

# Language, Reading & Math in Children

*A study of the skills that support children's learning*

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## LET'S CELEBRATE!

We completed our study of language, reading, and math development in school age children in June 2011! In the Spring of 2011, a group of 12 university students visited 329 children in their schools on 3 occasions each! A big finish!

In this newsletter, you'll find out what we've learned so far from this study. If you'd like more information, please contact us at the information provided below.

Our past newsletters are available at  
<http://www.uwo.ca/fhs/lwm/newsletters.html>

And here's a great big thank you for your time and efforts on this study:

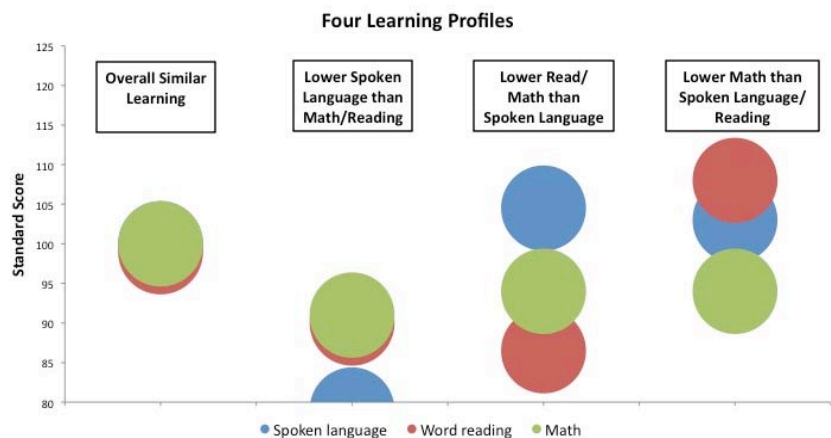


## THANK YOU!



## THINGS WE'VE LEARNED SO FAR ABOUT HOW CHILDREN LEARN

We're interested in the learning patterns children show in language, reading, and math. The patterns may help us better understand learning, and how to help kids learn. We found 4 learning profiles:



This graph describes some of our data. The bubbles represent group average scores on three measures, a spoken language test involving repeating sentences, reading single words, and doing simple math calculations. Most of the kids had similar scores across all three measures as shown in the first set of bubbles. These are kids who may get about the same grades in language, reading and math regardless of whether those grades are high, low, or average. Smaller groups of kids had different learning patterns as shown by the 3 other sets of bubbles. The second group had lower spoken language than math and reading scores. The math and reading scores are a little bit low, probably because spoken language is important to all learning at school (especially reading). The second group had lower reading and math than spoken language scores. These are kids who might get low grades in both reading and math. We know that reading and math involve some of the same things, like learning the meaning for a symbol on your page. By comparing groups 2 and 3, we can tell that there must be different reasons why some kids struggle to learn to read and do math. It's related to spoken language for the kids in group 2, but not the kids in group 3. The last group had lower math than spoken language and reading. These kids may have lower grades in math than language or reading. Even though math and reading are related, there's something different about them too. These kids are struggling with something special about math, and we want to understand this better.

## STUDY PODCAST!

You can learn more about these results by watching our research video available at: <http://www.uwo.ca/fls/lwm/index.html>

## HOW TEACHERS HELP KIDS

In one of our studies, we talked to teachers about how to help kids learn; especially kids who have trouble remembering things. Teachers told us that it's important to help kids focus on what's most important in a lesson by reducing the distractions around them, and controlling information overload.

## BRAIN STUDIES

We study brains! Our brain (and bodies) naturally gives off electrical energy when we think or move. We have special equipment for measuring that energy. We'll learn important information about how the brain works from these studies.

Here's someone wearing our special cap:



In studies like this, we examine how brains respond to small differences in sounds.

This year, we're starting a brain study that uses a special imaging machine to take a moving picture of the brain.



A Magnetic Resonance Imaging (MRI) Scanner is a special and safe machine that can take pictures of your brain while you play math and number games. These pictures help us understand which brain regions are involved in specific number activities and how

activating these regions are related to children's math achievement. This year, we are starting a new brain study to learn how children develop specialized brain regions to perform different number and math operations. In the future, we hope that these types of studies can lead to better interventions that can help children learn math.

For more information about the numerical cognition lab and MRI studies, please visit: <http://www.numericalcognition.org>

## THE RESEARCH TEAM



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