

IBE



EDUCATIONAL
RESEARCH
INSTITUTE

Average students' attentiveness and class size

Argos observation system in action



Jolanta Pisarek, Michał Modzelewski

Southampton, 29.08.2014



Three types of questions in class size research

Predictive

- e.g. *what is the effect of class size reduction?*

Descriptive

- e.g. *do we observe small classes' advantage?*

Explanatory

- e.g. *why does class size reduction (not) work?*

(Goldstein & Blatchford, 1998)



Selected effects of class size reduction

Based on Project STAR (Finn & Achilles, 1999), benefits of small classes include:

- Improved teaching conditions
- Improved student performance
- Especially for those with background known to be disadvantageous (i.e. minority, inner-city) *
- Higher adoption of beneficial learning behaviours

* But this differential effect is questionable (see Nye, Hedges, Konstantopoulos, 2000)



Why should small class be beneficial?

- Teacher behaviour:
 - Different methods (more effective in small classes)
 - More teaching time
 - Less time on keeping the discipline and non-academic behaviours
- Student behaviour:
 - **Students stay more on task (higher attentiveness)***
 - Less opportunities to be distracted

* (Blatchford, 2003, Babcock & Betts, 2009)



Longitudinal School Effectiveness Study

- Conducted by **Educational Research Institute**
- **Aim:** identification of the key school factors determining the academic achievement of students in Poland
- **Representational sample** of 178 primary schools, 300 classes, ca. 6000 students
- Study began in **2010** (3rd grade) and ends in **2014** (6th grade)
- **Multiple measurements** of individual, family and school characteristics
- The need for reliable description of teacher practices and classroom environment – **systematic observation**



Argos observation system



- Computer application designed to enhance the observation of a classroom
- Created specifically for LSES, but...
- Very flexible, easy to adapt

Three observation modes:

- observation focused on a teacher
- **observation focused on a student**
- didactic (instructional) observation

Argos observation system



Classroom map

Events/Threads List

Counter

Program Moduły Wy

Mapa klasy

Typy zdarzeń

Licznik

Przebieg lekcji

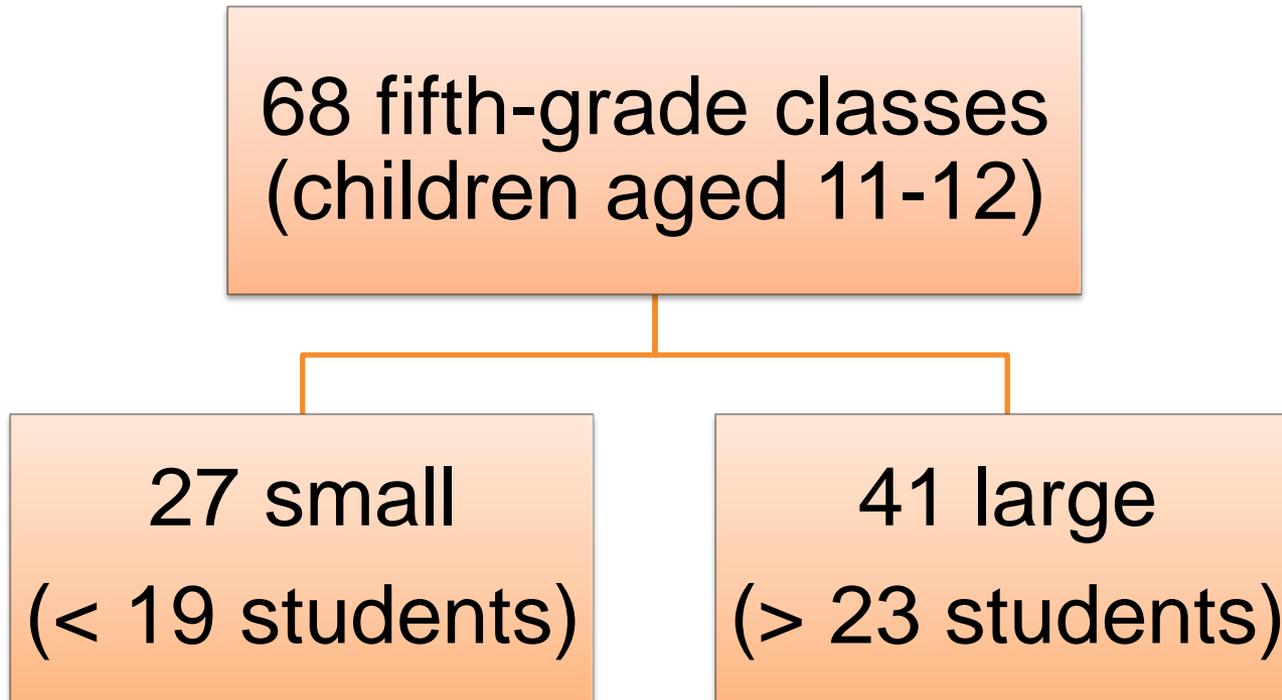
OBSERWACJA

Course of the lesson

Argos GUI consisting of Classroom map and multiple Tool Windows in teacher-focused observation

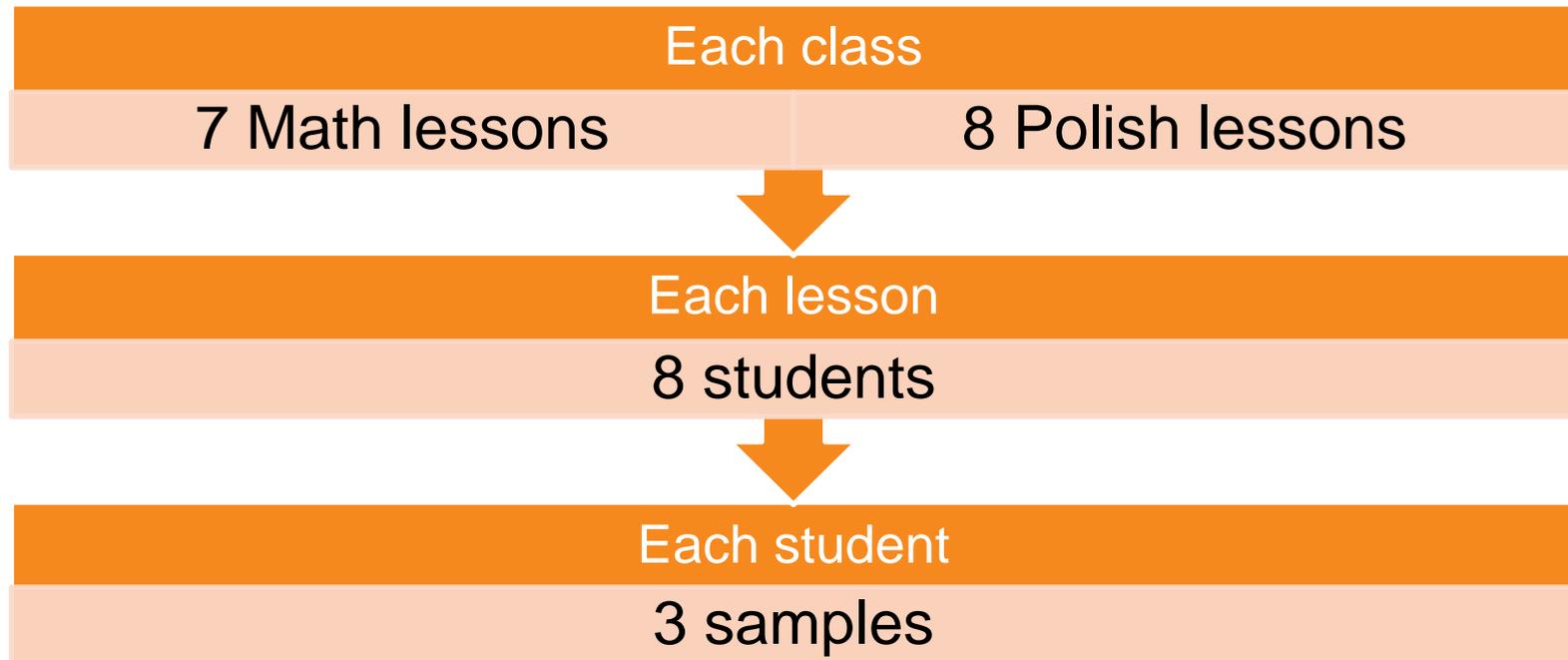


Argos Data





Argos Data - continued



On average 22-25 time samples per lesson



Analyzed behaviors

student works on a task

student doesn't work on a task

(student has no task)

Task - any stage of academically-oriented class work



Construction of the attentiveness index

Occurrences counted within the lesson

Divided by the number of the samples in the lesson

Averaged within the class

Result: average chance of observing a specified behavior within the class



Results

M

Test of no shift

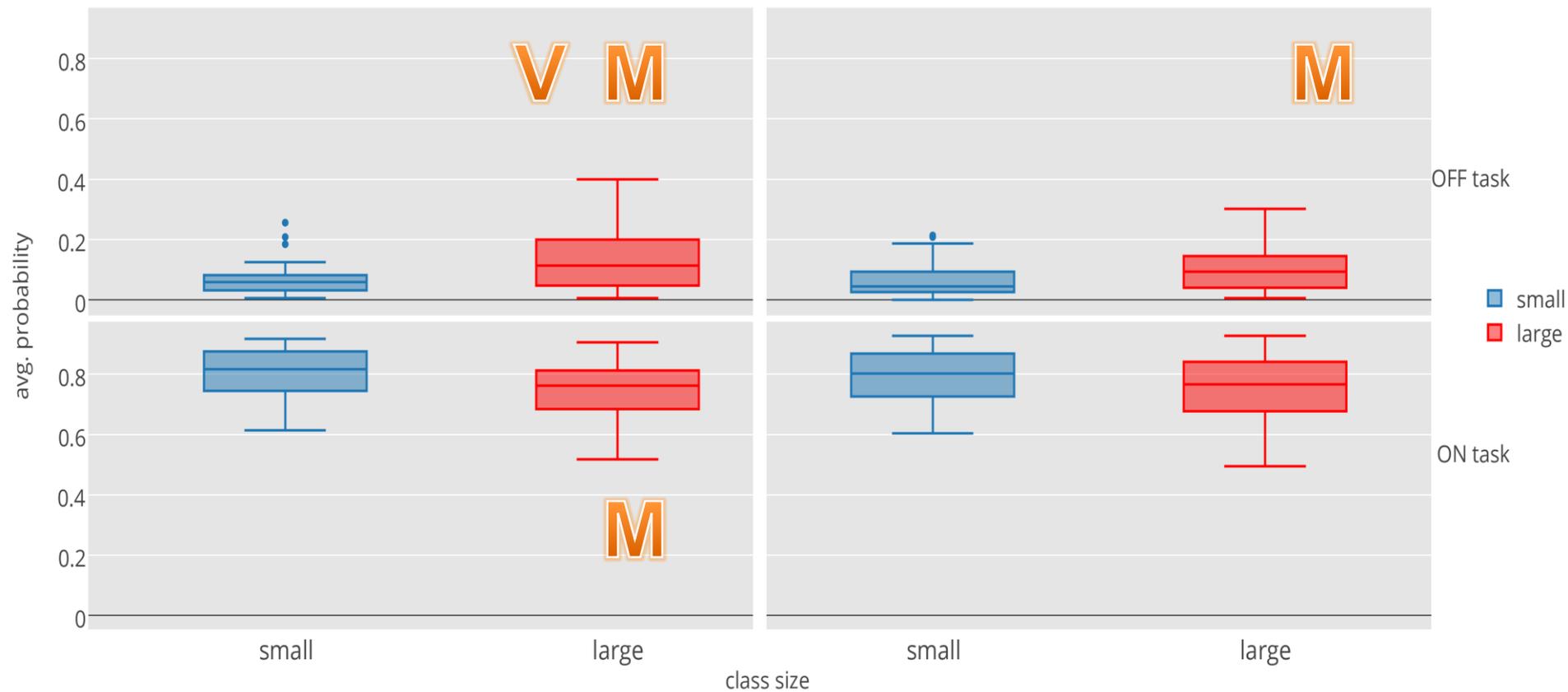
V

Test of equal variances

$P < 0.05$

Math

Polish





Discussion

- Some support for the hypothesis that students in small classes work more
- Not significant result for Polish lessons – difficulty in behaviours' operationalization?
- Need for analysis of teacher behaviour
- Need for analysis of the relationship between class size and achievement
- (Limitation) Small sample of classes prevents more sophisticated analyses – exploratory study

IBE



EDUCATIONAL
RESEARCH
INSTITUTE



Source:
www.stickylearning.com.au

Thank you for your attention!

**"Quality and effectiveness of education - strengthening
of institutional research capabilities"**

Project co-financed by the European Union under the European Social Fund

Educational Research Institute

ul. Górczewska 8, 01-180 Warszawa

tel.: +48 22 241 71 00 e-mail: ibe@ibe.edu.pl