Educational Prosperity in Manitoba's Schools
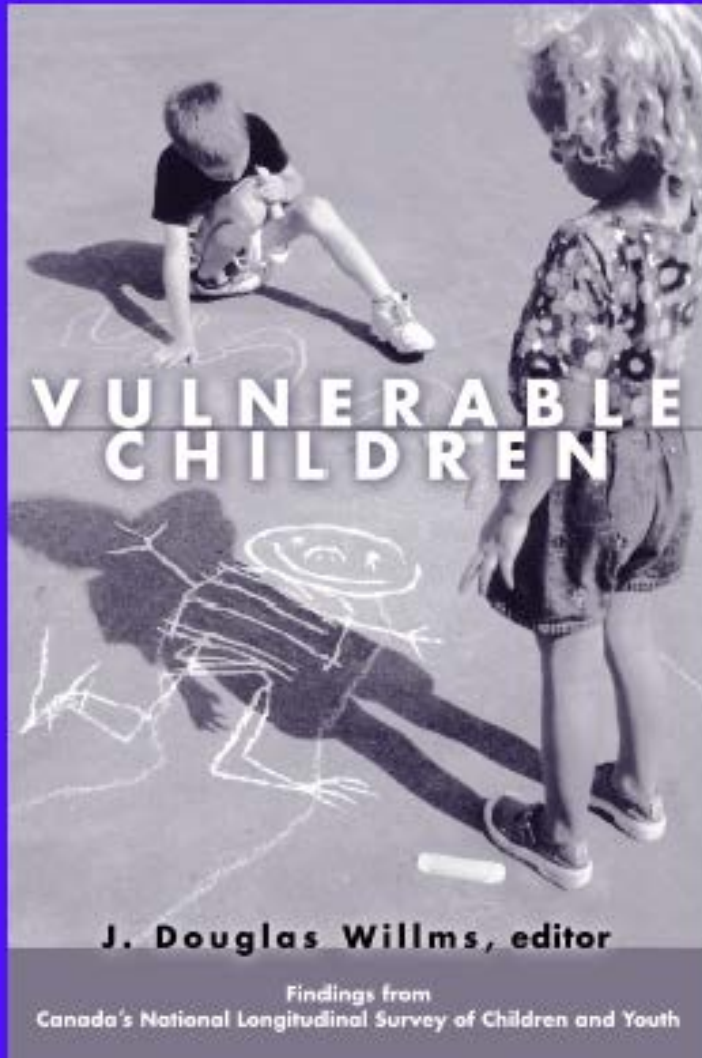
J. Douglas Willms
University of New Brunswick
and
The Learning Bar

The University of
Alberta Press
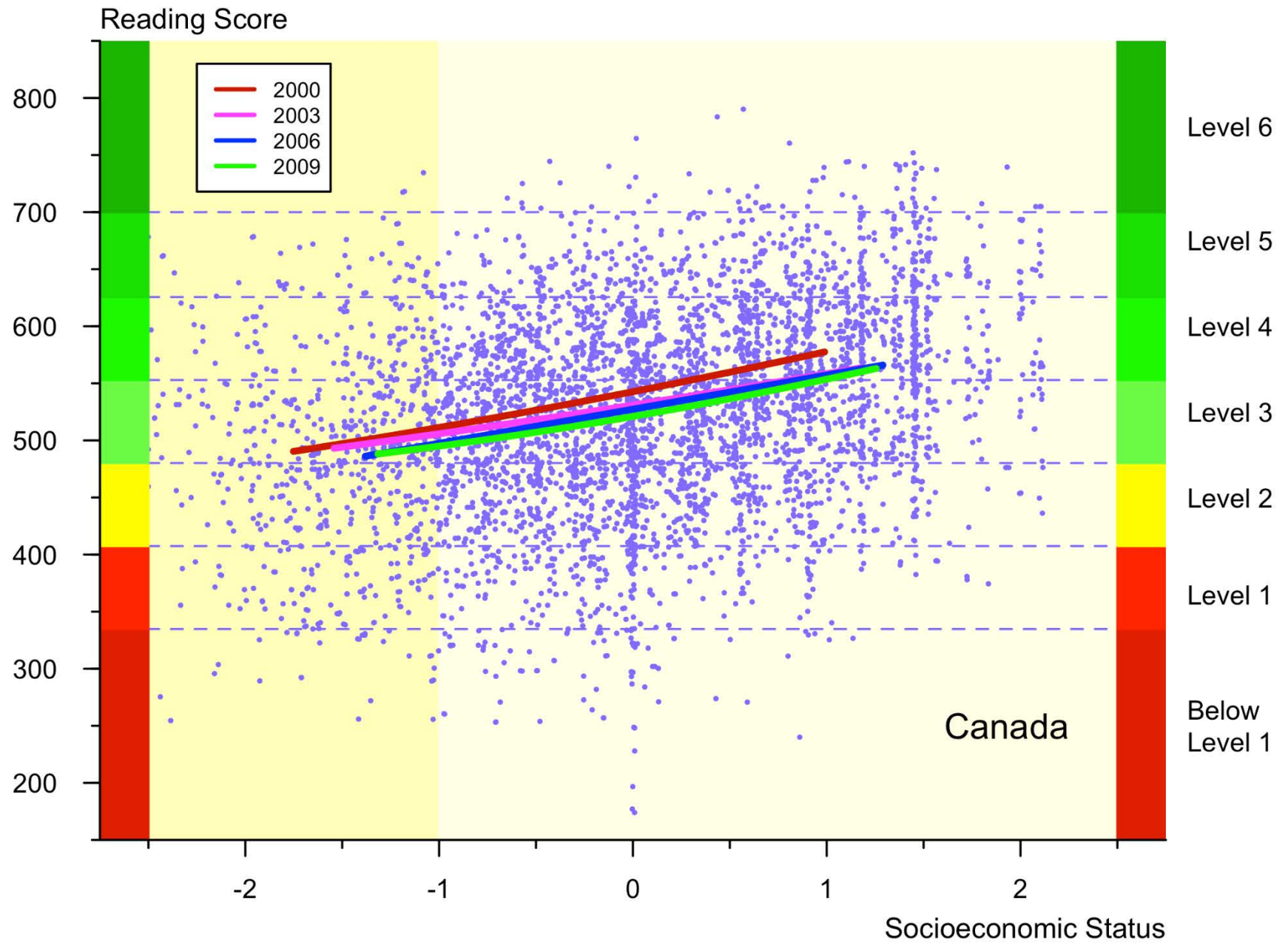
VULNERABLE
CHILDREN

J. Douglas Willms, editor

Findings from
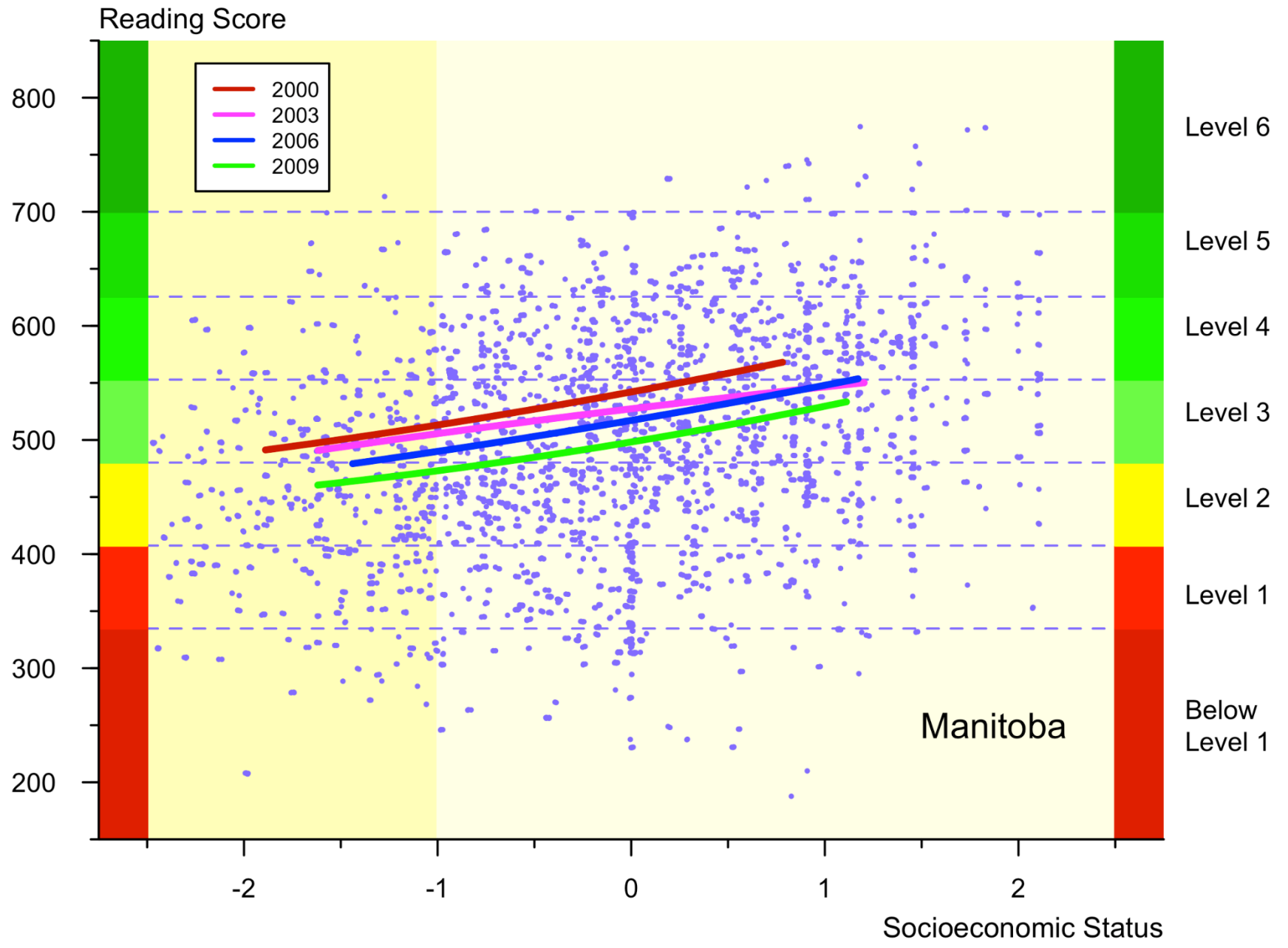Canada's National Longitudinal Survey of Children and Youth

28%
of Canadian children
are vulnerable

Childhood Vulnerability

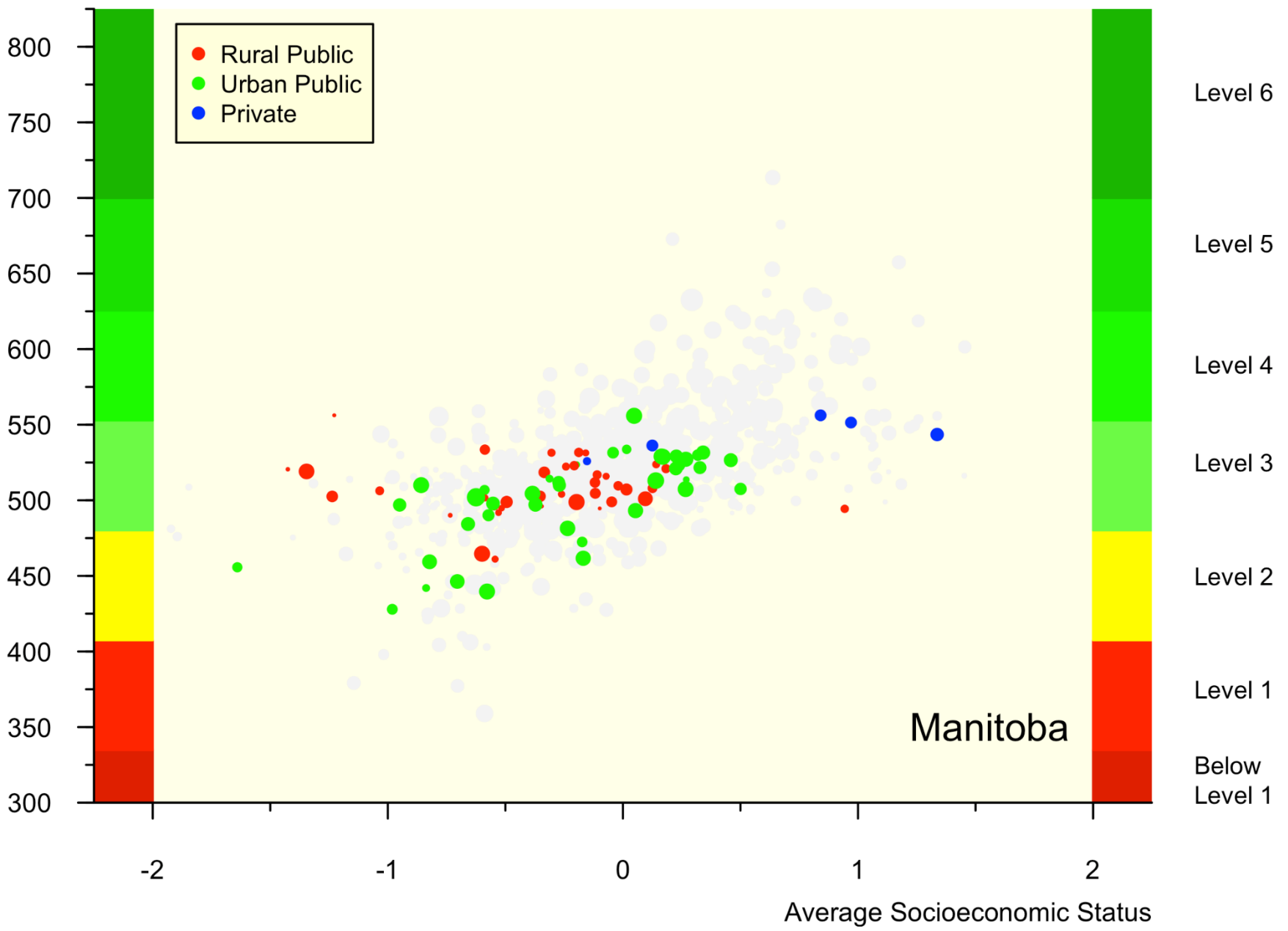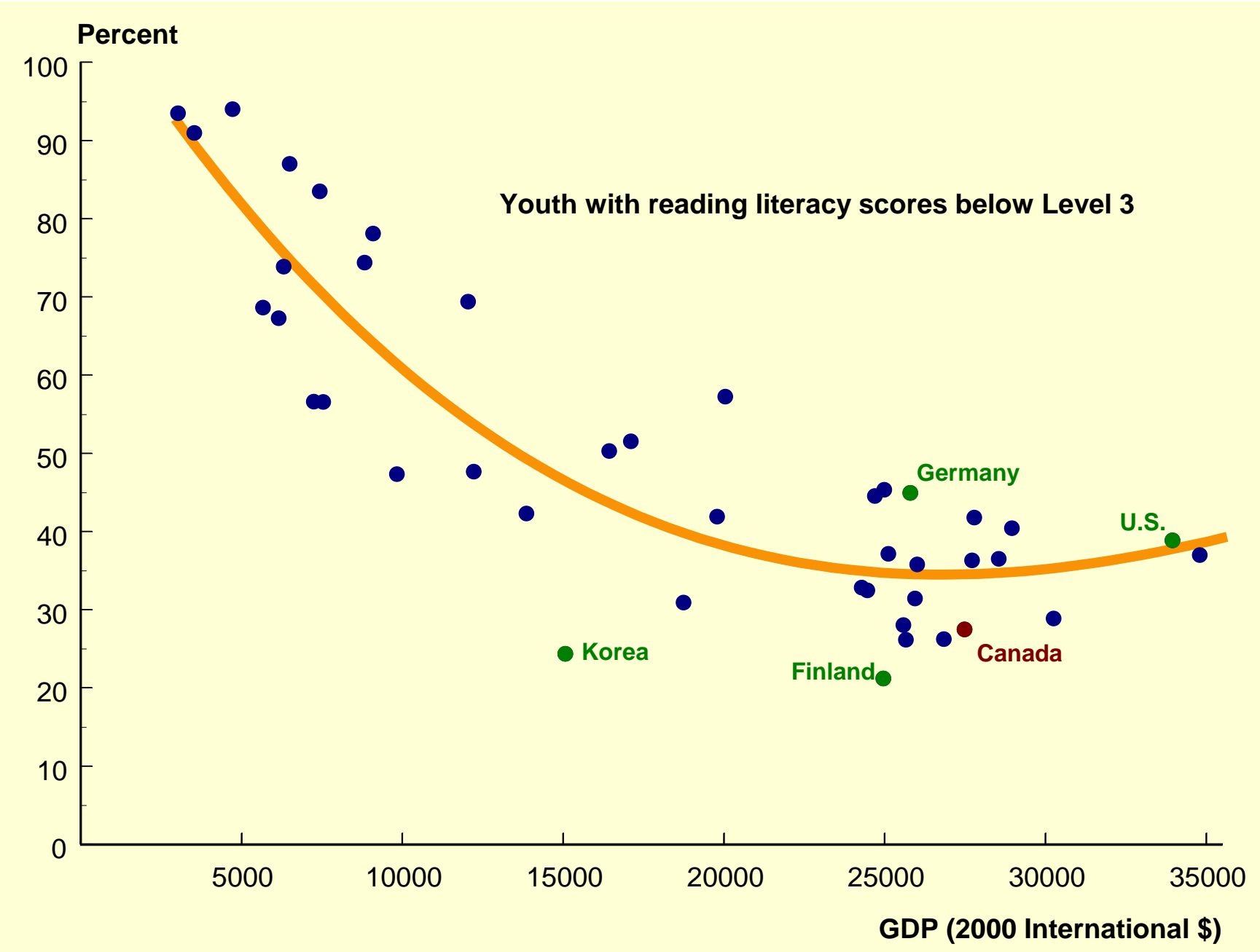**Can we reduce the prevalence of vulnerability below 20%?**

Youth with reading literacy scores below Level 3
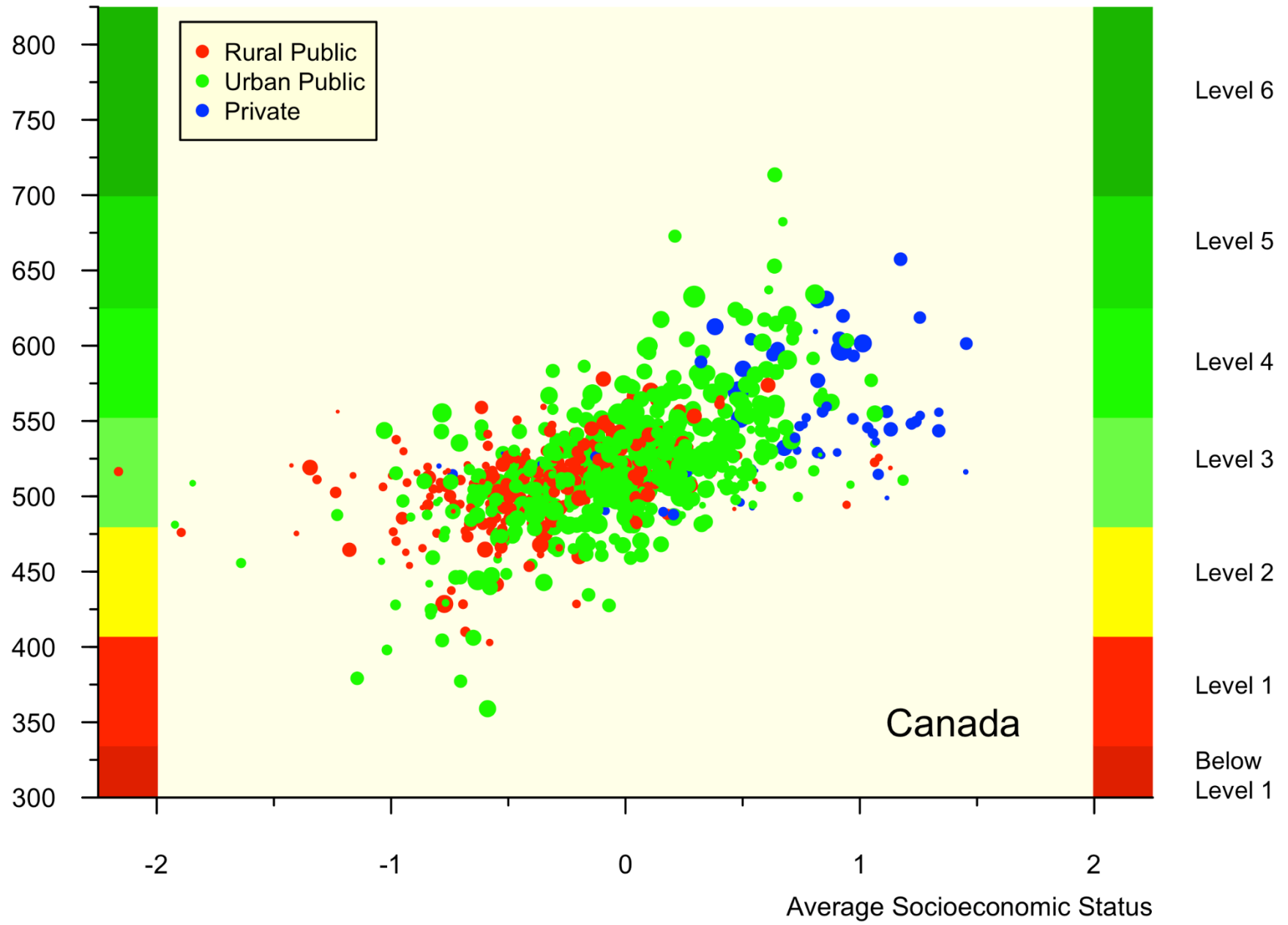
Educational Prosperity:

A Life-Course Approach

| Prior Success

Conception to Age 15 | → | Academic achievement |
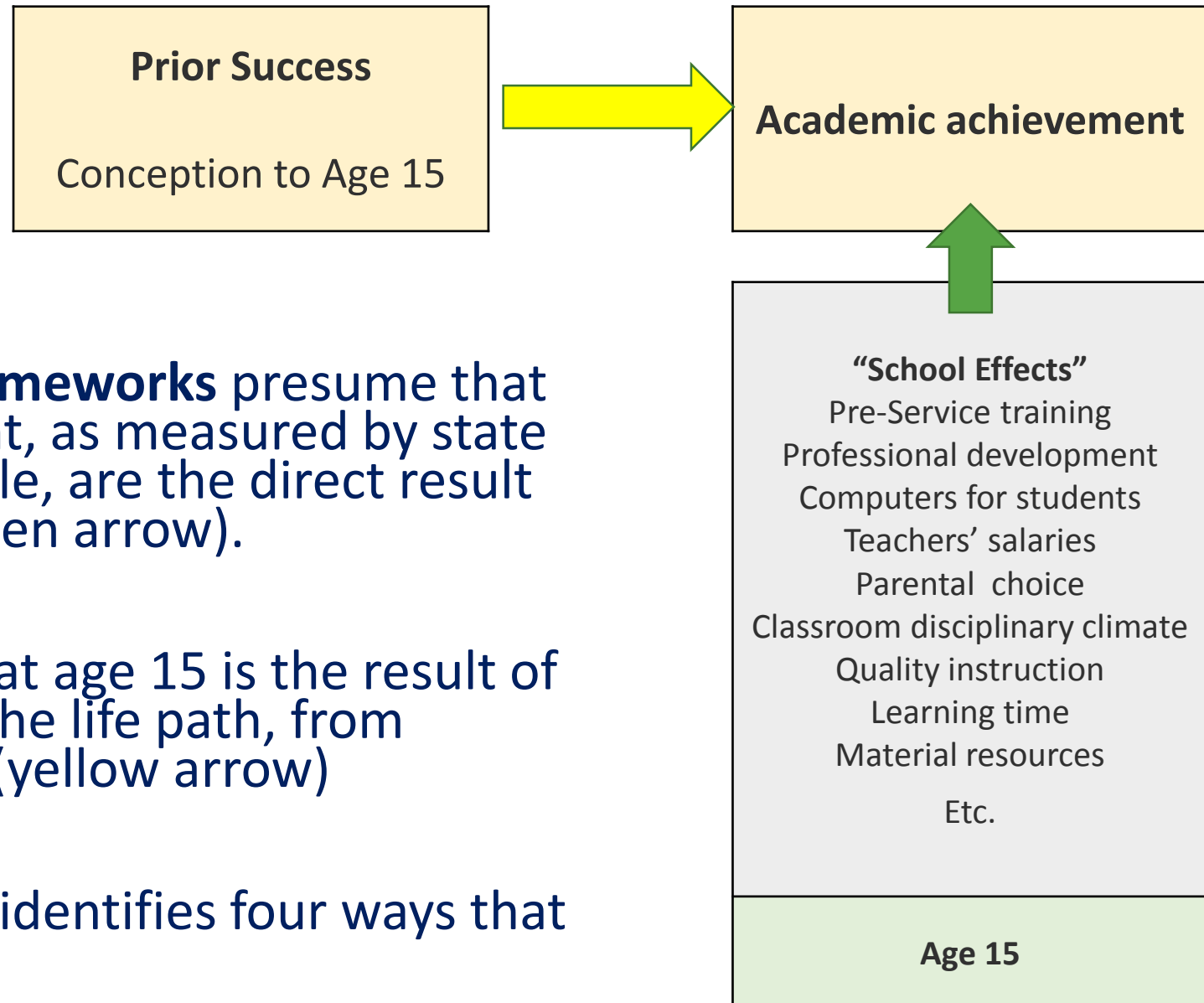
Current assessment frameworks presume that academic achievement, as measured by state test scores, for example, are the direct result of 'school effects' (green arrow).

However, achievement at age 15 is the result of several factors along the life path, from conception to age 15 (yellow arrow)

Educational Prosperity identifies four ways that success accumulates.

"School Effects"
Pre-Service training
Professional development
Computers for students
Teachers' salaries
Parental choice
Classroom disciplinary climate
Quality instruction
Learning time
Material resources

Etc.

Age 15

- **Educational Prosperity includes a core set of metrics for success at six key stages of development across the life-course from conception to adolescence.**

- **These metrics include a set of key outcomes for each developmental stage, called 'prosperity outcomes,' and a set of family, institutional, and community factors, called 'foundations for success,' which drive the prosperity outcomes.**

- **The approach considers four ways that success accumulates over the life-span.**

Metrics for Success: SIX KEY STAGES

EducationalPROSPERITY
GIVING EVERY CHILD THE OPPORTUNITY TO THRIVE

Success accumulates in four ways:

Biological Embedding

Foundations for Success

Cumulative Effects

Selection

|	PRE-NATAL	EARLY DEVELOPMENT Ages 0 - 2	PRE-PRIMARY Ages 3 - 5	EARLY PRIMARY Ages 6 - 9	LATE PRIMARY AND LOWER SECONDARY Ages 10 - 15	UPPER SECONDARY Ages 16 - 18
Prosperity Outcomes	- Healthy pregnancy - Healthy delivery	- Language development - Cognitive development - Physical development	- Awareness of self and environment - Social skills and approaches to learning - Language development - Cognitive development - Physical development	- Reading literacy - Numeracy - Health and well-being - Engagement	- Academic achievement - Educational attainment - Health and well-being - Engagement	- Ethical citizen - Leadership skills - Health and well-being - Communication and interaction skills
Foundations for Success — Family Factors	- Nutrition - No exposure to toxins - Mother's physical health - Mother's emotional health	- Breast-feeding and nutrition - Mother's physical health - Mother's emotional health - Parenting skills - Intra-family relations	- Parenting skills - Intra-family relations - Family involvement	- Parenting skills - Intra-family relations - Family involvement	- Parenting skills - Intra-family relations - Family involvement	- Parenting skills - Intra-family relations - Family involvement
Institutional Factors	HEALTH-CARE FACILITY: - Prenatal care - Primary health care	HEALTH-CARE FACILITY: - Post-natal care - Primary health care	PRE-SCHOOLS: - Child-centered - Goal-oriented - Opportunities to socialize	SCHOOLS: - Inclusive context - Quality instruction in code and language skill development - Language development - Learning time - Material resources	SCHOOLS: - Inclusive context - Quality instruction - Learning time - Material resources	SCHOOLS: - Inclusive context - Quality instruction - Opportunity to learn life and career skills
Community Factors	- Social capital - Resources	- Social capital - Resources	- Social capital - Resources	- Social capital - Resources	- Social capital - Resources	- Social capital - Resources

SUCCESS accumulates in four ways

1. Biological embedding

2. Foundations for success

3. Cumulative effects

4. Selection

1. Biological Embedding

Differential social experiences get *under the skin* in early life and, through their effects on developing neurobiological pathways, affect later trajectories in human health, learning, and behaviour.
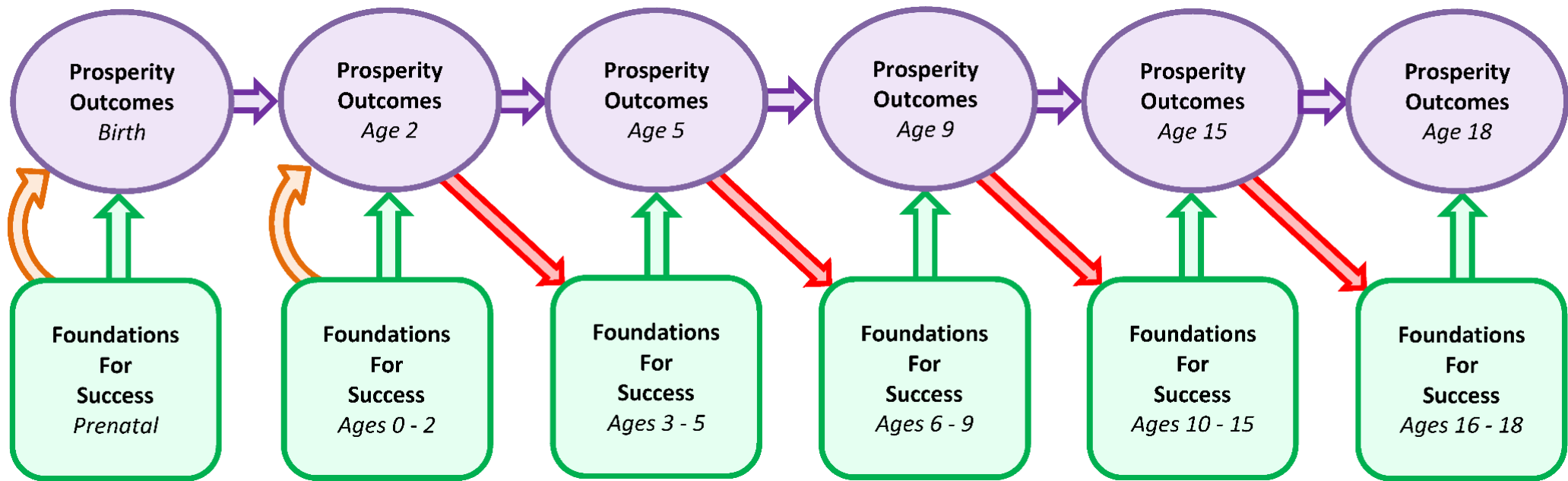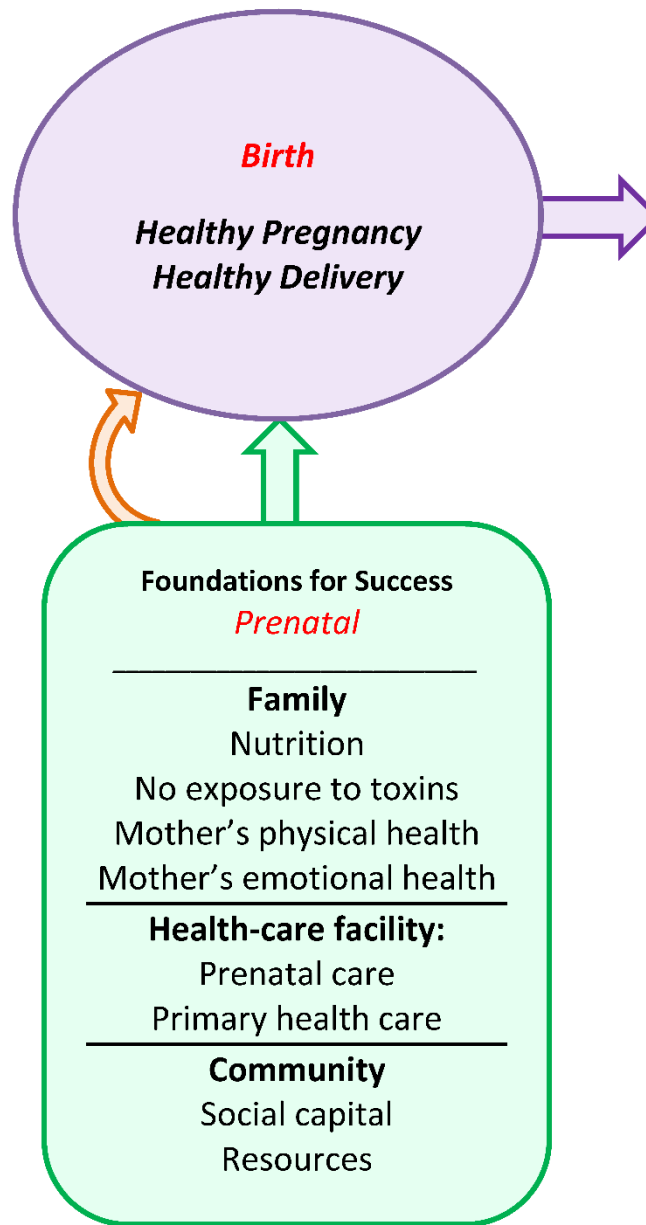
Differential social experiences

Socioeconomic gradients are evident in most social outcomes. They are also evident in children's early experiences; for example,

- Breast-feeding
- Smoking during pregnancy

under the skin

A key development in the field of human development is the work defining neuro-biological development and its effects on health, learning, and behaviour.

- Brain development from conception to age one is rapid and extensive, much more so than previously believed, and is heavily influenced by the infant's environment (Carnegie Corporation of New York, 1994).

- A newborn has billions of neurons, which, during the course of development, form connections called synapses. These synapses are formed in response to environmental stimuli, and while this is occurring, many of the neurons that are not being used are pruned away.

- This process of synapse formation and neuron pruning is often referred to as the "wiring" or "sculpting" of the brain. Moreover, there are critical periods, especially during the first three years, when particular areas of the brain are sculpted.

- Longitudinal studies that have followed children who have received intensive interventions aimed at increasing stimulation and providing parent training and support have demonstrated long-lasting effects on their social, behavioural, and educational outcomes.
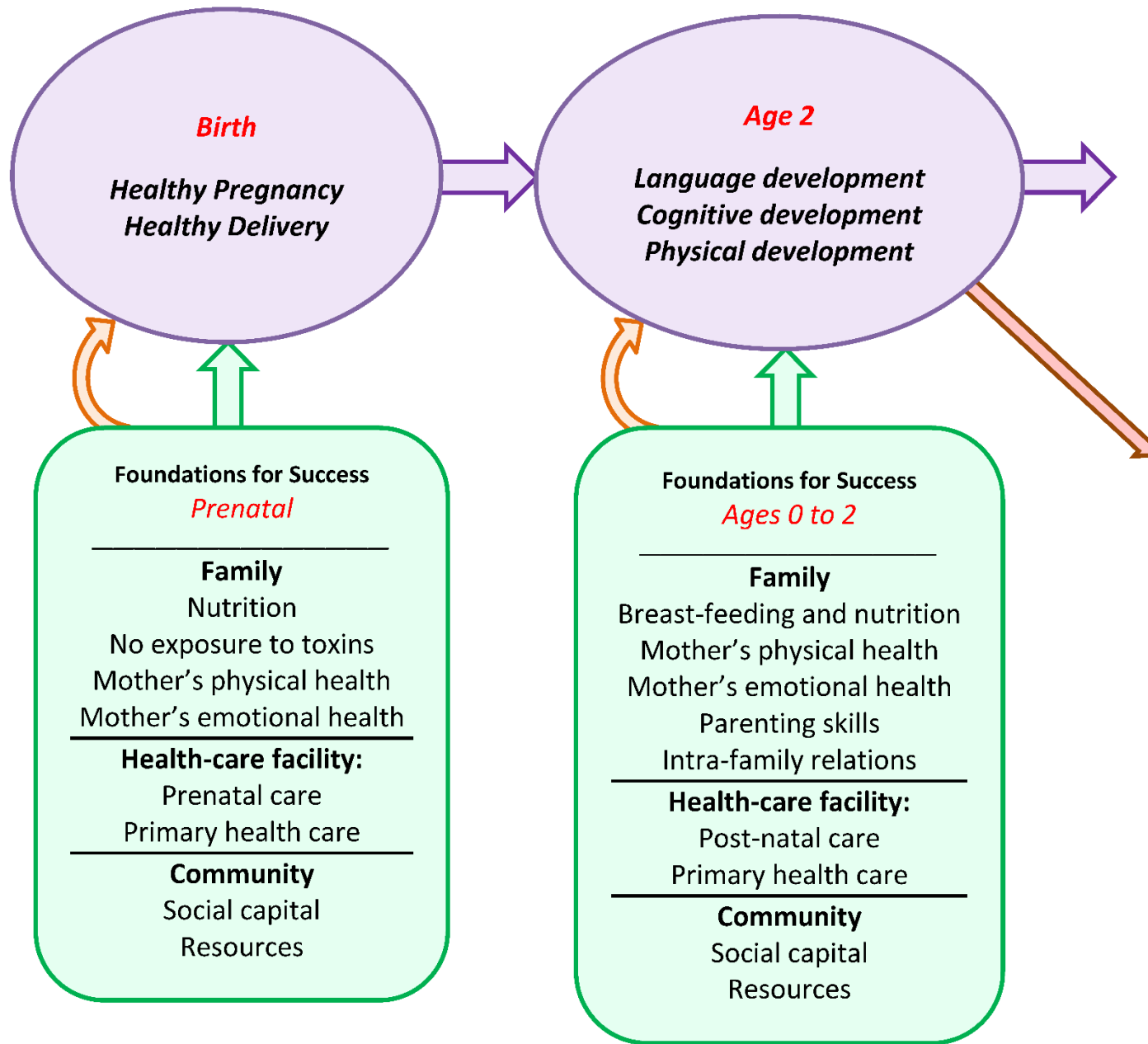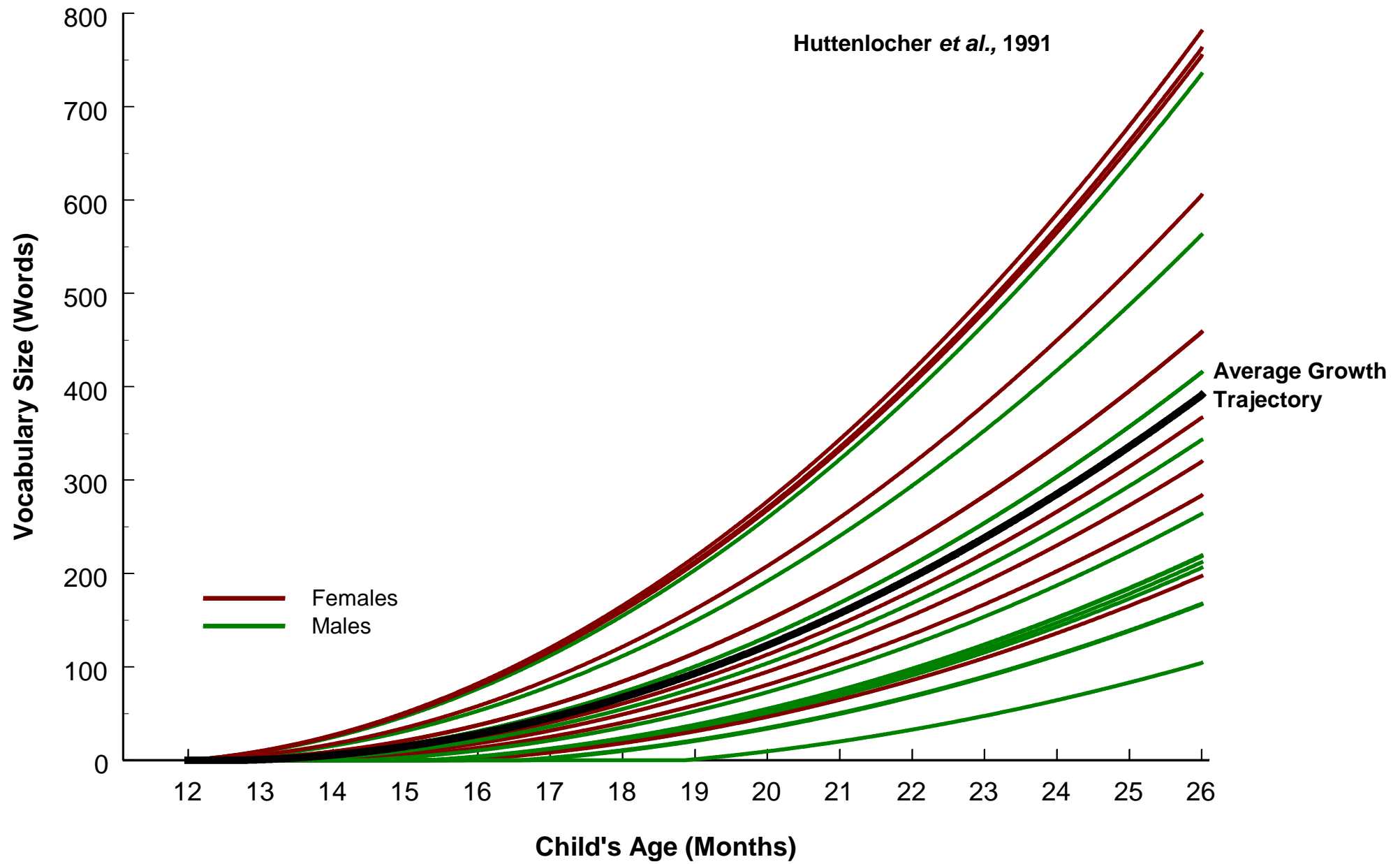
Sensitive Periods in Early Brain Development
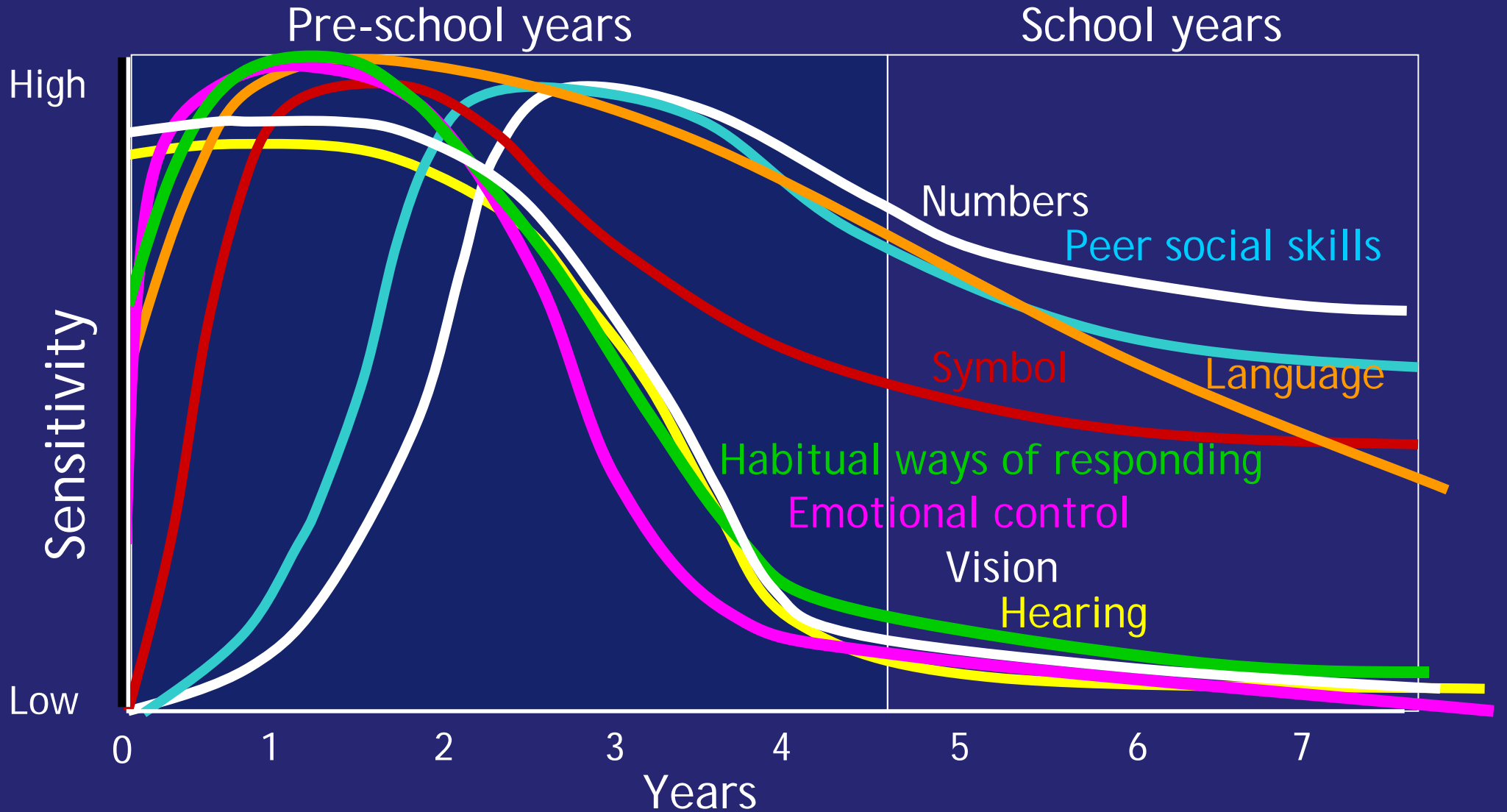
2. Cumulative Development

Children develop their skills in a cumulative process as they make the transition from one stage to the next. The skills they attain at one stage are an asset that they can use to develop skills at the next stage.

For example, children's acquisition of language skills at age 2 is a strong predictor of their pre-literacy skills at age 5.
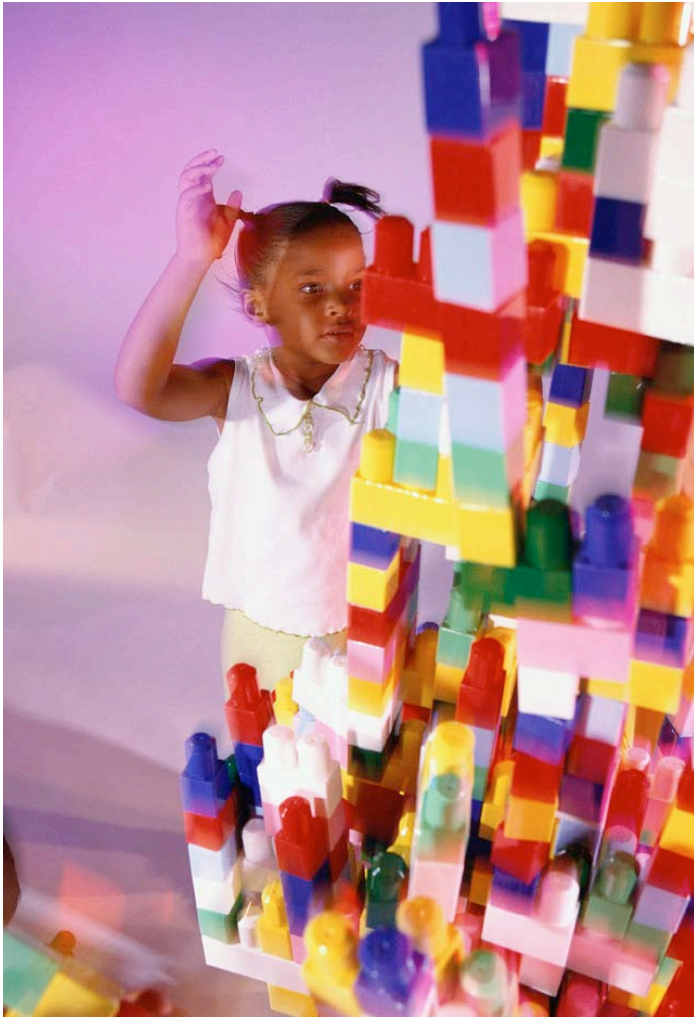
The Early Years Evaluation:
An early warning system

www.earlyyearsevaluation.com

eye
early
years
evaluation

The **EYE** assesses skills in five developmental areas:

• **Awareness of Self and Environment -** a child's understanding of the world and his or her ability to make connections with home and community experiences.

• **Social Skills and Approaches to Learning (EYE-TA only) -** a child's attentiveness during classroom activities and his or her ability to interact with peers while respecting the classroom rules.

• **Cognitive Skills -** a child's basic math and pre-reading skills and his or her ability to solve problems.

• **Language and Communication -** a child's understanding of spoken language and his or her ability to express thoughts and feelings.

• **Physical Development**

    Fine motor - a child's ability to perform small movements that require hand-eye coordination.

    Gross motor - a child's ability to perform large movements that involve arms, legs, and body.

The **EYE** is most often used as part of a transition-to-school program.

The EYE consists of two complementary components:

the *EYE-Direct Assessment (EYE-DA)*; and,
the *EYE-Teacher Assessment (EYE-TA)*.

EYE-TA Individual Child Report

School Name, Teacher Name (Classroom Name)

Your child's classroom teacher has recently completed the Early Years Evaluation-Teacher Assessment (EYE-TA). The EYE-TA enables teachers to determine each child's progress and provide meaningful instruction to meet their needs. The EYE-TA assesses five areas of early learning closely associated with children's success at school.

The results for your child are presented below.

Name: Child Name   **Date of Birth: Jan 1, 2010**

Description of the developmental areas:	Child's results
Awareness of Self and Environment - a child's understanding of the world and his or her ability to make connections with home and community experiences. - for example, a child's ability to: • identify commonly used signs such as stop and exit • understand positional concepts such as front and back • recognize body parts such as their chin and shoulder	▲ (red)
Social Skills and Approaches to Learning - a child's attentiveness during classroom activities and his or her ability to interact with peers while respecting the classroom rules. - for example, a child's ability to: • finish one activity before starting another • take turns in small groups • play well with others	■ (green)
Cognitive Skills - a child's basic math and pre-reading skills and his or her ability to solve problems. - for example, a child's ability to: • name letters and sounds • count numbers and form sets of objects	■ (green)
Language and Communication - a child's understanding of spoken language and his or her ability to express thoughts and feelings. - for example, a child's ability to: • listen to and understand instructions, discussions and stories • use full sentences (5 to 7 words) that others can easily understand • verbalize how they are feeling	■ (green)
Physical Development **Fine motor:** a child's ability to perform small movements that require hand-eye coordination. - for example, a child's ability to: • use crayons, pencils, and scissors **Gross motor:** a child's ability to perform large movements that involve arms, legs, and body. - for example, a child's ability to: • balance, jump and skip	Fine Motor: ▨ (slash) Gross Motor: ● (yellow)

*The language of this report may be different from the language that was used to assess your child.

Explanation of Results

■ This child can achieve the tasks in this developmental area.

● This child is **experiencing some difficulty** in achieving the tasks in this developmental area.

▲ This child is **experiencing significant difficulty** in achieving the tasks in this developmental area.

▨ This child did **not complete** enough tasks in this developmental area to provide a result.

If you would like more information about this assessment, or suggestions for helping your child, we invite you to contact the classroom teacher.

For more information about the EYE, please visit thelearningbar.com.

Test School, Beth Fairbairn (AM)

ᐃᒡᓗᔪᐊᕐᒥ ᐃᓕᓴᐃᔪᓂᒃ ᖁᑎᖅᑕᐅᒃ ᐱᓇᓱᒃᐱᓯᑦ ᐃᓇᓪᓗᐊᕆᔪᖁᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᖅᑐᖕᒪᒍ—ᐃᓕᓴᐅᒍ ᖃᐅᔨᓴᖅᑕᐅᔾᔪ (EYE-TA). ᐃᓕᓴᐅᓯᖅᑐᒃ ᖃᐅᔨᓴᖅᑕᐅᒃᑯᒥᖅᑕᖅᓂᖓ—ᐃᓕᓴᐅᓯᒃ ᖃᐅᔨᓴᖅᑕᐅᒃᑦ ᐱᑕᑎᓂᑭᓯᑦ ᐃᓕᓴᐃᓄᑦ ᓇᓗᓇᐃᖅᓯᓂᑦ ᐊᑐᓂ ᒪᒃᒍ ᐱᑎᕐᑦ ᐱᐊᓐᓇᓂᕐᓂᓐᑦ ᐊᒻᒪᒃ ᐃᓕᓴᐅᑕᑎᑎᑦᖢᖓᑦ ᖃᐅᔨᓴᖅᑕᐅᒃᑯᒥᖅᑕᖅᓂᖓᓐᑦ—ᐃᓕᓴᐅᓯᒃ ᖃᐅᔨᓴᖅᑕᐅᒃᑦ ᖃᐅᔨᓇᔪᖓᓪᒪᒥ ᒃᓴᓃᖅ ᑐᖑᓂᓐᑦ ᐃᓕᓴᐅᓯᖅᑐᒃᓂᓐᑦ ᓰᔭᒃᒍᓐᐊᓐᖓᓐᒃᒃ ᐱᑎᕐᑦ ᐃᓕᓴᒃᓕᕐ ᑐᒃᖑᓖᓄᑦ. ᖁᑎᖅᑕᐅᑦ ᖃᐅᔨᓴᖅᑕᐅᒃᑯᒥᖓᒥ ᐊᓐᓐᒥ ᓐᓂᒃᖃᑕᐅᕐᓕᑎᑦ.

ᐊᑎᖓᒃ: John Lee   **ᐃᓅᕕᐅᒥᖓᒃ: Feb 14, 2010**

	ᓇᓗᓇᐃᖅᓯᒪᓂᕐᒃ ᐱᓕᒃᓯᐊᖑᓂᕐᒃ:	ᐱᑎᕐᑦ ᖃᐅᔨᓴᖅᑕᐅᒃᔾᓐᒥᖓᕐᒃ ᖃᐅᐃᓕᖓᕐᑦ
	ᐅᕃᐱᑎᐃᓂᖓᕐᒃ ᐃᒡᒎᒃ ᐊᒃᓐᒥᑦᓇ	
	— ᐱᑎᕐᑦ ᑐᑭᓯᐅᒪᓐ ᓇᓇᖅᐊᒃᓇᕐ ᐊᒻᒪᒃ ᐊᒃᕐᖑᕐᒃ ᐊᒃᑐᓐᒥᕐᒃ ᓇᓇᖅᐆᓐᑎᒃᕐᓇᓐᒥᕐ.	
	— ᐅᓐᑎᓄ, ᐱᑎᕐᑦ ᐱᕐᖑᓐᒃᓇᕐ ᐃᓕᕐ.ᐊᐃᕐᑦᔪᓄ:	
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	• ᐃᓕᓴᖅᐃᓄ ᓐᓇᕐ ᐃᓇᖑᖃ ᕐᐃᕐᐅ ᑦᒃᖑᒃᕐ ᐊᒻᒪᒃ ᑐᐃᕐᒃ	
	ᐃᔪᒃᖑᖅᐱᖅᐊᑎᐊᖅᓐᒃᖒᕐᒃ ᐊᒻᒪᒃ ᐃᓕᓴᐅᐊᓐᐊᔪᓐᒃᕐᒃ	
	— ᐱᑎᕐᑦ ᐅᕃᐱᑎᐃᖅᐊᒃᓇᕐᖃ ᐃᓕᒡᑎᕐᑦ ᖃᒃᐃᐅᑐᐅᖅᓐᒃᖓᓐᑦᒃᓐᒃ ᐊᒻᒪᒃ ᐃᓕᓴᐅᖅᑫᖅᓐᒃᕐᖃ ᐃᔪᒃᖑᖅᐱᖅᐊᑎᐊᖅᓐᒃᖒᕐᖃ ᐃᖅᐊᔪᐃᐊᐃᖅᖑᖅᒃᐊᖓ ᓇᒪᓐᖑᖅᓇᓐ ᐊᑎᖅᕐᑦ.	
	— ᐅᓐᑎᓄ, ᐱᑎᕐᑦ ᐊᕐᓂᖑᖅᓇᓐ ᐃᓕᒃᐊᐃᖅᕐᖓᓄ:	
	• ᐃᓕ.ᓐᖅᓇᒃ ᖃᒃᐆᐃᑐᓐᒃᐅᐊᒃᕐᓇ ᐊᕐᐃᖅᓐ ᑎᒃᕐᐃᕐᑎᐃᖅᐱᐊᕐᓐᒃ.ᖒ.	NOT COMPLETE
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	ᐃᔪᒃᑎᐃᖅᓐᒃᐅᑎᐊᖅᓐᒃᕐᒃ	
	— ᐱᑎᕐᑦ ᑐᑭᐃᖅᑫᓐᐊᖅᓇ ᐅᖅᖃᔪᕐᒃᖒᕐᖃ ᐊᒻᒪᒃ ᐃᔪᐃᕐᓇᖅᓇᕐᖃ ᐃᖅ.ᐃᐊᖑᐊᒃᐅᓐᐊᖅᒍ ᐅᖅᑎᕐᒃᑕᖅᐱᐊᐊᖅᓇ.	
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	• ᐊᕐᑎᓄᑦ ᓐᓇᖅᑎᕐᑎᖃ ᑖᑐᑦᐊᒃᖒᕐᖒ	NOT COMPLETE
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	ᐅᖅᑎᕐᒃᑦᒃ ᐊᒻᒪᒃ ᐅᖅᑲᖅᓐᒃᐃᐊᖅᖒᖅᓐᒃ	
	— ᐱᑎᕐᑦ ᑐᑭᐃᖅᑫᓐᐊᖅᓇ ᐅᖅᖃᔪᕐᒃᖒᕐᖃ ᐊᒻᒪᒃ ᐃᔪᐃᕐᓇᖅᓇᕐᖃ ᐃᖅ.ᐃᐊᖑᐊᒃᐅᓐᐊᖅᒍ ᐅᖅᑎᕐᒃᑕᖅᐱᐊᐊᖅᓇ.	
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	• ᐅᖅᑎᕐᒃᑕᖅᐱᐊᐊᖅᓇᖑᓄ ᐃᖅ.ᐃᐊᖑᖅᑎᕐᖒᕐᖃ	

	ᓐᑎᕐᑦ ᐱᓕᒃᓇᐊᖅᓇᒃ	ᐊᐅᑎᓚᔪᒃᓇ ᐊᐅᑎᔪᖑᐅᓐᑎ
	ᐊᐅᑎᖅᐅᐊᔪᒃᖅᓇᒃ: ᐱᑎᕐᑦ ᒥᕐᑐᕐᑦ ᐊᐅᑎᖑᖒᖅᓇᒃ ᐊᕐᓐᑭᐅᕐᑦ ᐊᑐᐊᑎᐅᕐᑦ ᑎᑯᖒᐊ ᓕᐃᒃᖒᒃᕐ. ᐅᓐᑎᓄ, ᐱᑎᕐᑦ ᐊᕐᓂᖑᖅᓇᓐ ᐃᓕᒃᐊᐃᖅᑎᖑᕐᖒ:	ᐊ ᓇᖑᕐᑦ | ᐊ ᖅᖑᕐᑦ
	• ᐊᒃᕐᐊᑎᓄᑦ ᐊᑐᒃᓄ, ᓐᓇᕐᑎᓄ, ᐊᕐᐃᖅᐱᖅᐅᖒ	NOT COMPLETE | NOT COMPLETE
	ᐊᐅᑎᕐᖅᖅᐊᓐᐊᐊᖅᓇᒃ: ᐱᑎᕐᑦ ᐅᔪᖒᖒᐊᓐᐊᖅᓇᒃ ᑕᐅᖅᖒᕐᖃ, ᓇᐅᖅᖒᕐᖃ, ᐊᒻᒪᒃ ᓐᑎᕐᒃ ᐊᑐᔪᖑᕐᑦ.	
	— ᐅᓐᑎᓄ, ᐱᑎᕐᑦ ᐊᕐᓂᖑᖅᓇᓐ ᐃᓕᒃᐊᐃᖅᑎᕐᐊᖅᓇᒃ:	
	• ᐅᖅᐲᑕᐃᐊᖒᖅᓇ, ᖅᐃᖅᐱᖅᐊᖑᖅᒍ ᐊᒻᒪᒃ ᐅᐊᒃᖒᖅᑦᑎᖑᖅᐱᐊᖑᖅᒍ	

ᓇᓇᐃᒃᑎᐃᖅᓇᓐᖑᕐᑦ ᓲᖅᐱᖅᖒᑐ ᖃᐅᔨᓴᐃᓇᕐᖃᒃ

🟩 ᖃᒃᓕᑐᖅᑦᒃ ᐱᓕᒃᓇᐊᖅᑎᖑ - ᖁᑎᖑᖅᕐᐃᑦ ᐱᓕᒃᓇᐊᖅᓇᒃ ᑕᓐᖒᖒ ᐊᕐᓇᕐᐊᒃᓇᓐᑦ ᐱᑎᕐᖒᒃᓐᑦ ᐊᕐᐊᑦᖒᒃᓇᓐᑦ ᐅᐱᐱᒃᓇᐊᓐᑎᖒ ᓇᖑᔪᖅᓇᖅᓇᖅᑦᑦᒃ.

🟡 ᐊᕐᐃᖒᖒᓐᑕᕐᑭᒃᒃᔪᖒᕐᒃ - ᖁᑎᖑᖅᕐᐃᑦ ᐅᑐᖒᖒᕐᖒ ᓕᖑᖑᓐᑎᐅᖒᕐᖒᓐᖒᖒᐊ ᐊᕐᐃᒃᑐᐅᐅᓐᑕᖒᖒᑦ.

🔺 ᐊᕐᐃᖒᖒᓐᑕᖒᒃᐊᐃᓐᐊᔪᖑᐊᖅᖒ - ᖁᑎᖑᖅᕐᐃᑦ ᐊᕐᖒᖒᖒᐊᐃᖒᖒᐅᑐᖒᐅᓐᒃᖒᖒᖒ ᓕᖑᖑᓐᑎᐅᖒᖒᐅᓐᖒᖒᐊᖒᖒᖒᑐᖒ ᐅᑐᖒᐊᖒᖒᓐᑦ, ᐊᒻᒪᒃ ᖃᐅᔨᓴᖅᑕᐅᖒᖒᐊᓐᐊᖒᖒᖒᖒᖒᖒᑐᖒᐅᑐᐅᐊᒃᓇᓐ ᐊᒻᒪᒃ ᐊᐅᑎᖒᑦᒃᖒᖒᒃᖒᓐᖒ.

🔲 ᐱᓕᒃᓇᐊᔪᖒᐊᐅᖅᑎᑕᕐ - ᖁᑎᖑᖅᕐᐃᑦ ᐱᓕᒃᓇᐊᔪᖒᔪᖅᖒᖒᐊᔪᖒᐊᖒᖒᖒ ᖃᐅᔨᐊᖅᐱᖒᖒᐊ ᖃᐅᐃᓕᐊᖒᖒᐊ ᖃᐅᔨᐅᐅᔪᖒᐊᖒ.

EYE for RTI

A prediction model based
on longitudinal data

The prediction equation is based on a logistic regression model of the form

$$\Pr\,(Y = 1 | X) = \frac{1}{1 + \exp(-Z)}$$

where $\quad Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_5 X_5$

$Z = \beta_0 + 1.00 \ast$ Cognitive Skills +

$\qquad$ 0.75 * Language and Communication +

$\qquad$ 0.25 * Fine Motor Skills +

$\qquad$ 0.20 * Awareness of Self and Environment +

$\qquad$ 0.15 * Social Skills and Approaches to Learning.

Tier 1

Tier 2

Tier 3

Number of children

1,500

1,000

500

0

.00   .20   .40   .60   .80   1.00

Probability of becoming a successful reader
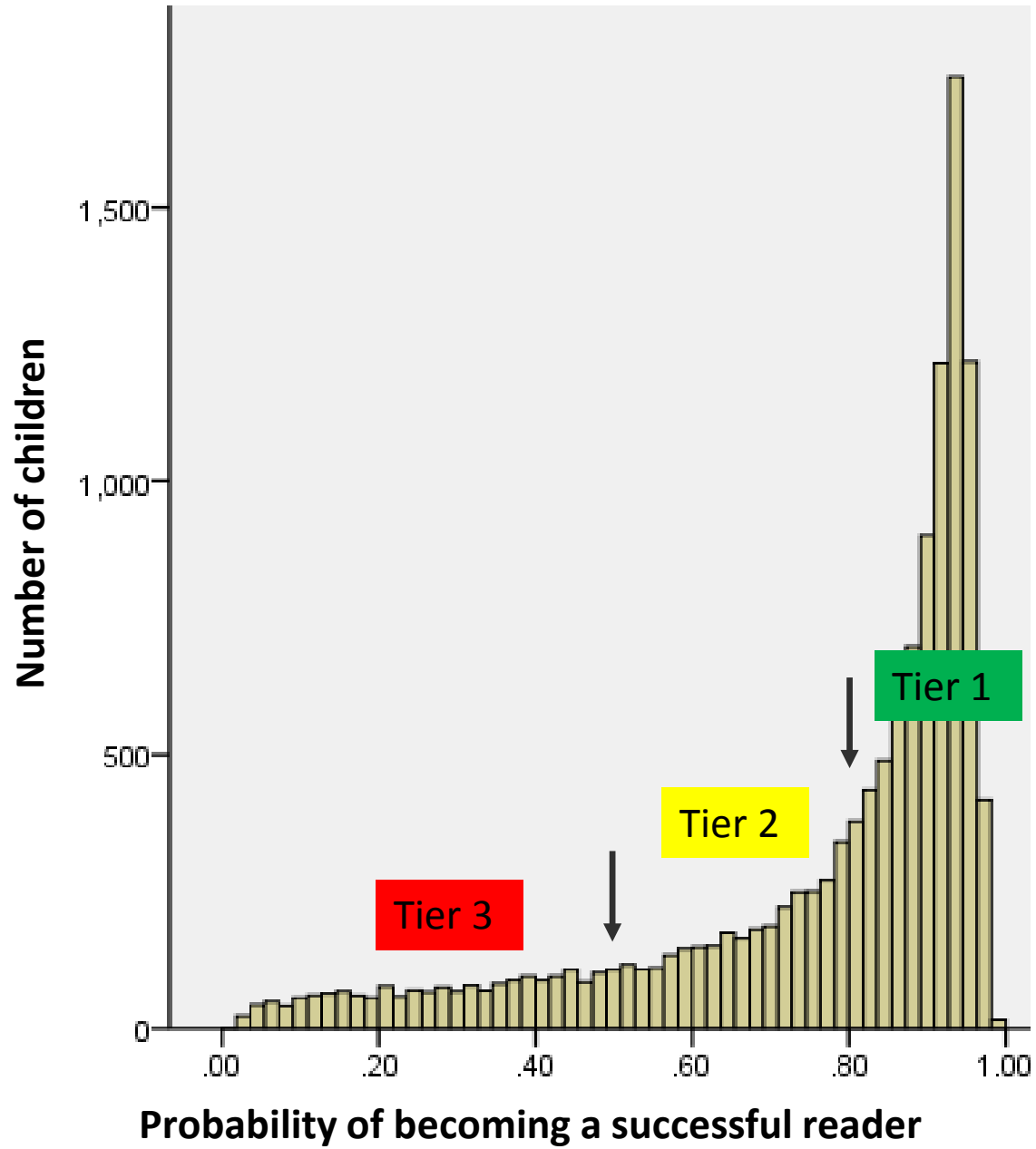
3. Foundations for Success

In addition to the effects that are biologically embedded, children's outcomes are directly affected by the foundations for success at each stage of development.
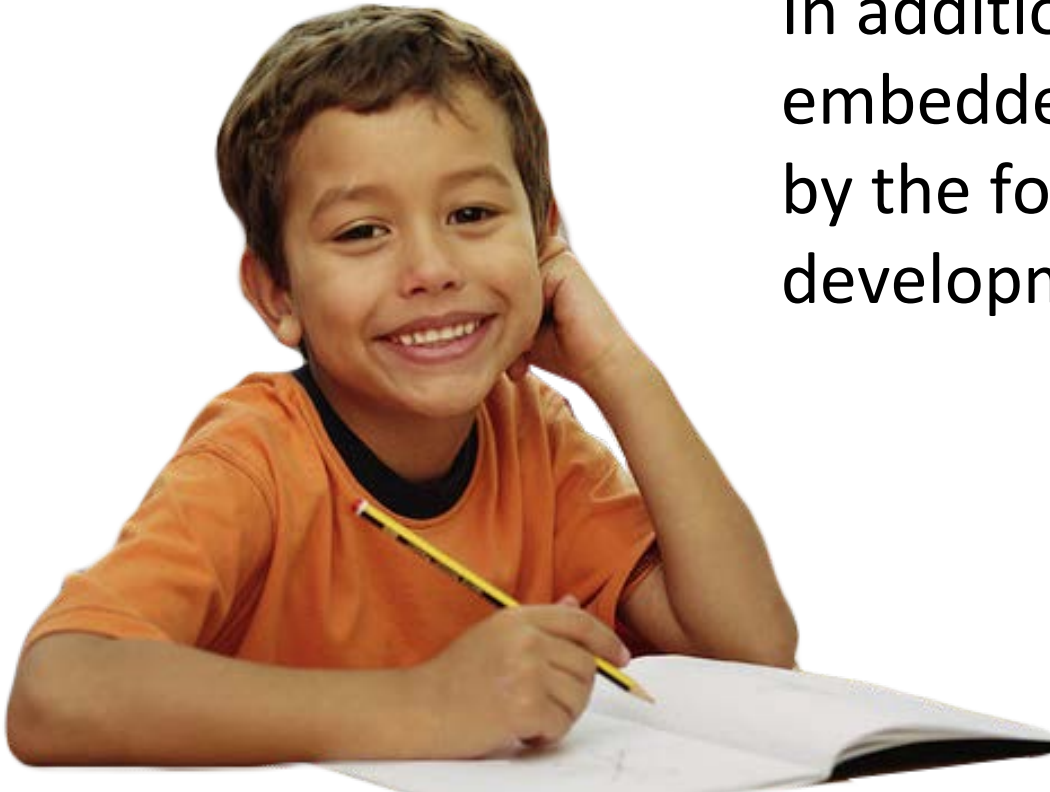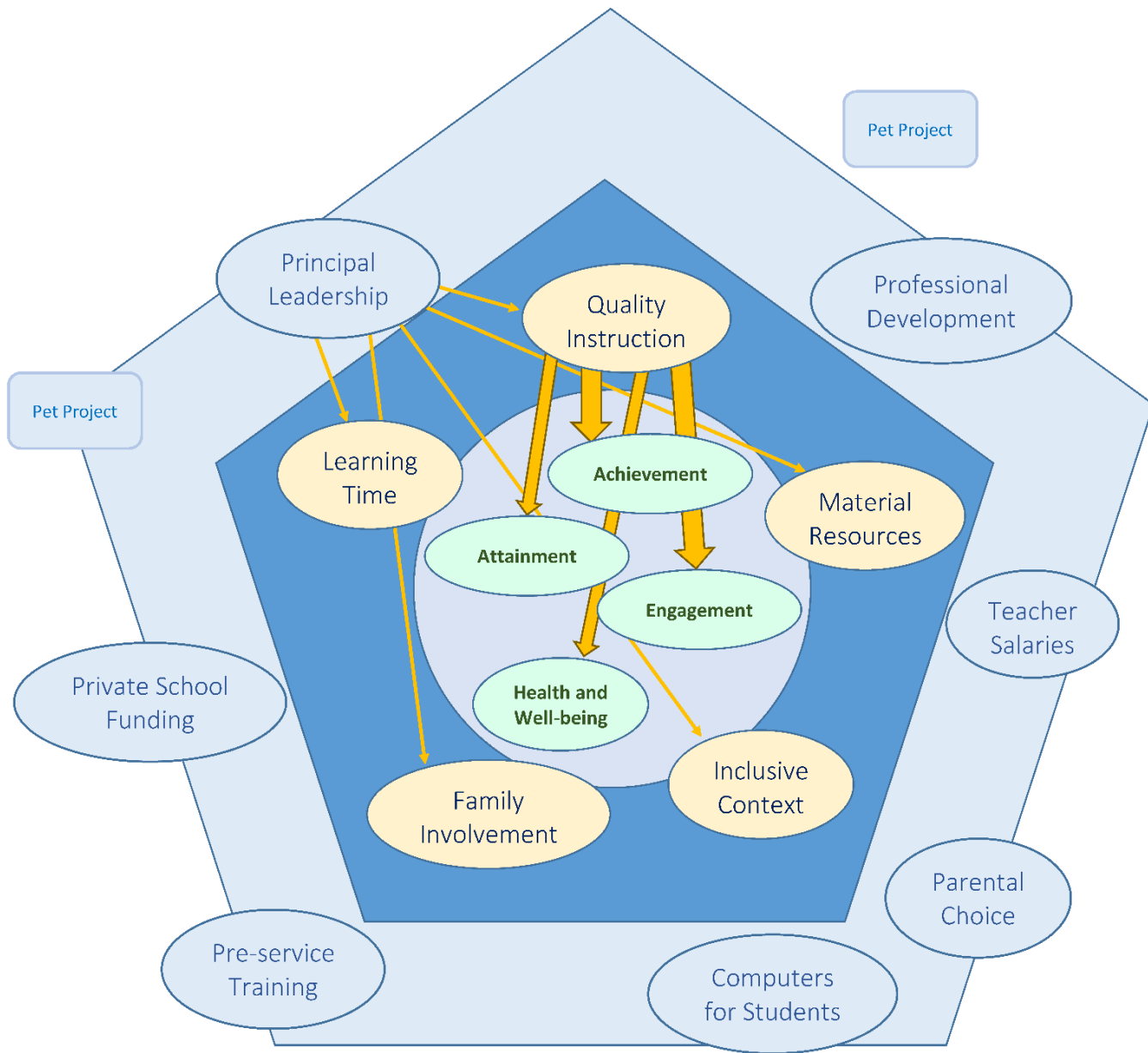
Foundations for Success factors are:

Potent (strong effects on outcomes)

Pervasive (affect a range of outcomes)

Proximal (has a direct effect on the outcomes)
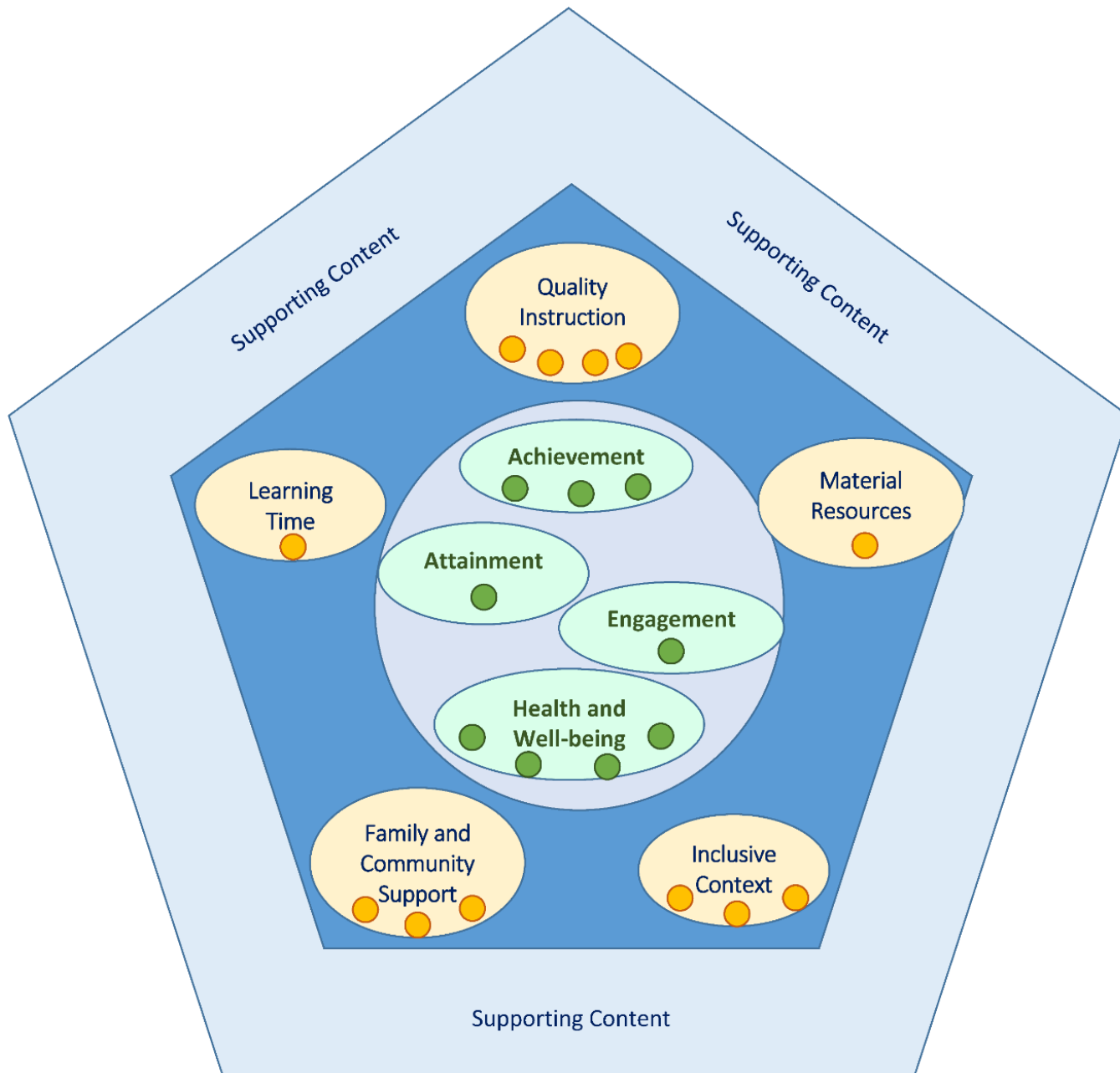
Educational Prosperity for
PISA for Development:
The "Minister's Dashboard"

Age 5

Awareness of self and environment
Language development
Cognitive development
Physical development
Social Skills

Age 8

Reading literacy
Numeracy
Health and Well-being
Engagement

Foundations for Success
Ages 3 to 5
_____

Family
Parenting skills
Intra-family relations
Family Involvement

Pre-Schools:
Child Centered
Goal Oriented
Opportunities to Socialize

Community
Social capital
Resources

Foundations for Success
Ages 6 to 8
_____

Family
Parenting skills
Intra-family relations
Family Involvement

Schools:
Explicit teaching in code-related skills and language skills
Inclusive Context
Learning Time
Material Resources

Community
Social capital
Resources

Confident Learners

A Whole-School Literacy Program for Indigenous On-Reserve Schools

Initially developed at the Canadian Research Institute for Social Policy and now with The Learning Bar in partnership with 32 First Nations.

Funded by Indigenous and Northern Affairs Canada

Project Goal

Confident Learners is an initiative that brings to bear the **science of learning how to read**, a **rigorous curriculum** aligned with **teaching activities** and **assessments**, quality **professional development**, and the support of **communities and families** to ensure Indigenous children become fluent readers.
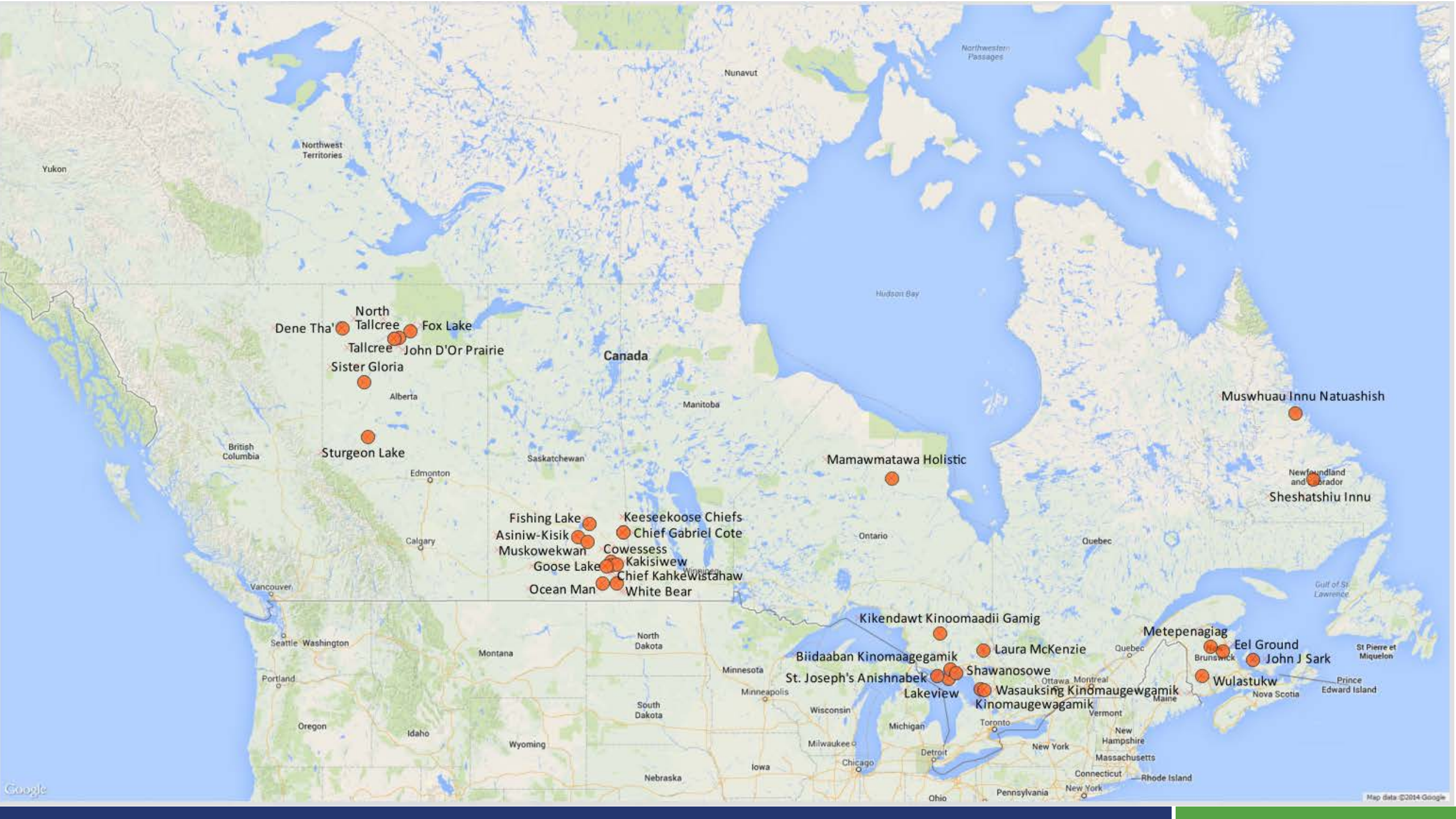
The simple view of reading

'**The simple view of reading**' (Rose, 2006) has two critical, complementary dimensions:

- *Code-related skills* – the ability to 'decode' (sound out) and recognize particular words, and

- *Language skills* – being able to understand and interpret spoken and written language.
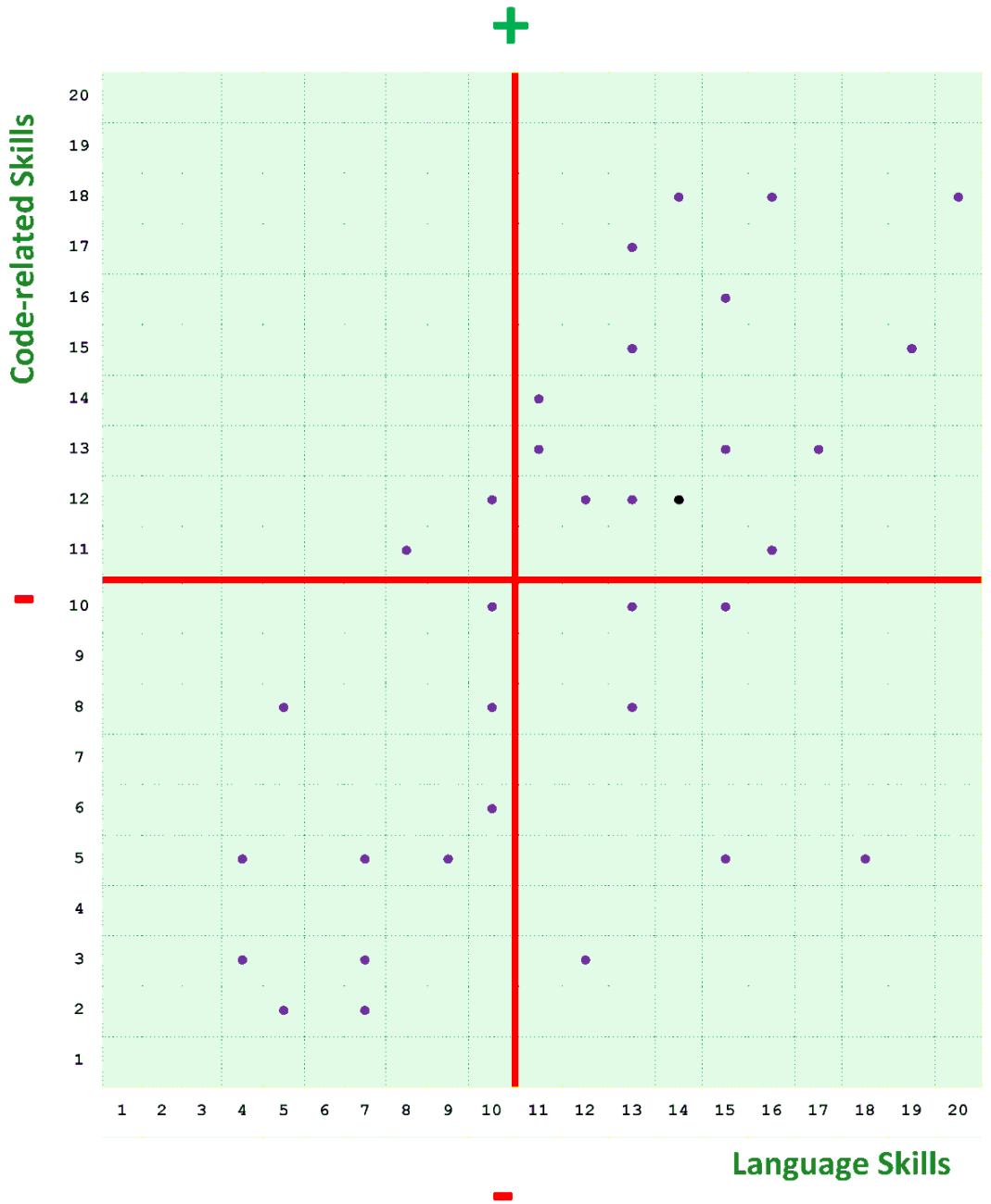
A Deficit Approach
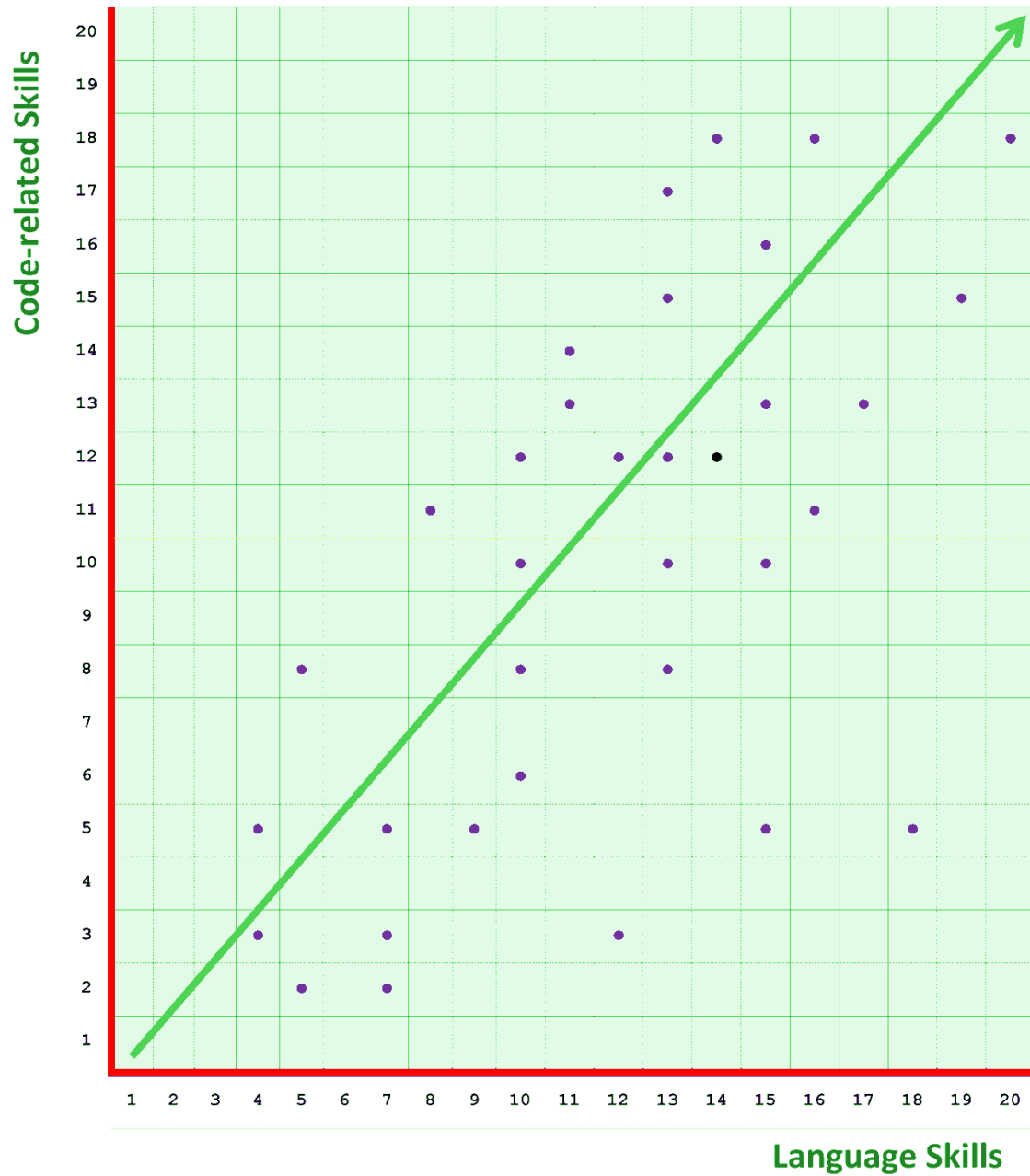
A Pathway Approach

Code-Related Skills

Concepts About Print

Phonological Awareness

Letter Knowledge

Reading Fluency

Supra-Phonemic Awareness (Large Units)

Phonemic Awareness (Small units)

Accuracy: Word Decoding and Spelling

Accuracy: Word Recognition and Spelling

Speed and Prosody

The Reading Mountain

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
31												19								
30												18								
29									7			17								
28							8		6			16								
27						6	7		5			40								
26						5	13	2	4			39								
25						5	12	1	3	11	15	38								
24						4	11	10	16	10	14	37								
23						3	10	9	15	9	13	36								
22						22	9	25	14	8	12	35								
21						21	8	24	13	22	30	34								
20						20	7	23	12	21	29	33								
19						19	6	22	11	20	28	32								
18						18	32	21	37	19	27	31								
17					4	17	31	20	36	18	26	74								
16				2	12	16	30	19	35	17	25	73								
15			3	2	11	15	29	18	34	49	24	72	24							
14			2	26	10	14	28	17	33	48	23	71	23	28						
13			1	25	9	13	27	16	32	47	61	70	22	27						
12			14	24	8	36	26	15	31	46	60	69	21	26	32					52
11			13	23	7	35	25	14	30	45	59	68	20	25	31					51
10			12	22	6	34	24	39	29	44	58	67	46	52	30	36		44	48	50
9			11	21	5	33	23	38	28	43	57	66	45	51	29	35	40	43	47	49
8			10	20	4	32	42	37	27	42	56	65	44	50	56	34	39	42	46	87
7	1	1	9	19	3	20	41	36	26	41	55	64	43	49	55	33	38	41	45	86
6	3	7	8	18	31	19	40	35	40	40	54	63	42	48	54	62	37	73	79	85
5	2	6	10	17	30	18	39	34	46	39	53	62	41	47	53	61	67	72	78	84
4	1	5	9	16	29	17	38	33	45	38	52	47	78	82	86	60	66	71	77	83
3	3	4	8	15	28	16	37	44	26	41	51	32	77	81	85	59	65	70	76	82
2	2	5	7	12	27	15	22	43	25	28	50	31	76	80	84	58	64	69	75	81
1	1	4	6	11	13	14	21	23	24	27	29	30	75	79	83	57	63	68	74	80

Kindergarten (1–5)	Grade 1 (6–10)	Grade 2 (11–15)	Grade 3 (16–20)

Code-Related Skills		
Concepts about print	22
Phonological Awareness – Supra-Phonemic Awareness	25
Phonological Awareness – Phonemic Awareness	19
Letter Knowledge	23
Fluency – Word Decoding and Spelling	86
Fluency – Word Recognition and Spelling	78
Fluency – Speed & Prosody	27

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
14	1	1	2	2	4	5	6	1	3	5	8	10	12	14	17	19	21	23	25	27
13	5	17	1	7	3	4	5	8	2	4	7	9	11	13	16	18	20	22	24	26
12	4	16	28	6	13	3	15	7	10	16	6	24	26	32	15	42	50	58	66	78
11	3	15	27	5	12	20	14	25	9	15	18	23	25	31	36	41	49	57	65	77
10	2	14	26	4	11	19	13	24	31	14	17	22	56	30	35	40	48	56	64	76
9	1	13	25	3	10	18	12	23	30	13	44	21	55	29	34	39	47	55	63	75
8	8	12	24	2	9	17	11	22	29	12	43	20	54	28	33	38	46	54	62	74
7	7	11	23	34	8	16	10	21	28	11	42	19	53	27	68	37	45	53	61	73
6	6	10	22	33	39	15	9	20	27	35	41	48	52	62	67	74	44	52	60	72
5	5	9	21	32	38	14	8	19	26	34	40	47	51	61	66	73	43	51	59	71
4	4	8	20	31	37	43	7	18	22	33	39	46	50	60	65	72	78	82	86	70
3	3	7	19	30	36	42	6	17	16	32	38	45	49	59	64	71	77	81	85	69
2	2	6	18	29	35	41	21	16	15	23	37	19	21	58	63	70	76	80	84	68
1	1	9	10	11	12	40	44	13	14	17	36	18	20	57	22	69	75	79	83	67
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**

Code-Related Skills		
	Concepts about print	22
	Phonological Awareness – Supra-Phonemic Awareness	25
	Phonological Awareness – Phonemic Awareness	19
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	Fluency – Word Recognition and Spelling	78
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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
14	5	10	15	20	22	27	32	36	41	44	2	5	12	17	27	32	39	44	50	57
13	4	9	14	19	21	26	31	35	40	43	1	4	11	16	26	31	38	43	49	56
12	3	8	13	18	22	25	30	34	39	42	49	3	10	15	25	30	37	42	48	55
11	2	7	12	17	21	24	29	33	38	40	48	54	9	14	24	29	36	41	47	54
10	1	6	11	16	20	23	28	33	37	39	47	53	8	13	23	28	35	40	46	53
9	5	10	13	18	19	26	29	32	36	38	46	52	7	57	22	58	34	60	45	52
8	4	9	12	17	26	25	28	31	35	37	45	51	6	56	21	46	33	48	61	51
7	3	8	11	16	25	24	27	30	34	56	41	50	55	78	20	45	59	100	50	63
6	2	7	14	15	24	23	37	43	49	55	62	42	44	77	19	88	47	99	49	62
5	1	6	13	14	23	31	36	42	48	54	61	67	43	76	18	87	93	98	105	110
4	4	8	12	18	22	30	35	41	47	53	60	66	71	75	82	86	92	97	104	109
3	3	7	11	17	21	29	34	40	46	52	59	65	70	74	81	85	91	96	103	108
2	2	6	10	16	20	28	33	39	45	51	58	64	69	73	80	84	90	95	102	107
1	1	5	9	15	19	27	32	38	44	50	57	63	68	72	79	83	89	94	101	106

| Language Skills		
	Vocabulary	110
	Receptive Language	50
	Expressive Language	63
	Written Language	57

A Modular Approach for Teaching

Children's progress on the two pathways has been facilitated by the development of 40 "instructional modules," 20 for code-related skills and 20 for language skills. Each module is linked to "learning activity sets" that teachers can use to plan their daily lessons.
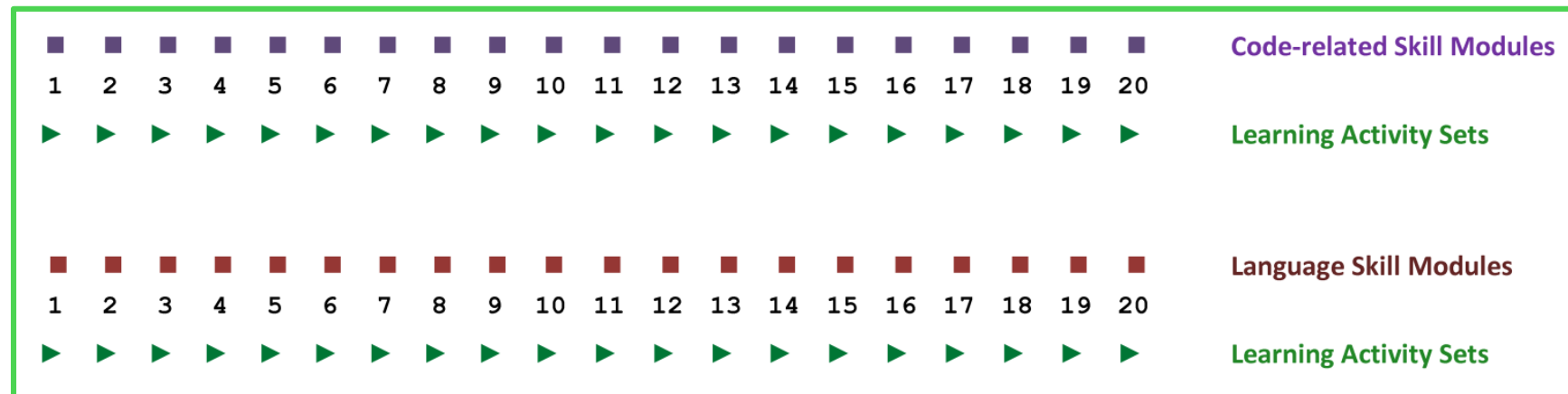
Each learning activity set includes a variety of activities that can be carried out with a whole class, in small groups, or one-on-one with a teaching aide/volunteer. The learning activity sets are being developed in cooperation with the teachers and principals in our participating schools.

Mathematics Scores

Child's age
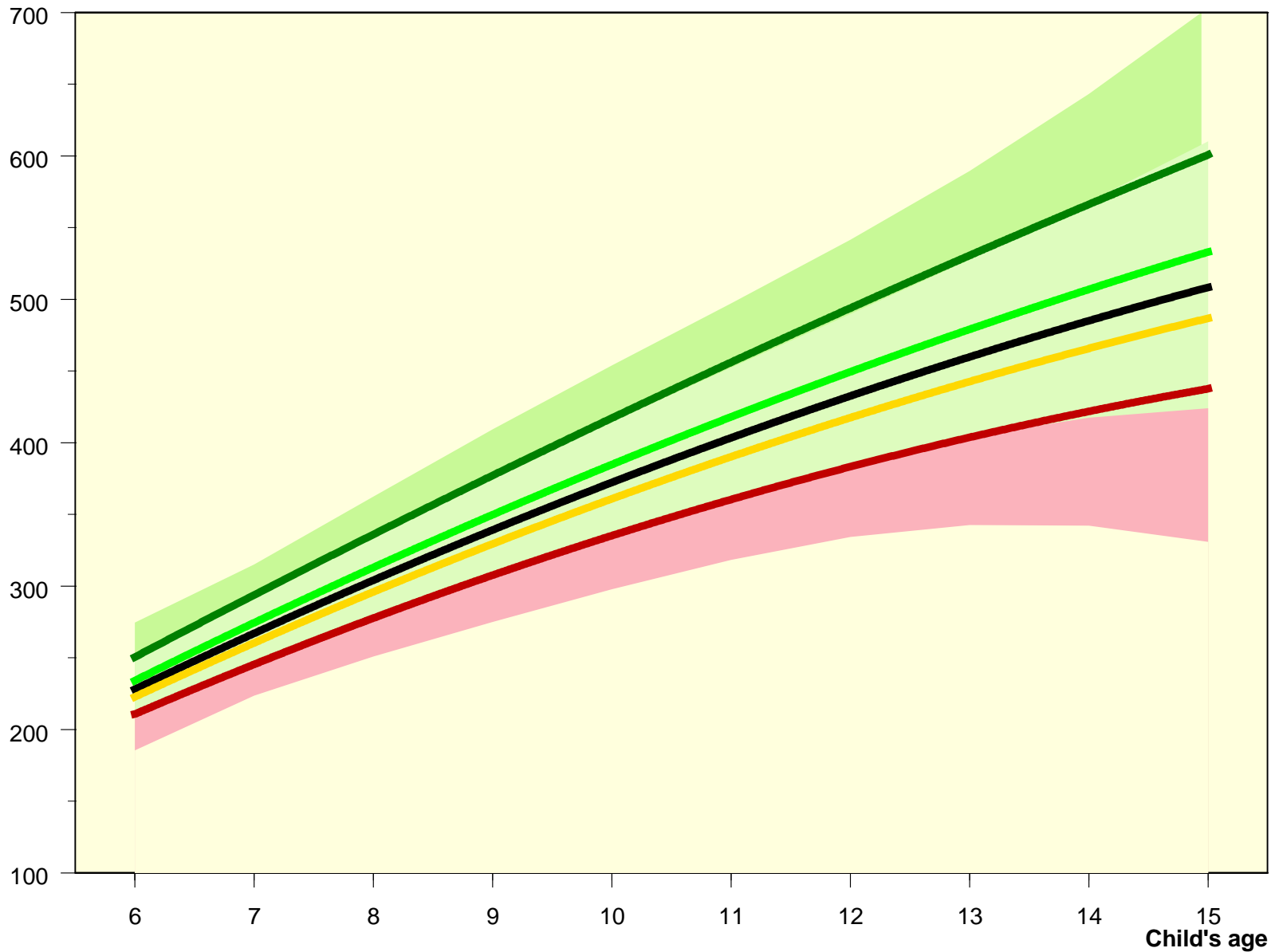
Growth trajectories for mathematics, by age 8 performace quintile

Building Success with Quality Instruction

Figure III-9. Quality instruction, by sex and grade
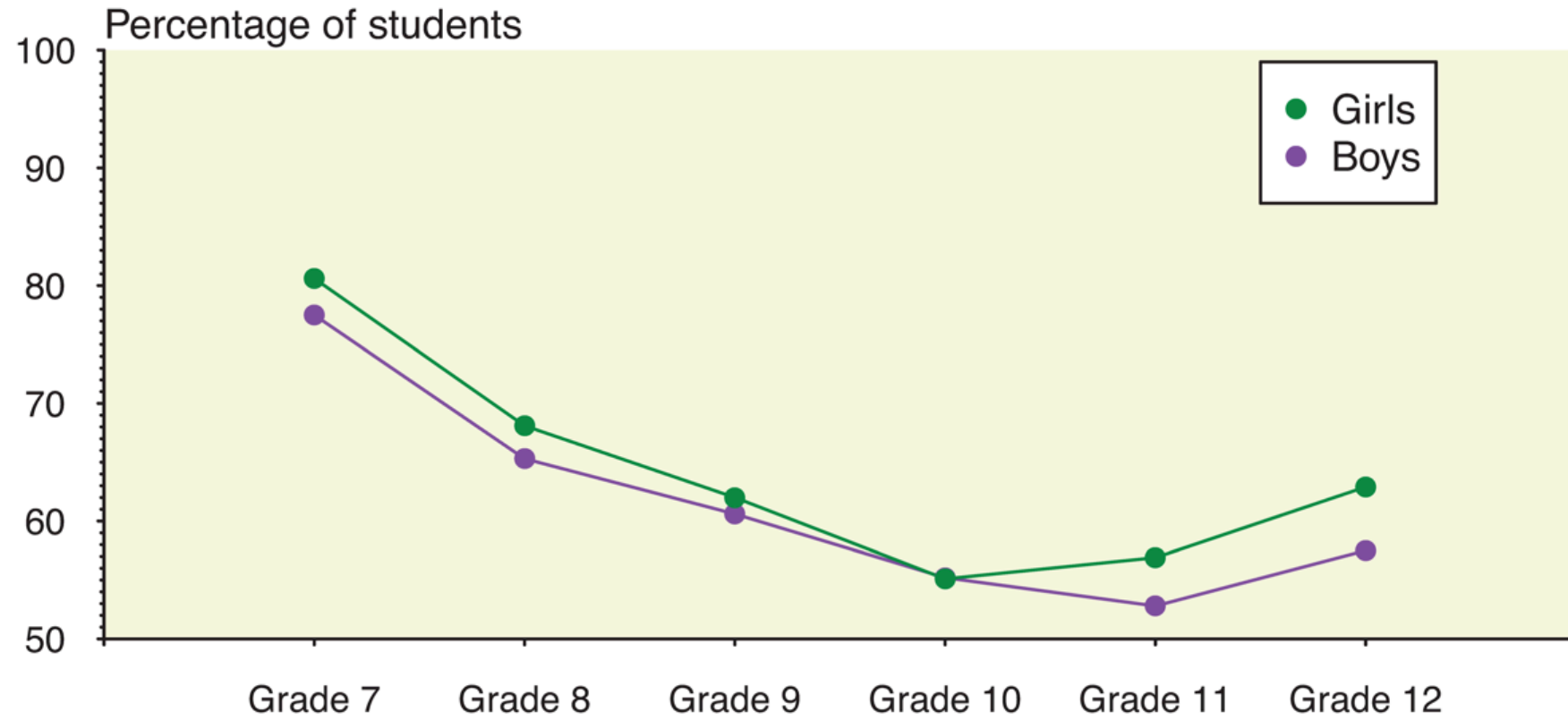
Figure III-4. Values schooling outcomes, by sex and grade
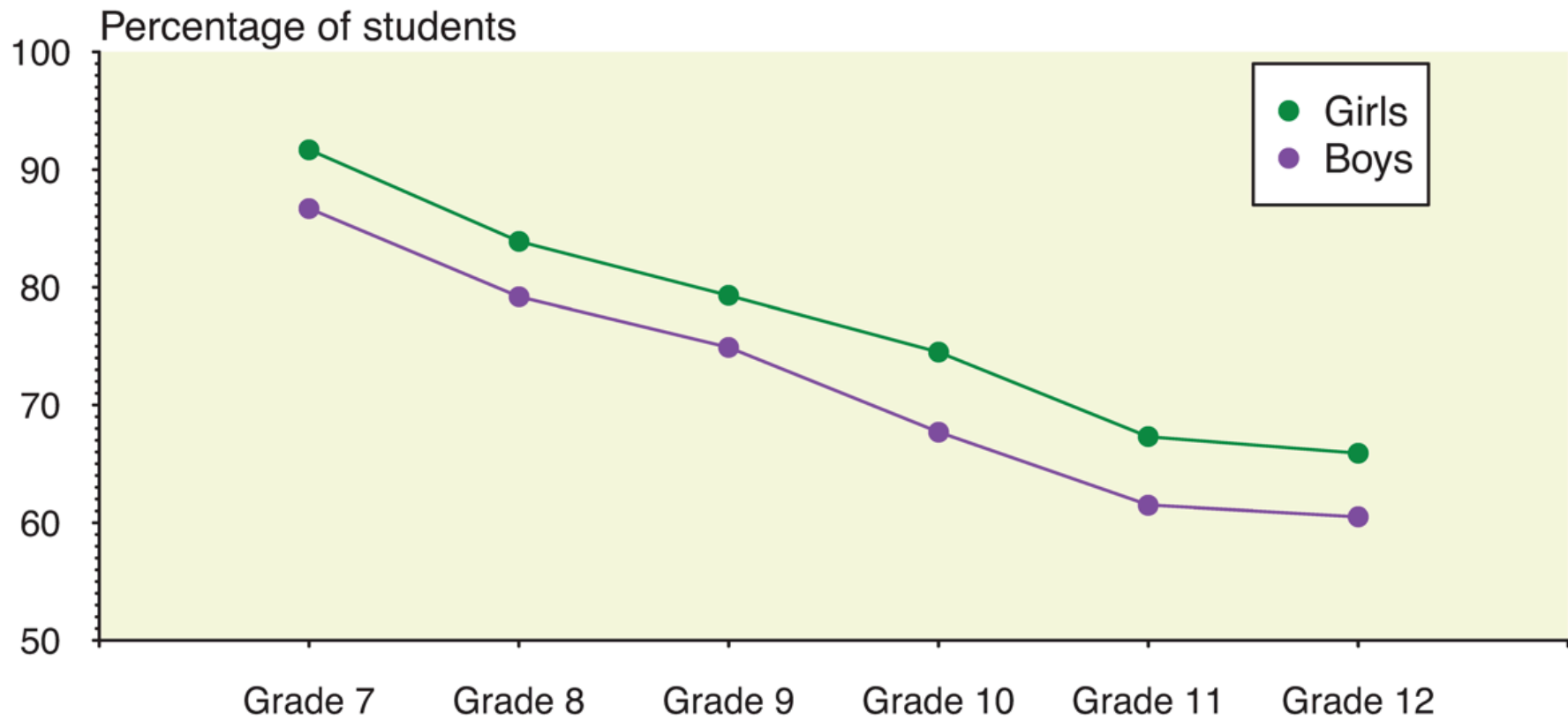
Effective learning time - secondary
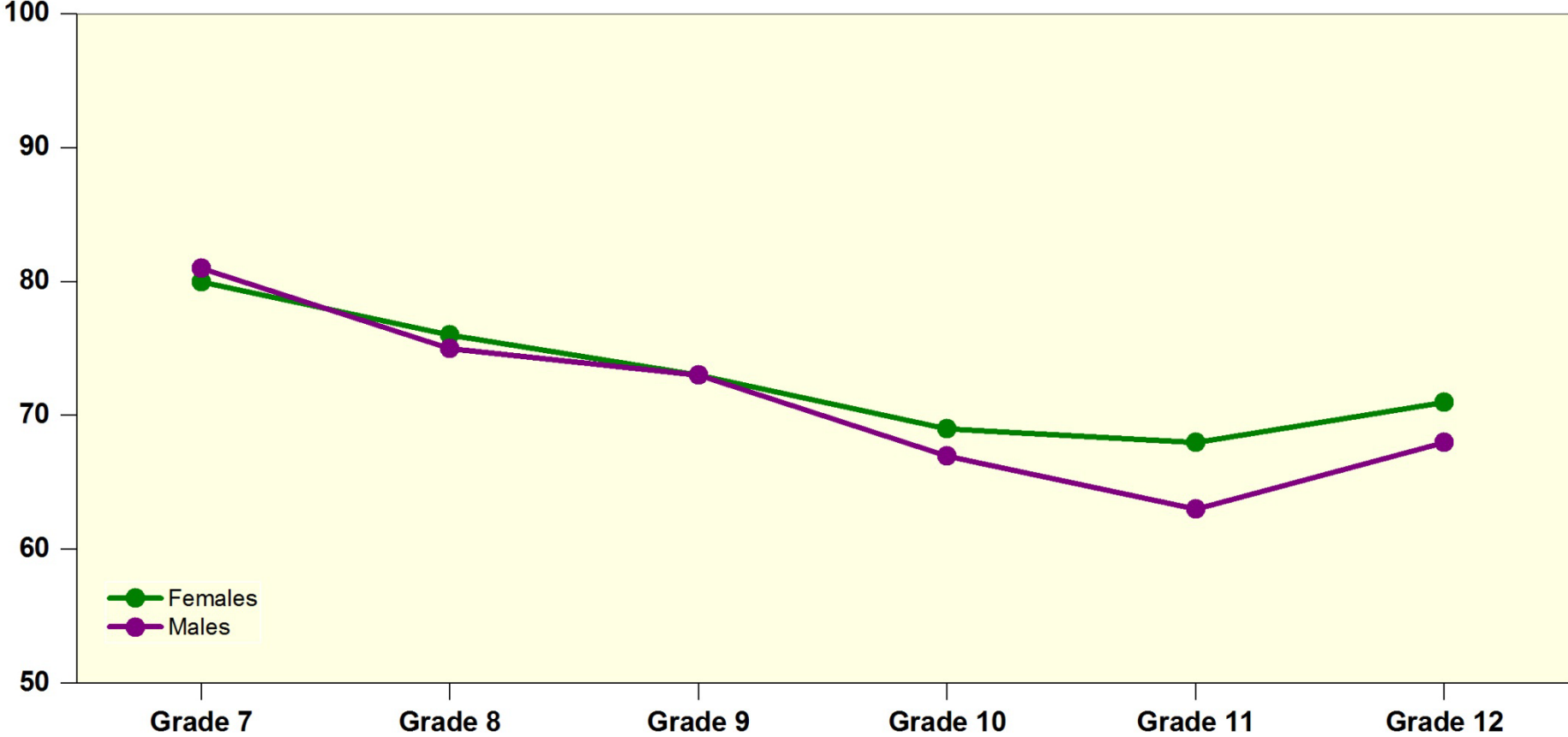
Personal Assets related to school completion

Demographic

Academic

Engagement

- Social

- Institutional

- Intellectual

Mental Health

Learning Climate

School Completion:
Five Types of Students

Engaged

Disconnected

Disengaged

Struggling

Alienated

	Engaged	Dis-connected	Dis-Engaged	Struggling	Alienated
Grades	8.6	8.1	7.9	4.3	5.0
Social Engagement	6.8	5.1	5.3	5.4	3.8
Institutional Engagement	8.3	7.5	7.0	6.3	5.5
Intellectual Engagement	7.6	6.7	5.5	4.3	3.8
Mental Health	8.8	4.6	8.5	8.3	3.1
Percentage of Students	32	17	25	17	9
Probability of Completion	93%	82%	79%	61%	45%

4. Selection

When students are successful at one stage of development, their life-course can be altered if they are selected into certain classes, school programs or schools.

For example, children who have strong reading and language skills are more likely to be streamed into classes or school programs where they benefit from positive peer interactions, a higher quality of instruction, and other factors that enable them to develop their skills at a faster pace.

Children who experience learning difficulties at a particular stage are more likely to be streamed into lower ability classes and have less access to the factors that improve their skills.
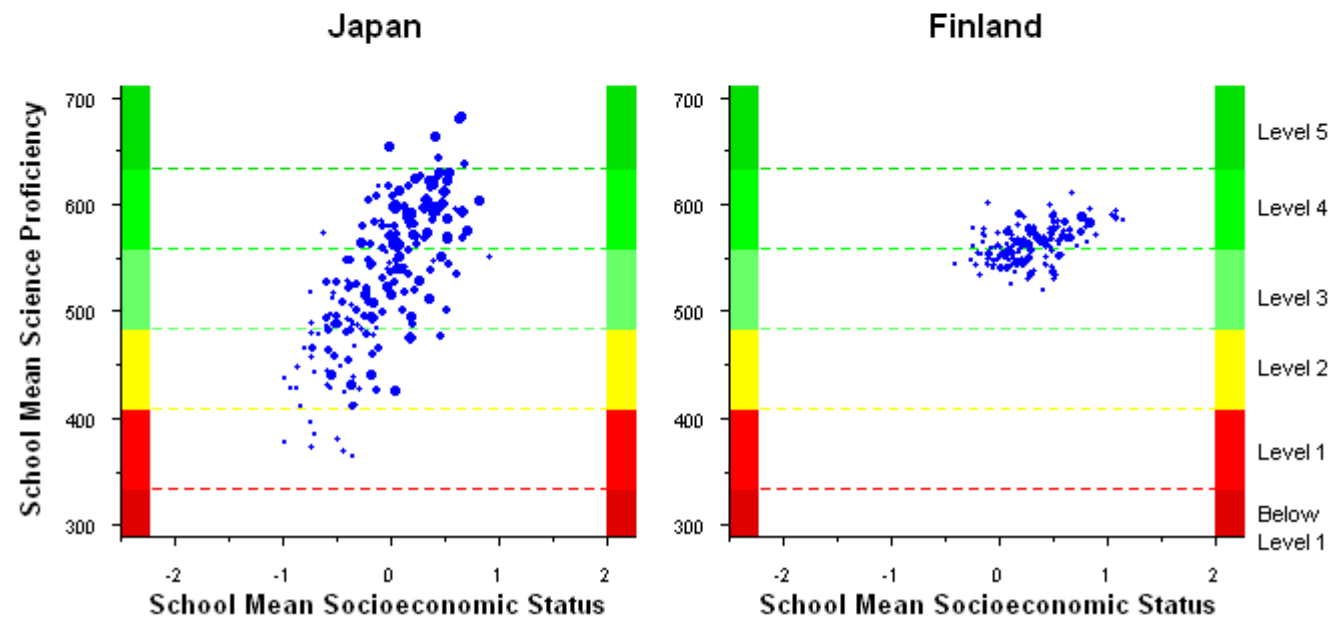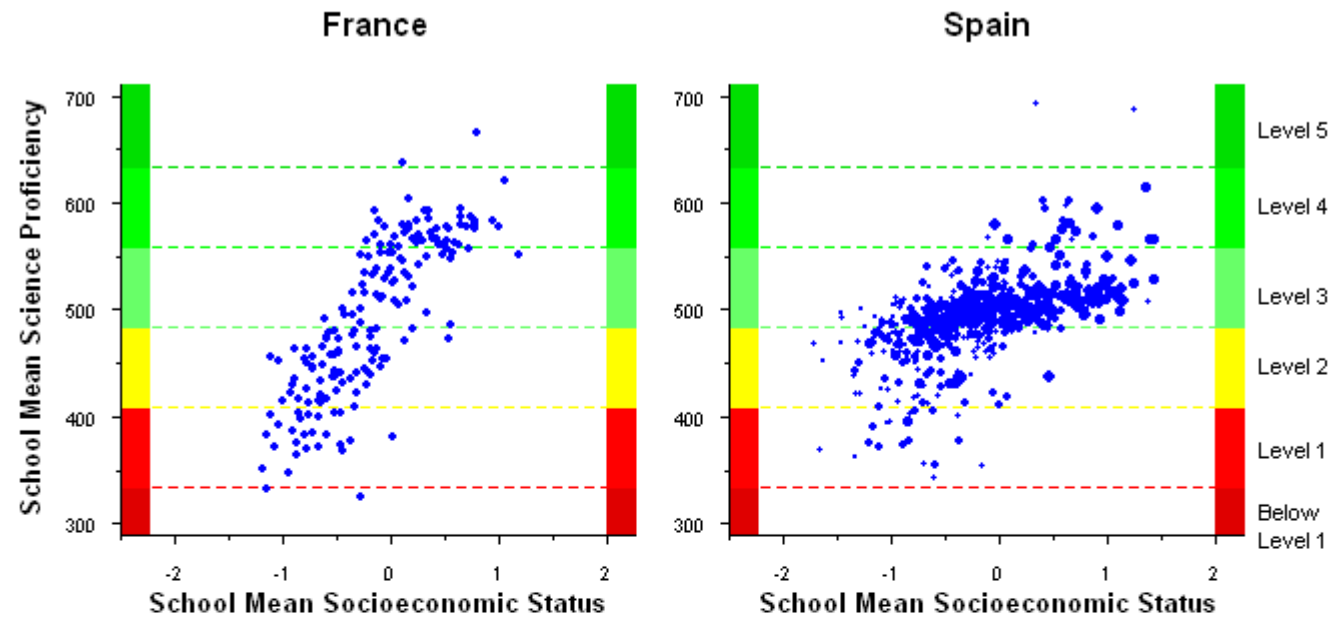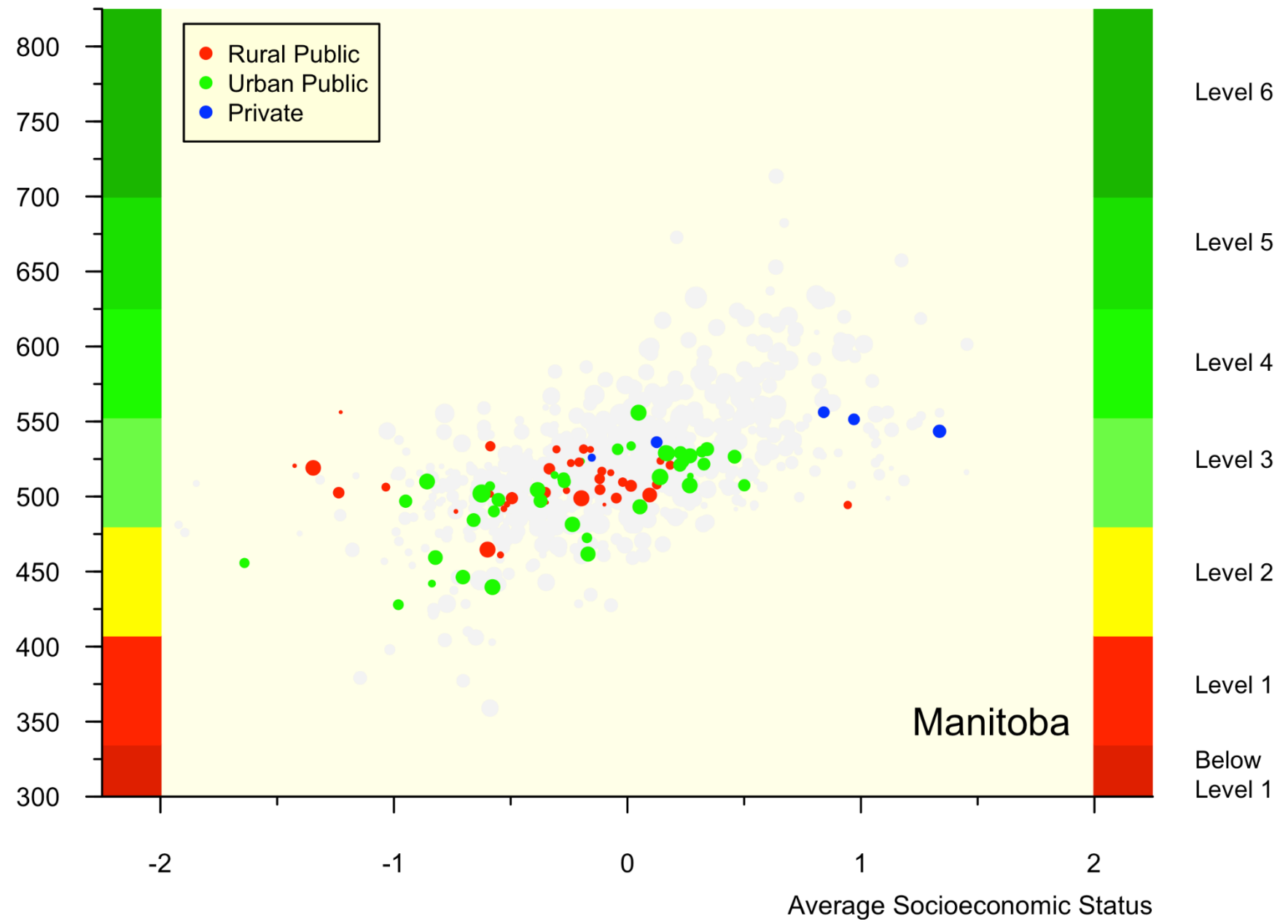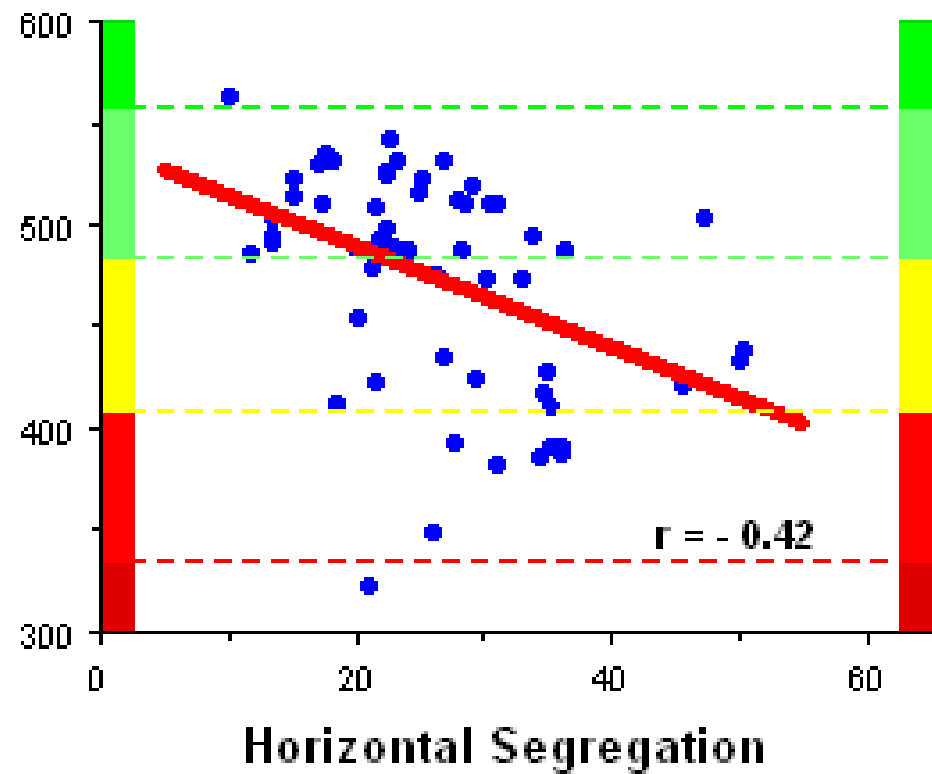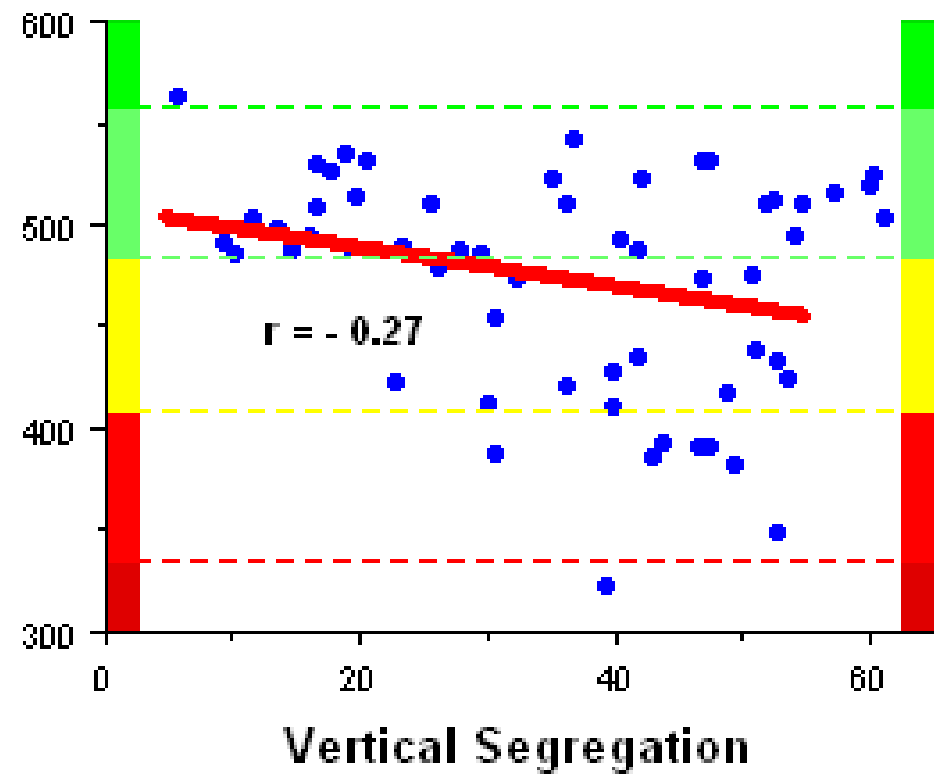
Socioeconomic Status and EYE-TA Responsive Tiered
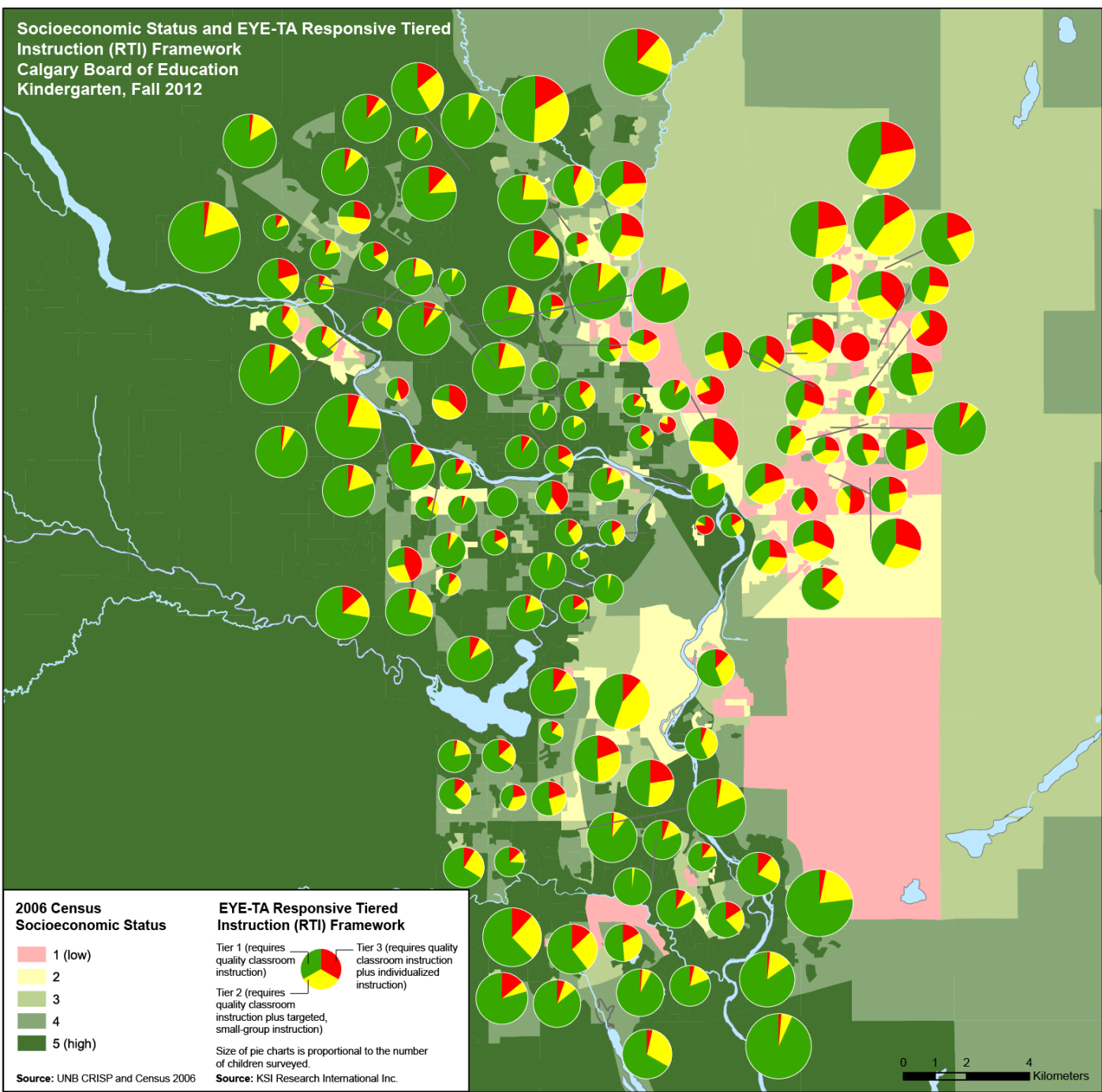Instruction (RTI) Framework
Calgary Board of Education
Kindergarten, Fall 2012

**2006 Census
Socioeconomic Status**

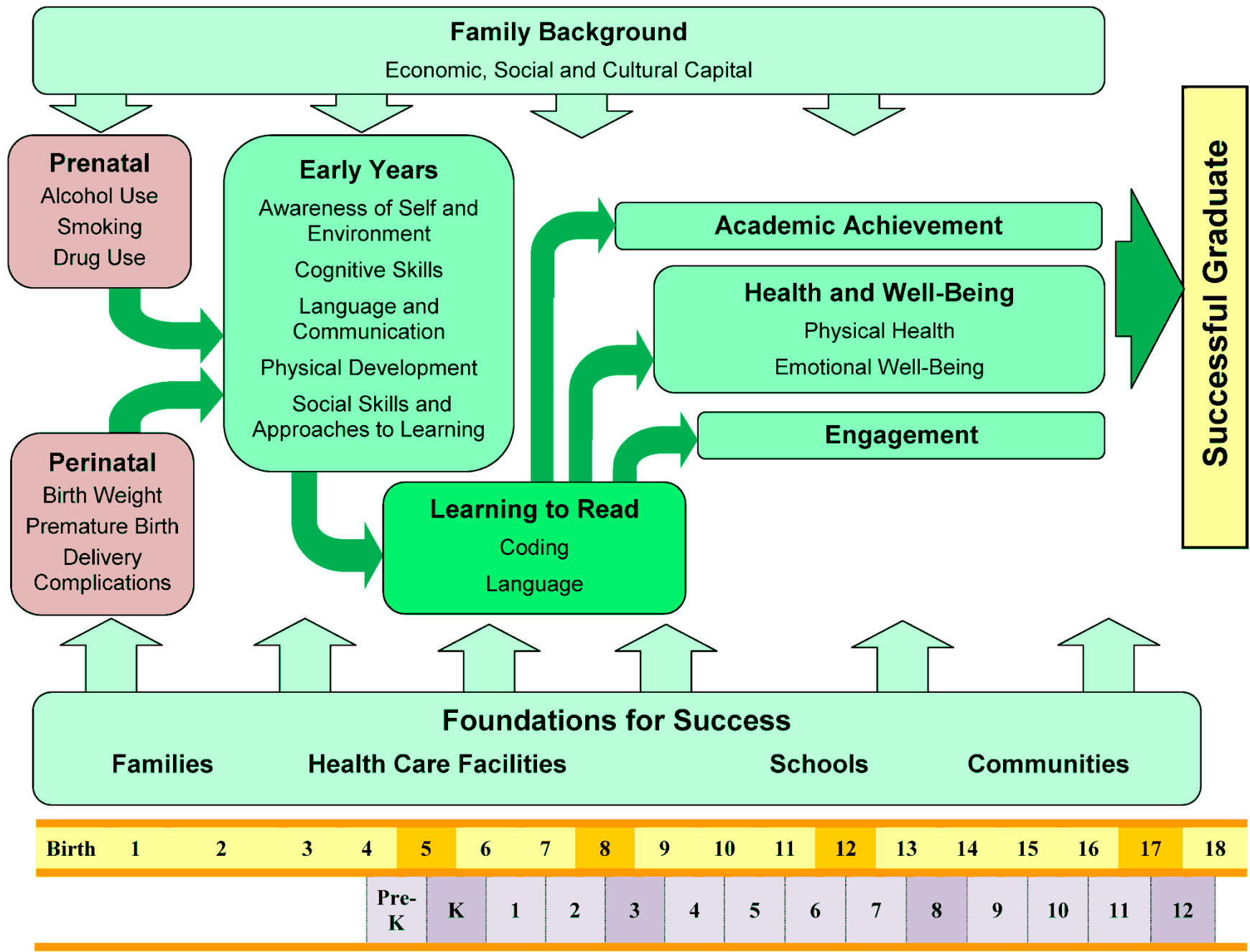1 (low)
2
3
4
5 (high)

Source: UNB CRISP and Census 2006

**EYE-TA Responsive Tiered
Instruction (RTI) Framework**

Tier 1 (requires
quality classroom
instruction)

Tier 3 (requires quality
classroom instruction
plus individualized
instruction)

Tier 2 (requires
quality classroom
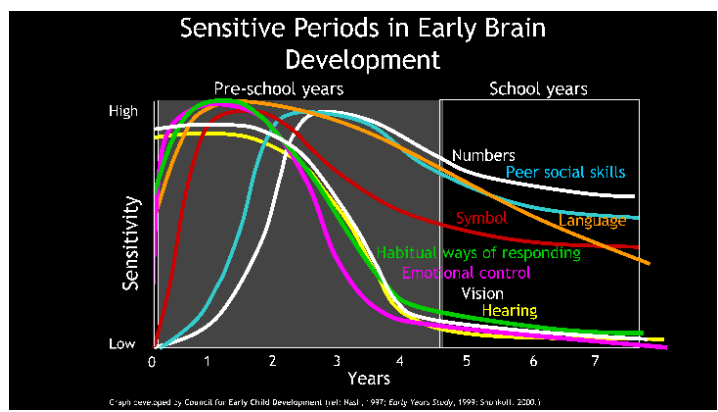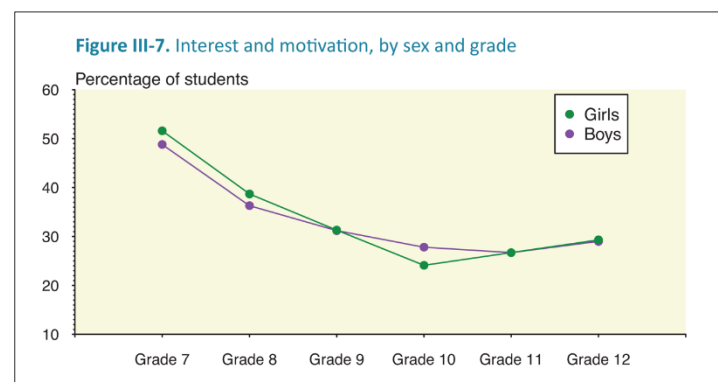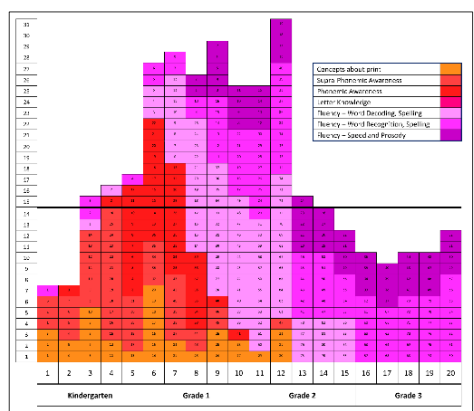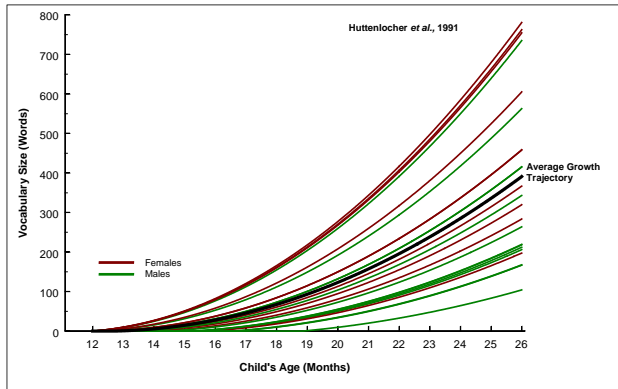instruction plus targeted,
small-group instruction)

Size of pie charts is proportional to the number
of children surveyed.

Source: KSI Research International Inc.

0 1 2   4
Kilometers

Family Background
Economic, Social and Cultural Capital

Prenatal
Alcohol Use
Smoking
Drug Use

Early Years
Awareness of Self and Environment
Cognitive Skills
Language and Communication
Physical Development
Social Skills and Approaches to Learning

Academic Achievement

Health and Well-Being
Physical Health
Emotional Well-Being

Engagement

Successful Graduate

Perinatal
Birth Weight
Premature Birth
Delivery Complications

Learning to Read
Coding
Language

Foundations for Success

Families   Health Care Facilities   Schools   Communities

Birth	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Pre-K	K	1	2	3	4	5	6	7	8	9	10	11	12

Figure III-7. Interest and motivation, by sex and grade

Sensitive Periods in Early Brain Development

Growth trajectories for mathematics, by age 8 performance quintile
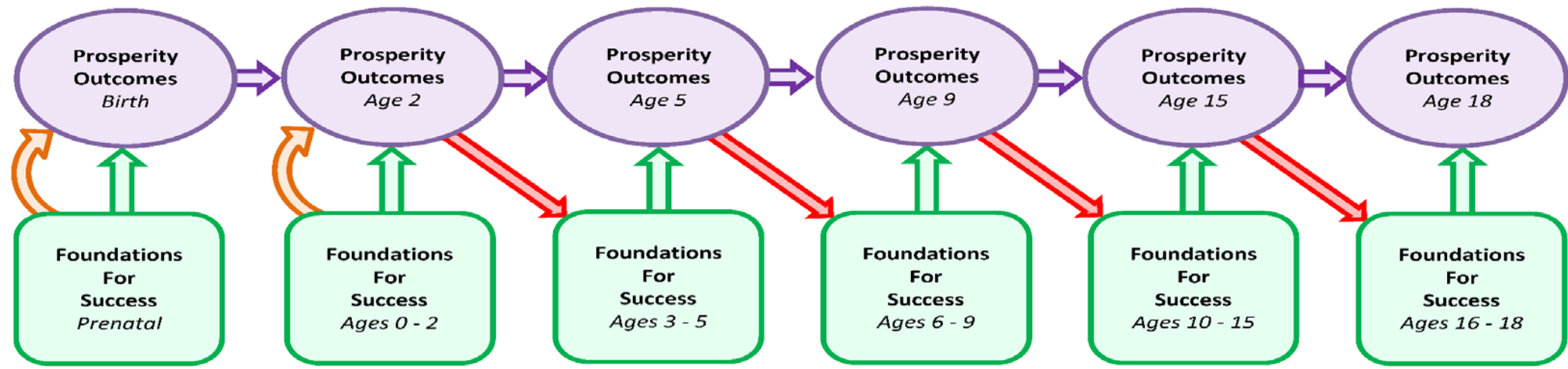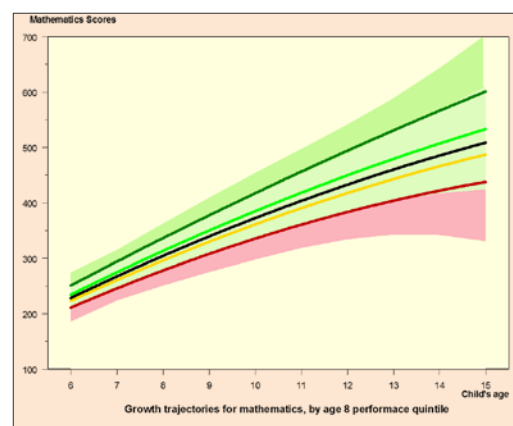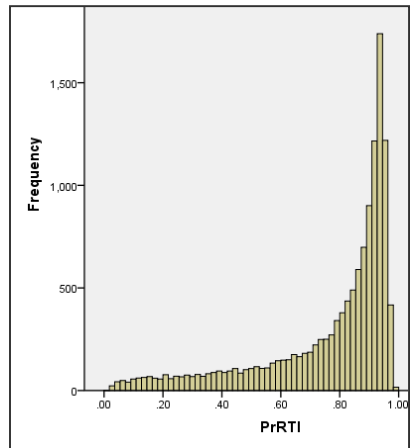
Strong leadership

Dedicated teachers

Family and community support

A relentless focus on building

the foundations for success

Dr. J. Douglas Willms
President

thelearningbar.com

The Learning Bar