dramatic changes since 2020, which has fundamentally changed our knowledge and opinions on educational methodology. Prior to the pandemic, it was common practice in primary and secondary public education to teach according to methodological recommendations for face-to-face teaching. In higher education, in addition to face-to-face (offline) teaching, the use of online resources for a semester or a course was already being considered, particularly in the field of continuing education and vocational training. Higher education institutions have continuously been experimenting with solutions to extend face-to-face teaching, but these methods and forms of teaching have not become commonplace. However, from 2020, both instructors and students had to adapt all of a sudden if they wanted to avoid any backlog or disruption in this area. Even before the pandemic, we were concerned about the methodological innovations we would have to make in this specific area of education. We were also previously interested in looking at the needs of today's students who want to study finance. In our research, we therefore focus on the difficulties that online education caused for those who completed the questionnaire during the pandemic or after the outbreak of the pandemic, and on the framework within which they could envisage renewing their financial education in the long term. The research carried out by Jakovác and his co-authors has shown that the financial literacy of the Hungarian population is improving, but that its practical use and effectiveness is below the international average.*

Keywords: Pandemic, Financial literacy, Educational methodology, Online education, Attitude.

1. Introduction

In our research, first we start with a literature review to the topic, and then we deal with financial literacy and the methodological issues of financial education. What do we mean by financial literacy? Financial culture, the level of financial literacy in society, has been a much-debated subject nowadays, especially since the financial crisis that erupted in 2007 and then reached Europe in 2008. Interestingly, the crises have not necessarily brought along bad things at times but have also forced processes that we previously could only imagine. The financial crisis of 2007/2008 made people and governments aware that people who are not financially literate are taking risks with their decisions that not only have a long-term impact on the functioning of a household but can also generate systemic risk and loss on a massive scale. The large stock of foreign currency loans has led to the insolvency of masses of Hungarian households, causing huge losses to the banking sector, while at the same time creating a major challenge for the governing bodies on how to deal with this problem and rebuild the lost trust in the banking sector. One of the factors that contributed to the systemic risk of the financial crisis in Hungary was the lack of awareness among household decision-makers of the risks associated with foreign currency lending and the potential loss it could represent for the future of the household. The basis for responsible decisions lies in having the right knowledge. The question arises as to where and from whom this knowledge can come. In 2012, Kovács et al. highlighted the fact that the use of financial literacy has a rather long history, dating back to the 1900s. The main finding of their own research is that the secondary school students follow patterns in their decision-making, so who or what the pattern or role model is of paramount importance. It also confirmed the need to focus on practical education. Atkinson - Messy (2012) gives the following definition; 'Financial literacy is the combination of awareness, knowledge, skills, attitudes and behaviours needed to make informed financial decisions and ultimately to achieve individual financial well-being'. Dániel Béres (2013) identified financial literacy as 'a concept', that financial culture in a society is not defined as good or inadequate only on the basis of the existence or lack of material knowledge, but that financial culture itself requires an interdisciplinary approach. According to investopedia.com, it is defined as 'Financial literacy is the ability to understand and effectively use various financial skills'. The definition highlights that making a sound financial decision is based on having the right financial knowledge. (Széles et al. 2008)

Katalin Botos et al. (2012) concluded from their 2011 survey that respondents are quite conservative about their finances, but they found a more nuanced picture of financial literacy, mainly due to a lack of knowledge. The financial instruments they know are the main savings target, although the savings period is typically within a year. As the economy and technology evolve, more and more information reach members of society, and it is important to be able to choose and decide which information is most relevant to a particular decision. (Birkásné, 2019) The conscious financial decisions of households, rather than those based on intuition, can result in reduced risks and minimized losses, which can be beneficial for stable, long-term financial functioning. Following the outbreak of the financial crisis, improving the financial awareness of the population has been a priority in many countries, including Hungary. (Jakovác 2017; Atkinson, 2012) Several initiatives to promote financial literacy have been launched recently. Bárczi - Zéman (2015) draws on the OECD study to define financial education, i.e., financial education is 'the process by which individuals develop a better understanding of financial products and concepts, improve their skills and confidence through information, education and/or objective advice, so that they can better identify financial risks and opportunities, make informed decisions, increase their financial well-being and security, and take well-managed risks'. The OECD highlights the importance of the nations' taking responsibility. (OECD, 2015) (Sun, A. et al. 2016) (Matthew, 2007)

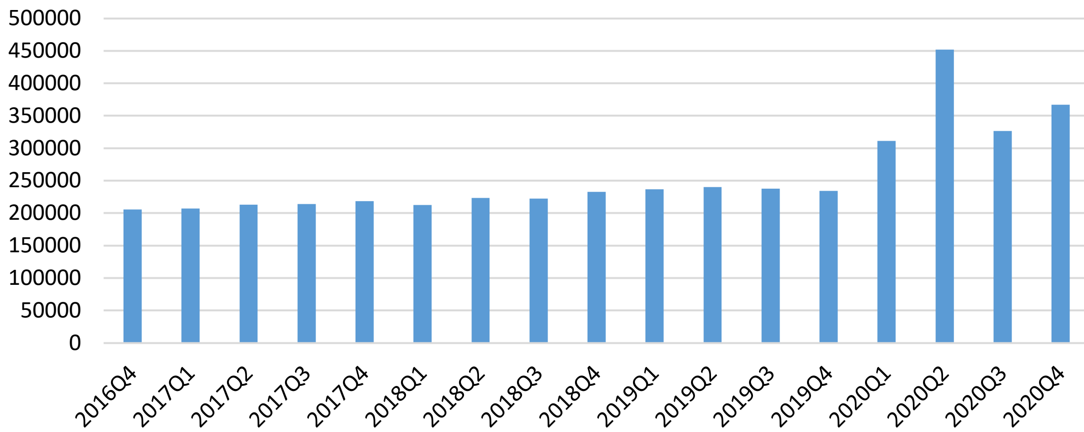
The Pénziránytű (Financial Compass) Foundation, using the methodology developed by the OECD, conducted its own representative survey of 1,000 young adults, aimed at measuring, among other things, financial literacy. The survey showed that the financial situation of respondents has become more stable compared to 2010. It also revealed that households do not prepare their own financial budget. A similar finding was found by Zsótér (2018) in a survey of 300 respondents, namely, that only 28.6% of respondents prepare a budget, but more than 61% of respondents discuss their financial decisions with others in the family.

Possible methods for developing financial literacy include financial education in and out of school, counselling, and various online applications, including games. (Jakovác, 2017)

In 2016, Németh et al. (2016) published a review study on the educational effectiveness of organisations involved in improving the financial literacy of the Hungarian population, surveying 110 organisations. The study found that the majority of programmes aimed at improving financial literacy targeted public school students for up to 4 hours, with 79% of the teaching methodology using traditional teaching. The researchers came up with 15 hypotheses, the last of which, i.e. 'Most training does not measure effectiveness' was confirmed, i.e., financial literacy programmes would take place, but the extent to which they achieve their objectives is no longer being investigated. The range of interventions aimed at improving financial literacy has been steadily expanding over the past period. Németh et al. published the results of their research in 2021 to examine the effectiveness of programmes between 2016 and 2020, in which they analysed 122 training programmes based on the opinions of 52 respondents who had also received training. The responses show that young people continue to be the target group for training, with the length of training time increasing compared to the previous period, and thus being measured in days. The survey concludes that it would be important to reach the adult age group and develop financial awareness among more financially vulnerable groups. (Balog et al. 2014) (W. B. Walstad et al. 2010)

More research is looking at the question of to what extent better -informed people who are financially literate make more conscious decisions about financial issues. Bernheim et al. (1997) from Stanford University found that young people who received financial education prepare more consciously for retirement. In Hungary, Béres et al. (2013) came to a different conclusion, namely that those with a high school financial education do not necessarily make more informed financial decisions. The objective of financial education is no other than understanding how money works (Sudheer,2018). It is important that education should help to develop the skills that help people to make more conscious financial decisions. (Csiszárik et al. 2018) Financial education is not a question similarly to starting it as soon as possible, but it is important to state at what age and with what methodology. (Horvátné Kökény, 2014; Kovács - Szóka, 2020) In the following part, a brief overview of the evolution of the stock of savings in Hungary is provided. The figure below shows the gross savings of the Euro area households for the period 2016-2020. (A. Opletalová, 2015)

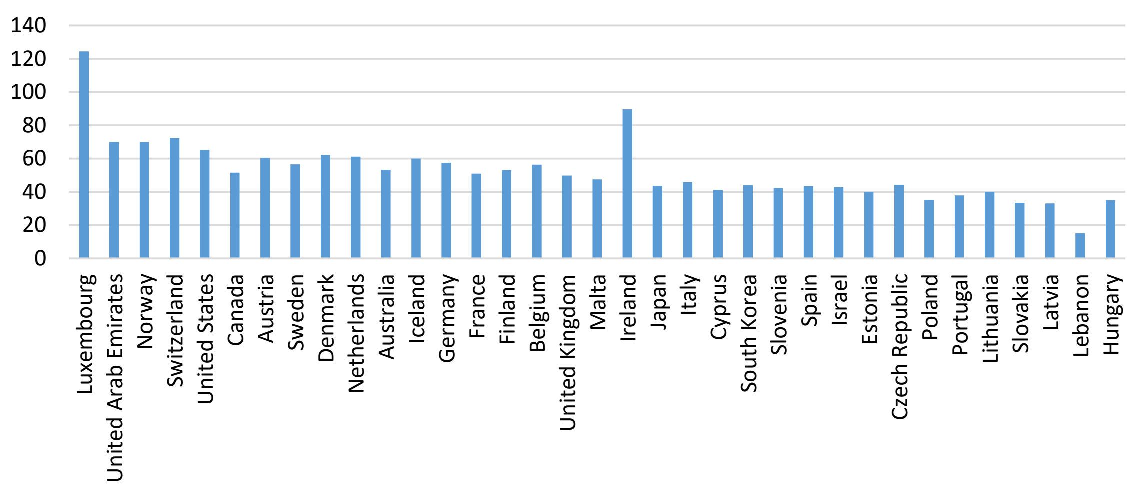
Gross savings of the Euro area households in 2016-2020 (millions of euros)



Source: https://www.euro-area-statistics.org/statistics-insights/household-saving-rate-during-covid-19?lg=hu

The graph shows that the usual propensity to save increased significantly as the Covid-19 epidemic took hold, because there were not necessarily so many opportunities to spend income due to the lockdown on the one hand, and because the population was waiting to see what would happen to their unforeseen fate, whether in terms of jobs or health, on the other hand. The figure below shows GDP per capita in 2021 in US dollars.

Changes in GDP per capita



Source: https://worldpopulationreview.com/country-rankings/median-income-by-country

The Hungarian economy expanded by 7.6% in the first half of 2021 compared with the same period a year earlier. The Covid19 epidemic had a negative impact on socio-economic developments in the first half of 2021, but most of the restrictions were removed at the end of May and beginning of June. Economic growth also exceeded pre-pandemic growth levels.

2. Materials and Methods

The topic of our research is not a new issue, as many people have been dealing with methodological issues of education or specifically with methodological issues of finance education in the past period. (Bakos, 2018) In our previous research, we have already dealt with the methodological features of finance education. We conducted our first research on this topic in the first semester of 2019, using an online survey with 150 participants. As a result of the pandemic, the previously familiar and widely used education system and its methodology have changed significantly. (Baranyi et al., 2020) In our second study, we investigated the methodology of teaching finance, with a particular focus on the pandemic that has now occurred and the significant changes it has caused. The research sought to answer the question of how the participants in the survey had acquired their previously acquired financial knowledge in the context of an educational system. We also wanted to find out to what extent respondents felt that financial education needed to be changed, to what extent the theory/practice ratio met the expectations of those who wanted to learn, and to what extent students who were already working could use the knowledge they had acquired during their studies, and 208 respondents were asked to give their views. The framework for the online survey was social media platforms, using a snowball survey method. 73% of our sample were female, more than 30% of respondents had a college/university degree, 76% were pursuing higher education in finance at the time of the survey, and the average age was 30 years.

3. Results

In the first part of our research, we asked respondents to rank different areas of importance, and the aim of this question was to find out how money as a key element in our lives is perceived by our respondents compared to other factors. The aspects were rated on a scale of 1 to 5, with a number one indicating that it was not important and a number five indicating that it was very important in the person's life.

Table 1 The importance of money and other factors in our lives

Factors/value n=208 (%)	**1**	**2**	**3**	**4**	**5**
Career	0.00	1.40	22.60	48.10	27.90
Family	0.00	0.05	5.30	19.20	75.00
Friends	0.05	4.30	20.20	40.90	34.10
Money	1.00	1.40	21.60	52.40	23.60
Health	0.00	0.05	3.40	20.70	75.50
Social status	2.90	13.00	42.80	33.70	7.70

Source: authors' own research

The data clearly shows that social status, i.e., the position of someone in their job or in other areas of life, is not ranked anywhere in terms of importance. In terms of career, it is almost the most important factor for 48.1% of the respondents, which may be related to the fact that the amount of money earned, and income may depend to a large extent on the position in which one is in in terms of career progression, but it is not the most important factor. Family is essentially the leader in the order of importance, followed by the importance of health by a little over half a percent. For many, friends are important alongside family, but to a much lesser extent than those with whom we are closest. Which brings us to the key question of our research, the role of money, it has to be said the 2nd most important thing in our lives. The most important component in our lives after family and health is money. Surveys show that increasing our income contributes to increasing our sense of happiness, but the correlation is far from straightforward. (Danka, 2017) As the second question of our research, we asked about the beginning of the process of learning about money. In our article, we already pointed out that there is not complete agreement among researchers on the specific age, but the earlier, the better.

Table 2 Acquiring financial knowledge

age category n=208 %	**1**	**2**	**3**	**4**	**5**
in the nursery school (3-7)	30.30	38.50	21.20	5.30	4.80
junior section of the elementary school (7-10)	3.80	25.00	40.40	21.60	9.10
senior section of the elementary school (11-14)	0.05	4.30	26.40	38.50	30.30
secondary school (15-18)	0.00	1.00	3.80	23.10	72.10
aged 18-25	0.05	0.00	2.40	11.10	86.10
as an adult	1.00	0.05	7.20	15.40	76.00

Source: authors' own research

A majority agree that dealing with money at any level in pre-school is almost unnecessary, with nearly 70% of respondents rating it as a one or two. The importance of dealing with money increases in the junior section of the primary school years, all the more so as pupils are already learning about numbers, their form and content at school. The preoccupation with and knowledge of money becomes even more important in the senior section years. An interesting finding is that the most important period in our lives for money is the time spent in secondary or higher education, according to respondents, but it is not negligible that there is also a need to update and maintain knowledge in adulthood.

In the next area of assessment, respondents indicated whether they have self-reported financial literacy. 98.1% of the respondents studied finance, and the systems through which this was achieved are revealed in relation to this. While 4.9% of respondents recall having encountered the concepts of savings and credit in primary school, 54% of respondents did not even deal with financial issues in secondary school. It is therefore not a coincidence that the previous table shows that it is important to deal with finance in secondary school, as respondents can already speak from experience about the lack of it. The acquisition of knowledge in secondary education is mainly the result of further education in specialised institutions, i.e., financial education was not taught in secondary schools or other secondary schools. More than 30% of respondents had also encountered this subject in the context of courses. 93% of respondents had acquired financial literacy through higher education, and 3% had also studied for a PhD. Theoretical and practical financial education was regularly encountered by 76% of respondents. In most cases, the computational exercises were mastered by deduction on a blackboard, which also suggests that many respondents did not learn finance during the pandemic. It is important to note that this method is still considered very important and effective by respondents, with 86% stating that it could be an effective teaching method for the future. Situation games were not used by 1/3 of the respondents, with only 6% stating that they had been involved in such a method during their education. The preparation or presentation of case studies was essentially absent from the educational repertoire, which also suggests that the frontal transfer of knowledge was the dominant activity, with a similar result for group work, i.e., 22% of respondents had not encountered this type of activity at all during their studies, and the delivery of presentations was defined as an unknown phenomenon in 31% of cases.

Inviting external experts can be a very refreshing phenomenon in a subject, but its absence was also apparent, with 8% of respondents having regularly encountered this method of knowledge transfer, although it is important to note that respondents would have liked it, and more than 80% of them consider it a very effective way of transferring knowledge. Homework assignment and its checking is a dominant and frequently used methodological element in the field of finance, with 57% of respondents stating that they had often/very often received homework during their studies, which is important because the examples given or presented in class should be able to be solved independently and it is better if this is done before the account is taken rather than afterwards. The oral examination activity was also a key element of the respondents' training. However, written debriefing was a very familiar solution in more than 80% of cases, a phenomenon that is not a coincidence during the pandemic. Written debriefing is considered by respondents to be a more effective method for the future than oral examinations. The written tests were solved by respondents on computers, which presupposes not only professional knowledge, but also computer literacy. A low proportion of respondents had participated in field training and company visits, which scored highly for the usefulness of this methodological element.

In recent changes to the curricula, recommendations have tended to be more practice-oriented, but respondents still consider high quality theoretical education important, with more than 90% rating the importance of theoretical education as medium (3) or higher. For the future, the use of case studies and situational problem-solving could be a significant feature of frontal teaching. The use of presentations is not considered to be a fully effective method while group work is suggested to be more prominent. To what extent can respondents make use of the knowledge they have acquired? This question was also asked, with more than 50% saying that they could definitely make use of this knowledge, and less than 3% of respondents who thought that they would not need it. Communicating and learning a profession in a foreign language is also becoming increasingly important, with 80% of respondents saying that they would also like to learn a profession in a foreign language. It is important to underline that there were no respondents who gave the practical part of the training 1-2 points, with 97% of respondents considering the practical part to be of high importance, alongside the actual theoretical part. In terms of the ratio of theory to practice, most respondents (31.1%) considered a ratio of 50-50% to be the best option. As for the requirements for trainers, 94% of respondents expect up-to-date knowledge, good communication skills, clear task description and explanations. The number of times the instructor explains the same task during the course is also very important. How lenient the instructor should be, most of the respondents indicated medium (3), so this is not necessarily the most important thing for an instructor; consistency is more important.

Financial means did not cause any difficulty for 52% of respondents in gaining financial knowledge. The availability or lack of free time seems to be a major difficulty in acquiring financial literacy. Sometimes there was also a lack of intrinsic motivation to acquire sufficient knowledge. The subject of finance was perceived by respondents as not being easy, with 33.7% having difficulties, which may have been due to the fact that 8% did not have this as an interest. 35% of the respondents plan to participate in school-based learning activities in the future, and for more than 50% reading specialist articles will be a key factor in maintaining their knowledge. The need to acquire and develop knowledge is clearly motivated by work.

A key question in our survey was the impact of the pandemic on our respondents. The interest in acquiring financial skills showed an increase for 46% during the pandemic. As a further area of our research, we analysed the expectations of educators using factor and cluster analysis. The variable tested was 'How much do you generally expect the following from a finance instructor?'

A Likert scale was used to assess the importance of each factor for the respondents' expectations of the instructors. The criteria assessed were analysed using factor analysis. Prior to principal component analysis, the Kaiser-Meyer-Olkin index was 0.66, which indicated that factor analysis could be performed on the data.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.660
Bartlett's Test of Sphericity	Approx. Chi-Square	222.664
	df	21
	Sig.	0.000

Two components were identified in the factor analysis.

Rotated Component Matrix[a]

	Component	
	1	2
How much do you usually expect from a finance instructor? [good communication skills]	0.780	0.045
How well do you usually expect the following from a finance instructor? [consistency]	0.697	0.106
How well do you usually expect the following from a finance instructor? [clear problem definition and solution]	0.693	0.163
How much do you usually expect the following from a finance instructor? [up-to-date knowledge]	0.566	0.018
How much do you usually expect from a finance instructor? [leniency]	-0.064	0.809
How much do you usually expect from a finance instructor? [repeat the task and its solution several times]	0.147	0.746
How much do you usually expect the following from a finance instructor? [ability to complete the assignment]	0.181	0.709

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

In the factor analysis, we were able to separate two groups: "Professionalism" and "Empathy"

How much do you generally expect the following from a finance instructor?

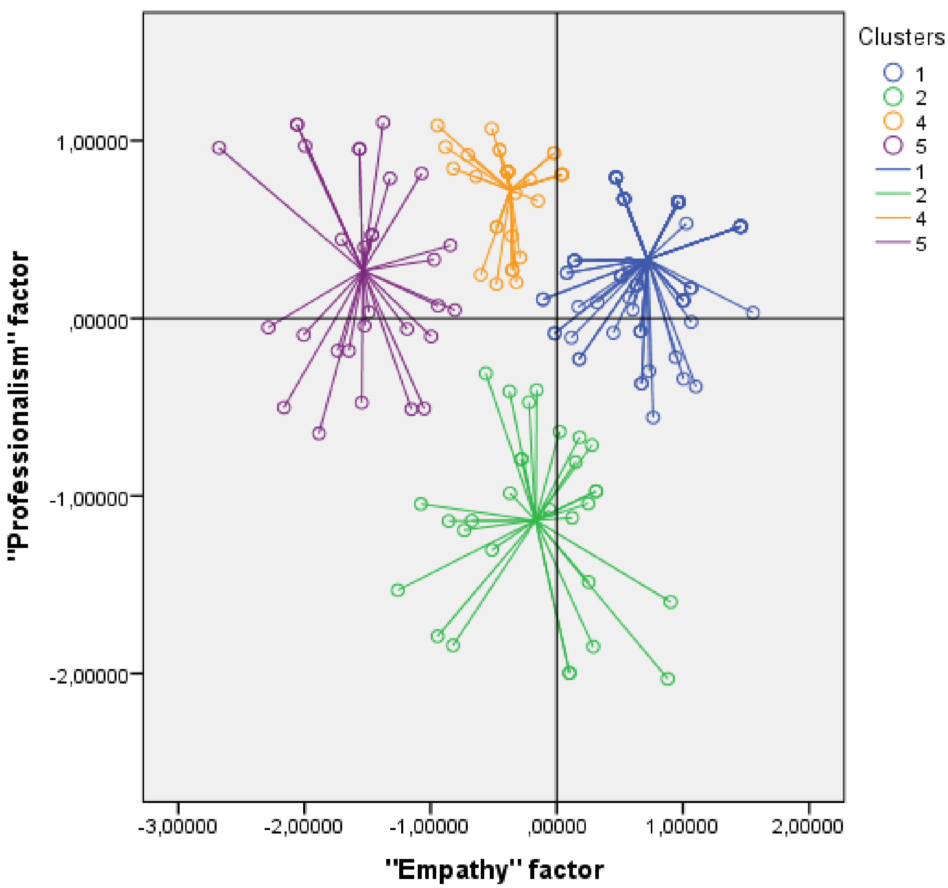
"Professionalism" factor

- good communication skills
- consistency
- clear task definition and solution
- up-to-date knowledge

"Empathy" factor

- Permissiveness
- repeat the task and its solution several times
- ability to complete the assignment

Expectations of the instructor along the criteria of empathy and professionalism



Source: authors' own research

The survey question was assessed based on the responses of 191 respondents. The first cluster (blue) was made up of 47.64% of the respondents, i.e., 91 respondents, the second cluster (green) was made up of 15.71% of the respondents, i.e., 30 respondents, the fourth cluster (yellow) was made up of 40 respondents, i.e., 20.94% of the sample, and finally the fourth cluster (purple) was made up of 30 respondents, i.e., 15.71%.

The cluster marked blue has the largest number of items, with members who consider it of paramount importance that an instructor be both empathetic and professionally qualified. They should have up-to-date knowledge, give clear instructions, be consistent, but also have a "humanity" factor, i.e., try to understand and deal with the student's problem if necessary.

In the yellow cluster, which has the second largest number of students, respondents tend to focus on professionalism, with the primary criteria being preparedness and compliance with the methodological requirements of the teaching. Professionalism is above average for the instructor. So, if we look at the blue and yellow groups together, professionalism is the first requirement for instructors in 131 opinions.

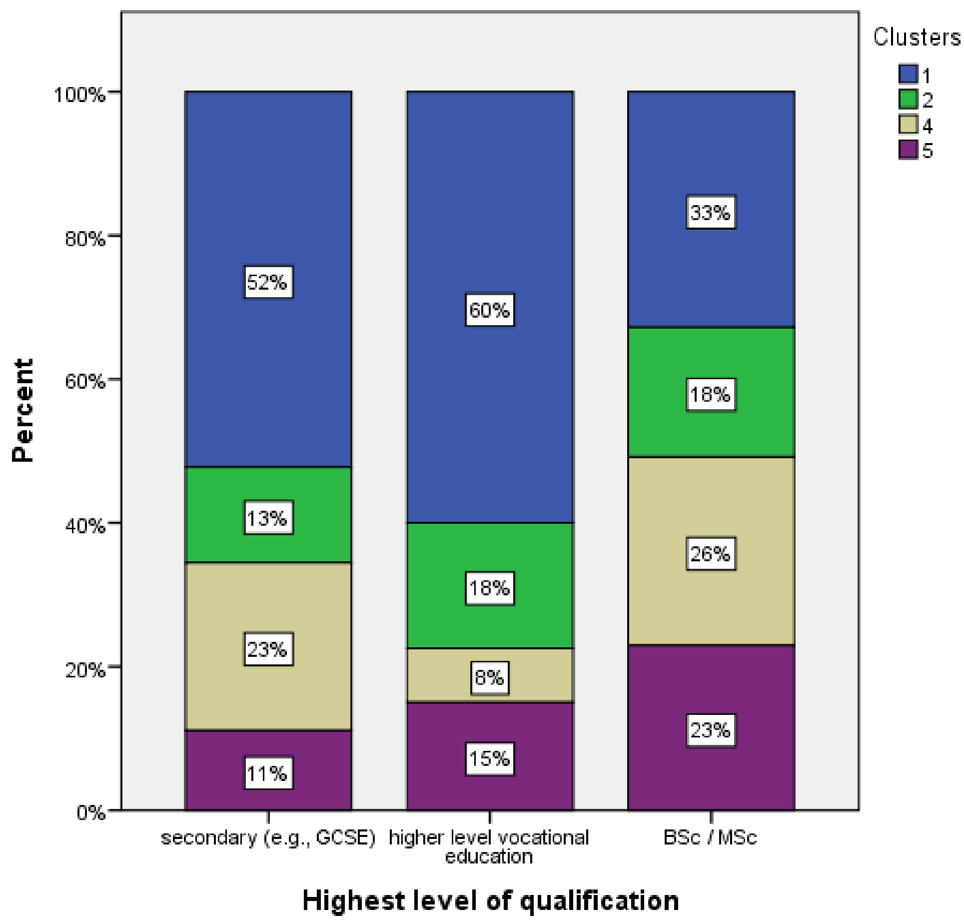
In the case of respondents in cluster 5, marked in purple, the only requirements are professionalism, how helpful, empathetic and understanding the instructor is, which is actually almost all the same. For the 30 respondents in cluster 2, it is indifferent what the instructor is like. They want to get through the training and that's it.

The next area of our investigation was to see what influenced the respondents who 'took their place' in each cluster. First, we correlated who belongs to which cluster with the level of education, and this hypothesis proved to be true, as the significance level of the Chi-square test was 4.5% and as the value was below 5%, education had an impact on the expectations respondents had of their instructors. For respondents with lower levels of education, the level of professionalism of the instructor is of paramount importance. The highest proportions of those with secondary and higher-level vocational education fall into the blue group. The proportion in the blue group is lowest for those with tertiary education, i.e., those who have direct daily contact with their instructors more than those with higher education, who have a more professional relationship with their instructor, and who can count on the instructor's empathy and help beyond the teaching. However, for those with tertiary education, professionalism is clearly the most important factor, and they do not rely on the ability to teach in an understanding/empathetic way.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.891[a]	6	0.045
Likelihood Ratio	14.090	6	0.029
Linear-by-Linear Association	4.460	1	0.035
N of Valid Cases	191		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.28



Source: authors' own research

The second contextual question is whether the gender of respondents has an impact on the expectations of trainers. Thus, the Chi-square test shows a significance level of 69.5% that being female or male does not influence the place of belonging to a cluster.

However, the age at which the respondent said he/she was at the time of answering did show a relationship with the cluster position, i.e., age did influence which cluster the respondent belonged to. The relationship between age and the placement of respondents in different clusters was examined using analysis of variance. This was necessary because age was assessed as a metric variable. Prior to the analysis of variance, the Levene's test for homogeneity of the data was performed with a significance level of 0.206, so that the analysis of variance could be performed. The analysis revealed that the variance between and within the groups studied differed and the F value was 3.690. Based on the significance value of 1.3% below the accepted reference value of five percent, a relationship between age and the nature of the responses was demonstrated.

Test of Homogeneity of Variances

q21.1 Age (years)

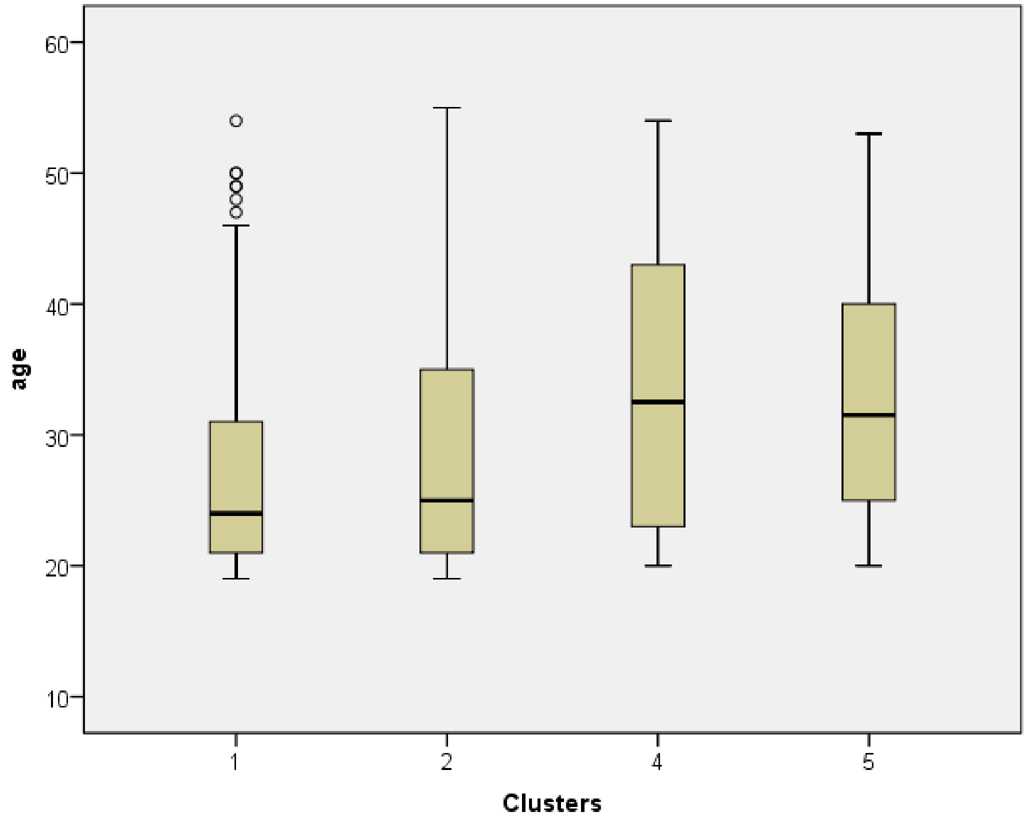
Levene Statistic	df1	df2	Sig.
1.539	3	187	0.206

ANOVA

q21.1 Age (years)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1000.363	3	333.454	3.690	0.013
Within Groups	16900.097	187	90.375		
Total	17900.461	190			

Analysis of variance revealed that age had a statistically significant effect on respondents' expectations of instructors.



Source: authors' own research

Group one was made up of the youngest respondents, who are all important to an instructor. The average age of cluster participants is 28 years. Of those with a median age of 24 years, 50% of the respondents in this cluster are 24 years old (median) or younger. In general, the older the respondent, the less the need for empathy and the more relevant the professional aspect.

4. Conclusions

The aim of our study is to summarise the framework for financial literacy, building on the responses to a primary survey. Prior to presenting our research findings, we reviewed the literature on the relationship of financial culture to the economy of a given nation and the range of financial services used, based on Hungarian and international literature. Part of financial culture is how prudent the consumer/household is in making financial decisions, what opinions influence their decisions and how these decisions affect the individual or their wider environment in the long run. It is often said that 'as long as there is no trouble, there is no trouble' and how true it is that financial culture, although long part of the financial vocabulary of financial professionals, has become part of our everyday lives since the financial/economic crisis of 2007. For the Hungarian population in particular, foreign currency lending and the related exchange rate losses, the collapse of credit, and the accumulation of substantial losses by banks, which they have been slower to 'work off' than their EU counterparts, have been particularly significant. These negative effects have clearly demonstrated that either a lack of regulation or a lack of knowledge can cause significant damage at both individual and societal level. To compensate for this situation, a number of steps have been taken, including the development and implementation of strategies at national level. The use of these strategic elements has also been demonstrated in our research. The development of financial literacy is therefore linked to financial knowledge, which can be acquired both within and outside the school system. Our own primary research focused on the conditions under which this knowledge is acquired. Among other things, we looked at the role that money plays in our lives. If you ask an investment adviser what you should invest your money in, he is most likely to say in securities, real estate, diamonds, etc... with a small chance of answering that you should take advantage of as many leisure or recreational opportunities as possible. So, it is important to be aware of the financial issues and financial processes that affect us every day. In our previous research, we have looked at how the pandemic has changed the framework and methodology of education, and we have also touched on this area in the present study. However, new results are essentially typifying the expectations of educators. We were able to identify two factors based on the responses, one factor is the empathy factor, and the other is the professionalism factor, based on the combination of these two factors we were able to identify four clusters and classify the respondents into them. It is clear that for the youngest and lowest educated, it is of paramount importance that the instructor not only has maximum knowledge of professional issues, but also has an understanding of the students' problems. With advancing age and improving educational attainment, expectations of teachers are changing and are largely moving towards professionalism. Among respondents who are no longer studying for their first higher education qualification, neither quality nor empathy is of importance. The future direction of the research on our selected topic could be to investigate how households react to the economic situation in the wake of the Ukrainian-Russian crisis in terms of financial issues, whether consumers' financial habits changed as a result of the war conflict, and to what extent they use their financial knowledge when they need to plan their household budget and make decisions about borrowing in a high inflation environment. Another interesting aspect could be the direction in which financial education needs to change in order to make financial issues widely understood, not only by generations born in the internet age.

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