

# Do education materials contribute to the financial capability of primary school students?

Effectiveness study of financial education for the seventh grade



## Introduction: why this study?<sup>1</sup>

**Money Wise wants children to learn how to handle money from an early age and aims to make financial competencies a structural part of the school curriculum. The partners of the Money Wise Platform have developed a large number of activities to accomplish this, with the National Money Week as a booster.**

With these activities, partners reached hundreds of thousands of children and young adults. With leading educational publisher Zwijsen, Money Wise developed a series of lessons for primary schools (third through eighth grade). In the school year 2016/2017 more than 21.000 teachers ordered this material. More than 450.000 children were reached.

This shows that the materials reach a lot of students. However, a recurring question for these types of interventions is: how effective are they? In the Netherlands, there is not much (scientific) evidence for the effectiveness of financial education. It is for this reason that MoneyWise, together with Leiden University, set up a study on the effectiveness of the materials developed for the seventh grade. The study was done in the school year 2016/2017.

The goal of this study is to determine whether the materials contribute to the financial capabilities of the students. MoneyWise aims to contribute to the body of knowledge on the effectiveness of interventions aimed at raising financial capability. Partners can benefit from the results of this study in the development of their own interventions.

## What do we know about the effectiveness of interventions?

In recent years, the amount of research into the effectiveness of financial education has increased considerably. Nibud (the Dutch National Institute for Family Finance Information) and MoneyWise summarized the results of these studies<sup>2</sup>. The results are mixed. Traditional ways of transferring knowledge are not very effective. Recent studies show that, more often than not, interventions can have a positive effect on financial knowledge, skills and behaviour. When it comes to financial education for children and youth, the following factors appear to be essential:

- Aim for competencies. Lessons that are limited to transfer of knowledge have little effect.
- Adopt a structural approach. One-off or short interventions are insufficient.
- Align with situations in the children's real life. If lessons can be brought into practice immediately, their effectiveness is much higher.
- Be in line with the cognitive, social and psychological development of the children and young people concerned.
- Involve educational professionals in the creation of materials. And use activating didactics that have proven to be effective.
- Test your intervention. Only then can you be sure that it is effective.

Most of the research was done abroad. In the Netherlands, Nibud conducted an effectiveness measurement of guest lectures in the National Money Week<sup>3</sup>. The outcome was that the knowledge of the children that received a guest lecture, increased more than the knowledge of a control group. This suggests that the guest lecture was effective.

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1 The report of the study is available in Dutch. L.E.H.P. van Lierop (2017), Effectiviteitsonderzoek lesmateriaal. Wat leren basisschoolleerlingen van het lesmateriaal van Wijzer in geldzaken? <https://www.wijzeringeldzaken.nl/bibliotheek/media/pdf/onderzoeksrapport-lesmateriaal.pdf>

2 Nibud & MoneyWise (2017), Effective ways to advance responsible financial behavior, <https://www.nibud.nl/wp-content/uploads/Effective-ways-to-advance-responsible-behaviour.pdf>

3 Nibud (2016). Effectmeting Bank voor de klas. <https://www.nibud.nl/beroepsmatig/effectmeting-bank-klas-2016/>

## How are the materials of Money Wise structured?

Together with educational professionals of publisher Zwijsen – one of the leading educational publishers in the Netherlands – MoneyWise developed materials for the third through eighth grade<sup>4</sup>. The materials are based on the Nibud Competencies<sup>5</sup>. They form a continuous learning pathway and they are linked to behavioural goals. The materials are aligned with the cognitive and social capabilities of the students. They use examples from daily life, as a result of which the children can bring them into practice immediately. They contain activating work forms and are not only about knowledge, but also about competencies. In short, they satisfy most of the criteria from the previous paragraph.

For each grade, there are four or five lessons, that can be taught at different points in time during the school year.

For this study, two lessons for seventh grade were selected. De lesson titled *Holidays* is linked to the Nibud theme *Responsible spending*. It includes subjects such as making choices with a limited budget, the effects of peer pressure and advertising and estimating the prices of products. The lesson *The world of money* introduces topics such as cash and digital money, developing an interrogatory attitude towards money matters and the authenticity characteristics of money.

## How was the study set up?

DUO Education Research recruited schools for participation through a random sample.

The teachers were asked whether they used the materials of MoneyWise. Based on their answer, the students were assigned to two groups. The group that were taught based on the material will be referred to as the intervention group; the other group is called the control group.

The students received a pencil-and-paper questionnaire to test their capabilities. This questionnaire was completed at three point in time: before the intervention (zero measurement), between the two lessons (1-measurement) and after the lessons (2-measurement). The questionnaire consisted of five questions related to the topics of *Holidays* and six questions related to *The world of money*.

Both the intervention and the control groups were split into two subgroups: part of the students took part in the zero measurement, another part did not.

The following scheme clarifies the setup of the study.

	0-measurement	material Holidays	1-measurement	material The world of money	2-measurement
Group A	X	X	X	X	X
Group B	X		X		X
Group C		X	X	X	X
Group D			X		X

124 schools took part in the study and 2.689 students completed the questionnaires.

4 <https://www.weekvanhetgeld.nl/over-deze-week/lesmateriaal/>

5 Nibud (2013). Nibud learning goals and competences.

<https://www.nibud.nl/wp-content/uploads/Learning-goals-and-competences-for-children-and-adolescents.pdf>

### What are the most important results?<sup>6</sup>

If we look at the average scores of the students for the three measurements, we notice that all groups perform better in the course of time: the average scores on the 2-measurement are clearly higher than on the 1-measurement; these – in turn – are higher than the scores on the zero measurement.

The groups that received lessons based on the materials of MoneyWise and Zwijzen clearly show a bigger progress than the control groups (Figure 1). Intervention group A shows a rise of 17%, whereas control group B shows a rise of 10%. For groups C and D, we can only compare the 1- and 2-measurement. The average score of intervention group C progresses 14%, compared to 7% in control group D.

We can conclude that the materials significantly contribute to the financial knowledge and capability of the students.

The study also looked at the effects of the two individual lessons on the students' underlying competencies. For the first lesson (*Holidays*), there is no significant difference between the intervention groups and the control groups. This is true both for the 1- and the 2-measurement. It appears that the average scores of the students in the baseline measurement is already very high for the underlying theme. That may explain why the lesson contributes little to the growth of competencies; there is little room for improvement on the scores (Figure 2).

The material for *The world of money* shows a clearly different picture. The average score of group A rises from 2,69 to 3,41 (+26,8%) between the 1- and 2-measurement, and for group C from 2,50 to 3,29 (+31,6%) (Figure 3). For the control groups, the scores increase much less. The average score for group B goes from 2,73 to 2,76 (+ 1,1%), in group D the average score goes from 2,66 to 2,99 (+12,4%).

Figure 1 Average scores questionnaire

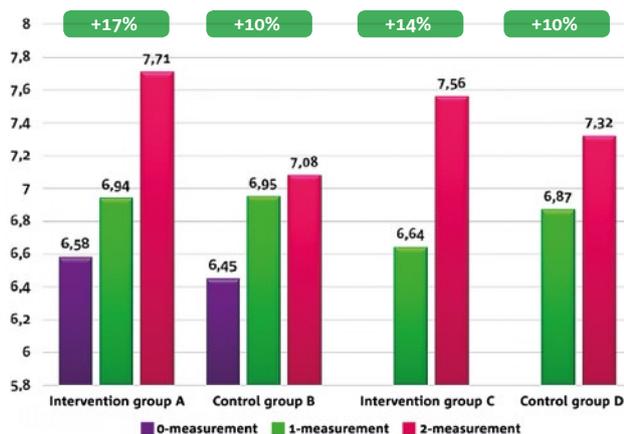


Figure 2 Average scores for Holidays

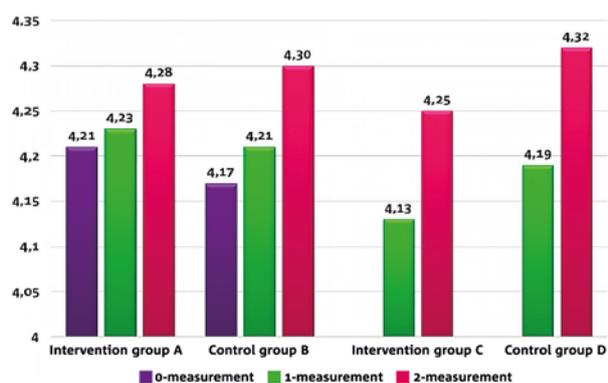
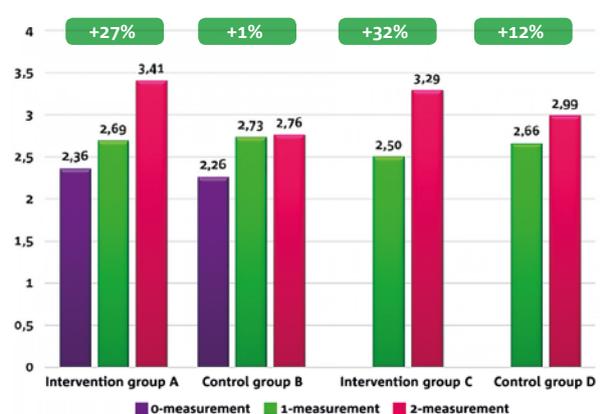


Figure 3 Average scores for The world of money



<sup>6</sup> The researchers used a Linear Mixed Model Analysis, to control for the fact that the three measurements are not statistically independent.

The main conclusion that can be drawn from these results, is that the Holidays lesson does not significantly contribute to the students' competencies, and the lesson titled *The world of money* does.

### Which other factors play a role?

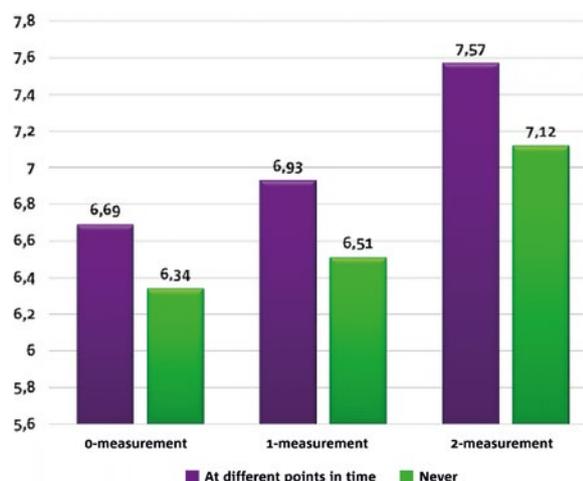
Children learn to handle money in different ways. Not only through lessons in school, but receiving pocket money, earning money and talking about money can also be effective ways to learn financial skills.

We see that children who receive pocket money have higher scores in all the measurements in this study. If we look at the learning effect of the MoneyWise materials, then we don't see a (significant) difference. In short: children who receive pocket money start with higher scores on the questionnaires, and they learn as much from the materials as children who don't receive pocket money. We observe a similar effect with *talking about money at home*. Children who regularly talk about money at home score higher, but learn as much as children who never talk about money at home.

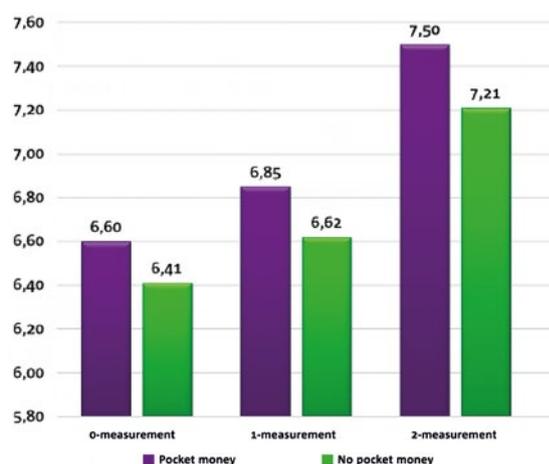
Children who earn money do not score (significantly) better or worse on the questionnaire than children who do not earn money. And children who talk about money in the class room, on average, score as high as children who never talk about money in the class room (figures 4 and 5).

The study also looked at the languages spoken at home. We see that children who speak Dutch at home have a higher average score than children who speak a different language at home. The learning effect of the materials, however, does not significantly differ between the groups.

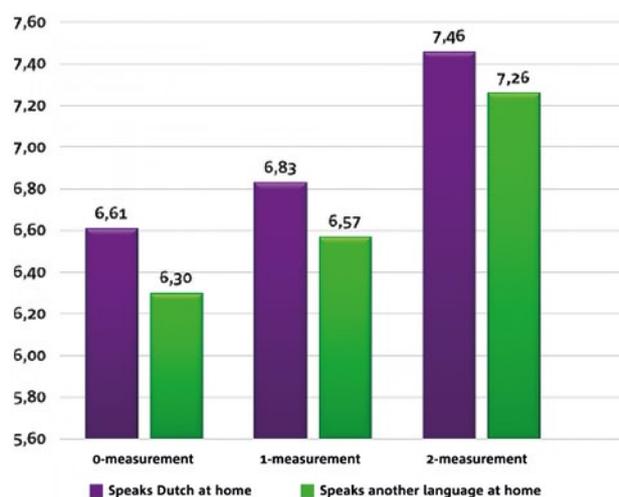
**Figure 4** Average scores of students that do / do not receive pocket money



**Figure 5** Average scores of students that regularly / never talk about money at home



**Figure 6** Average scores of students that speak Dutch / another language at home]



## Conclusions

This study shows that financial education – provided that it is designed in the right way – can be effective. Lessons that are aligned with the development stage and the daily lives of children, are developed with education professionals so that they are didactically sound, and that address both knowledge and skills, can have significant effect on students' financial competencies.

It is noteworthy that – of the two lessons - one lesson does have an effect, and the other does not, although they were designed in the same way. The lesson that we draw from this is that – before developing material – it is important to closely look at the skills level of students. In this specific case, we suspect that the lesson was too easy for the students.

This study aims to contribute to the knowledge about effective ways of designing financial education programs. Ideally, other lessons should be subject to a similar, rigorous test, and we should follow children from third grade until adulthood (longitudinal research). This requires an analysis of cost and benefits. A study like the underlying one takes a lot of time and requires a considerable amount of resources. Especially recruiting and supporting schools, and processing the questionnaires, are time-consuming. It would not be efficient to test all interventions in this way. It is therefore important to use the outcomes of this – and other – studies when developing new interventions. At the same time, we need more (scientific) research into the effectiveness of interventions.

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