

READING DEVELOPMENT IN RUSSIAN PRIMARY-SCHOOL CHILDREN

Antipkina Inna
Higher School of Economic
Institute of Education



NATIONAL RESEARCH
UNIVERSITY

Why study reading?

- Well-established theoretical framework for teaching to read (since 1960s, 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.



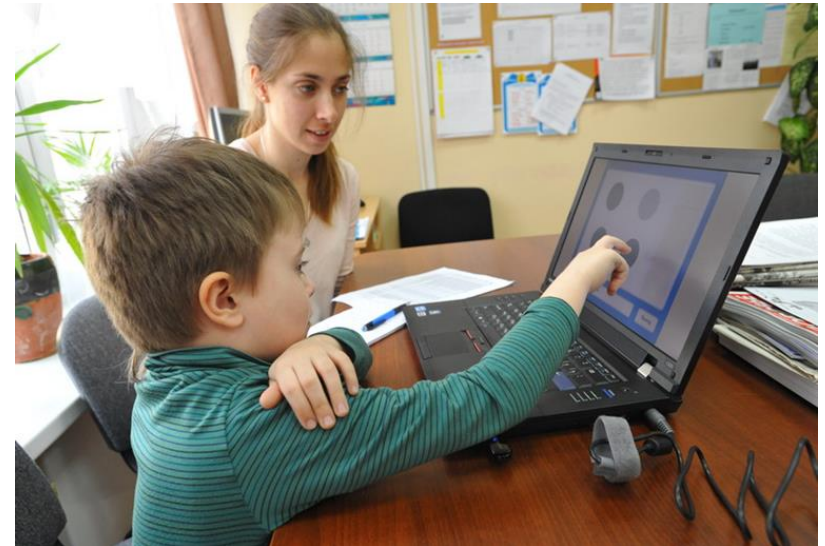
- New Russian standards of primary school education list **reading comprehension** among learning outcomes → need to measure it.
- Standards of preschool education do not include any requirements for teaching to read (preschool is for play).
- Changing times, changing children (digitalization)
- Children 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 non-cognitive 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 questionnaire)
- Unique for the Russian educational system



Learning to read

For English. Variety 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).

Одна гласная — два звука
ёлка

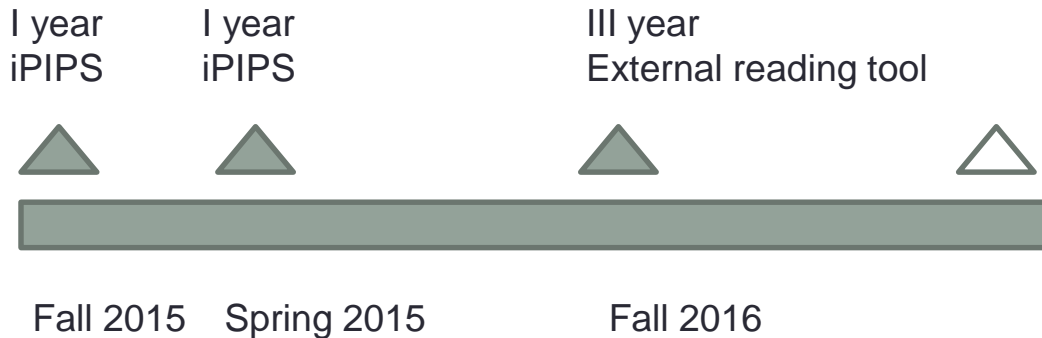


4 буквы
5 звуков

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

Study design

Longitude



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

Choose a picture

Parent

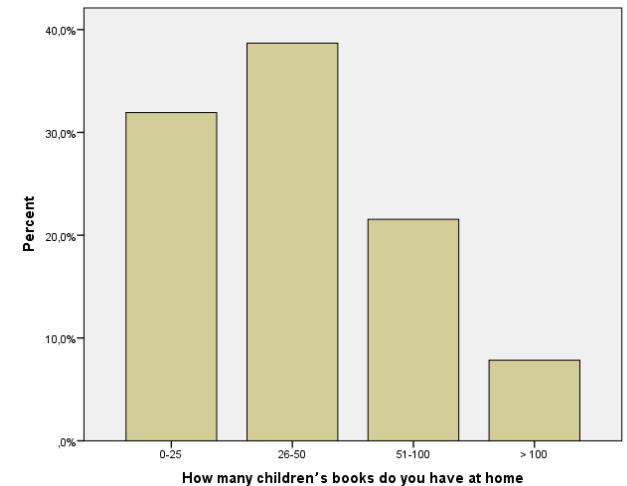
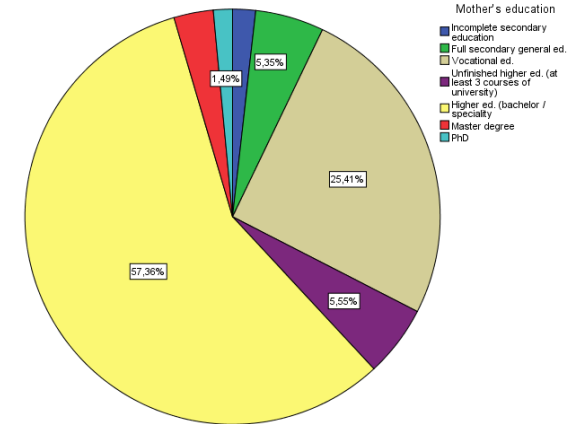
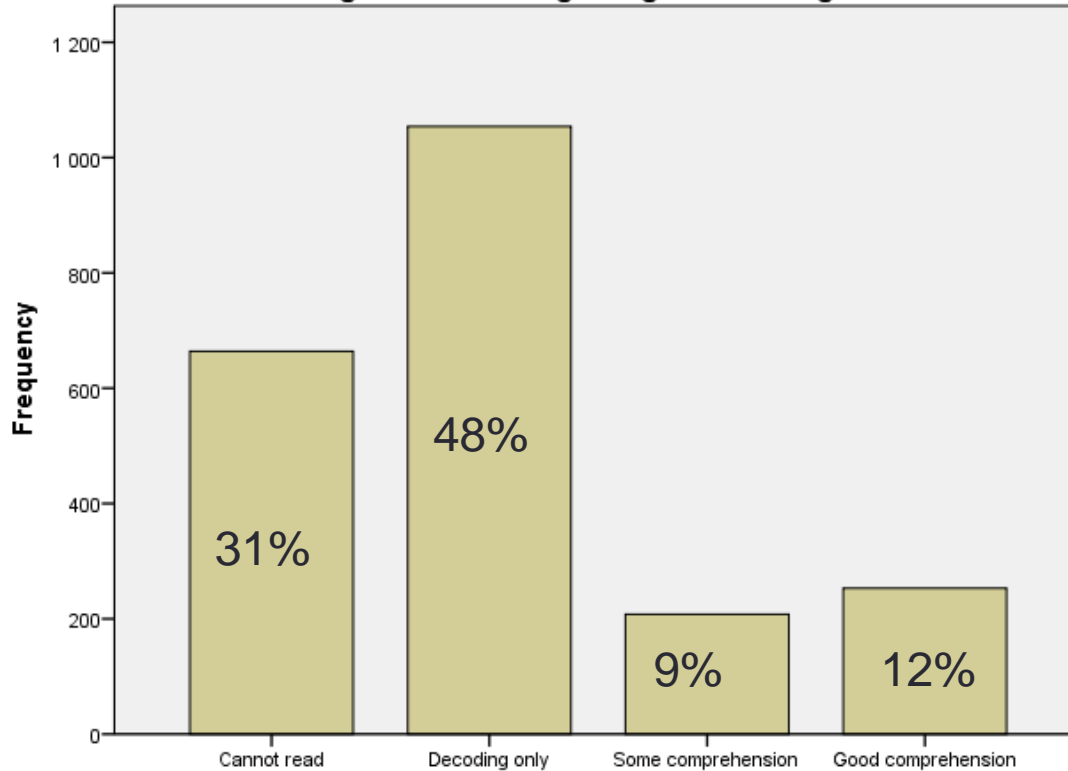
questionnaire

Teacher

questionnaire

First-graders who come to school

Reading skills at the beginning of schooling



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 practices (literacy activities, formal/informal involvement,)

School type

Region

Teacher's work experience

Aggregated SES and cognitive characteristics (by classes)

	Model 0	Model 1 (...)	End model
Fixed effects			
Intercept (z-score)	-0,04 (0,04)	-0.14 (0.05)	-2.21 (0.68)
Mother education			0.34 (0.06)
More than 100 childrens' books at home			0.3 (0.12)
Parenting literacy activities			0.15 (0.03)
Age			0.25 (0.09)
School type		0.27 (0.08)	0.07 (0.08)
u0(between schools)	0,12	0,10	0,07
eij(within schools)	0,86	0,86	0,79
ICC	0,12	0,11	0,08
R ² (between)	0,12		0,37
R ² (within)	0,00058		0,08

End of the first class

Gender, age, mother's education, pre-school literacy activities were controlled but not significant.

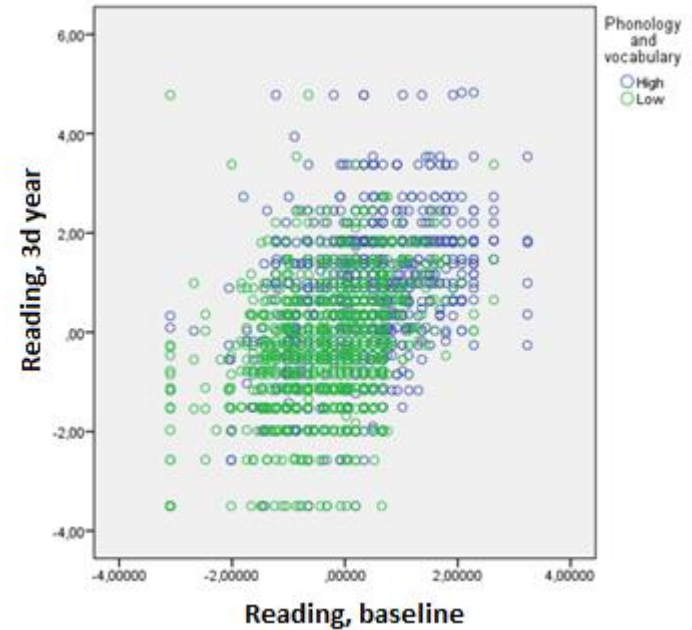
Variables "mother's education" and "parenting practices" are significant only before we add phonology and vocabulary.

School type is not significant

	Model 0	Model 1 (...)	End 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
R ² (уровень школ)		0,06	0,55
R ² (уровень учеников)		0,0005	0,42

Phonology is still important...

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



		Prob(Very low)	Prob(Insufficient)	Prob(Basic level)	Prob(Higher level)
Could read at the start of schooling	High phonology and vocabulary	0,04 N=15	0,11 N=45	0,43 N=188	0,42 N=189
	Low phonology and vocabulary	0,11 N=26	0,23 N=83	0,46 N=143	0,21 N=57
Could not read at the start of schooling	High phonology and vocabulary	0,15 N=24	0,27 N=31	0,42 N=55	0,15 N=16
	Low phonology and vocabulary	0,33 N=80	0,34 N=67	0,27 N=63	0,06 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
R²(between)		0,16	0,52
R²(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