

# ENGAGEMENT OF LOOKED-AFTER CHILDREN IN MATHEMATICS

## Practice of Out-of-school Support in Russia

While education is essential for any child, for care-experienced children it is crucial as it can offer a path to better life opportunities. On the one hand, the requirement of completed secondary school education is pragmatic: without a school certificate their further educational and career opportunities are limited. On the other hand, education in its broader meaning shapes children's self-beliefs, agency and aspirations in life.

Educational issues of care experienced students have rarely been in the focus of academic research in Russia. What can be done to engage or re-engage these children in education? Can education become a potential route out of disadvantage and a means of enhancing self-esteem for them?



### Why looked-after children?

- Academic results are lower than in general children population
- Previous trauma and neglect result in **multiple difficulties**:
  - emotional (e.g. low frustration threshold)
  - communicational (e.g. don't ask any questions or talk during the lesson at all)
  - learning gaps (e.g. a student doesn't know times tables at the age of 15)
  - organisational or study skills (e.g. can't plan timing and is always late)
- The pressure on parents from schools

### Why out-of-school support?

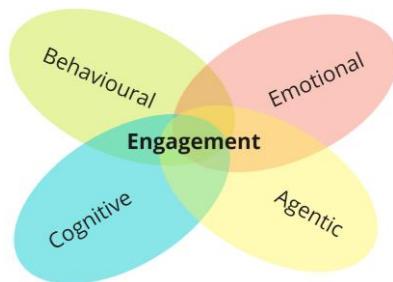
- NGOs play the key role in supporting vulnerable groups of people in Russia
- Their programmes are tailored specifically for looked-after children
- Existing professional connections to secure access

### National context in figures

- 493 777** looked-after children in 2021
- About **2%** of children population in Russia
- 92.8% in family placement
- 66%** of them are teenagers
- Compulsory exams at the age of 15-16

### Why mathematics?

- Maths is a gatekeeper subject;
- Learning gaps grow like a snowball and they are difficult to bridge.
- Maths anxiety
- Maths is crucial for financial literacy skills



**Engagement** refers to a student's active involvement in a learning activity.

Engagement is a multifaceted construct and is usually defined in three ways:

- behavioural** (effort, persistence, concentration, attention);
- emotional** (positive and negative affective reactions to teachers, interest, values and attitudes that are underpinned by motivational factors)
- cognitive** (investment in & regulating learning, being strategic & reflective) (Fredricks et al., 2004; Skilling, 2022).

Reeve and Tseng (2011) suggested **agentic** dimension of engagement in addition to the existing three. They defined agentic engagement as "students' constructive contribution into the flow of the instruction they receive"

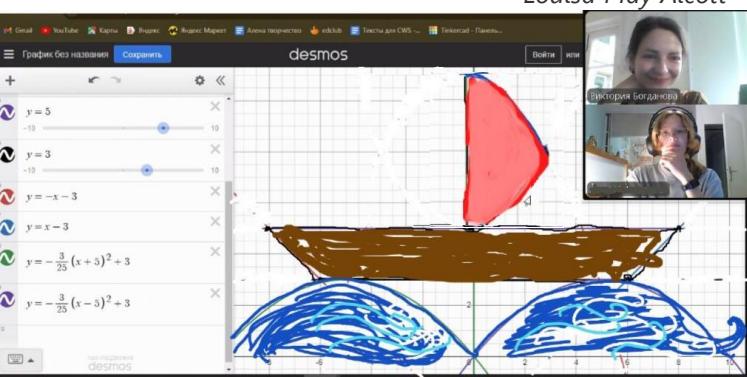
### Theoretical framework

Social Constructivism (Vygotsky's Sociocultural Theory)  
Interpretivism

### Self-Determination Theory (SDT)

SDT highlights the intrinsic motivational resources inherent in all students and provides guidance on how teachers can effectively engage, nurture, and stimulate these resources throughout instruction to enhance high-quality student engagement (Ryan & Deci, 2000)

"I am not afraid of storms, for I am learning how to sail my ship."  
Louisa May Alcott



### Research questions

1a How engaged are the students in the out-of-school mathematics lessons in four dimensions - behavioural, emotional, cognitive and agentic?

1b How do teachers engage students in learning mathematics in out-of-school lessons in these four dimensions?

2a What do teachers, foster parents and students identify as obstacles which prevent students from engagement in mathematics?

2b What do teachers, foster parents and students identify as factors promoting engagement in mathematics?

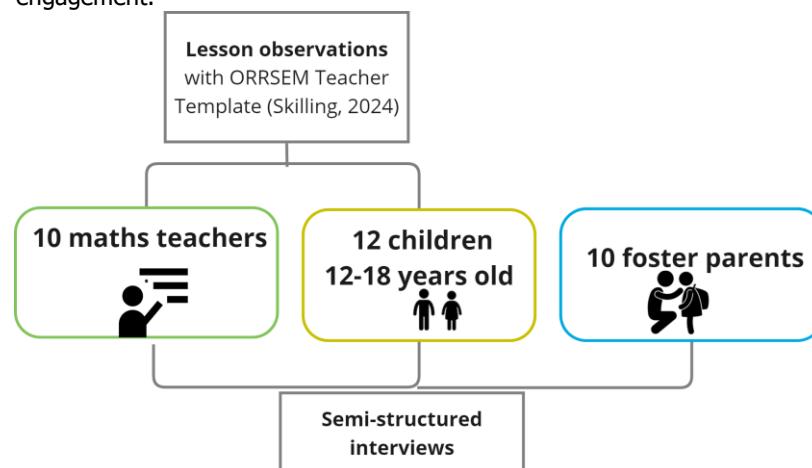
3 What changes have occurred in student engagement over an observed period of time?

### Research design

A. One-time data collection

B. Longitudinal case study (3 time points)

Lesson observation will be used for stimulated recall to interview the teacher and the student about what I saw in the lessons. Interviewing three different groups of people will help me to gain several perspectives and provide a multifaceted view on student engagement.



### Contribution

The research will be beneficial for maths teachers working with low achieving students, organisations which support care experienced people and foster families. Hopefully, the study will highlight the value of teachers' work which may go beyond achievements in mathematics towards increasing motivation and building academic self-esteem of students. A short version of the study can become the basis of the guidance for math teachers.

### References

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