# READING DEVELOPMENT IN RUSSIAN PRIMARY-SCHOOL CHILDREN

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## Why study reading?

- Well-established theoretical framework for teaching to read (since1960s, e.g. Elconin, 1962, 1974)
   for reading as decoding
- No such a theory for reading comprehension (apart from methodological recommendations)
- Few modern studies of reading in Russia (except international comparative studies, eg PIRLS), studies are aimed at very specific topics.



- New Russian standards of primary school education list reading comprehension among learning outcomes → need to measure it.
- Standards of preschool education do not include any requirements for teaching to read (preschool is for play).
- Changing times, changing children (digitalization)
- Children come to school at 7 (7,3 in our sample) → range of reading achievement at 7 y.o. is very broad from not knowing basic reading concepts to full comprehension.

## Study objectives

- 1. Describe reading skills of elementary school students at the beginning and in the middle of primary school
- 2. Find factors, related to reading achievements
- 3. Define principles to create a new instrument to measure reading outcomes at the end of primary school.

## iPIPS (international Performance Indicators in Primary School)

- Initially developed in Durham University about 20 years ago
- Russian version was developed in Higher School of Economics (in partnership with Durham University)
- Proved psychometrics characteristics
- Measuring cognitive and noncognitive skills
- Two assessment cycles: in the beginning of first school year (end of September-beginning of October) and in the end of school year (May)
- Context information (parent questionnaire, teacher queationnat)
- Unique for the Russian educational system



## Learning to read

For English. <u>Variety</u> of reading models for both reading as decoding (e.g. three stages by Chiappe and Siegel: logographic, phonological, and orthographic) and reading comprehension (text-based model, situation based model, reading as a psycholinguistic guessing game, interactive model of reading)

## In Russia. One well-established model for reading as decoding.

In order to read in Russian, it is essential to discriminate between vowels and consonants, hard and soft consonants, back and front vowels and their effects on the preceding consonant (Elconin, 1974).



Methodological recommendations for reading comprehension (Omorokova, 2013). No theory.

### Study design

#### Longitude

l year iPIPS I year iPIPS

III year

External reading tool









Fall 2015 Spring 2015

Fall 2016

#### Sample

- 2119 students
- 107 classes
- Two Russian regional centers (Krasnoyarsk and Kazan, population of more than 1 mln)
- Initially representative sample, stratified by location and school type

#### **iPIPS Instruments:**

#### Reading

Basic reading concepts

Letters

Reading words

Reading sentences (decoding only)

Reading comprehension (e.g. Yulya bistro

(zabralas', sobralas', probralas') i vyshla (u, ot, iz) doma., "Yulya (climbed, dressed, sneaked in) quickly and went out (by, from, of) the house.")

#### Phonology

Repeating words Rhyming words

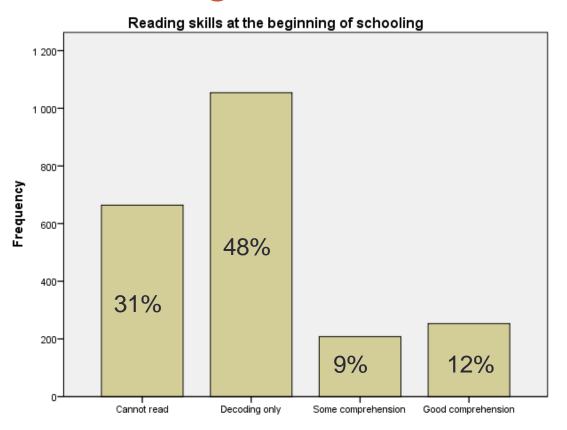
#### Vocabulary

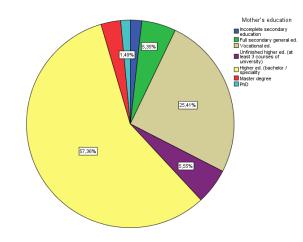
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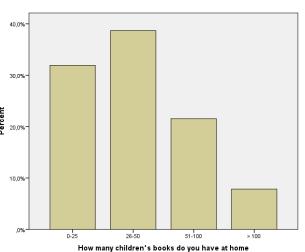
## Parent questionnaire

Teacher questionnaire

#### First-graders who come to school







## What can predict first-graders reading

skills? (start of schooling)

List of other variables

Pre-school experience

Family income

Books at home

Children's books at home

Learning resources (access to

the Internet, computer, children's

encyclopedias etc)

Parent's education

Parent's profession category

Parenting practicies (literacy

activities, formal/informal

involvement, )

School type

Region

Teacher's work experience

Aggregated SES and cognitive

characteristics (by classes)

	Model	Model	End
	0	1 ()	model
Fixed effects			
Intercept (z-	-0,04	-0.14	-2.21
score)	(0,04)	(0.05)	(0.68)
Mother education			0.34 (0.06)
More than 100			0.3
childrens' books			(0.12)
at home			(0.12)
Parenting literacy			0.15
activities			(0.03)
Age			0.25
, .90			(0.09)
School type		0.27	0.07
		(0.08)	(0.08)
u0(between	0,12	0,10	0,07
schools)	0,	0,.0	0,0.
eij(within	0,86	0,86	0,79
schools)	,	,,	, ,
ICC	0,12	0,11	0,08
R²(between)	0,	0,37	
R²(within)	0,00	0,08	

#### End of the first class

Gender, age, mother's education, preschool literacy acivities were controlled but not significant.

Variables "mother's education" and "parenting practices" are significant only before we add phonology and vocabulary.

School type is not significant

		End	
	Model 0	Model 1 ()	model
Intercept	-0.007 (0.05)	-0.11 (0.06)	-0.22 (0.09)
Reading, autumn			0.47 (0.03)
Vocabulary			0.10 (0.03)
Phonology			0.11 (0.02)
Language at home			0.24 0.08)
Focus and rules			0.12 (0.02)
School type		0.26 (0.10)	0.09 (0.08)
u0(between schools)	0,19	0,17	0,08
eij(within schools)	0,82	0,82	0,47
ICC	0,18	0,17	0,15
R²(уровень школ)		0,06	0,55
R²(уровень учеников)		0,0005	0,42

## Beginning of the 3d year assessment

#### ТЕКСТ К РАБОТЕ ПО ЧТЕНИЮ

#### ВАРИАНТ 1

Прочитай текст.



#### Переносные дома

Есть дома - настоящие непоседы. Они всегда с хозяином, как раковина с улиткой. Кто будет спорить, что это очень удобно? Нужен тебе дом – поставил его, не нужен – сложил в мешок и забрал с собой на новое место. Такой дом должен быть лёгким – иначе его не перевезёщь. И ещё он должен просто и быстро собираться. А то прибыл на новую стоянку, а там мороз, снег, ветер - замёрзнешь, если будешь

долго возводить жилище. Дом-непоседа должен быть готов за полчаса. Столько времени требуется, например, для возведения чума.

Учёные считают, что именно чум был самым первым настоящим жилищем, которое придумали люди. Ведь, чтобы его построить, нужно только установить прямые длинные жерди в виде высокого круглого шалаша и чем-нибудь их покрыть: берёстой, шкурами, войлоком. Есть даже загадка про чум: «Этого старика все уважают, и одевают, и раздевают». Впрочем, такую загадку можно загадать и про ярангу, и про юрту. Эти дома тоже можно построить очень быстро.

Яранга – древнее жильё многих северных народов.

Стада оленей огромны. Они ходят по тундре с пастбища на пастбище, и оленеводы вместе с ними. Перейдут на новое место, поставят шесты, накроют их оленьими шкурами. Внутри делают комнатку тоже из шкур. Здесь горит огонь и можно спать. На одну ярангу нужно около пятидесяти шкур.

Для жителей степей самый лучший дом – юрта. Само это слово переводится как народ, родина, семья, отчий дом. Юрту строят из

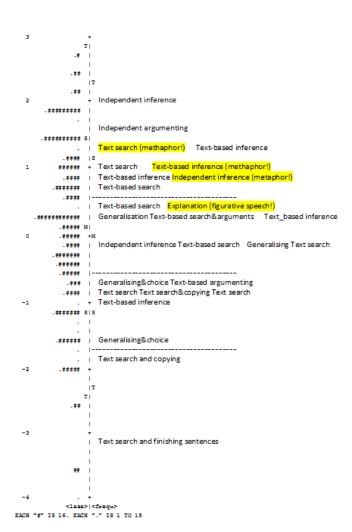
деревянных жердей. которые покрывают войлоком. Эту плотную и толстую ткань делают из шерсти овец. Войлок не пропускает ни снега, ни дождя. Если жарко, стены можно приподнять и завернуть вверх.

Но не только у северных и степных жителей передвижное жильё. Возможно, и у вас есть дом-непоседа. Это палатка младшая сестра переносных жилищ.

(По книге Ольги Коллаковой «Дома мира», иллюстрации Ольги Громовой)

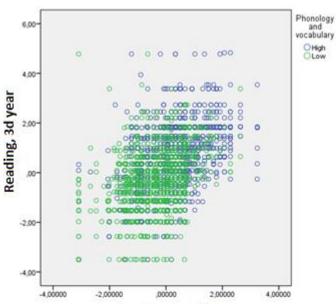


- Reading comprehens ion test.
- Typical reading assessment for 3d graders aligned with curriculum.
- Paperbased.
- Text-based model framework



## Phonology is still important...

...probably, because many children are still on the 'reading as decoding' stage.



Reading, baseline

		Prob(Ve	Prob(Inf ussicien	Prob(Ba	Prob(Hi gher
		ry low)	t)	sic level)	level)
	High phonology	0,04	0,11	0,43	0,42
Could read at	and vocabulary	N=15	N=45	N=188	N=189
the start of	Low phonology	0,11	0,23	0,46	0,21
schooling	and vocabulary	N=26	N=83	N=143	N=57
	High phonology	0,15	0,27	0,42	0,15
Could not read	and vocabulary	N=24	N=31	N=55	N=16
at the start of	Low phonology	0,33	0,34	0,27	0,06
schooling	and vocabulary	N=80	N=67	N=63	N=21

Predictors in 3d grade

Phonology and vocabulary! School type starts being important Teacher's experience is important Children's books at home

	Model 0	Model 1 ()	Final model
Intercept	-0.04 (0.04)	-0.16 (0.06)	-0.35 (0.09)
read score, fall			0.26 (0.02)
Vocabulary			0.18 (0.023)
Phonology			0.16 (0.02)
language at home			0.22 (0.09)
Focuse&rules			0.18 (0.02)
Children's books at home			0.11 (0.05)
School type		0.32 (0.07)	0.19 (0.07)
Teacher' experience (years)			0.01 ( 0.003)
u0(between schools)	0,14	0,11	0,06
eij(within schools)	0,88	0,88	0,60
ICC	0,13	0,10	0,10
R <sup>2</sup> (between)		0,16	0,52
R <sup>2</sup> (within)		0,0003	0,32

#### Main results

- Vocabulary and phonology should be an educational focus for both preschoolers and primary school-children ('unconstrained skills')
- Children who come to school without at least some reading skills are disadvantaged
- Decoding skills take more than a year
- Reading comprehension strategies should be explained to children explicitly

#### Discussion

 Theory-driven tests for reading assessment VS empirically based tests for reading assessment