

The Effects of Me and My City on Primary School Students' Financial Knowledge and Behavior

Panu Kalmi; panu.kalmi@uva.fi

Professor of Economics, University of Vaasa, Finland

Submitted to the 2018 GFLEC Cherry Blossom Financial Education Institute

April 6, 2018; Preliminary

1. Introduction

The importance of starting financial education from a young age has increased markedly. Due to technological change and wider availability of forms of fast credit, there are ever more financial mistakes young people can make. For instance, the amounts of payment default entries in Finland have been increasing constantly after the turn of the century, reaching a new peak of 374 000 persons (8.4%) of the adult population in June 2017 (Suomen Asiakastieto, 2017). The payment default entries are more common among young people. To steer clear in the ever more demanding financial environment, consumers need a certain degree of financial literacy and self-discipline and a habit of savings and budgeting to avoid mistakes, such as excessive consumer borrowing on high interest rates.

Schools have potentially a very important role in promoting financially responsible behavior. Primary and lower secondary schools can reach the cohorts of population. Although it has been sometimes argued that teaching financial behavior to primary school students who make no independent financial decisions is difficult, other studies have countered this notion and argued that primary schools may be a good time to start the formation of savings habits, to develop a basic understanding of economic trade-offs and develop delayed gratification (Whitebread and Bingham, 2013; Collins and Odders-White, 2015;

Fornero et al. 2016). There is also evidence that active savings behavior in childhood increases the probability of saving as an adult (Brown and Taylor, 2016).

A difficult challenge is the how the material should be delivered to young children with little experience in independent money management. Many recent studies have favored the use of experiential teaching methods that simulate real life economic choices. Variously called reality fairs or finance parks, these methods have received a positive evaluation from researchers and practitioners alike (Carlin and Robinson, 2012; Martin and Dorse, 2012; Sebastian et al., 2012; Collins and Odders-White, 2015; Amagir et al., 2017). However, research on such programs remains still limited.

In this study we focus on a Finnish program called "Me and My City", which is managed by the Economic Information Office (EIO).¹ The "Me and My City" program has been launched in 2010 and already a few years after its launching, it already has national coverage. The targets of the educational intervention are the 6th graders in their last year of primary school. Typically, the students in this grade are of 12-13 years old. The amount of economics teaching for the primary school students had been very limited, although this has somewhat changed after the introduction of new curriculum in the fall of 2016.

Finland is an interesting case as it has been internationally noted for its students' high performance in the OECD Programme for International Student Assessment (PISA), which compares the skills of 15 year old students. PISA contains also a financial literacy module (Lusardi, 2015). Finland has not participated in earlier rounds of the PISA financial literacy module, although it will in 2018.

¹ Economic Information Office is a subsidiary of the Confederation of Finnish Industries, the main employer organization in Finland.

The present study is modelled according to a number of studies which use pre- and post-surveys in analyzing the learning outcomes of financial education programs (e.g. Walstad et al., 2010; Batty et al., 2015; Lührmann et al., 2015; Bruhn et al., 2016; Kalmi, 2018). These studies typically find that educational programs have a positive impact on financial knowledge, but the results concerning behavioral changes have been somewhat mixed. With the exception of Batty et al. (2015), few studies focus on primary school students.

2. Presentation of the program

The concept of “Me and My City” originated from the well-established Biztown program of the Junior Achievement (based in the US). The program consists of two parts. The main part is the visit to the physical learning environment called “Me and My City”. Prior to that visit, the students engage in class-based work that takes approximately 10 class hours to complete. In this class-based work, students get familiar with basic concepts of the economy, such as profit, cost, interest etc. Other topics include e.g. private enterprise vs. public provision of services, work life and job seeking, taxation, banking and marketing. The classes provide the needed conceptual background of the students to function in the learning environment.

In the learning environment, students “work” in companies, which are trading with each other and also selling to consumers. Students have a double role as employees of companies and as consumers. There are transfers of virtual currency between companies. Consumers use electronic payment cards, which have been preloaded a certain amount of currency. Much of the activity takes place according to a prepared script, so the role play is not improvised. However, the students are usually very engaged with the prearranged roles.

The learning goals of students are related to the general understanding of economic issues, and more specifically, becoming a savvy consumer with good abilities to managing personal finances.

Furthermore, the program aims to provide the students and understanding of economic life as an integral part of modern society.

The "business villages" (physical learning environments) are run by employees of EIO and volunteer students (usually from universities), who get certain credit for their studies from their participation in the program. The costs of running the program are divided between public sources (municipal educational authorities), private foundation and private companies. Companies get in exchange of their contributions visibility in company booths in business villages.

3. Data

The data was collected during the academic year 2014-2015 in five Finnish towns: Helsinki (the capital, located in Southern Finland), Seinäjoki (Western Finland), Kuopio, Mikkeli and Joensuu (all located in Eastern Finland). The size of the towns included measured by the number of inhabitants varies from 55 000 (Mikkeli) to 631 000 (Helsinki). The locations in Eastern Finland entered into the sample because of the contact initiated by the local branch of the EIO. Helsinki was included because its strategic significance for the program. Seinäjoki was included by the initiative of the researcher to ensure a sufficient number of observations in the data set.

In each location, the researcher contacted the local educational authorities and asked for permission to conduct research. This permission was granted in each of the locations contacted. Thereafter, the school principals were contacted by email to enroll to the research. In each case, one follow-up email was sent

to the principals who did not respond in the first round. After the two contacts, approximately one half of the schools were enrolled in the study in towns other than Helsinki, where the proportion was markedly smaller.² In the end, both the teachers and parents of the students needed to give their permission to the research.

In Table 1, we present how many schools and classes participated to the pre- and post-survey from each town. There was some attrition in every town that participated, most notably in Kuopio. The number of classes that participated in the research was almost equal in all of the towns.

It was difficult to form a comparison category of students, classes or schools that did not participate in the learning environment. All students and classes within participating schools attended to the program; moreover, if a municipal school system decided to participate, all schools within that municipality participated in the program.³ Possible control group would have needed by including towns that did not participate in the program, which was also challenging because the program was national in scope and virtually all large and medium-sized towns participated in it.

However, the program was implemented at different times in different places. This feature enables to control statistically time-varying changes in the student know-how, such as general mental maturing by using time dummies. Similar identifying strategy based on different timing of intervention has been used e.g. by Skimmyhorn (2016).

² From those schools that did not enroll, in most cases there was no response at all. A few schools provided an explicit refusal, usually citing time constraints. In Helsinki, there were more refusals, often citing the lack of time and parallel studies by other researchers.

³ This is a consequence of the Finnish school system, where virtually all schools are public. Even those that are private (e.g. religious schools or Steiner pedagogy schools) follow the general curriculum.

Table 2 presents the general timeline of the research. In all cases, there was the aim to conduct the pre-survey before the classwork related to the learning environment had begun, in order to gauge the situation before any intervention. In some classes, the pre-survey was conducted after the classes had started; in such cases, the corresponding observations were dropped from the data.⁴

The post-program survey was conducted after the visits to the learning environment. Within towns, the visits to the learning environment took place within approximately a two-month window, but the final questionnaire was opened simultaneously to all schools within the same town. This generated some variation in the time that had elapsed between the visit and responding to the survey. This problem was smaller in Seinäjoki and Joensuu, where some visits took place close to the end of the spring semester, thus requiring all classes to respond swiftly to the questionnaire. However, this also posed some challenges for the practical execution of the study as some classes had to be left outside the study.⁵

4. The content of the surveys

Both surveys consisted of twenty questions related to the knowledge of economic issues, and of thirteen other questions, that were related to savings behaviors and attitudes towards savings and consumption. The questions were based on previous literature, especially the research of Go et al. (2012) and Batty et al. (2015). Knowledge questions were multiple choice questions, where three different alternatives and a “do not know” – option were given. (The questionnaire is available as Appendix 2). The students were incentivized to try to their best, but also to choose the “do not know” –

⁴ This happened especially in Kuopio, where the study program started first early in the fall semester. In some cases, this left insufficient time to respond to the pre-program survey.

⁵ The main constraint here were the rewards based on class performance: sometime had to be set aside to determine the results and distribute the rewards.

option by a grading system, where a correct answer gives three points, “do not know” –option one point, and false answer zero points. In each town, four best classes were awarded on the basis of the grades and one class by lottery.⁶ The award was movie tickets to the entire class and its teacher. The questionnaire was done by internet, although in a few exceptional cases by paper survey. In this paper, we report only the internet-survey based responses. The knowledge questions remained essentially the same from one survey to the other, with some changes in the order and wording of the questions. Had the questions been different, it would have been impossible to determine whether differences in responses would have been due to the different level of difficulty of the test battery, or changes in the knowledge of the respondents, because there was no control group to which compare the results.

Based on the responses, we created summary scores, which are used as dependent variables in the study. Of the students, there is information on the gender and whether they performed in the role of CEO in their virtual company in the learning environment. In two schools where Swedish is the language of the instruction (both of them being located in Helsinki), the questionnaire was delivered in Swedish, in other cases in Finnish.

5. The results

Table 3 presents the average numbers of correct responses for the 20 knowledge questions, both by town and by the entire sample (bottom row); theoretically, the score ranges from 0 to 20.⁷ The average improvement in the number of correct answers is around two points. The percentage improvement is

⁶ More specifically, the rewards were designed as follows: two best classes in the sum of pre- and post-test, one according to the highest results in the post-test, and one based on the highest improvement between pre- and post-tests. Moreover, only one class within the school could be awarded. The system was designed to give enough motivation for those classes to participate who did do that well in the first round.

⁷ Here data includes only respondents who have recorded responses to both pre- and post-intervention surveys.

roughly 17%. Even though there are some differences in the number of correct answers by town, the improvement is statistically significant in each town.

Are the differences economically significant? One should note that the average pre-intervention score was quite high, in most towns over 11.5, so the scope for improvement is limited. Any average is also bounded by student heterogeneity. A ballpark estimate for what could perhaps realistically be feasible under ideal circumstances would be an average of roughly 15 points, which would be around 30% improvement. Of this, the realized score was more than one-half. Therefore, it seems that the realized score was reasonably high.

In Appendix 1 we present the means of correct answers to individual questions. From there, we can see that to some questions, around 90% of respondents answered correctly already in the first questionnaire (Q8, Q11, Q19). For such questions, the scope of improvement is naturally limited. The biggest improvements were in questions, which were neither too difficult nor too obvious. Such were especially the question related to firm profits (Q13), questions related to deposit interest rates (Q2, Q4, Q6), value added tax (Q20) and the effect of competition on price formation (Q18). These items also correspond quite closely to the material that was reviewed in classes before the visit to the learning environment. Some questions were difficult for the students even after the course: for instance, questions about the creation of money (Q1) or corporate tax (Q17), even though relative improvements were quite significant also in these questions. These issues were also probably not very central in the teaching plan. The only question, where the proportion of correct answers actually reduced somewhat, was the question on compound interest rate (Q12). This question is also difficult for adults, as witnessed by a number of financial literacy surveys (Lusardi and Mitchell, 2014). The reason why the proportion of correct responses fell might have been that the students learned how to calculate interest (thus creating

an impression that 110 is the correct answer), but are not yet equipped to understand compound interest.

In Table 4 we investigate the changes in savings behavior over time for the respondents. The table shows the responses to three questions, which relate to the respondent's savings behavior. The means of positive responses do not change very much over time, so the influence of the program on savings appear small. Only in the question "If you will receive money from your parents, how often will you save a part of it" there is some increase over time (at 5% level of statistical significance). Self-reported propensity to plan increases also somewhat, as does reported bank account ownership.⁸

6. Regression analysis

The significance of the results is best explored in regression analysis, where it is possible to take into account the influence of other variables on the dependent variable. The results are reported in Table 5. The first model includes the town of the respondent and the timing of the questionnaire. Including the month dummies diminishes the coefficient of the training program somewhat.⁹ The estimated coefficient of the training program from the first model is 1.56 and it is statistically significant at the 5% level.

In the second model we include also the gender dummy (female), location of the school (rural vs. urban), whether the student acted as a CEO or in another position, and an interaction term between CEO position and the completion of the training program. The interpretation of the main effect of the CEO dummy is whether those selected to be CEOs differ from other students, whereas the interaction

⁸ It is also possible that the use of bank accounts does not become more common, but awareness of having a bank account does increase as a result of the program.

⁹ This suggests that the general maturing of the students influences the results to some degree.

effects indicates whether the learning performance of CEOs is different from others. The inclusion of these additional control variables influences the estimated rather marginally, increasing it to 1.64 (now significant at 1% level). Gender does not have a statistically significant association with financial knowledge. Interestingly, rural schools score higher than urban schools, with a difference of 0.38. Those who performed the role of CEO had clearly higher financial knowledge than their peers in other occupation (over 1 score). This appears to be a selection effect rather than an effect due to learning, because the interaction is not significant.

In the model 3, we include also whether the respondent has a banking account or whether they share the perception that the best way to reach one's goals is to plan ahead. Both of these variables are even surprisingly highly correlated with financial knowledge: the students who report having a bank account have 0.8 higher scores than those without, whereas those, who have agree that the best way to reach the goals is to plan ahead have even 1.4 higher scores than those who gave a different answer. The estimated effect of the learning environment falls somewhat after including these variables, being now 1.33. It continues to be statistically significant.

Two last reported regression models use the composite measure of savings as its dependent variable. The coefficients of determination in these models are much below those in the models where financial knowledge was the dependent variable. In Model 4, only the propensity to plan and owning bank account are statistically significant. The dummy for the completion of learning environment is not significant, neither being female or CEO. In the last model (5), we include also financial knowledge as an explanatory variable. It is positive and statistically significant, indicating that students who possess more financial knowledge are also more likely to save. The increase in knowledge during the program does not show up in our results as an increased propensity to save, however.

7. Student motivation and learning outcomes

Up to now, we have investigated the average effects of Me and My City – learning environment. The effect on students may however be heterogeneous for many reasons. In this section, we evaluate the feedback the students gave on the program and how that was reflected in learning outcomes. We investigate three questions: “Did Me and My City increase your interest towards economic issues?”, “Do you think you learned skills which are useful in terms of managing personal finances and in work life in the Me and My City learning environment?” and “Did Me and My City increase your interest towards saving money?”. The distribution of responses are presented in Tables 6a)-c). In tables 6a) and 6b) it is also shown, how the financial knowledge changed among students that chose a certain response, and in Table 6c) it is shown, what kind of change took place in the savings behavior of the respondents.

First of all, the students report that their interest towards economic issues has increased considerably after the training. Approximately 85 % of the respondents responds positively to the question. Even a larger share (90%) perceives to have gained useful skills for managing personal finances and for work career during the training. Second, the increases in knowledge scores are much higher among those students who evaluate the program more positively. This indicates that student interest and perceived utility have been important factors in the learning process.

Around 75% of the respondents indicate that their interest towards saving increased a lot during the training. For approximately a third of the respondent, the interest towards savings increased “a lot”. For this group, the growth of the savings index was much larger than for those, who did not report any

influence. Again, this indicates that the intervention may have a considerable influence to the more motivated students.

8. Conclusions

We have presented here the results from an evaluation of the learning outcomes from Me and My City learning environment. The data came from five different cities in Finland. The results indicated that the learning environment increases students' financial knowledge. The results also indicate that higher financial knowledge is associated with higher propensity to save. However, there was no support for the hypothesis that the learning environment would have been associated with increased propensity to save. Only for approximately for the one-third of the respondents, who reported that the training had increased their interest towards savings "a lot", was there evidence on positive changes in savings behavior. One reason for the lack of a significant savings response might have been that in the environment there were no specific savings incentives; the earned (virtual) salary needed to be consumed in the environment, and could not be exchanged into general currency.

The evidence that comes from multiple choice surveys can at best capture only a part of the potential impact. In the long run, potential benefits include better capabilities to function in the society and work life. These benefits are impossible to capture in a research setting describe here.

It is possible to extend the research in several directions. In the research setting, we compare the situation with some training to a situation with no training. It would be interesting to compare the effects of different teaching methods. It would also be important to follow students longitudinally. We

would also benefit from looking more closely at learning process and the role of teachers in that. There is an ongoing research project with Finnish students looking precisely on these issues.

References

Amagir, A., Groot, W., Maassen van den Brink, H., & Wilschut, A. (2017). A review of financial-literacy education programs for children and adolescents. *Citizenship, Social and Economics Education*, forthcoming.

Batty, Michael, J. Michael Collins & Elizabeth Odders-White (2015): "Experimental Evidence on the Effects of Financial Education on Elementary School Students Knowledge, Behavior and Attitudes", *Journal of Consumer Affairs* 49(1): 69-95.

Brown, Sarah, and Karl Taylor. "Early influences on saving behaviour: Analysis of British panel data." *Journal of Banking & Finance* 62 (2016): 1-14.

Bruhn, M., Leão, L. D. S., Legovini, A., Marchetti, R., & Zia, B. (2016). The impact of high school financial education: Evidence from a large-scale evaluation in Brazil. *American Economic Journal: Applied Economics*, 8(4), 256-95.

Carlin, Bruce Ian & David T. Robinson (2012): "What Does Financial Literacy Teaching Teach Us?" *The Journal of Economic Education*, 43(3): 235-247.

Collins, J. Michael and Elizabeth Odders-White (2015): "A Framework for Developing and Testing Financial Capability Education Programs Targeted to Primary Schools", *The Journal of Economic Education*, 46(1): 105-120.

Fornero, Elsa, Mariacristina Rossi, and Dario Sansone (2016): "'Four Bright Coins Shining at Me'". Financial Education in Childhood, Financial Confidence in Adulthood." Mimeo.

Go, C. G., Varcoe, K., Eng, T., Pho, W., & Choi, L. (2012). Money savvy youth: Evaluating the effectiveness of financial education for fourth and fifth graders. *San Francisco, CA: Federal Reserve Bank of San Francisco Working Paper*, 2.

Kalmi, Panu (2018): "The Effects of Financial Education: Evidence from Finnish Lower Secondary Schools", *Economic Notes*, forthcoming.

Lührmann, Melanie, Marta Serra-Garcia, and Joachim Winter. "Teaching teenagers in finance: does it work?." *Journal of Banking & Finance* 54 (2015): 160-174.

Lusardi, Annamaria. "Financial literacy skills for the 21st century: Evidence from PISA." *Journal of consumer affairs* 49.3 (2015): 639-659.

Lusardi, Annamaria and Olivia Mitchell (2014) The Economic Importance of Financial Literacy: Theory and Evidence, *Journal of Economic Literature*, 52(1): 5-44.

Martin, Kathryn & Dorse, Kevin (2012): Financial Literacy: What's Best and What's Next? Ottawa, ON: Credit Union Central of Canada, System Brief. November 2012.

Sebastian, Wendell, Kitsch, Louis & Pierce, Nancy (2012): Credit Unions Focused on Financial Capability across the Nation: Resource Guide, Madison, WI: National Credit Union Foundation / Real Solutions.

Skimmyhorn, William. "Assessing financial education: Evidence from boot camp." *American Economic Journal: Economic Policy* 8.2 (2016): 322-43.

Suomen Asiakastieto (2017): Tuoreimmat maksuhäiriötilastot (Recent Statistics on Payment Default Entries), available at <https://www.asiakastieto.fi/web/fi/uutiset/kuluttajien-maksuhairiomerkinnaat-yha-16-prosentin-kasvussa.html> (dated October 17, 2017; last retrieved in January 30, 2018; in Finnish).

Walstad, William B., Ken Rebeck, and Richard A. MacDonald. "The effects of financial education on the financial knowledge of high school students." *Journal of Consumer Affairs* 44.2 (2010): 336-357.

Whitebread, David & Bingham, Sue (2013): Habit Formation and Learning in Young Children, The Money Advice Service.

Tables

Table 1: The number of participating schools and classes in pre- and post-survey, by town

	Pre-survey, number of classes	Pre-survey, number of schools	Post-survey, number of classes	Post-survey, number of schools
Kuopio	30	16	14	10
Helsinki	20	11	14	10
Mikkeli	18	11	14	10
Joensuu	17	11	12	9
Seinäjoki	22	13	14	7

Table 2. The timing of the questionnaires and the visits to the learning environment

Kuu	Syys	Loka	Marras	Joulu	Tammi	Helmi	Maalis	Huhti	touko
Kuopio	Pre		Post	Post	Post				
Kuopio	VISIT	VISIT	VISIT						
Helsinki			Pre	Pre		Post	Post	Post	
Helsinki*				VISIT	VISIT	VISIT	VISIT		
Mikkeli				Pre	Pre		Post	Post	
Mikkeli					VISIT	VISIT	VISIT		
Joensuu						Pre	Pre	Post	Post
Joensuu								VISIT	VISIT
Seinäjäki						Pre	Pre	Post	Post
Seinäjäki								VISIT	VISIT

Pre : pre-intervention survey; Post: post-intervention survey; VISIT: visit to the learning environment

- In Helsinki, there was visits to the learning environment throughout the year. For timing reasons, we included only classes, which visited during the period of December to March.

Table 3: The averages of correct responses by town (standard deviations in parentheses)

	Pre-intervention survey	Post-intervention survey	T-value of the difference
Kuopio (N=149)	11.85 (2.89)	13.40 (2.98)	4.56***
Helsinki (N=182)	10.90 (2.96)	13.09 (2.87)	7.35***
Mikkeli (N=191)	11.65 (2.82)	14.03 (2.87)	7.98***
Joensuu (N=160)	11.78 (2.89)	13.66 (3.32)	5.40***
Seinäjoki (N=220)	11.70 (2.85)	13.42 (2.86)	6.32***
Entire sample (N=902)	11.56 (2.90)	13.51 (2.98)	14.12***

Notes: Only respondents who have answered to both pre- and post-intervention questionnaires have been included.

All t-values are statistically significant at 1% level.

Table 4. Savings, planning and bank account: means

	Pre-test	Post-test
Which of the following describes best your attitudes towards money? (Q22)		
- <i>I save for the future</i>	56.2	56.7
- <i>Other response</i>	43.8	43.3
Do you save for a specific goal? (Q26)		
- <i>Yes</i>	53.3	53.4
- <i>No / cannot say</i>	46.7	46.6
When you will receive money from your parents, who often do you save part of it? (Q27)		
- <i>Most of the time or always</i>	67.5	71.1
- <i>Other response</i>	32.5	29.9
Mean of the savings index (sum of the three above items, yes=1, 0 otherwise)	1.75	1.79
What is the best way to reach one's goals		
- <i>To plan ahead</i>	70.3	75.4
- <i>Other response</i>	29.7	24.6
Do you have a bank account		
- <i>Yes</i>	66.8	71.1
- <i>No / I do not know</i>	33.2	28.9

Table 5. The determinants of knowledge scores and savings behavior: parameter coefficients and levels of statistical significance (standard errors in parentheses)

Variable	Knowledge score	Knowledge score	Knowledge score	Savings index	Savings index
Post-test	1.562** (0.605)	1.636*** (0.562)	1.330** (0.551)	-0.126 (0.185)	-0.193 (0.182)
Boy		0.0119 (0.166)	0.00167 (0.159)	0.0821 (0.0558)	0.0820 (0.0553)
Rural school		0.382* (0.206)	0.328* (0.196)	0.0907 (0.0674)	0.0743 (0.0670)
CEO		1.079*** (0.194)	0.982*** (0.188)	0.0973 (0.0663)	0.0479 (0.0670)
CEO*Post-test		0.126 (0.196)	0.151 (0.199)	0.0523 (0.0662)	0.0447 (0.0649)
Has a bank account			0.798*** (0.173)	0.0964* (0.0572)	0.0563 (0.0573)
Plans ahead			1.424*** (0.185)	0.240*** (0.0598)	0.168*** (0.0594)
Knowledge score					0.0503*** (0.0091)
Constant	9.572*** (0.297)	9.167*** (0.333)	7.684*** (0.365)	1.413*** (0.140)	1.027*** (0.157)
R-square	0.115	0.150	0.205	0.029	0.049

Notes:

- 1) All specifications include month dummies and city dummies.
- 2) Levels of significance: *** 1%; ** 5%; *10%.
- 3) Standard errors are cluster- and heteroscedasticity-robust.
- 4) The number of observations is 1804 (902 distinct respondents).

Table 6. Student motivation and knowledge / savings behavior outcomes

Table 6a: Did Me and My City increase your interest towards economic issues?

Option	Percentage of respondents	Change in the knowledge score, mean
Not at all	6.1	1.40
Yes, somewhat	51.9	1.98
Yes, a lot	32.6	2.18
Do not know	9.4	0.79

Table 6b: Do you think you learned during Me and My City useful skills to manage your personal finances and get by in the work life?

Option	Percentage of respondents	Change in the knowledge score, mean
Not at all	3.0	1.0
Yes, somewhat	47.5	1.86
Yes, a lot	44.8	2.12
Do not know	4.7	0.68

Table 6c: Did Me and My City increase your interest in saving money?

Option	Percentage of respondents	Change in the savings score, mean
Not at all	17.2	-0.05
Yes, somewhat	45.1	0.02
Yes, a lot	30.5	0.14
Do not know	7.02	-0.10

Appendices

Appendix 1: The percentage of the right answers (%)

Question	Pre-test	Post-test	Difference	Change %
Generation of money (Q1)	11.1	17.3	6.2	56
What does bank pay to you? (Q2)	52.3	65.7	13.4	26
When is salary higher (Q3)	79.5	85.1	5.6	7
If you want higher interest payments (K4)	64.2	77.2	13.0	20
Example of a service (K5)	77.6	89.5	11.9	15
Compensation for savings is... (K6)	46.7	61.9	15.2	33
What is the remainder... (Q7)	65.2	73.6	8.4	13
How much she has in her account; calculation (Q8)	90.9	94.7	3.8	4
Long-term savings object (Q9)	68.5	79.0	10.5	15
The remainder is savings (Q10)	49.4	59.1	9.7	20
Who saves (Q11)	91.5	92.7	1.2	1
Compound interest (Q12)	25.3	21.1	-4.2	-17
Profits of the ice cream parlor (Q13)	60.9	89.4	28.5	47
How to fund library services (Q14)	78.6	81.6	3.0	4
Planning ahead income and expenses is called (Q15)	70.3	73.1	2.8	4
What is a cooperative? (Q16)	29.3	34.8	5.5	19
Corporate tax (Q17)	13.7	18.7	5.0	36
Consumption and prices (Q18)	60.8	76.9	16.1	26
Why do companies advertise? (Q19)	89.6	93.6	4.0	5
Value added tax? (K20)	28.5	45.1	16.6	58
Correct answer, mean over all questions	57.7	66.5	8.8	20
Number of respondents	1706	1117		

Appendix 2. The Questionnaire (translated from Finnish)

First Name:

Last Name:

Class:

School:

Gender: Girl / Boy

Which task did you perform in Me and My City (only in post-test):

- a) CEO
- b) CFO
- c) Mayor
- d) Medical superintendent
- e) Chief editor
- f) Other occupation

Knowledge questions (correct responses in bold):

1. How is money generated?
 - a) In the interaction between banks and its customers
 - b) By the treasury
 - c) In money print
 - d) I do not know

2. When you deposit money in the bank, what does the bank pay to you?
 - a) Nothing
 - b) Interest
 - c) Credit
 - d) I do not know

3. The salary people receive from their jobs is often higher, when
 - a) A high level of education is required
 - b) Applicants are interviewed before the job starts
 - c) The job is advertised in the newspaper
 - d) I do not know

4. If you want to get more interest payments on your savings, you need to
 - a) Ask the bank to put more money to your account

- b) Put yourself more money to your account
 - c) Withdraw more money from your account
 - d) I do not know
5. Which of the following is an example of a service?
- a) Pizza
 - b) Hair cut
 - c) CD record
 - d) I do not know
6. John saves on a bank account. The compensation paid on his savings account is called
- a) Wage
 - b) Credit
 - c) Interest
 - d) I do not know
7. Tina earned 25 euros by raking leaves. She used 20 euros out of her earnings to buy a video game. The remaining 5 euros is called
- a) Wage
 - b) Savings
 - c) Profit
 - d) I do not know
8. Mary has 100 euros on her current account. She withdrew 50 euros, and thereafter deposited 100 euros. How much she had in her account after these transactions?
- a) 100 euros
 - b) 150 euros
 - c) 200 euros
 - d) I do not know
9. The best example of a long-term saving object is
- a) A box of candies
 - b) A dog puppy
 - c) Entry ticket to an amusement park
 - d) I do not know
10. Sarah receives 2000 euros in salary every month. She uses 1500 euros as living expenses. The remaining 500 euros are called
- a) Profit
 - b) Credit
 - c) Savings
 - d) I do not know

11. Which of the following families saves every month?
- The Smiths earn 2000 euro a month, and consume 1900 euro a month.
 - The Joneses earn 2500 euro a month, and consume 2500 euro a month.
 - The Browns earn 3000 euro a month, and consume 3100 euro a month.
 - I do not know.
12. You open an account and put there 100 euros in deposit. The interest paid on the deposit is 5%. If there is no tax on interest, how much money there is after two years?
- 105 euros
 - 110 euros
 - More than 110 euros
 - I do not know
13. Jake owns an ice cream parlor, and he has hired Dina to work there. The revenues from selling ice cream are 1000 euro per month. The costs of running the parlor, including Dina's salary, the rent of the location and the purchase of the ice cream, total 800 euro per month. The remaining 200 euro is called
- Profit
 - Wage
 - Credit
 - I do not know
14. Library is a public service. How are its operational costs financed?
- The users of the library pay for the service proportionally to the amount they borrow books.
 - By donations made by rich people.
 - From tax revenues
 - I do not know
15. Minna plans her revenues and expenses careful ahead. This kind of plan is called
- Budget
 - Wage slip
 - Balance sheet
 - I do not know
16. What is a cooperative?
- Any kind of work community
 - A specific company form
 - Form of volunteering
 - I do not know
17. Which of the following is an example of corporate tax?
- Local company voluntarily donates money for junior football team

- b) Everyone in the community pays an equal amount of tax
- c) A cooperative pays tax out of its profits
- d) I do not know

18. How does an intensification of competition affect product prices?

- a) They will fall
- b) There will be no impact
- c) The prices will rise
- d) I do not know

19. Why do companies advertise their products?

- a) In order to give neutral information about their products
- b) To tell about their products, so that they people will recall them when shopping and buy them
- c) Companies advertise, when they have a lot of extra cash
- d) I do not know

20. What is a value added tax?

- a) Consumption tax, which is levied at the purchase of the product or service
- b) Additional tax for especially valuable products
- c) Tax paid out of wages
- d) I do not know

Saving and attitudes towards money

21. If you would get 20 euros from your grandparents or other adults you know well, what would you do with the money?

- a) Use it for shopping immediately
- b) Use part of it for shopping and save part of it
- c) I will save it all
- d) I will give it to my parents
- e) Cannot say

22. Which of the following describes best your attitudes towards money?

- a) I want to use money to help my family and other people
- b) I want to use my money myself
- c) I want to buy everything I desire
- d) I want to save money for the future
- e) Cannot say

23. Do you have a bank account?

- a) Yes

- b) No
 - c) I do not know
24. Do you know roughly how much money you have in your bank account?
- a) Yes
 - b) No
 - c) I do not have a bank account
25. Do you save money in any of the following ways?
- a) I save at the bank account
 - b) I save at home
 - c) I save otherwise
 - d) I do not save
26. Do you save for a specific goal?
- a) Yes
 - b) No
 - c) Cannot say
27. When you receive money from your parents, how often do you save part of it?
- a) Never
 - b) Sometimes
 - c) Most of the time
 - d) Always
 - e) Cannot say
28. Do you think saving pays?
- a) Yes
 - b) No
 - c) Cannot say
29. How easy do you think it is to save?
- a) Very difficult
 - b) Somewhat difficult
 - c) Somewhat easy
 - d) Very easy
 - e) Cannot say
30. Do you think banks provide useful services?
- a) Not at all
 - b) They are useful only to a small measure
 - c) They are somewhat useful

- d) They are very useful
- e) Cannot say

31. Do you think putting your money into a bank is save?

- a) Not safe at all
- b) Somewhat safe
- c) Very safe
- d) Cannot say

32. What do you think of the following statement: Bank accounts are only for adults

- a) Agree completely
- b) Agree somewhat
- c) Disagree somewhat
- d) Disagree completely
- e) Cannot say

33. What is the best way to reach your goals?

- a) To wait that things just happen
- b) To plan ahead
- c) It doesn't pay to set goals
- d) I do not know

Questions 34-36 only in the post-test

34. Did Me and My City increase your interest towards economic matters?

- a) Not at all
- b) Yes, to some degree
- c) Yes, a lot
- d) Cannot say

35. Do you think you learned during Me and My City useful skills to manage your personal finances and get by in the work life?

- a) No, I did not
- b) I learned somewhat
- c) I learned a lot
- d) Cannot say

36. Did Me and My City increase your interest in saving money?

- a) No, it did not
- b) Yes, to some degree
- c) Yes, a lot
- d) Cannot say