Matched Educational Data (MED)

Methods for matching and analysis

Alex Skøtt Nielsen
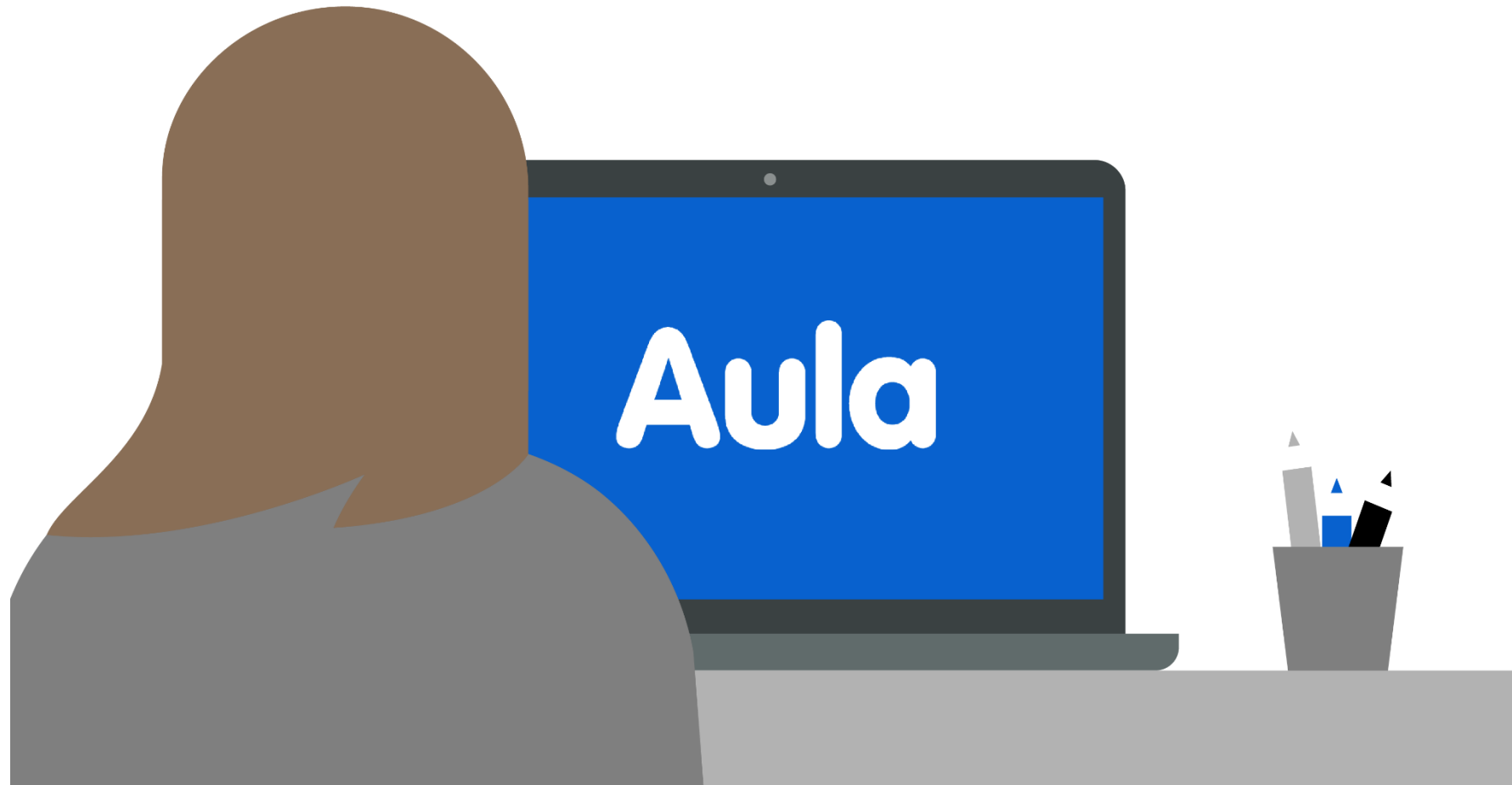Jens Bjerre

Population and Education – Statistics Denmark
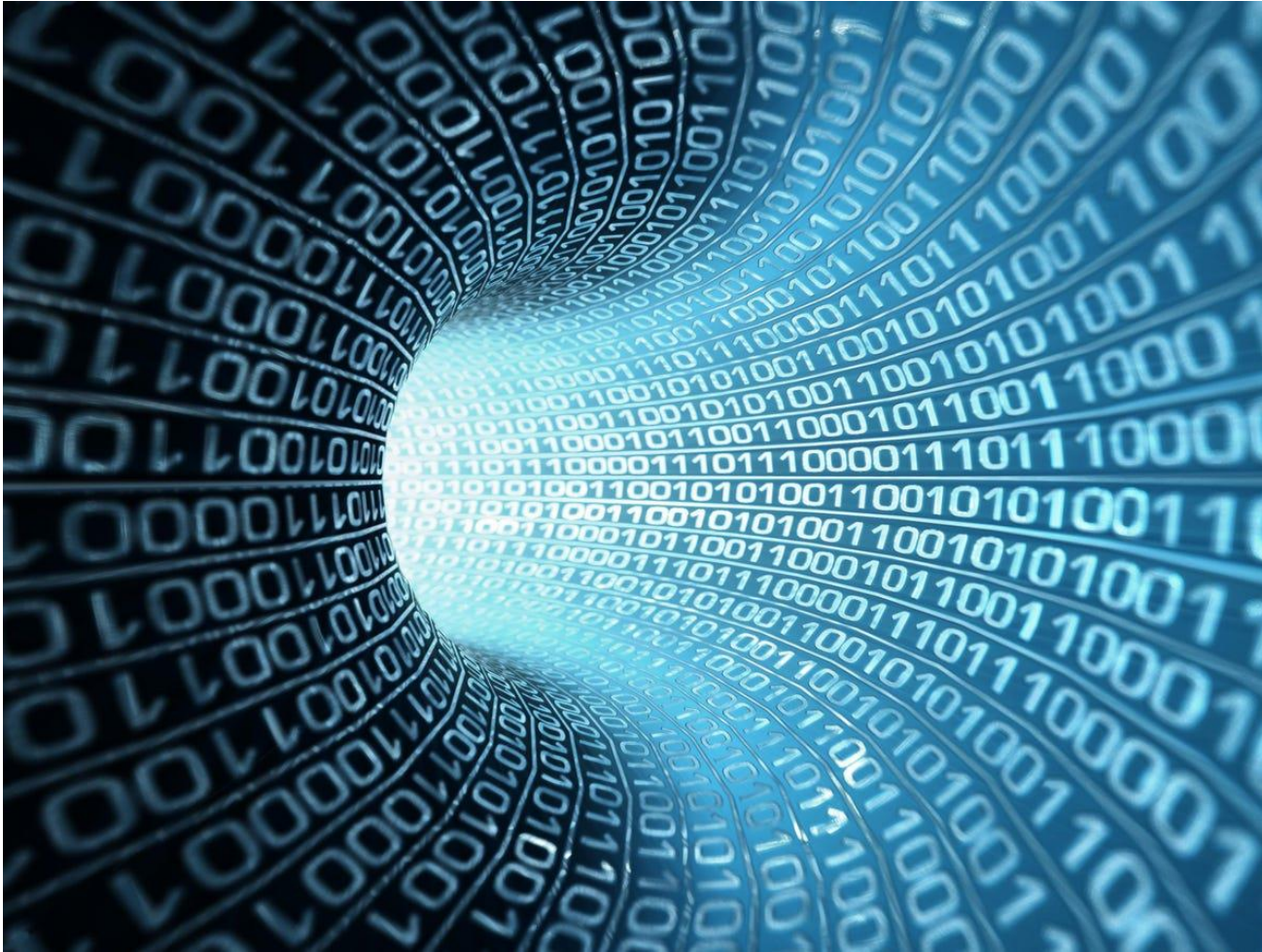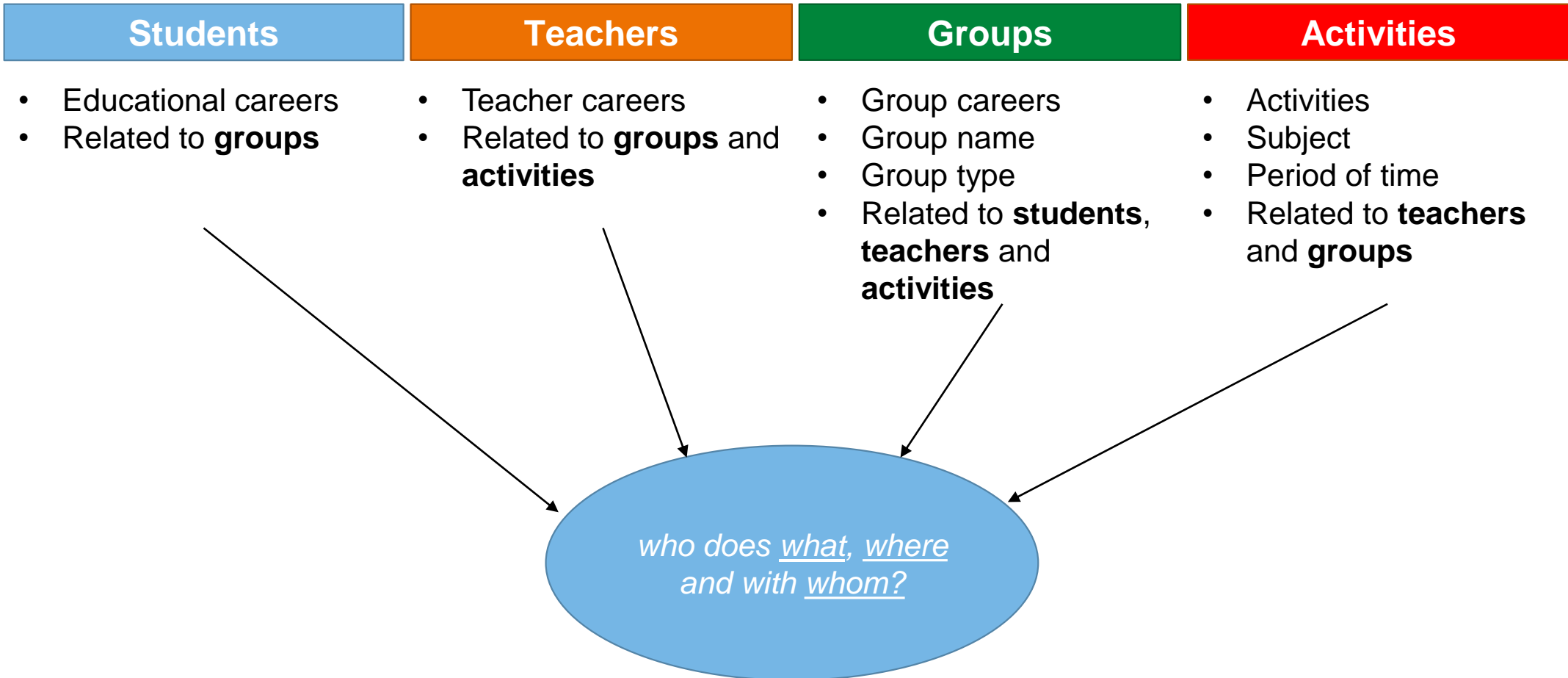
The vision of the MED-register

High frequency datacollection

Model

Students	Teachers	Groups	Activities

- Educational careers
- Related to **groups**

- Teacher careers
- Related to **groups** and **activities**

- Group careers
- Group name
- Group type
- Related to **students**, **teachers** and **activities**

- Activities
- Subject
- Period of time
- Related to **teachers** and **groups**

who does <u>what</u>, <u>where</u> and with <u>whom?</u>

A school year

Class of 4. B	Teacher	Subject	Hours	Competency
Anders	Andersen	Danish	210	Formal
Bertram	Bentsen	Danish	105	Equivalent
Clara	Carstensen	History	60	Formal
Diana	Dahl	Mathematics	150	Formal
Erik	Eriksen	Visual arts	60	Equivalent
Frederik	Frederiksen	English	60	Non-formal
Gustav	Grøndahl	Cooking	90	Equivalent
Hans	Grøndahl	Design, wood and metalwork	90	Non-formal
Isabel	Jacobsen	Physical education	90	Formal
Jan	Kallesen	Christian studies	30	Equivalent
Kasper	Larsen	Music	60	Formal
Lise	Mikkelsen	Natural sciences/technology	90	Formal

A school day

Effect of two simultaneous teachers?

Effect of double lessons?

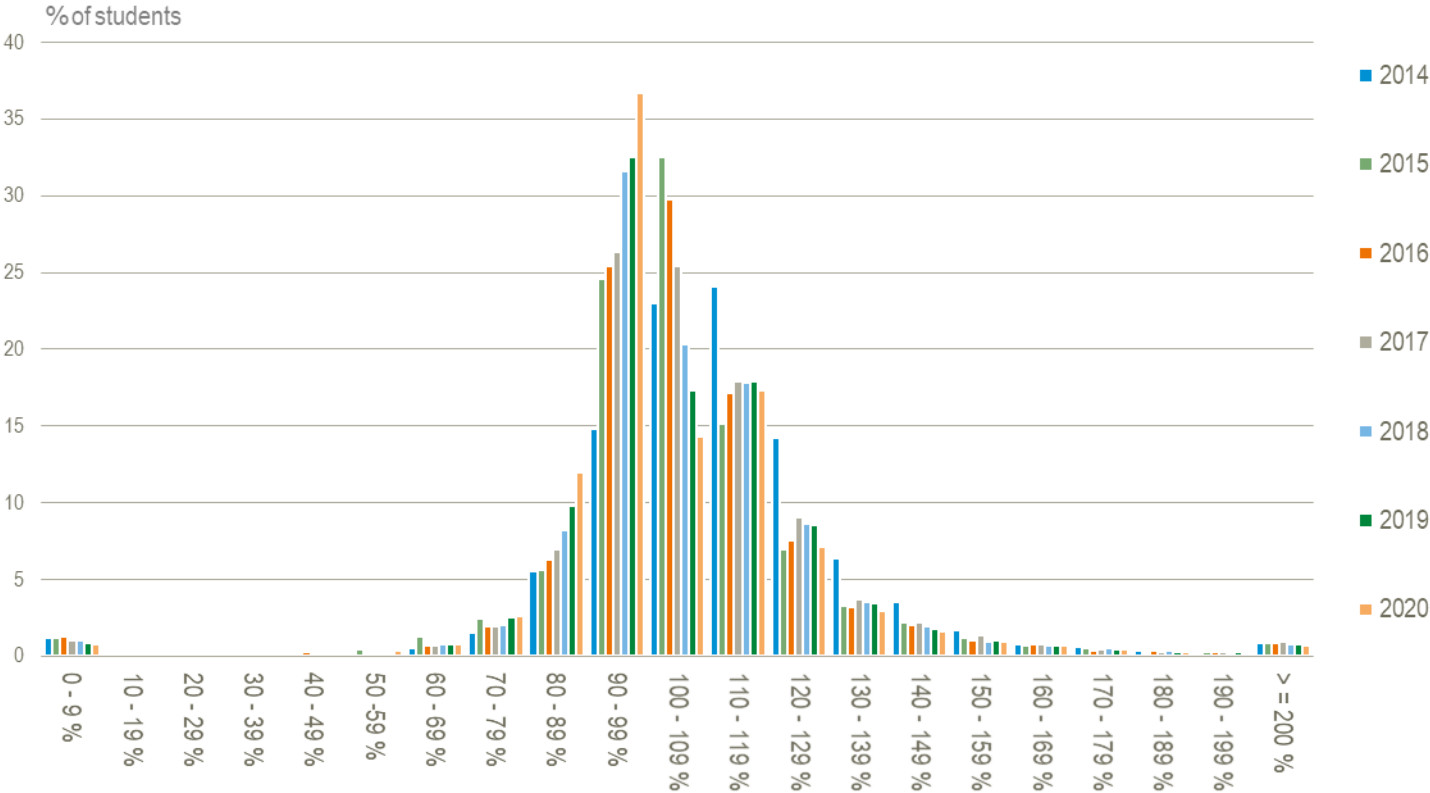| Period of time	Activity	Teachers	Group
8.15 – 9.00	Physical education	Dahl, Eriksen	PE 8.A + 8. B
9.00 – 9.45	Danish	Eriksen	8. B
10.00 – 10.45	Danish	Eriksen	8. B
10.45 – 11.30	History	Substitute teacher	8. B
12.00 – 12.45	French	Larsen	FRENCH 8.
12.45 – 13.30	French	Larsen	FRENCH 8.
13.45 – 14.30	Mathematics	Grøndahl	8. B
14.30 – 15.15	Mathematics	Grøndahl	8. B

Effect of two substitute teachers?

Effect of two **long** hours of mathematics late afternoon?

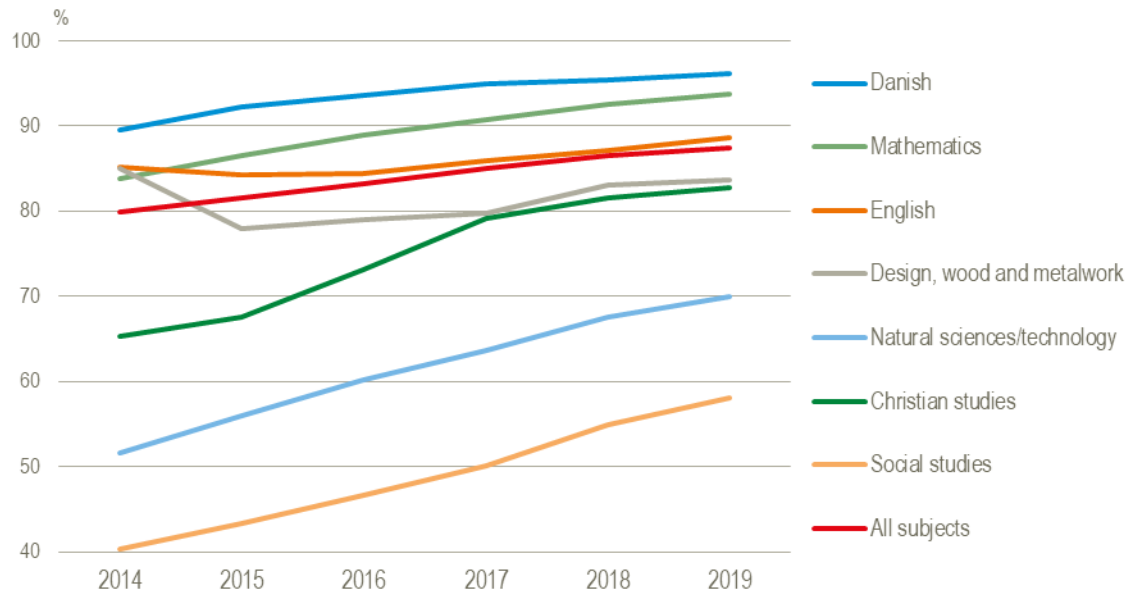500.000 students, 200 school days = 100.000.000 school days every year (big data!)

NSM 2022

Validating the data

Observed versus expected sum of teaching hours per student

Results

Share of lessons with teachers who have teaching competency in the subject

Final grades per student by number of teacher changes in the last six years of primary school

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