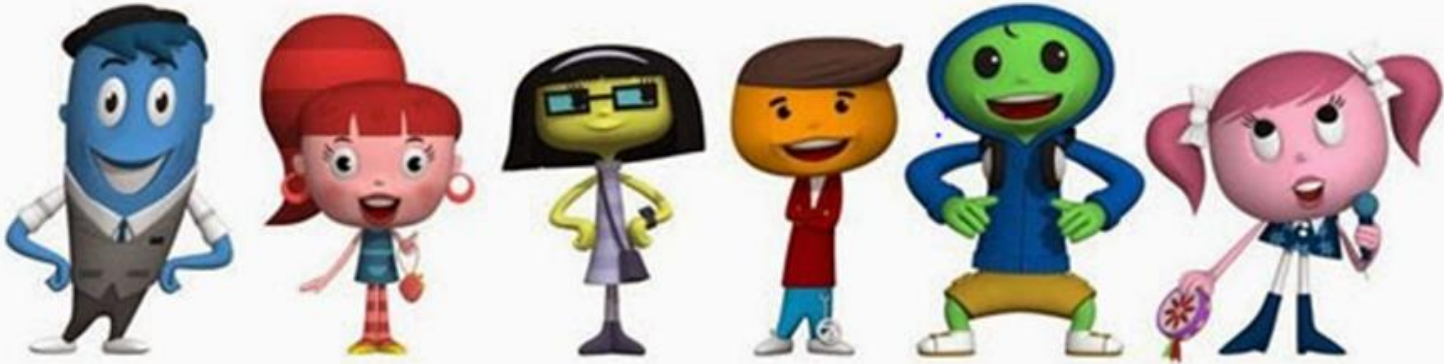


2024



Cha-Ching in Zambia: 2024

Dr Adele Atkinson
September 2024

Independent analysis of data from Prudence Foundation's Cha-Ching curriculum in Zambia.

ACKNOWLEDGEMENTS

This project has been ably managed and executed by Pia Warburton, Regional Programme Manager, Prudence Foundation and Teddy Nyasulu, Executive Director, Junior Achievement Zambia. Marc Fancy, the previous Executive Director of Prudence Foundation, has been instrumental to the whole project.

The implementation and evaluation of the Cha-Ching curriculum would not have been possible without the foresight of the Prudence Foundation and the ongoing enthusiasm, effort and commitment of policy makers in Zambia. It is also a testament to the energy and enthusiasm of the students and teachers participating in the curriculum.

This report was written by Dr Adele Atkinson, in her capacity as an independent consultant. Dr Atkinson is also a Professor of Practice in Financial Literacy and Wellbeing at the Centre on Household Assets and Savings Management (CHASM), University of Birmingham. Any errors are the responsibility of the author.

CONTENTS

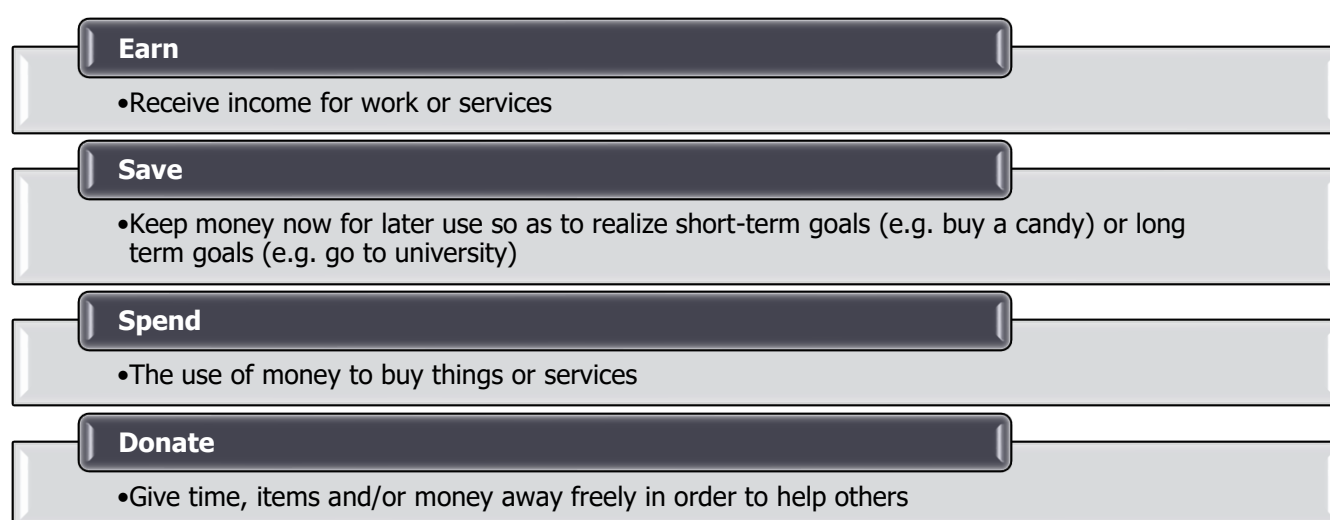
Acknowledgements.....	2
1. Introduction	4
Background to the Cha-Ching curriculum	4
Cha-Ching in Zambia	4
Implementing the Cha-Ching Curriculum in Schools in Zambia	4
This report.....	5
3. The data and analysis method.....	5
The raw data	5
The sample.....	5
The method	5
2. Students' achievements	6
Students' knowledge	7
Differences in knowledge by province	8
Students' financial behaviour.....	13
Students' financial attitudes	18
Who made the most improvement	19
exploring the data in more detail	21
Variations in final scores	21
Differences in knowledge by initial attitudes and behaviours	21
Differences in how students experienced the curriculum	21
Evidence of impact.....	21
Conclusions	22
FIGURE 1 THE FOUR THEMES OF THE CHA-CHING CURRICULUM.....	4
FIGURE 2 PERCENTAGE OF CORRECT RESPONSES TO KNOWLEDGE QUESTIONS IN ZAMBIA: PRE- and POST-TESTS....	8
FIGURE 3 PERCENTAGE OF CORRECT RESPONSES TO KNOWLEDGE QUESTIONS BY PROVINCE: PRE-TESTS.....	9
FIGURE 4 PERCENTAGE OF CORRECT RESPONSES TO KNOWLEDGE QUESTIONS BY PROVINCE: POST-TESTS.....	10
FIGURE 5 PERCENTAGE ACHIEVING EACH SCORE ON THE KNOWLEDGE PRE-TEST BY PROVINCE	11
FIGURE 6 PERCENTAGE ACHIEVING EACH SCORE ON THE KNOWLEDGE POST-TEST BY PROVINCE	11
FIGURE 7 AVERAGE KNOWLEDGE SCORES BEFORE AND AFTER PARTICIPATING, BY PROVINCE (MAX SCORE=5).....	12
FIGURE 8 PERCENTAGE OF STUDENTS GETTING THE QUESTION WRONG IN THE PRE-TEST, BUT RIGHT IN THE POST-TEST, BY PROVINCE	13
FIGURE 9 PERCENTAGE OF POSITIVE RESPONSES TO BEHAVIOUR QUESTIONS IN ZAMBIA: PRE- AND POST-TESTS ..	14
FIGURE 10 PERCENTAGE REPORTING FINANCIALLY HEALTHY BEHAVIOURS BY PROVINCE: PRE-TESTS.....	15
FIGURE 11 PERCENTAGE REPORTING FINANCIALLY HEALTHY BEHAVIOURS BY PROVINCE: POST-TESTS	16
FIGURE 12 PERCENTAGE ACHIEVING EACH SCORE ON THE BEHAVIOUR PRE-TEST BY PROVINCE	16
FIGURE 13 PERCENTAGE ACHIEVING EACH SCORE ON THE BEHAVIOUR: POST-TEST BY PROVINCE.....	17
FIGURE 14 AVERAGE BEHAVIOUR SCORES BEFORE AND AFTER PARTICIPATING, BY PROVINCE (MAX SCORE=4)	17
FIGURE 15 PERCENTAGE OF POSITIVE RESPONSES TO ATTITUDE QUESTIONS IN ZAMBIA: PRE- AND POST-TESTS...	18
FIGURE 16 PERCENTAGE OF POSITIVE RESPONSES TO ATTITUDE QUESTIONS BY PROVINCE: PRE- AND POST-TEST	19
FIGURE 17 FINANCIAL KNOWLEDGE PRE-TEST AND POST-TEST SCORES BY AGE	20
FIGURE 18 FINANCIAL KNOWLEDGE PRE-TEST AND POST-TEST SCORES BY GENDER	20

1. INTRODUCTION

BACKGROUND TO THE CHA-CHING CURRICULUM

Cha-Ching started life as 18 high energy cartoon music videos lasting around 3 minutes each to improve the financial literacy of school-age children¹. These have been broadcast on various TV networks and reach millions of children. Building on their success, in 2016, Prudence Foundation partnered with Junior Achievement (JA) Asia Pacific to create a complete financial education package for schools based on six of the original cartoons. The resulting 'Cha-Ching Curriculum' includes teacher training, classroom materials, structured lesson plans and a full support package. It draws on good practices and international guidance, including the G20/OECD Core Competencies on Financial Literacy for Youth, and covers four themes: **earn, save, spend, donate** (see Figure 1). Analysis of the pre- and post-tests of over 213,000 students participating in the Cha-Ching Curriculum in schools in five countries in Asia show that the curriculum has a positive effect on knowledge, attitudes and behaviour – with students making greater improvements than are typically seen among financial literacy students in developed countries². This current study looks at whether the Curriculum also has a positive effect in Zambia.

FIGURE 1 THE FOUR THEMES OF THE CHA-CHING CURRICULUM



CHA-CHING IN ZAMBIA

The Prudence Foundation Cha-Ching Curriculum was first launched in Zambia in July, 2017, with a small scale pilot in 5 primary schools, delivered by volunteers from Prudential Life Assurance ('Prudential') with support from school teachers. Since then, Junior Achievement (JA) Zambia, Prudential and Prudence Foundation, and the Securities Exchange Commission (SEC) have continued to increase access to the curriculum, although with some delays caused by the COVID-19 pandemic.

In March 2021, on the recommendation of a stakeholder meeting convened between the Ministry of General Education (MoE), the SEC, Prudential and JA Zambia, the Curriculum Development Centre evaluated the Cha-Ching Curriculum for use with students in years 5 and 6. They supported use of the materials in schools, providing that they were first aligned to the existing primary school curriculum. This has paved the way for widespread delivery of financial education through the Cha-Ching Curriculum, consistent with Zambia's second National Strategy on Financial Education (2019-2024). Consequently, Prudence Foundation is collaborating with the MoE, the SEC and JA Zambia to deliver financial education across the country.

IMPLEMENTING THE CHA-CHING CURRICULUM IN SCHOOLS IN ZAMBIA

The Cha-Ching Curriculum is designed to be taught in schools by teachers. In Zambia, as elsewhere, teachers were trained for 2 days before teaching the curriculum. They were provided with printed materials, including comics, activities and pre- and post-test papers.

¹ [Cha-Ching | Prudential Corporation Asia \(prudentialcorporation-asia.com\)](http://Cha-Ching | Prudential Corporation Asia (prudentialcorporation-asia.com)).

² [Curriculum Review Cha-Ching - Asia \(prudentialplc.com\)](http://Curriculum Review Cha-Ching - Asia (prudentialplc.com))

Teachers taught their students in compulsory afterschool classes over a 6 week period. Lessons were held in English. Students were tested before (pre-test) and after (post-test) participating in the classes. The tests were administered in separate sessions, before teaching began, and after the last lesson.

The Cha-Ching curriculum has been developed with a set of questions to assess the progress made by students. Given the experience of analysing the data from Asia and the goals of the National Strategy for Financial Education in Zambia the original questions have been edited slightly before being used in Zambia. In addition, simplified answer sheets were developed with minimal text to support students who were not yet confident reading and writing in English. The test questions were read out to the class by a teacher; and students recorded their answers on their answer sheets.

THIS REPORT

This report focuses on the findings of data from four provinces in Zambia. It focuses on student outcomes, in terms of improvements in knowledge, attitude and behaviour, and looks for evidence of impact that can be clearly associated with the Cha-Ching curriculum.

It aims to:

1. Measure the impact of the Curriculum on knowledge, attitudes, and behaviour of students.
2. Provide recommendations for the full roll-out of the Cha-Ching Curriculum across schools in Zambia, as part of the National Strategy.

The ultimate objective of the evaluation is to guide the continued roll-out of the Cha-Ching Curriculum across schools in Zambia.

3. THE DATA AND ANALYSIS METHOD

THE RAW DATA

The evaluation is based on student answers to tests before (described as the 'pre-test') and after (the 'post-test') participating in the Curriculum.

The students answered the tests on paper. These answers were collected together in each school, and the results were manually entered onto Microsoft Excel spreadsheets by JA staff in 2024. Each answer was recorded as correct or incorrect. Answers to multiple response questions were not recorded, meaning that we cannot report the 'wrong' answers.

The pre- and post- test responses for each student were matched using a combination of the student's name, gender, date of birth and school. The analysis and reporting of the evaluation data was undertaken in SPSS, and is the sole responsibility of the author, providing an independent, external and objective perspective of the findings.

THE SAMPLE

In total this evaluation considers data from 1772 students in 97 schools in 4 provinces (See Table 1). These were chosen to be representative of the 92317 students participating in the Cha-Ching curriculum. All Luapula province schools are rural, Southern Province schools are peri-urban, and the Copperbelt province schools are urban schools.

TABLE 1 DETAILS OF THE SAMPLE

Province	Number of Schools	Total number of students	Girls	Boys
Copperbelt	15	643	383	260
Eastern	17	302	157	144
Luapula	21	195	101	93
Southern	44	632	345	286
Total	97	1772	986	783

Note: there are 3 students with no gender information.

THE METHOD

This evaluation looks at the ways in which students answered questions to a short test before and after participating in the Cha-Ching Curriculum. It looks at the proportions of students giving correct answers or indicating positive behaviours and attitudes and also counts correct or positive answers to create simple financial literacy scores. If students have higher post-test scores than pre-test scores, then it shows that their knowledge has increased, or that their behaviour or attitude

has changed. In theory, we would expect that questions that were difficult for students to answer before participating in Cha-Ching would be easier to answer after participating, because they have had chance to learn from the Curriculum. So, if a student answered three questions correctly in the pre-test we might expect them to answer four or five questions correctly the second time around. This would show an increase in understanding. Similarly, we would expect to see an increase in behaviour or attitude scores if students have changed their behaviour or attitude after participating in the Curriculum.

Since the same questions are asked before and after the Curriculum is taught, students who already understood the content before participating, or showed particularly positive behaviours and attitudes would have received top marks on their pre-test. If students test results do not change even though their initial scores were quite low, it suggests that for some reason they did not learn very much about the topics being tested during the 6 weeks. This could be because they didn't understand the materials, or because of issues with implementation. There are many possible issues that should be investigated; for example checking whether some of the content was inappropriate or if any of it was dropped or edited, making sure all children could hear the teacher; making sure children had time to answer the questions.

The tests help us to understand the impact of the curriculum, but they cannot tell us everything. In particular:

- Students who get top marks in the pre-test will not be able to get a higher mark in their post-test.³ When scores are very high initially it is impossible to measure the impact of the Curriculum by looking for improved scores, because the scores cannot get any higher. This might mean that the questions need reviewing, but it could also be a sign that the Curriculum should be focused on less able students.
- Even if scores do change, we cannot be 100% certain that the Curriculum *caused* the change. It might be that the students learned about money matters from somewhere else, for example. Fortunately, since the Cha-Ching curriculum is taught over a short period of time we can be reasonably confident that the learning occurred because they students participated in Cha-Ching, as there is little time for students to absorb the information from elsewhere. Additionally, even if some students did learn from other sources, it is unlikely that all of them would.⁴

2. STUDENTS' ACHIEVEMENTS

This section is based on the responses of students before and after participating in the Cha-Ching Curriculum.

The test asks students about issues that are addressed in Cha-Ching, both before and after they participate. The test taken before they start, known as the 'pre-test', shows whether the curriculum is likely to teach the students something new, or whether they are already well advanced in their financial literacy. The test taken once they have finished, or 'post-test' shows how much students know after they have participated; and can be used to measure progress.

³ This is typical of all school tests. The usual way that schools address this is to have more test questions, ranging from easy questions to much harder questions; however there are downsides to such an approach including the amount of time taken to implement the test, and the potential for demotivating students who feel that the content is too difficult.

⁴ It is theoretically possible to create a 'control group' when evaluating education data (in the same way that medical trials do) to check what happens to students who are not taught the curriculum, but pilot testing showed that this was impractical in Zambia.

STUDENTS' KNOWLEDGE

Summary Box: Financial knowledge

Students were asked five questions to assess their financial knowledge. **Students' knowledge on each question, and overall financial knowledge scores increased in every province after participating in Cha-Ching, indicating that the Curriculum was successful in teaching key concepts.** In particular, whilst just over half of students (51%) knew all the ways in which money can be used before participating in the Curriculum, this increased to 84% after participating.

Initial understanding across the questions varied considerably between provinces, but was typically lowest in Eastern province and highest in Copperbelt or Luapula. After participating, students in Southern province stood out as having the highest proportion answering each question correctly, and they achieved the highest average score of 4.2 out of 5.

Five questions have been used to assess knowledge.

TABLE 2 TABLE OF QUESTIONS AND ANSWERS

Question	Correct response	Answer options			
Q1. Besides spend, what are other options we can make with money?	d	Save only	Earn and Save	Save and Donate	Earn, Save and Donate
Q2. I want to buy a new model that costs 20 and I only have 10 at the moment, I should get the extra 10 by...	c	Asking my grandparent	Borrowing from a friend	Discussing with parents on how can I earn extra pocket money	Waiting for a charity organization to give me a donation
Q3. What is the BEST way to save money?	d	Earn 5 and spend 10	Earn 5, spend 4, and save 1 in the bank/money box	Donate all your money to charity	Earn 5, spend 2, and save 3 in the bank/money box
Q4. Which of the following is NOT a way to spend money wisely?	c	Consider whether the item is something we need or want before spending	Try jeans before buying them	Buy an expensive bag so I can have the same bag as my friends	Compare prices of the stationary from different shops before we spend
Q5. To make this world a better place, we may...	d	Earn by doing thing we love to do	Save for long-term goals	Spend on things that make ourselves happy	Donate money, time or items to those in need

FIGURE 2 shows that some students could already answer some of the questions before participating, but that many more students were able to answer the knowledge questions after participating in the Curriculum. After participating an

additional third of students (33%) understood that money could be saved, spent or donated, and a further three in ten (30%) recognised the value of donating. This suggests that students learned that money can have societal benefits as well as meeting basic needs or providing longer term security.

A further 17% of students showed understanding of the power of saving in helping them to buy something that they could not immediately afford and, similarly, a further 15% understood the best way to save. Saving helps to build resilience and prevent people from relying on borrowing, making it particularly reassuring that more than three quarters of students understood this relationship after participating in Cha-Ching.

After participating, over two thirds of students – an additional 18% of all those who were tested - were able to work to identify an unhelpful approach to spending. This level of understanding will be particularly beneficial as they start to make decisions themselves – particularly those living in urban areas with more opportunities to spend.

FIGURE 2 PERCENTAGE OF CORRECT RESPONSES TO KNOWLEDGE QUESTIONS IN ZAMBIA: PRE- and POST-TESTS

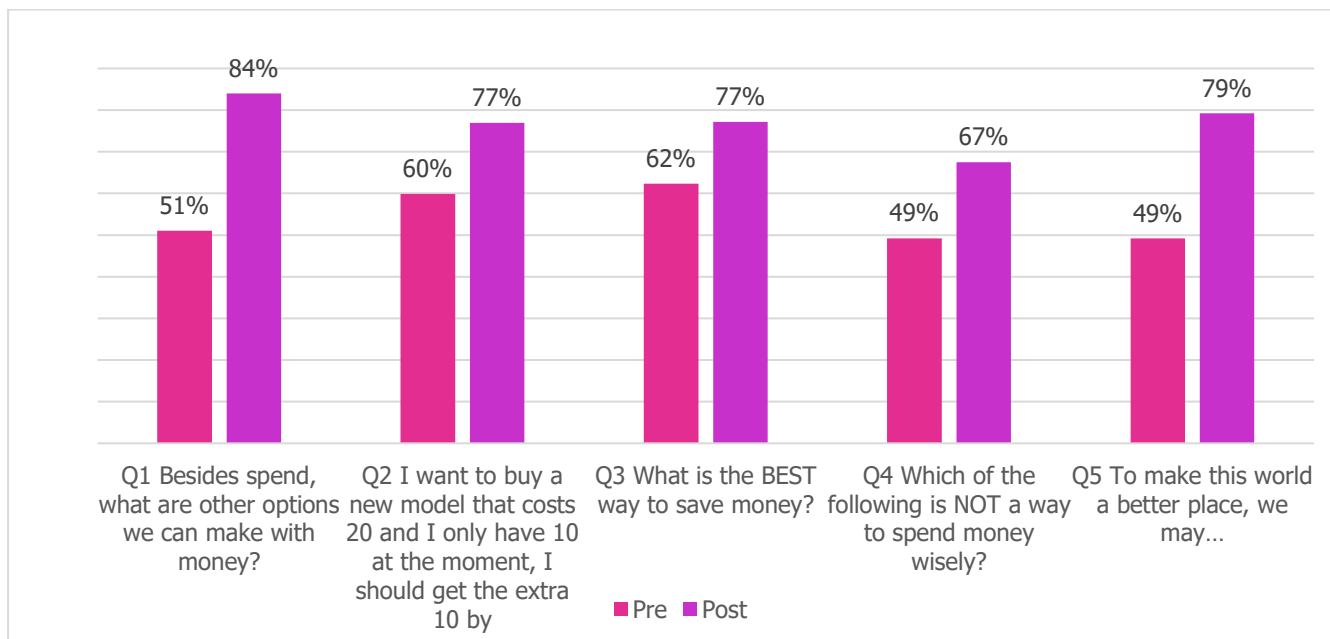


FIGURE 3 shows students' knowledge before participating in the Cha-Ching curriculum by province. It highlights large differences in initial levels of understanding by province.

These findings are impressive, showing significant gains in understanding across the curriculum.

DIFFERENCES IN KNOWLEDGE BY PROVINCE

Before participating more students answered the question about savings correctly than any other question (62%). This was particularly the case in Luapula, where 76% of students could answer this question before starting the Cha-Ching Curriculum. Students in Luapula were also the most likely to answer Question 4 correctly. Students in Copperbelt outperformed those in other provinces on the remaining questions. Students in Eastern particularly struggled with Question 5; just over a quarter gave the correct answer to this question.

FIGURE 3 PERCENTAGE OF CORRECT RESPONSES TO KNOWLEDGE QUESTIONS BY PROVINCE: PRE-TESTS

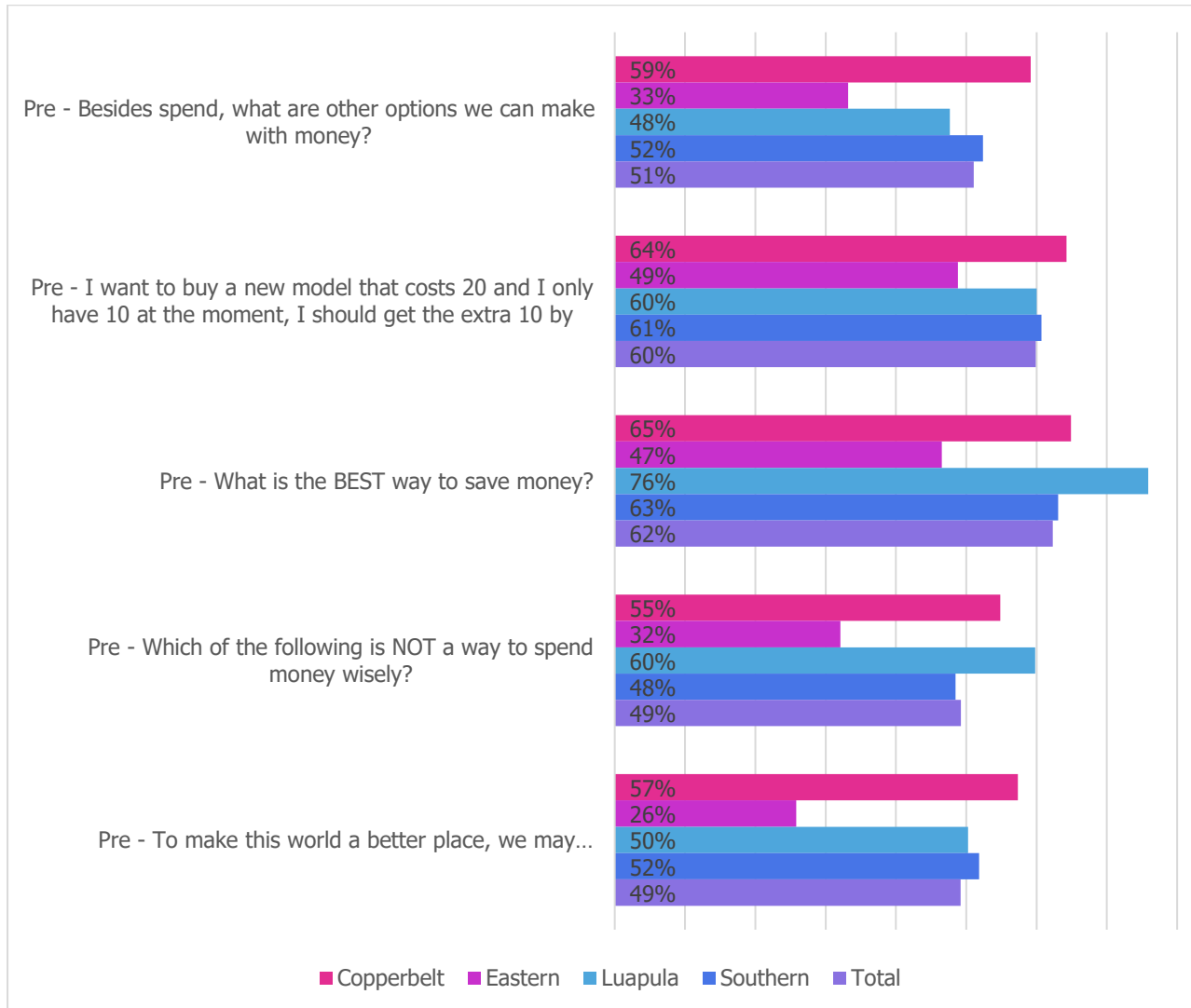


FIGURE 4 shows students’ knowledge after participating in the Cha-Ching curriculum by province. The percentage of students giving correct answers increased overall in each province. Furthermore, there are slightly smaller differences in levels of understanding by province, showing that the curriculum is driving greater equality in education outcomes across provinces.

After participating more students answered Q1 about uses of money correctly than any other question (84%). This was particularly the case in Southern, where 92% of students could answer this question after completing the Cha-Ching Curriculum. The most difficult question seems to have been Q4 about spending, which may be because it requires logical dexterity (the student has to find the wrong answer). Even so, two thirds of students (67%) gave the correct answer after participating.

Students in Copperbelt lost their initial lead on Questions 1, 2, and 5, with many more students in Southern province giving correct answers after participating. On every question, the largest percentage of correct answers was in Southern province. Students in Luapula also showed large improvements.

FIGURE 4 PERCENTAGE OF CORRECT RESPONSES TO KNOWLEDGE QUESTIONS BY PROVINCE: POST-TESTS

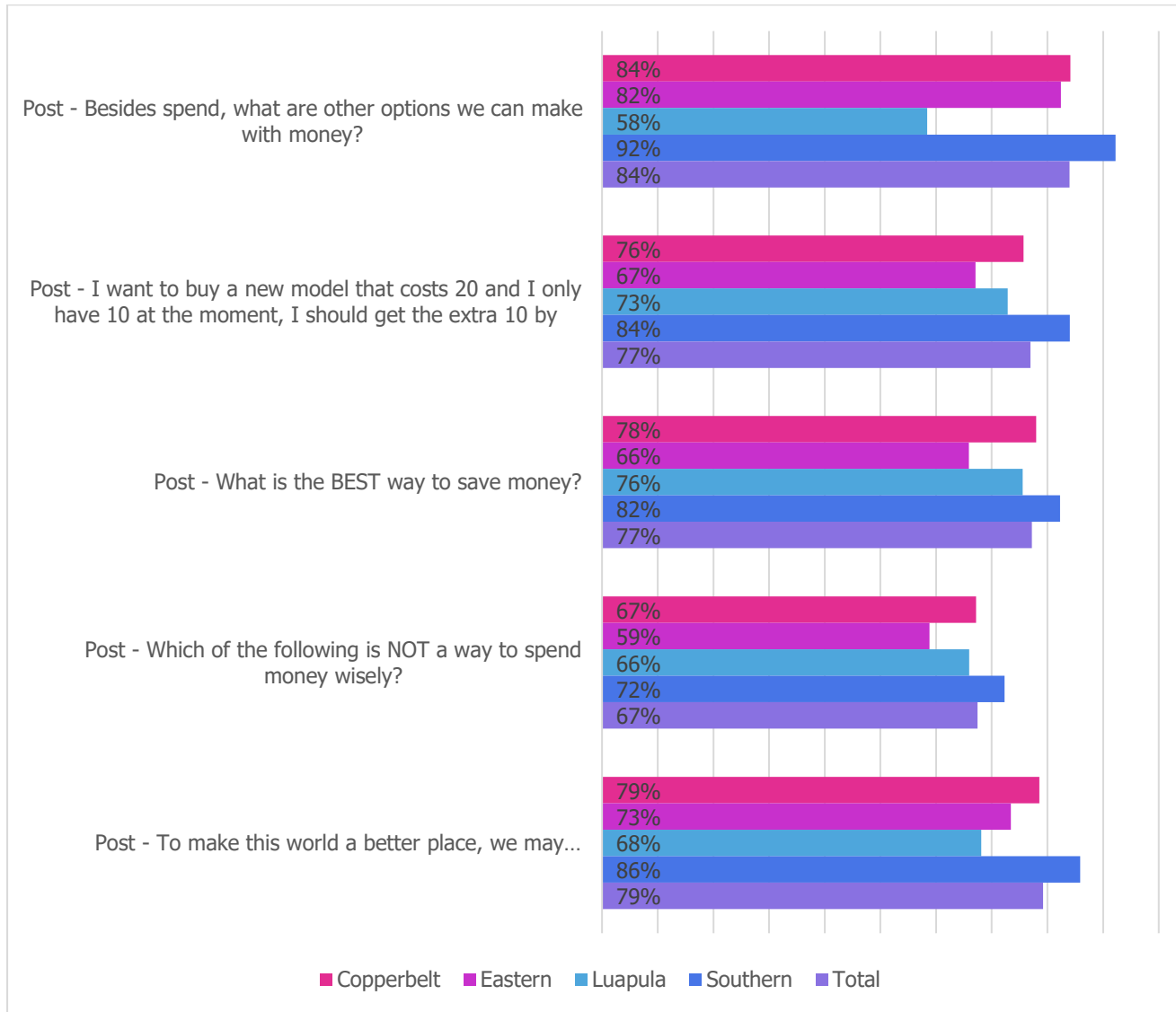
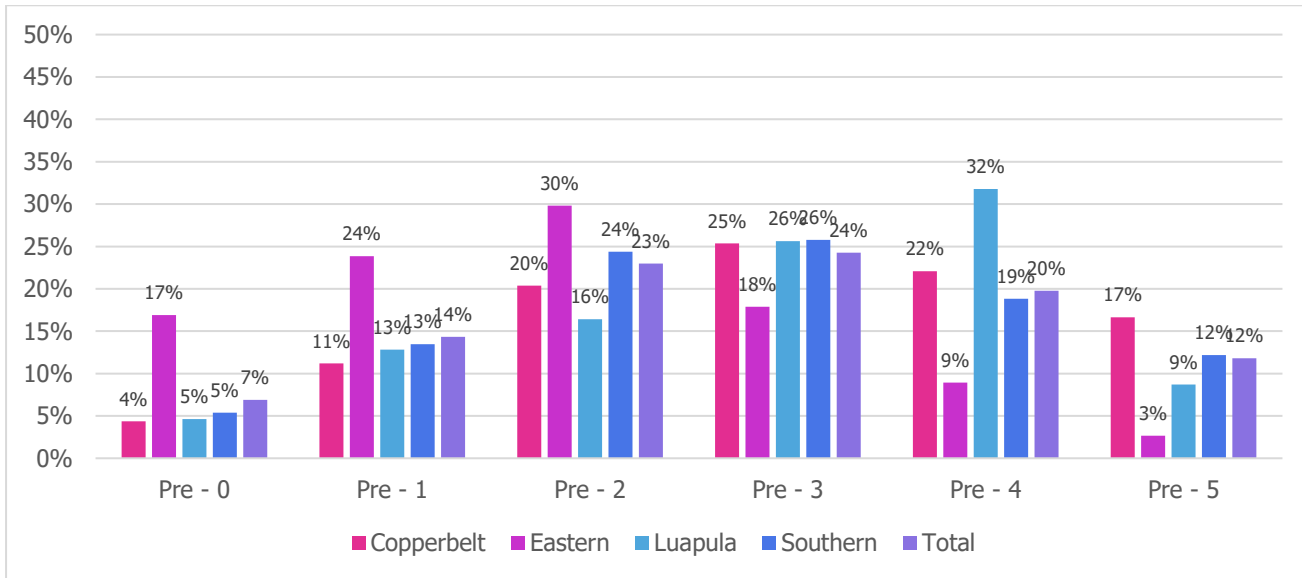


FIGURE 5 reports financial knowledge scores before participating in Cha-Ching. These are created by counting the number of correct responses that each student gives. Students who get all the financial knowledge questions right score a total of 5, whilst those who get them all wrong score 0.

The most common pre-test score was 3 out of 5. Almost a quarter of all students (24%) achieved this score. However, the pattern varies noticeably by province, with the most common score being 2 in Eastern province and 4 in Luapula. In total, 12% of the students achieved full marks, ranging from 3% in Eastern province to 17% in Copperbelt.

FIGURE 5 PERCENTAGE ACHIEVING EACH SCORE ON THE KNOWLEDGE PRE-TEST BY PROVINCE



The improvement in knowledge is particularly clear when looking at Figure 6. After completing the Cha-Ching curriculum, the most common score amongst students was 4 out of 5, achieved by 38% of students (FIGURE 6). Almost all students achieved a score of two or more. In total, 30% of students achieved full marks. The proportion of students achieving full marks was highest in Southern (38%), and lowest in Eastern (17%), but still considerably higher than in the pre-test.

FIGURE 6 PERCENTAGE ACHIEVING EACH SCORE ON THE KNOWLEDGE POST-TEST BY PROVINCE

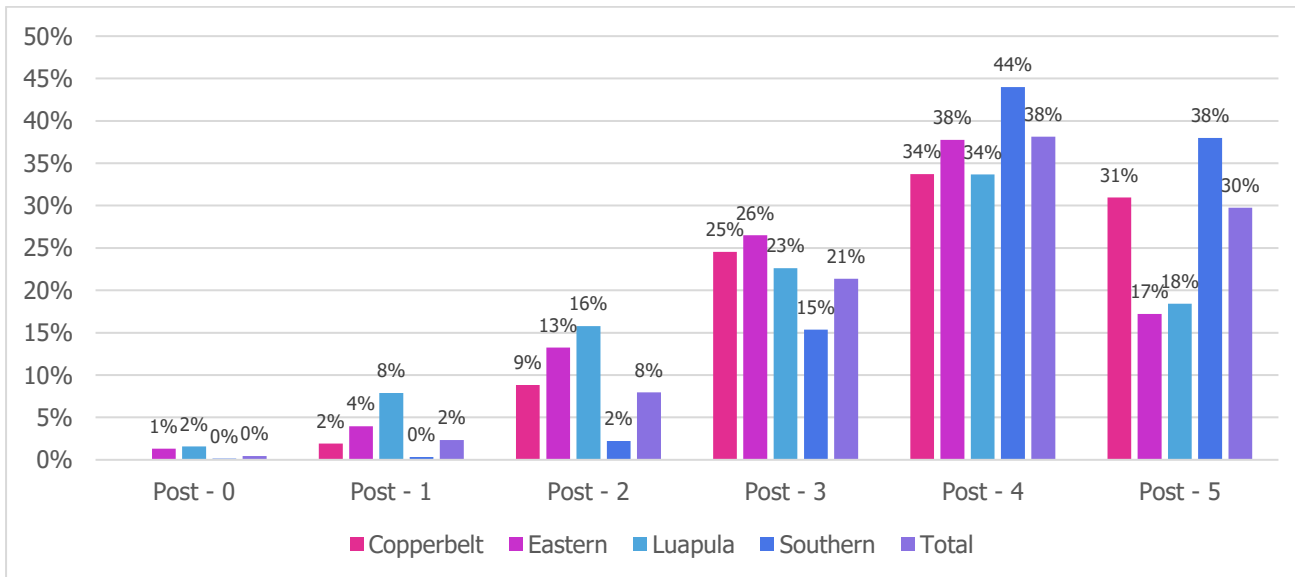


FIGURE 7 reports the average knowledge score across the five knowledge questions for students in each of the four regions. It shows an improvement in overall knowledge in all provinces, with a particularly large change in Eastern province. Additional tests confirm that the differences are statistically significant. These findings provide further evidence that the Curriculum is increasing equality in learning outcomes.

FIGURE 7 AVERAGE KNOWLEDGE SCORES BEFORE AND AFTER PARTICIPATING, BY PROVINCE (MAX SCORE=5)

All differences are statistically significant

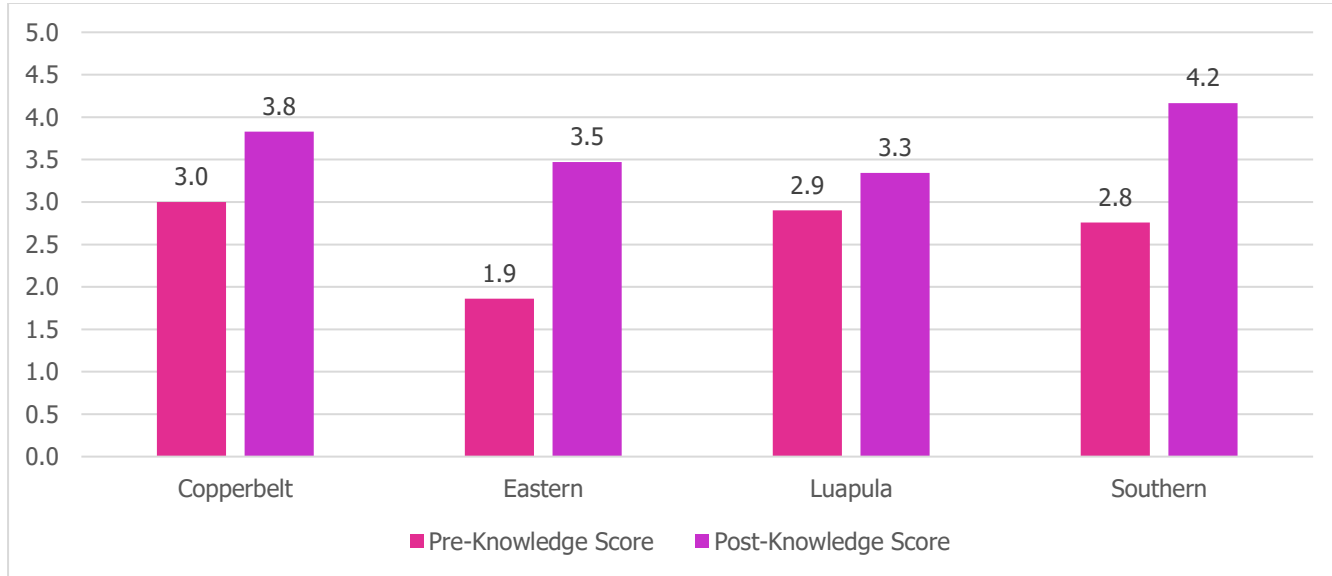
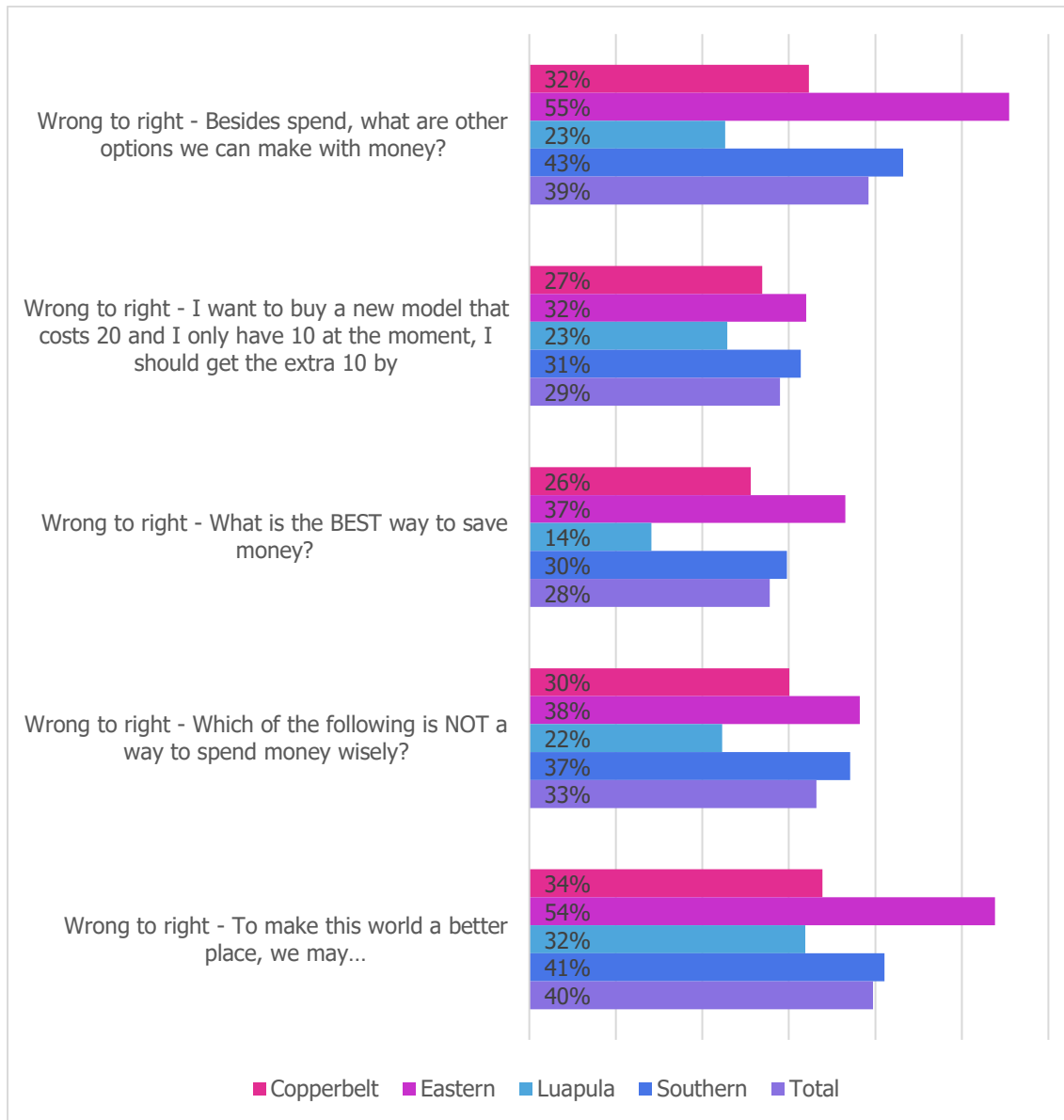


FIGURE 8 looks at the improvements in knowledge in a different way. It shows the proportion of students that got each question right for the first time in the post-test. These students gave the wrong answer before participating in the curriculum but gave the right answer after completing the lessons. It identifies where most of the learning was focused, showing particularly large increases in Eastern on the use of money and ways of making the world a better place, with over half of students gaining understanding following their participation in the Curriculum.

FIGURE 8 PERCENTAGE OF STUDENTS GETTING THE QUESTION WRONG IN THE PRE-TEST, BUT RIGHT IN THE POST-TEST, BY PROVINCE



STUDENTS' FINANCIAL BEHAVIOUR

Summary Box: Financial behaviour

Students were asked four questions to assess their financial behaviour. **Students reported healthy financial behaviours across the questions, and especially with regard to saving, even before participating in Cha-Ching.** The highest proportions were in Copperbelt and Luapula across most questions, whilst students in Eastern Province were least likely to report positive behaviours. Behaviour scores using the four questions did not improve significantly in any of the four provinces, but overall, behaviour remained high.

Four questions have been used to look at behaviour. These look at saving, spending (2 questions), and donating. Questionnaires can only ever give an approximate idea of behaviour, as they record people's own report rather than independent observation. Additionally, there are only a few financial behaviours that students are likely to exhibit, as they are not yet responsible for a wide range of financial decisions. Nevertheless, the questions are closely aligned with the Cha-Ching Curriculum, and the responses provide valuable insights.

Typically, students in Zambia learn English from grade 2 or 3. Given this, it is likely that many students do not fully understand the scale used in the behaviour and attitude questions. Consequently, 'Really' and 'A bit' have been combined, so that the analysis focuses on any level of agreement vs any level of disagreement. This reduces sensitivity, but we anticipate that it will provide a more accurate understanding.

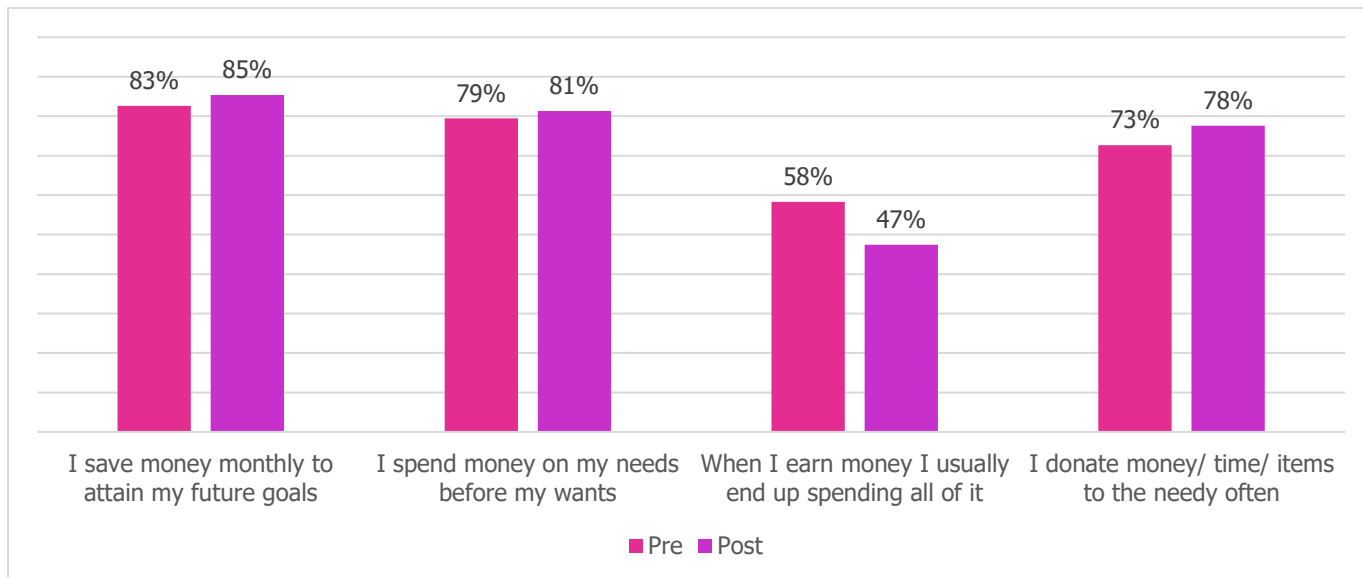
TABLE 3 BEHAVIOUR QUESTIONS

Question	Correct response	Answer options			
Q7. I save money monthly to attain my future goals.	Positive response: <i>agree</i>	4=Really agree	3=Agree a bit	2=Disagree a bit	1=Really disagree
Q8. I spend money on my needs before my wants.	Positive response: <i>agree</i>	4=Really agree	3=Agree a bit	2=Disagree a bit	1=Really disagree
Q9. When I earn money I usually end up spending all of it.*	Positive response: <i>disagree</i>	4=Really agree	3=Agree a bit	2=Disagree a bit	1=Really disagree
Q10. I donate money/ time/ items to the needy often.	Positive response: <i>agree</i>	4=Really agree	3=Agree a bit	2=Disagree a bit	1=Really disagree

* The original intention of this question was to test whether students understand the concept of allocating money to spending and saving. However, if students are earning money to make essential purchases it may be appreciate for them to spend all the money they earn.

FIGURE 9 shows that many students reported behaving in a financially responsible way even before participating in the Cha-Ching curriculum. 83% of students agreed or agreed strongly that they save money monthly even before participating; although only 58% disagreed or disagreed strongly that they usually spend all of their money (note that this question may have been harder to answer since agreeing to this question indicates financially unhealthy behaviour, and may have confused those who did not earn any money and those with weaker English language skills).

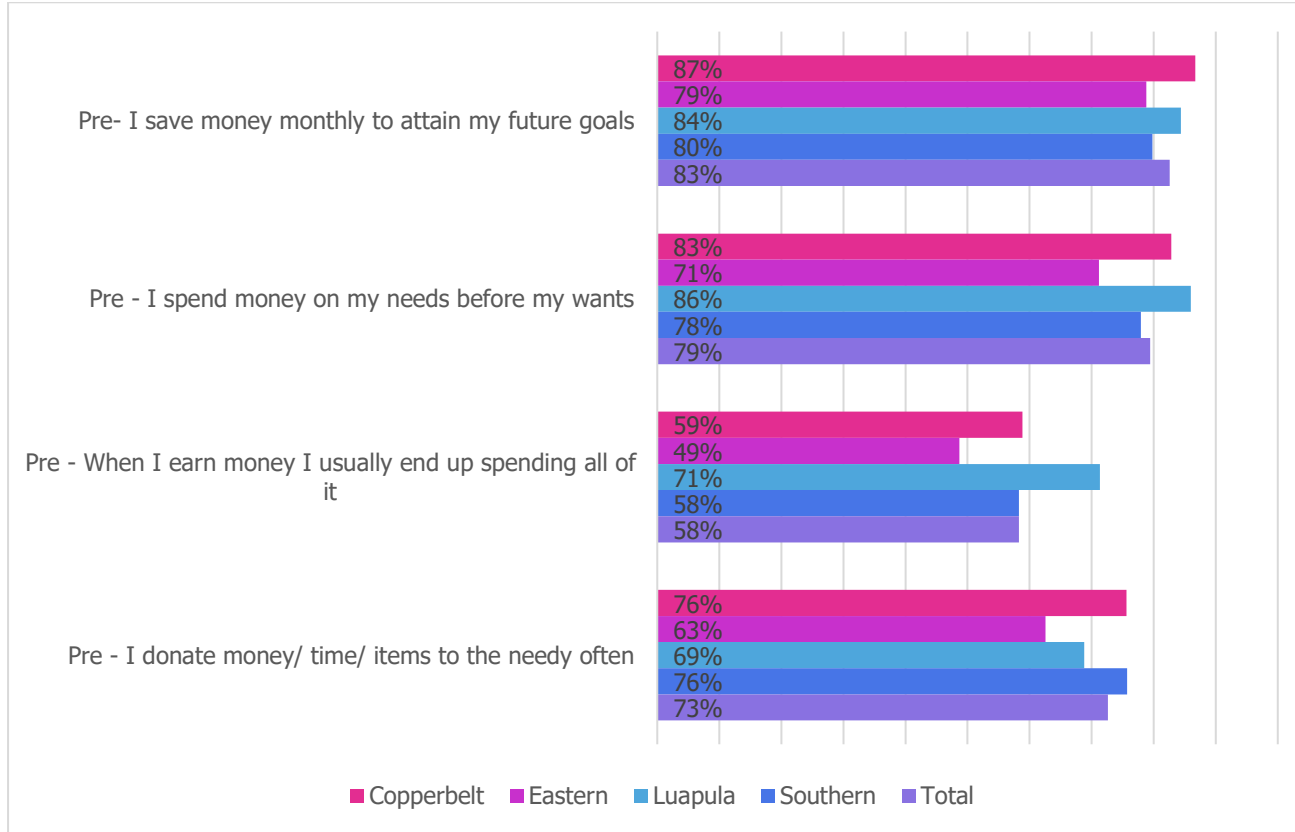
FIGURE 9 PERCENTAGE OF POSITIVE RESPONSES TO BEHAVIOUR QUESTIONS IN ZAMBIA: PRE- AND POST-TESTS



NOTE: Reporting the percentages who 'really agreed' or 'agreed a bit' with Q7, 8, 10. Reporting the percentages who 'really disagreed' or 'disagreed a bit' on Q9. 'When I earn money I usually end up spending all of it'.

FIGURE 10 shows how students answered the questions in each of the four provinces, before participating in the Cha-Ching Curriculum. A smaller proportion of students in Eastern Province showed positive behaviours, whilst the highest proportions were in Copperbelt and Luapula across most questions. However, students in Copperbelt and Southern were most likely to make donations.

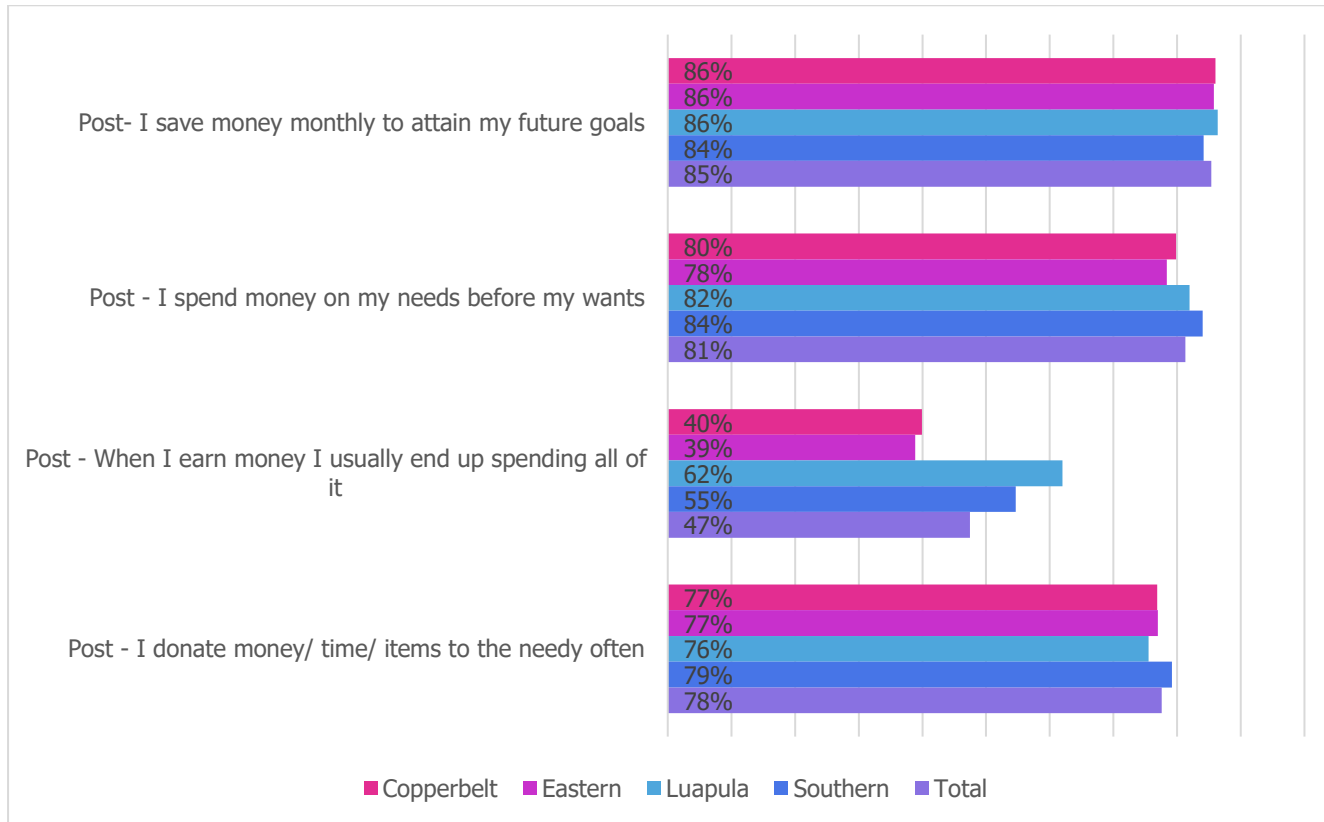
FIGURE 10 PERCENTAGE REPORTING FINANCIALLY HEALTHY BEHAVIOURS BY PROVINCE: PRE-TESTS



NOTE: Reporting the percentages who 'really agreed' or 'agreed a bit' with Q7, 8, 10. Reporting the percentages who 'really disagreed' or 'disagreed a bit' on Q9. 'When I earn money I usually end up spending all of it'.

There are very small differences in the overall proportions of students reporting that they behaved in financially healthy ways after participating in the Cha-Ching Curriculum (FIGURE 11). The main exception to this is Question 9, on spending any money earned. This question shows a general reduction in positive behaviours, which may be accurate, but may also indicate that some students misunderstood the question agreeing when they meant to disagree.

FIGURE 11 PERCENTAGE REPORTING FINANCIALLY HEALTHY BEHAVIOURS BY PROVINCE: POST-TESTS

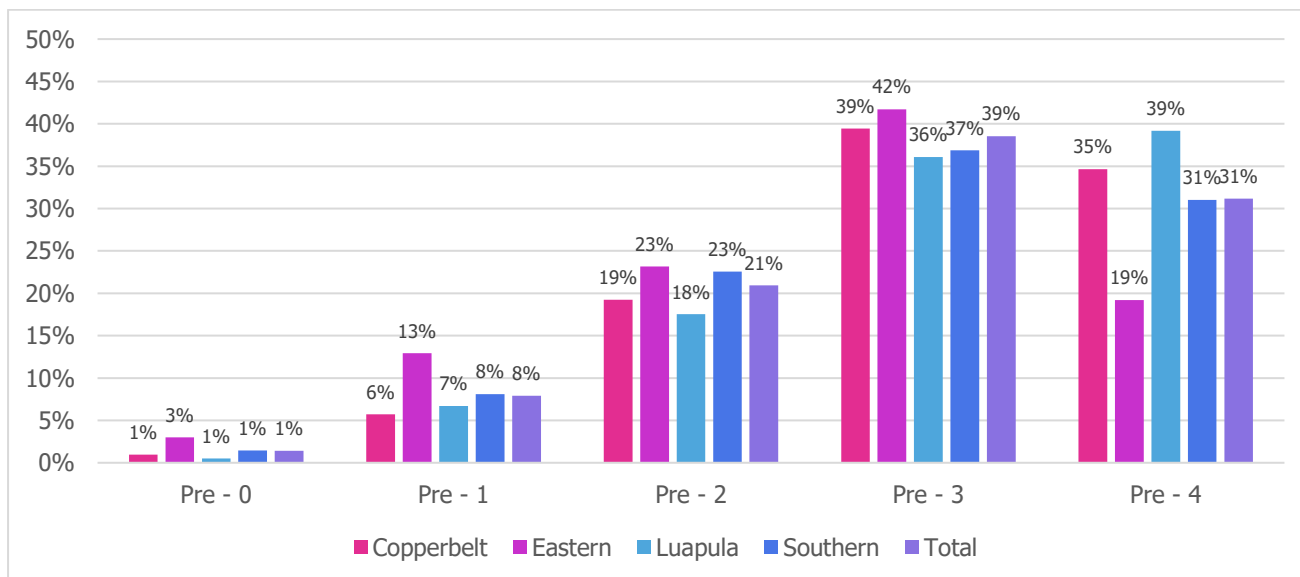


NOTE: Reporting the percentages who 'really agreed' or 'agreed a bit' with Q7, 8, 10. Reporting the percentages who 'really disagreed or disagreed a bit' on Q9: 'When I earn money I usually end up spending all of it'.

A simple behaviour score has been created by counting the number of positive behaviours. This shows that even before participating, most students reported three positive behaviours (39% achieved a score of 3), and almost nobody had none.

In Luapula the most common score was 4 even before participating (39% scored full marks). This suggests that many students were already behaving in positive ways before participating in Cha-Ching. In contrast, only 19% of students in Eastern province achieved this score.

FIGURE 12 PERCENTAGE ACHIEVING EACH SCORE ON THE BEHAVIOUR PRE-TEST BY PROVINCE



After participating in Cha-Ching, behaviour scores fewer students scored zero, but the most common score remained at 3 across all students, and 4 in Luapula. However there is also a small reduction in the total percentage achieving a score of 4 in the post-test. This is most likely to be due to Q9, which appears to have caused confusion.

FIGURE 13 PERCENTAGE ACHIEVING EACH SCORE ON THE BEHAVIOUR: POST-TEST BY PROVINCE

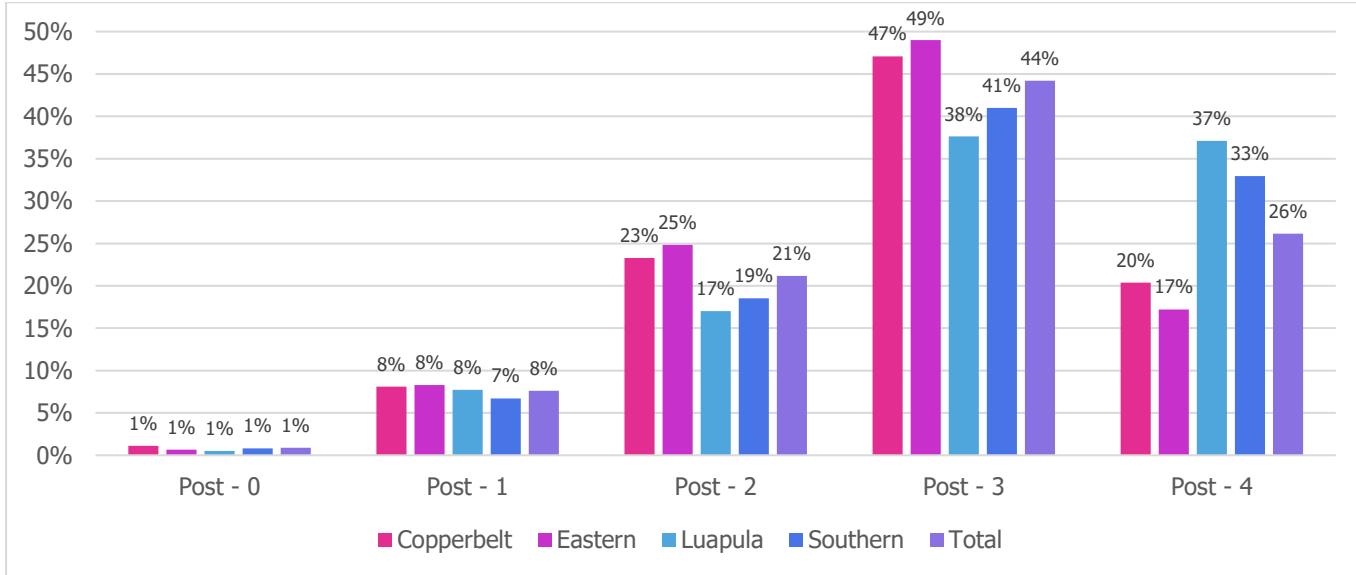
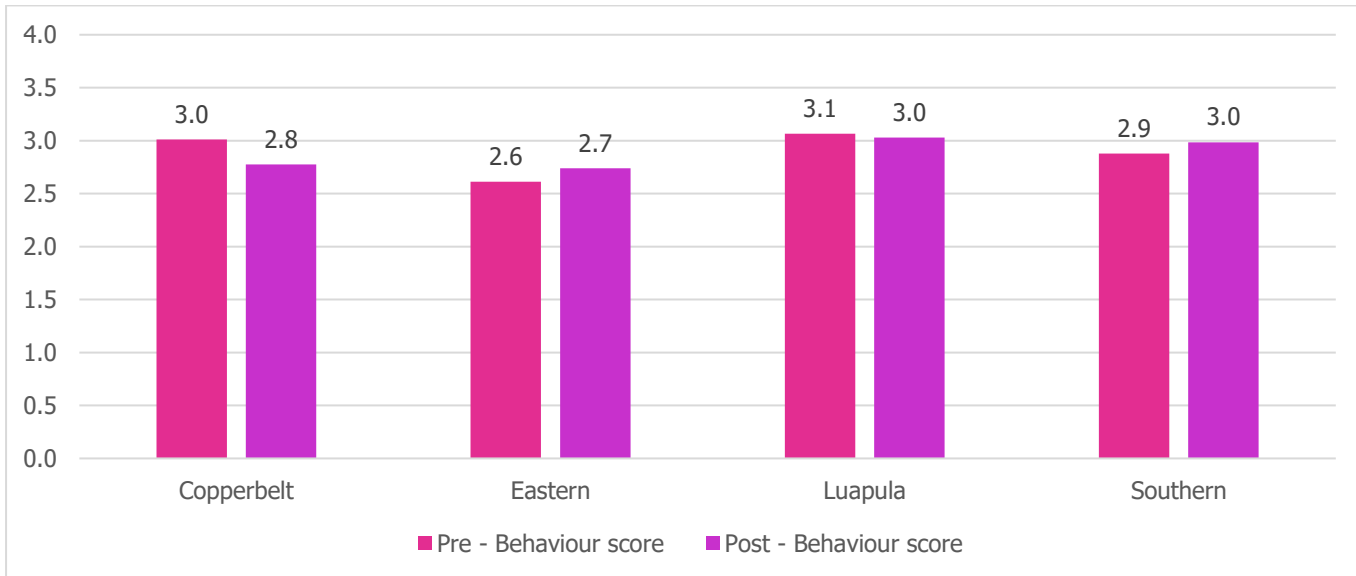


FIGURE 14 shows that mean behaviour scores for each province did not change much over the course of the Curriculum. There is a slight (and statistically significant) reduction in average scores in Copperbelt. It is very unlikely that participation caused students to make changes that were not in their best interest in Copperbelt, since such outcomes have not been observed elsewhere. The most likely explanation is that the students did not fully understand the questions.

FIGURE 14 AVERAGE BEHAVIOUR SCORES BEFORE AND AFTER PARTICIPATING, BY PROVINCE (MAX SCORE=4)

Only Copperbelt shows a statistically significant difference



A second behaviour score has been created to remove the possible bias of Q9, in case Q9 was too difficult for students to answer accurately. On this second measure (which has a maximum value of 3), Copperbelt students continue to show a very small decrease in scores after participating (from 2.43 to 2.38), although the difference is no longer statistically significant. Using this more limited measure, there are statistically significant increases in scores in Eastern province (from 2.12 to 2.36) and Southern Province (2.30 to 2.45). The difference in Luapula is positive but not significant (2.36 to 2.42). This provides some evidence that some students may have struggled to understand Q9, and suggests that behaviours did improve in some provinces. Caution would be warranted in interpreting this change without further research to explore the students’ interpretations of the questions.

STUDENTS' FINANCIAL ATTITUDES

Summary Box: Financial attitudes

Students were asked two questions to assess their financial attitudes. **Students reported healthy financial attitudes on both measures, even before participating in Cha-Ching.** Attitudes towards money and earnings were most positive in Luapula before participating, and attitudes towards Earn, Spend, Save and Donate (the content of the Cha-Ching Curriculum) were highest in Copperbelt.

Two questions have been used to look at attitudes in this evaluation. These take into account attitude towards money in general, and work.

TABLE 4 ATTITUDE QUESTIONS

Question	Correct response	Answer options			
6. I believe money is hard earned.	Positive response: agree (3 or 4)	4=Really agree	3=Agree a bit	2=Disagree a bit	1=Really disagree
11. Earn, Spend, Save and Donate are all important to me.	Positive response: agree (3 or 4)	4=Really agree	3=Agree a bit	2=Disagree a bit	1=Really disagree

The Figures below report the students' financial attitudes before and after participating in the Cha-Ching curriculum. FIGURE 15 shows that attitudes were already largely positive before participating and there was relatively little variation in responses after participating. This suggests that attitudes were not impacted by the curriculum.

FIGURE 15 PERCENTAGE OF POSITIVE RESPONSES TO ATTITUDE QUESTIONS IN ZAMBIA: PRE- AND POST-TESTS

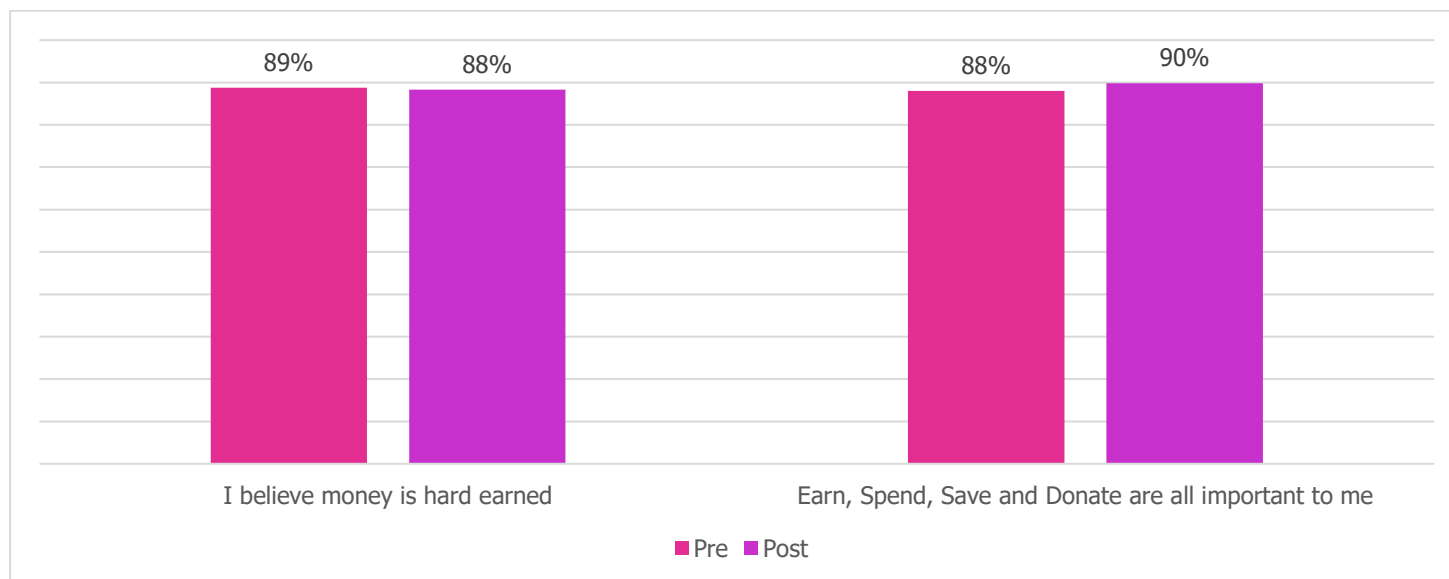
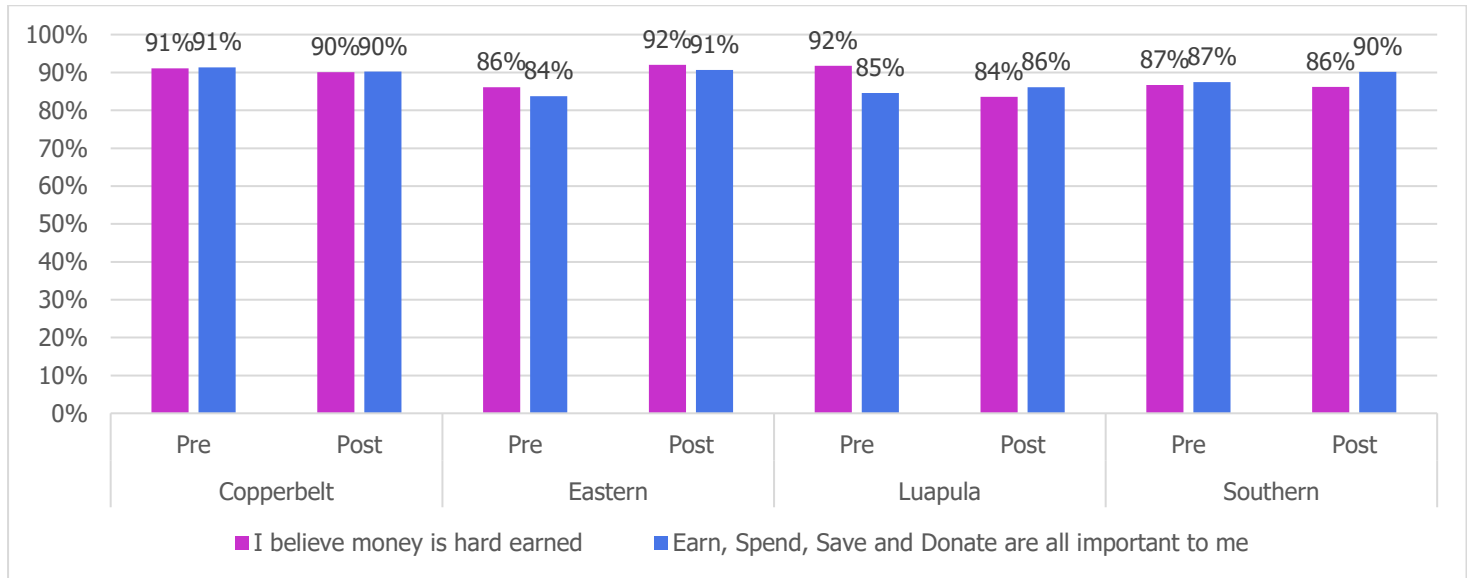


FIGURE 16 shows that attitudes towards money and earnings were most positive in Luapula before participating, and attitudes towards the content of the Cha-Ching Curriculum were highest in Copperbelt. There are very small changes in attitudes after participating, on the whole, although they did become more positive in Eastern. In Luapula slightly fewer students reported that they believed money was hard earned after participating (84%) than before (92%), although the proportions remained high. It may be that the curriculum made earning appear easier than they had previously thought. It could be useful to speak to students to fully understand this change.

FIGURE 16 PERCENTAGE OF POSITIVE RESPONSES TO ATTITUDE QUESTIONS BY PROVINCE: PRE- AND POST-TEST



Whilst it is possible to create a score for attitudes, with only two questions and limited variation, these are of limited value and have not been reported.

WHO MADE THE MOST IMPROVEMENT

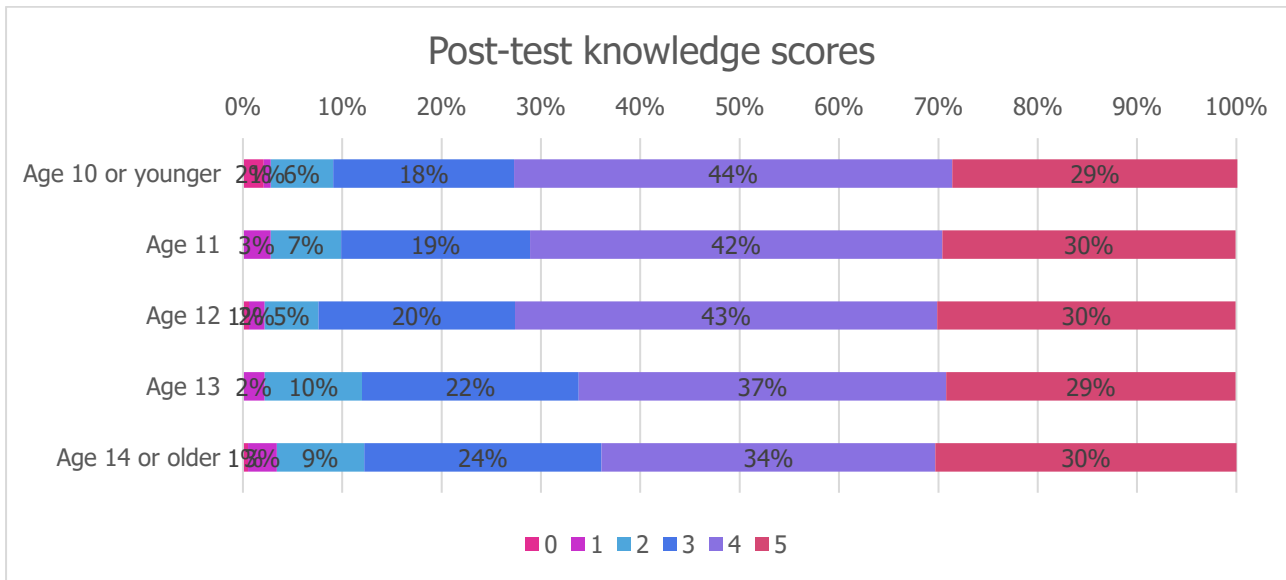
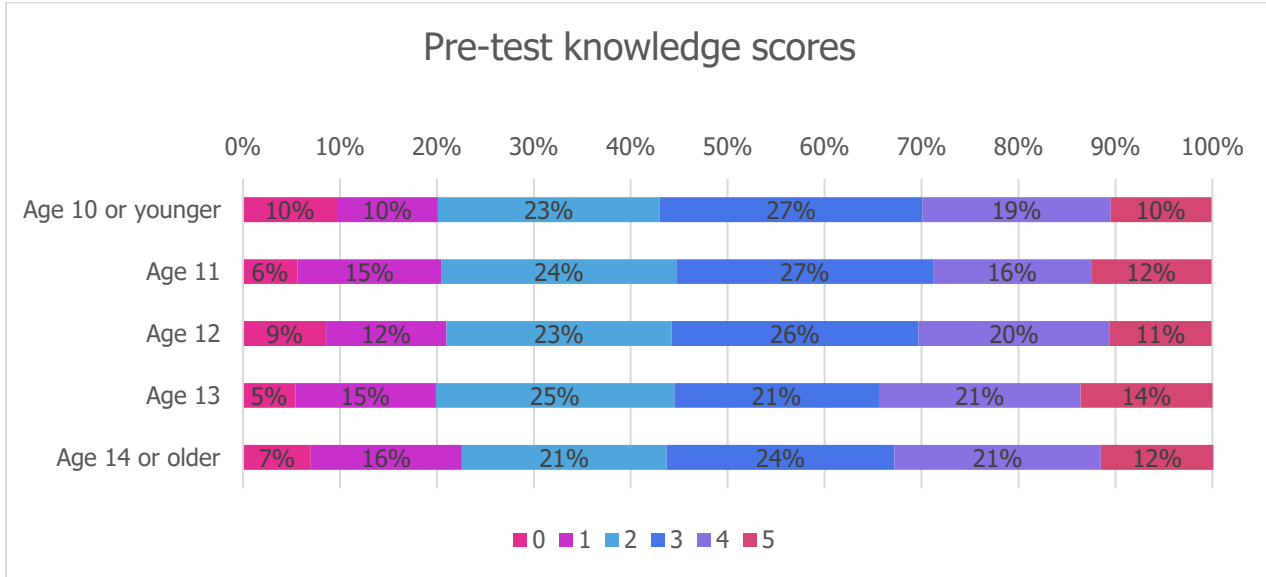
Summary Box: Differences in outcomes by age and gender

There was relatively little difference by age or gender in the way that students answered the knowledge questions before participating in the Cha-Ching curriculum although more boys than girls achieved 4 or 5 out of 5 after participating. Furthermore, improvements occurred across all age groups.

Given the uncertain impact on financial attitudes and behaviour, this section focuses on exploring the improvement in financial knowledge in more detail to gain further insights.

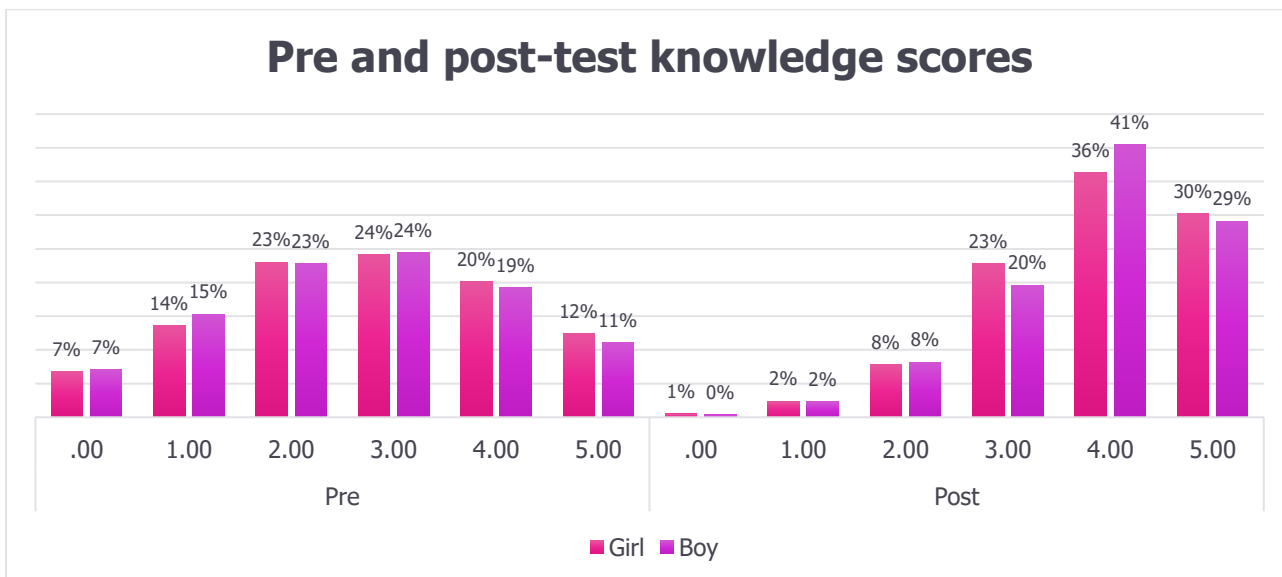
FIGURE 17 shows how financial knowledge scores are distributed by approximate age (using year of birth to calculate age at 31 December 2023). It suggests that scores varied little by age, although those aged 14 were least likely to score 0 and more likely than others to achieve 5 out of 5 before participating in the Curriculum. In the post-test, around three in ten students of all ages achieved 5 points. On discussion with Junior Achievement, it is plausible that this pattern reflects the fact that students do not all start school at the same age.

FIGURE 17 FINANCIAL KNOWLEDGE PRE-TEST AND POST-TEST SCORES BY AGE



Analysis of knowledge scores by gender, (FIGURE 18), also shows little variation. Before participating, the most common score for boys and girls was 3 out of 5. After participating the most common score for both became 4 out of 5, but 41% of boys compared with 36% of girls achieved this score.

FIGURE 18 FINANCIAL KNOWLEDGE PRE-TEST AND POST-TEST SCORES BY GENDER



EXPLORING THE DATA IN MORE DETAIL

VARIATIONS IN FINAL SCORES

Multiple regression analysis makes it possible to explore the variation in post-tests across different characteristics. The tests show the following:

- Neither higher pre-test scores nor higher post-test knowledge scores are associated with age or gender, but they vary significantly by province. This means that **boys and girls of all ages have similar average scores within a province, but scores vary across province.**
- Overall, **post-test knowledge scores are higher for students who also had higher scores in the pre-test** and the relationship is positive. This indicates that, on average, students have learned something, but that they learned best if they already knew something.
- After taking into account the pre-test scores, age and gender, **knowledge scores have increased the most in Southern.**
- Looking across all students, **initial answers to the Q1 and Q2 had the most influence on post-test knowledge scores.**
- However, looking **at the province level, initial responses to Q5 had the most influence on post-test knowledge scores in Copperbelt, Q2 in Eastern, Q1 and Q2 in Luapula and Q2 in Southern.**

DIFFERENCES IN KNOWLEDGE BY INITIAL ATTITUDES AND BEHAVIOURS

Further regression analysis exploring the ways in which attitudes and behaviours might impact knowledge suggest that **pre-test knowledge scores are higher for students that initially report spending money on needs before wants, those who already find that earn, save, spend donate are important, and those who do not spend all their money.** This suggests that those students have an above level of financial literacy before participating.

Repeating the exercise with the post-test knowledge scores shows that **after participating, knowledge is higher amongst students who initially reported spending money on needs before wants, those who already believed that earn, save, spend donate were important, and those who did not spend all their money.** However, students' responses to the behaviour and attitude questions in the post-test are not associated with their post-test knowledge score.

DIFFERENCES IN HOW STUDENTS EXPERIENCED THE CURRICULUM

Analysis of several satisfaction questions asked at the end the post-test indicate that, other things being equal, (controlling for age, gender, province and final knowledge score):

- 13-year-old students were most likely to find that the Curriculum **made school more interesting**, whilst 10 year olds were most likely to report that **what they learned was important in real life.** Post-test knowledge scores, province and gender did not impact on these.
- 13-year-old students were also most likely to find that **the Curriculum was fun**, and the amount of fun increased with post-test scores, suggesting that those who learned most enjoyed the Curriculum the most.
- Students with higher post-test knowledge scores were more likely to agree that the curriculum made them realise that **save, spend, earn and donate were important.** This suggests that they understood the answer they gave to the relevant knowledge question – they were not guessing.
- 13-year-old students were more likely to report that the curriculum taught them **how to manage money**, as were students with higher post-test knowledge scores. Students in Copperbelt were less likely to report this than students in other provinces, other things being equal.

EVIDENCE OF IMPACT

In depth analysis of the data from Zambia shows that, on average, students are learning more about financial matters and by participating in the Cha-Ching curriculum.

A recent academic journal looked at the impact of many different financial education in schools, noted 'We find that treatment effects on financial knowledge are estimated to be highest among interventions in elementary schools (0.57 SDs).⁵ The effect size of Cha-Ching on financial knowledge in Zambia is 'medium' at 0.67 SD, based on median difference

⁵ Kaiser and Menkhoff (2020). See [Financial education in schools: A meta-analysis of experimental studies - ScienceDirect](#) The effect size is measured in terms of standard deviations or SD.

between post- and pre-test of 1.1317 and standard deviation of 1.67894. This means that the size of the effect that Cha-Ching is having on students' financial knowledge is larger than the average in elementary schools, although care should be taken in interpreting this since the effect size we are measuring is only taking into account changes in scores before and after participating, rather than comparing students who received the Cha-Ching curriculum and those who did not.

CONCLUSIONS

The Cha-Ching Curriculum has been effectively introduced into Zambia and is already having a meaningful impact. The evaluation data shows that students in all four provinces have benefitted from participating in Cha-Ching. Teachers have successfully taught students about donating, saving, and spending wisely.

The data also indicates that the curriculum is promoting regional equality, with large improvements in knowledge in those provinces that had the lowest initial scores.

Many students reported healthy financial behaviours and attitudes before participating in the Curriculum, and so the impact of the curriculum on behaviour and attitudes is unclear. The findings also suggest that there may be an issue with the way students interpret Q9 'When I earn money I usually end of spending all of it'. Removing this question from the scores indicates that there was a significant improvement in behaviour in Eastern and Southern provinces, but no significant change in Copperbelt or Luapula.

The evaluation indicates that there is very little difference in knowledge by age or gender in Zambia. The curriculum did not benefit students of any particular age and was learned equally well by boys and girls. There may be differences by years of schooling that are not picked up by this analysis. However, 13 year-olds appeared to be particularly positive about their experience.

Taken as a whole, the findings suggest that the teacher training provided as part of the Cha-Ching Curriculum process has prepared the teachers to deliver the Cha-Ching Curriculum, and that students have been responsive to these new lessons.

In order to gain deeper insights into the extent of the learning, and the areas where students could benefit from more support, it is recommended that the test questions are reviewed, to make sure that all of them are well understood, and that they capture the full range of knowledge, behaviour and attitude, before and after participating. Some small qualitative studies could also provide valuable insights into the experiences of students, and help to explain why they found some elements easier or harder to understand or implement than others.