



Trial number: 0014

Start of trial date 28/04/2025 End of trial date 23/05/2025

The impact of Winning with Numbers KS2 Maths (Year 4 – hundredths/two decimal place numbers) in St John's Primary School

Summary

Winning With Numbers is a structured and systematic curriculum that ensures children are fluent and confident with number. It identifies 300 pieces of number knowledge and puts them in to a straight-line sequence of learning. The programme comes with a highly effective learning platform that is simple for all children, staff and parents to use. Each of the 300 parts has a comprehensive suite of teaching and learning resources, training for staff and support for parents.

The intervention includes providing the teacher, and any support teachers, with full access to the WWN Number-Fluency curriculum sequence and the WWN learning platform. The intervention will identify the specific 'Wins' (learning objectives) children will need to be taught and the order to teach them. The WWN platform will give the teacher short, animated, videos to 'team-teach' with in class, along with banks of online questions that draw out learning points in face-to-face teaching with students.

The WWN programme is designed to supplement overall mathematics teaching. It should be deployed in daily whole-class teaching, additional small-group/individual support teaching and as a homework task. When being used independently by students, the WWN platform will provide the learner with feedback on each question, as well as overarching feedback on each question set. When appropriate, the WWN platform will automatically direct learners back into specific earlier content/teaching for personalised input that supports the learner in plugging gaps in number-fluency that the system has identified.

The evaluation used class level randomisation to allocate two classes in the same year group into control and intervention groups. The control group will have access to the intervention after the post assessment has been completed and if it has proven to be effective.

Impact in your school

The effect of Winning with Numbers KS2 Maths (Year 4 – hundredths/two decimal place numbers) in your school was a difference of 46.6%. This means that the group using the intervention scored on average better than the control group. This represents a percentage difference of 46.6% for the pupils using the intervention.

Please refer to the technical appendix for the effect size and how to interpret this for your evaluation.

The initial intervention sample size was n= 39, n=21 control and n=18 intervention group. The pre-test mean for the control group (n=21) was 4.05 and the intervention group (n=18) was 4.33. The post-test mean for the control group was 4.81 and the intervention group was 7.39.

Table. 1 Average scores for groups

		Pretest	Post-test	Adjusted post test
	Number of pupils	Average (Standard deviation)*	Average (Standard deviation)	Average (Standard deviation)
Intervention	18	4.33 (4.16)	7.39 (4.83)	7.24 (2.24)
Control	21	4.05 (2.52)	4.81(3.16)	4.94 (2.24)

Strength of the research design

This evaluation used a randomised controlled trial design to compare two similar groups. This is a robust way of seeing how much impact an intervention has because random selection means any background influence on results (e.g. aptitude) has the same chance of appearing in the intervention group as it does the comparison group. This strength increases with more pupils, which is why we encourage studies with more pupils and aggregated data from teacher evaluations.

Limitations

It is important to note that the effect sizes for the mini-RCTs should not be compared with large scale RCTs due to a number of design features such as the small sample size, non-standardised assessment and short delivery timescale. However, as more schools complete the evaluation we can create a cumulative meta-analysis to provide a more robust overall effect size for the intervention.

What impact did the intervention have? What could/should I do now with the results?

When interpreting your results, an effect is a simple measure of the impact of the intervention. If it is positive it means that the intervention group did better than the control group. If it is negative it means that the control group did better than the intervention group. An effect size of zero means that both groups did equally well. If your effect seems large, we suggest you consider carefully why this might be. What was it about the intervention that worked so well? Could there have been differences in engagement between the groups? Was the test very similar to the intervention (rote training) etc? If you feel the results mainly reflect the benefits of the intervention you might want to talk to your colleagues about it in any professional network and/or with managers in your school and others.

We recommend that you use your professional judgement to decide whether the intervention is now provided to the control students.

How does your school compare to others?

As we grow the evidence base, if you visit the intervention specific webpage you will be able to see the effect sizes for fellow schools who are replicating the intervention.

Technical Appendix

The difference between the groups is calculated taking account of the pre-test scores using ANCOVA. The percentage difference is calculated using the adjusted mean difference as a percentage of the control group mean. We think this gives the best estimate of the impact of the intervention, compared with not using the intervention.

Table 2. Effect size

Number of pupils completing the study	The difference between the groups at post-test (adjusted)		Intervention compared to business as usual
Number of pupils with posttest	Intervention post-test mean	Control post-test mean	Effect size Hedges' g (Confidence interval)
39	7.24	4.94	0.54 (-0.09,1.17)

The effect size (standardised mean difference) is also calculated from the results of the ANCOVA. This should not be compared with the effect sizes from larger studies because we used short term outcomes (proximal) and because the effects for a single class are likely to vary considerably. In terms of statistical significance a result is considered statistically significant if the confidence interval does not include zero.