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An introduction to the official z-proso school record data

Structure of the Zurich Department`s of Education data and first insights in educational careers

Lea Buzzi, Laura Bechtiger and Denis Ribeaud
Jacobs Center for Productive Youth Development, University of Zurich

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The Zurich School System

The Swiss Context

The Swiss school system is organised on a federalist basis: Each canton has its own teaching curriculum and school system, some of which differ greatly.



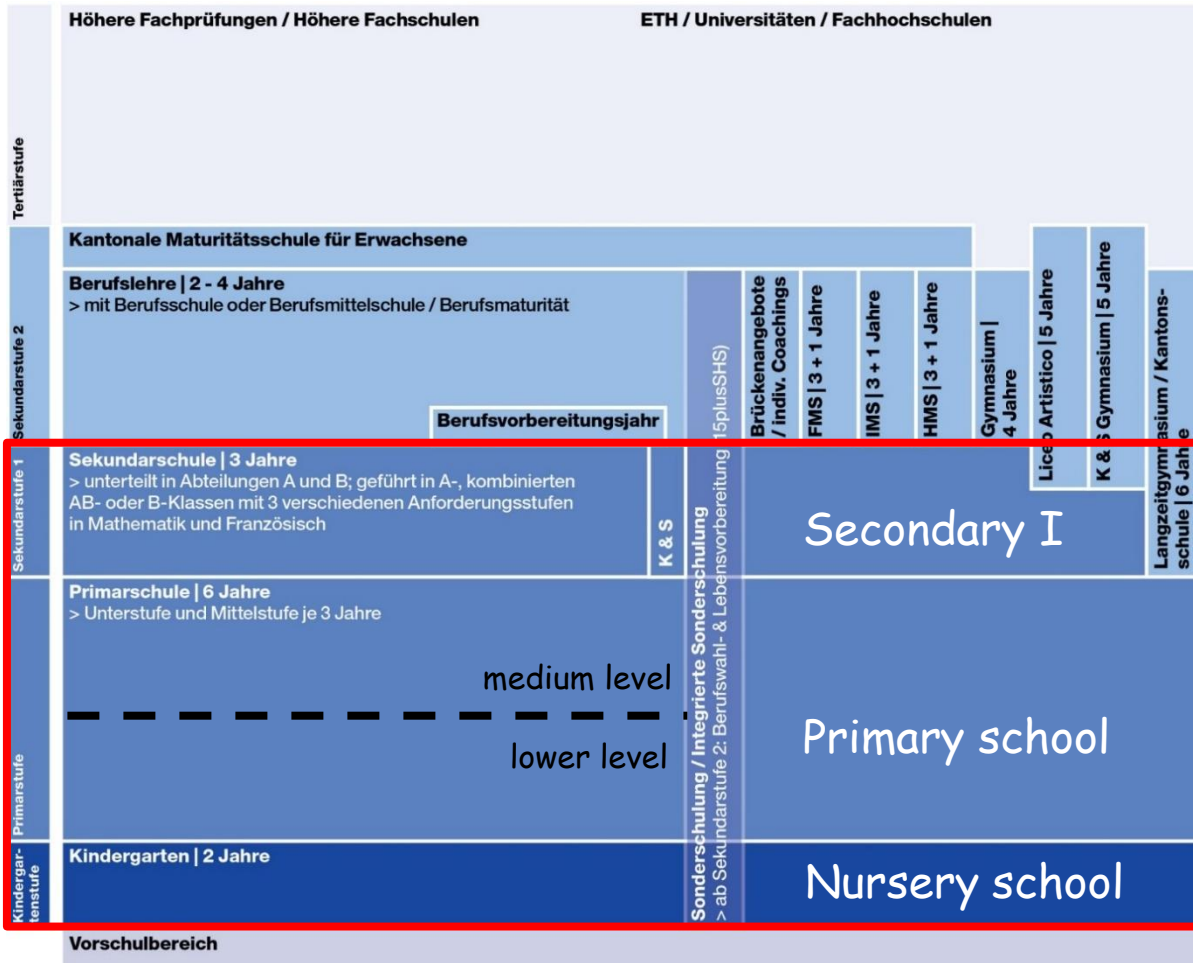
Between 2007 and 2009 the Swiss cantons voted on the introduction of the HarmoS concordat, an intercantal agreement that aims to standardize compulsory schooling

- 15 of 26 cantons have agreed to join HarmoS, including Zurich



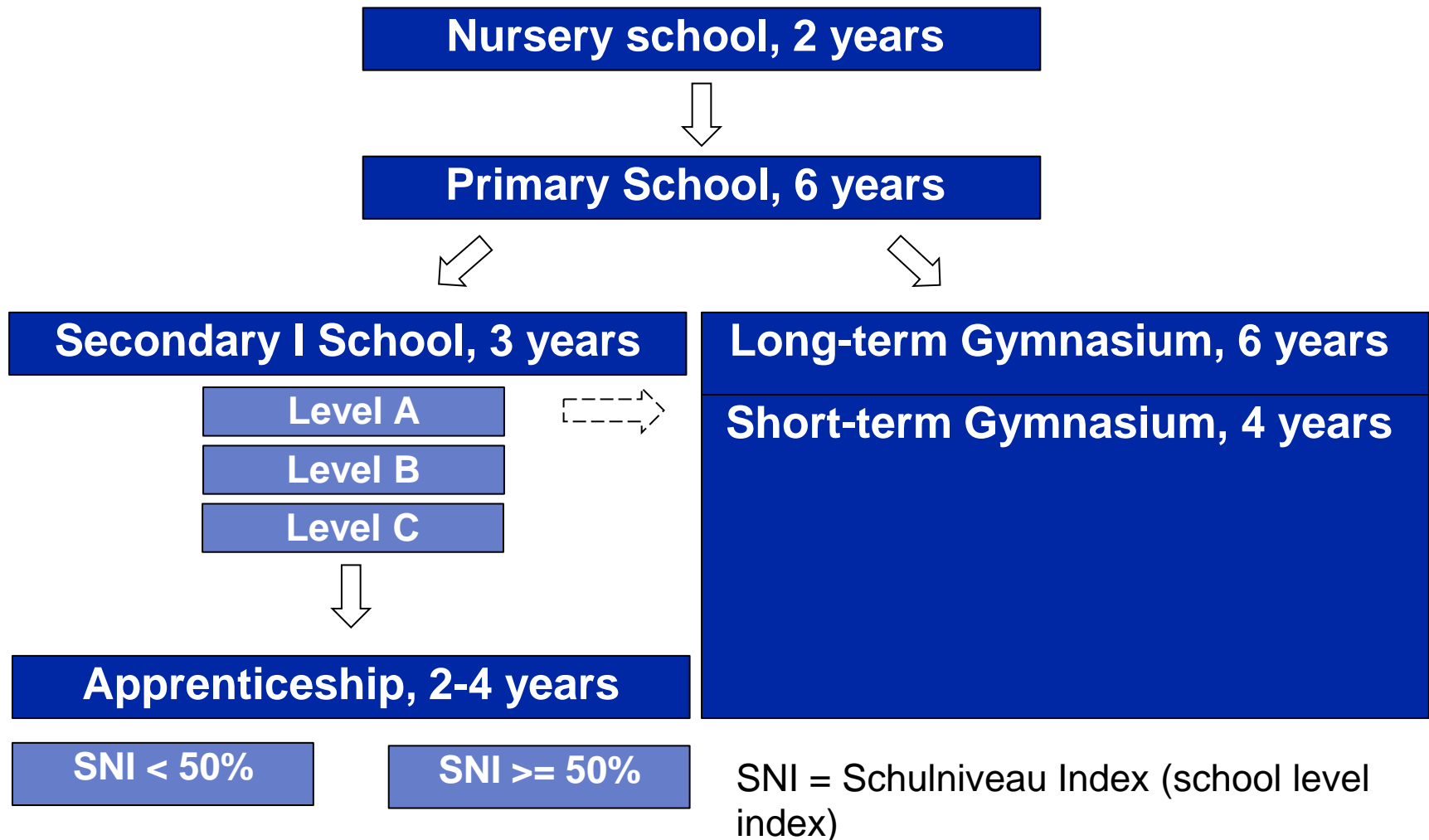
School Levels: Compulsory Schooling

compulsory schooling





Regular School Time: Typical Trajectories





Small Class Education

For children with special educational needs: Different types of small class education (in regular public schools)

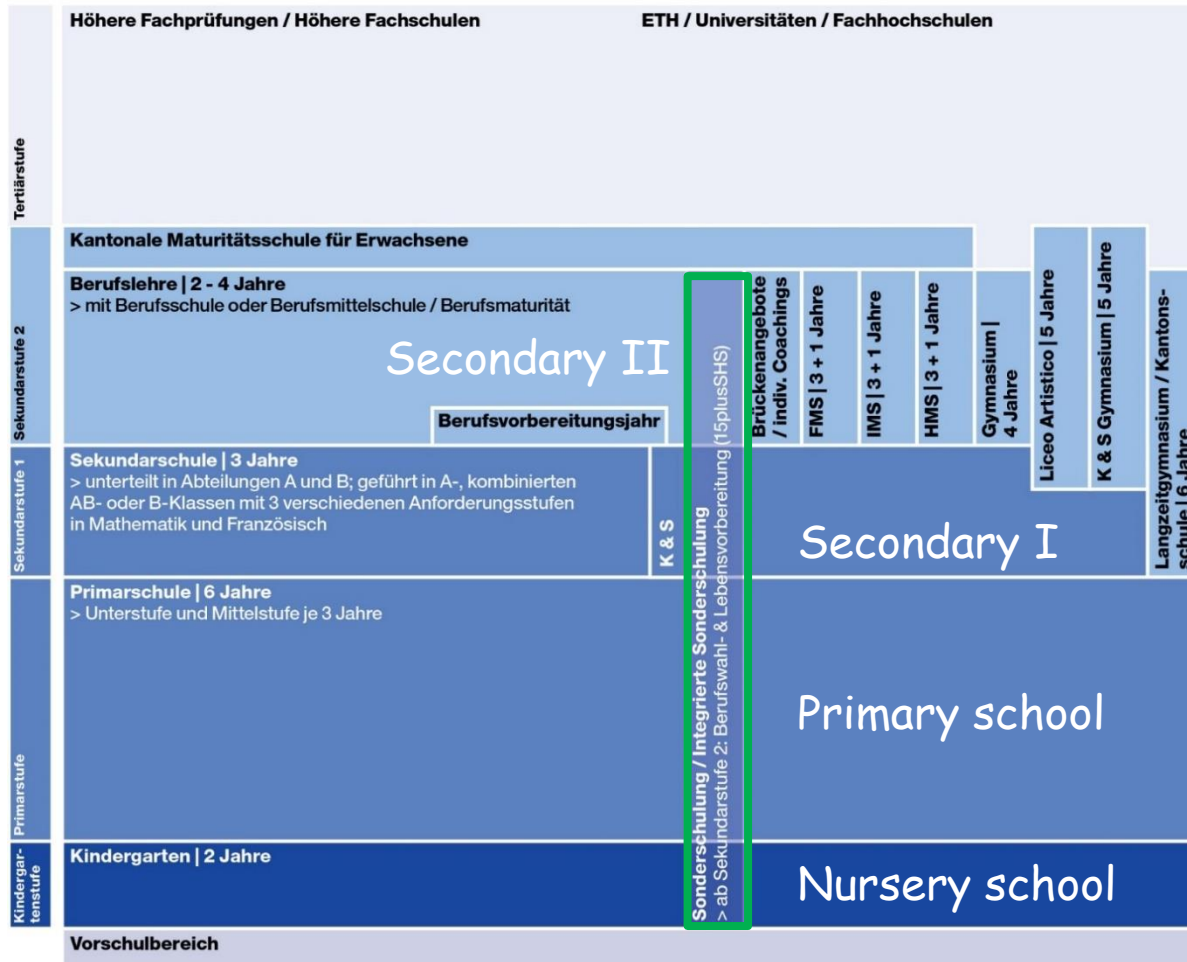
- **Type A („Enrolment class“)**: School material of the first grade is taught over two years.
- **Type B (“Learning disability”)**: Children who are exempt from achieving the learning target because of lower intellectual performance.
- **Type C (“Speech or hearing impairment”)**: Targeted support in advance with the aim of transferring to a corresponding regular class.
- **Type D (“Learning and behavioural difficulties”)**: Children should reach the learning target of the corresponding regular classes in order to be able to be reintegrated there later.



School Levels: Home and Special Needs Schools

Die Volksschule der Stadt Zürich im Bildungssystem

(Kindergartenstufe bis Sekundarstufe 1 = obligatorische Schulzeit)

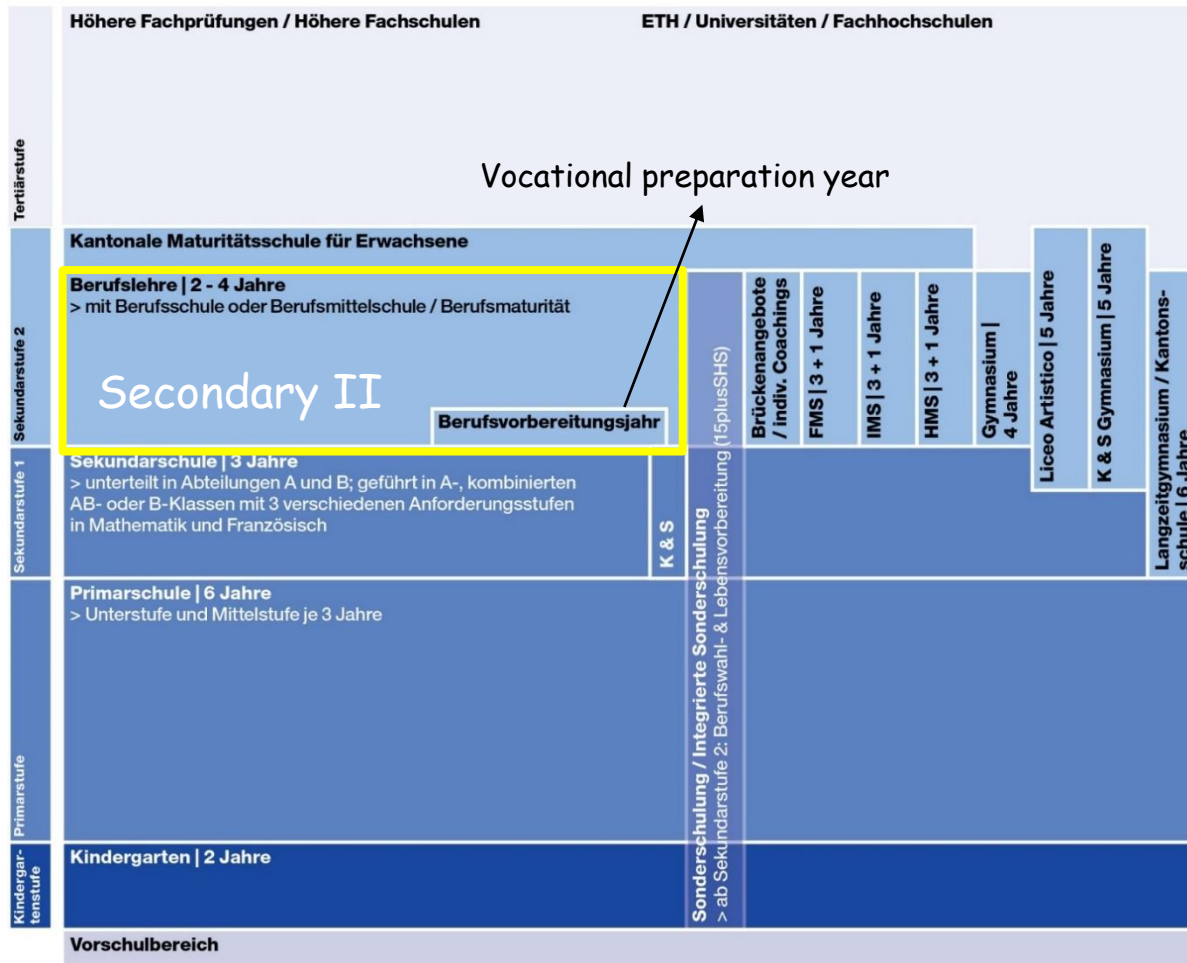




School Levels: Apprenticeship

Die Volksschule der Stadt Zürich im Bildungssystem

(Kindergartenstufe bis Sekundarstufe 1 = obligatorische Schulzeit)





Apprenticeship

Bridging programs (“10th school year”) available to bridge the time between compulsory schooling and initial training

- If someone has not found an apprenticeship after secondary school or a career choice is still too early

Basic vocational training at upper secondary level

- Learners attend a vocational school on one or two days per week for school-based education of an occupation (vocational part and a general education part)
- Possibility to additionally obtain a vocational baccalaureate
- Duration between 2 and 4 years, usually 3 years

School Level Index (SNI): Apprenticeships can be categorized according to the percentage of persons with a level A (or baccalaureate) secondary I degree



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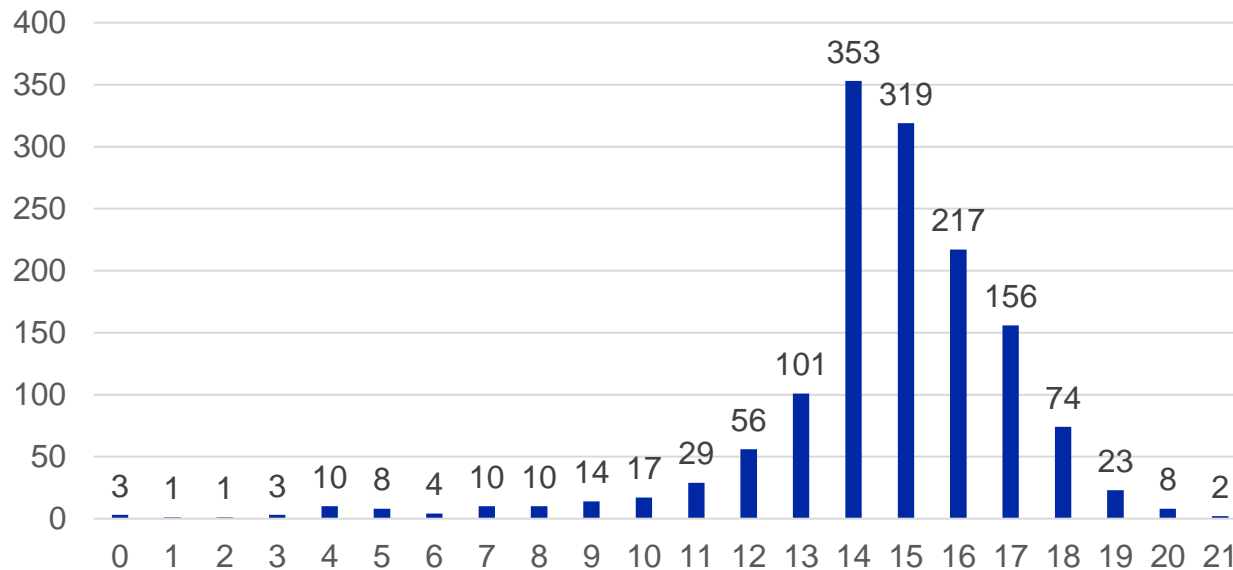
Background and Data Structure



What Kind of Data?

Official school record data from the Zurich Department of Education

- 1419 z-proso participants consented to have these data collected
- Period: 2000-2022



■ Number of Records per Participant (2000-2022)



Data Structure (I)

The data set contains the following information:

- School type (e.g., Public School, Special Needs School)
- Education type (raw and recoded, e.g. Electrician EFZ and apprenticeship SNI < 50%)
 - Recoded values: *nursery school, primary school, small class education A (enrolment class), small class education (type B, C or D), secondary A, secondary B/C, baccalaureate, HMS/IMS/FMS, vocational preparation/bridge year, apprenticeship SNI <50%, apprenticeship SNI >= 50%, vocational baccalaureate BM2, special needs school*
- ISCED code (International Standard Classification of Education)
- HarmoS programme year (corresponds with school grade, ranges from 1 (nursery school) to 33 (higher vocational education))



Data Structure (II)

Derived variables:

- Repetition of grade
- Change within educational level (e.g., change of apprenticeship)
- Transitions between primary, secondary I and secondary II (e.g., primary to Secondary level A)
- School level index (SNI): categorization of apprenticeship according to the percentage of persons with a level A (or baccalaureate) secondary I degree (< 50% and >=50%)



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Educational Trajectories of z-proso Participants



Educational Careers of z-proso Participants

Very diverse: **60 different combinations** of educational stations per year for the period from 2002 to 2012

- **33** of these educational careers are **unique** within our sample

Regular course of compulsory schooling for z-proso participants:

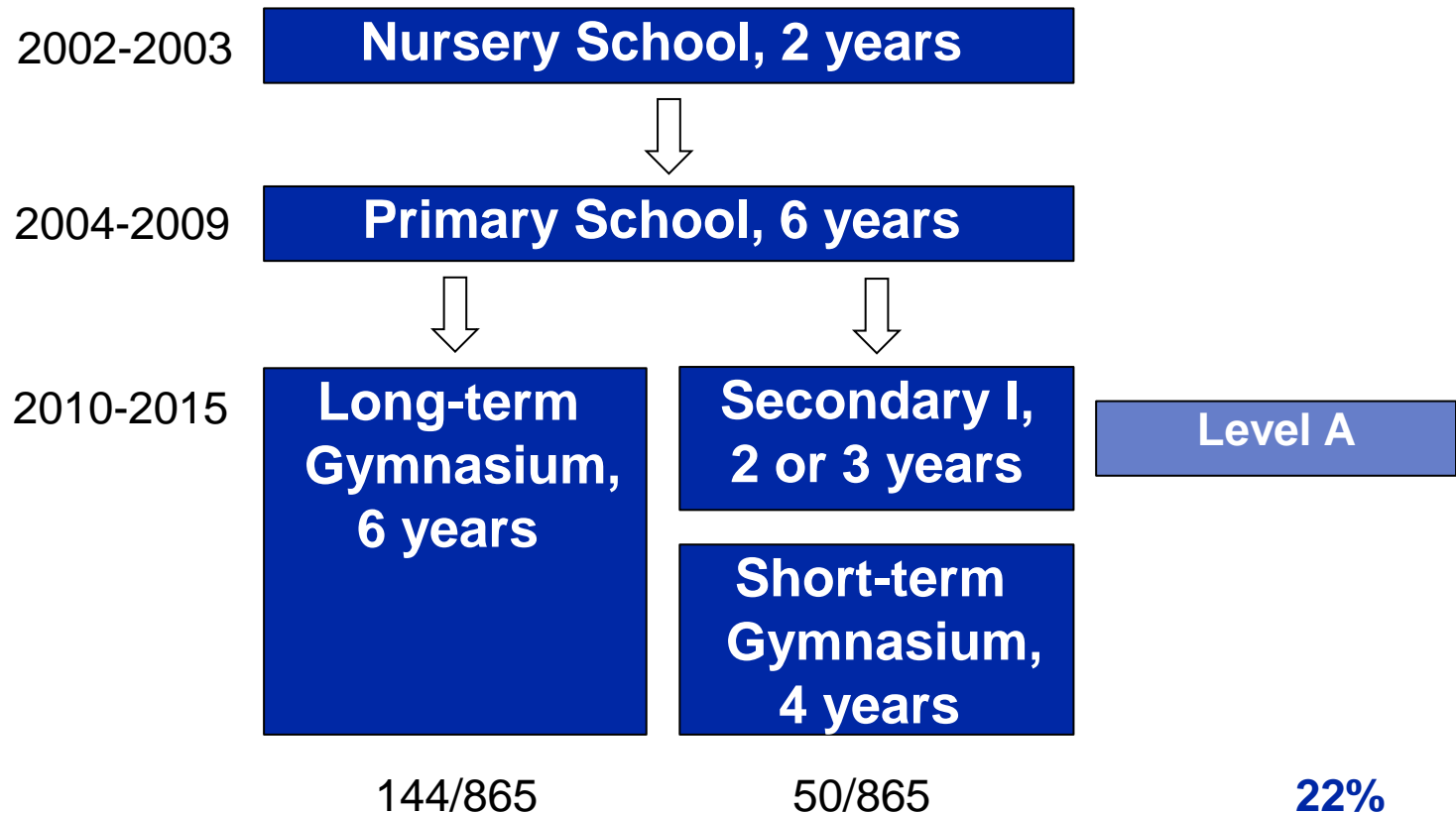
| | |
|-----------|---|
| 2002-2003 | Nursery School |
| 2004-2009 | Primary School |
| 2010-2012 | Secondary I (Secondary School or Gymnasium) |

79.4% of the participants have a “normal” course of regular school time

- **20%** have a **delayed** and **0.6%** an **accelerated** course during this period (<11 years)

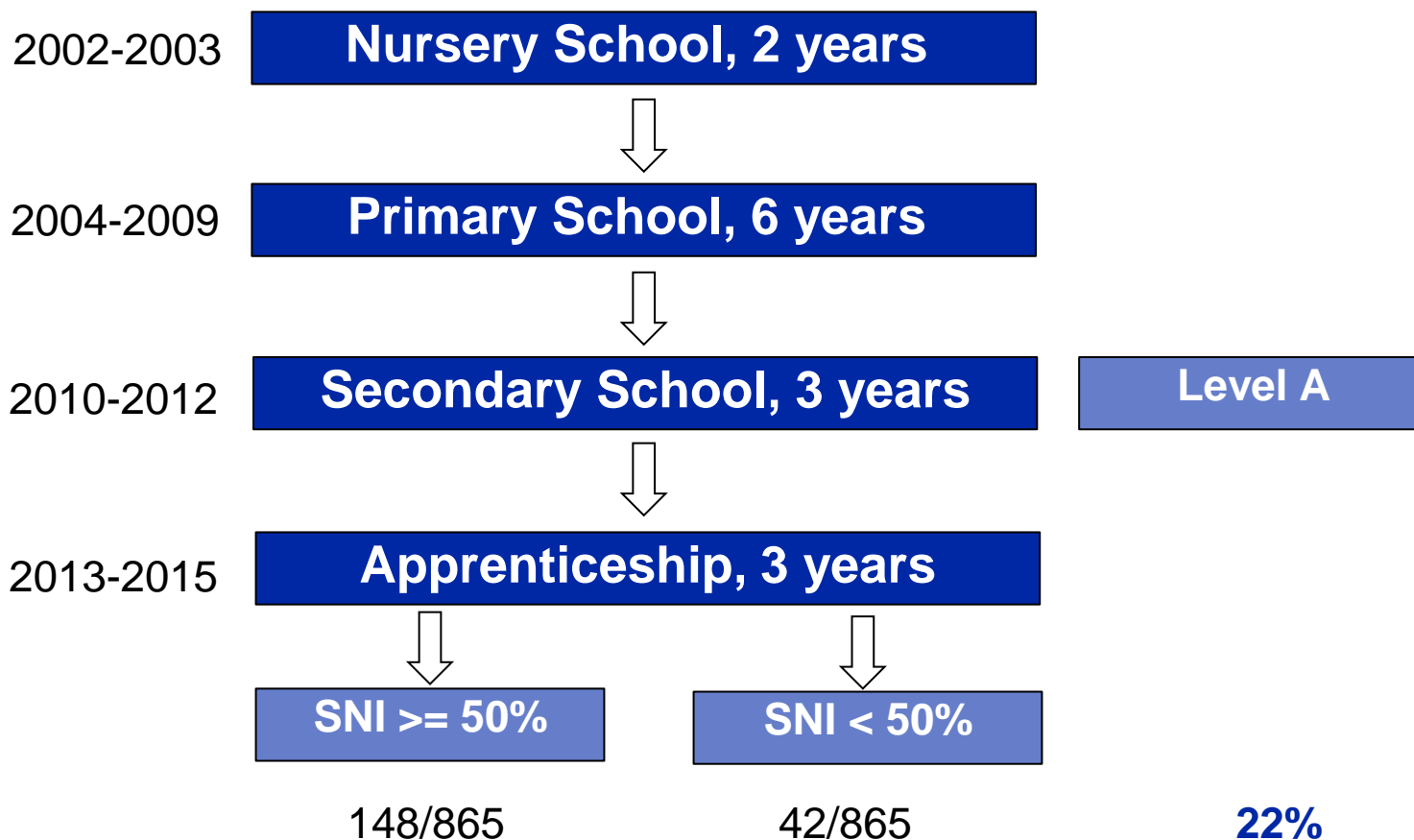


Regular School Time: Typical Trajectories in z-proso (I)



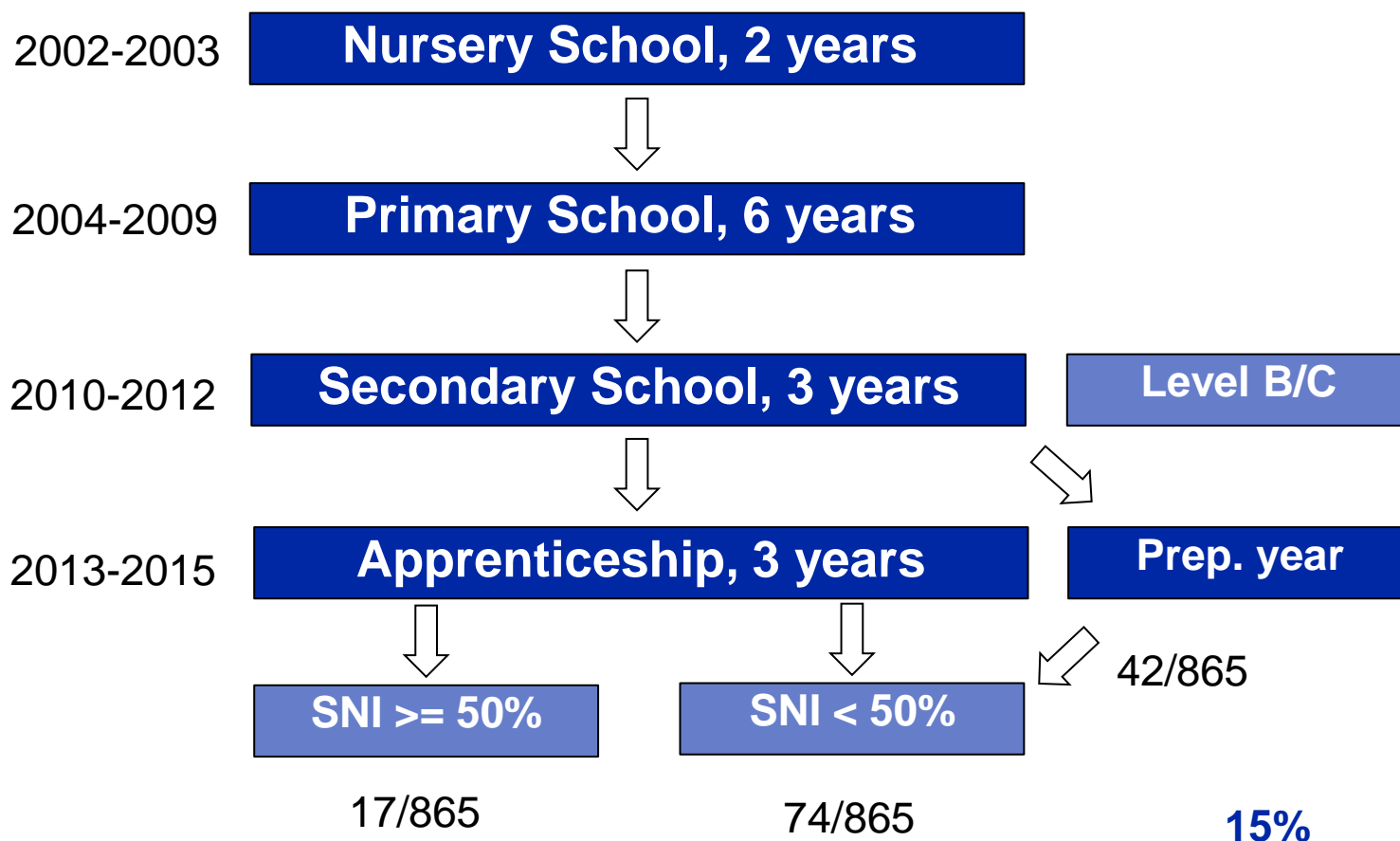


Regular School Time: Typical Trajectories in z-proso (II)





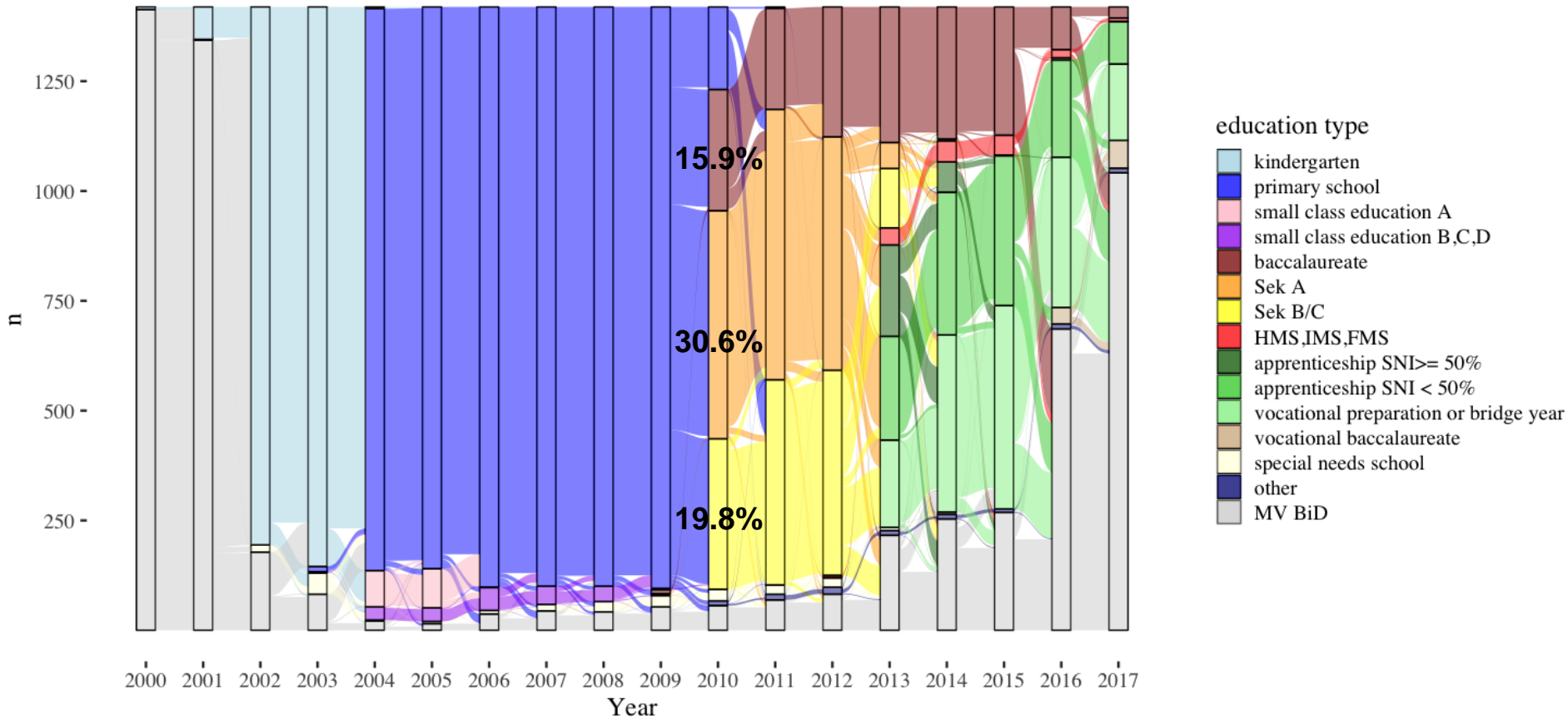
Regular School Time: Typical Trajectories in z-proso (III)





Educational Trajectories and School Transitions

Nursery School Primary School Secondary I Secondary II





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Working with the Data



Benefits

- ✓ Objective data: Official school records
- ✓ Data covers the entire period from 2000 to 2022, this allows to model exact educational pathways
- ✓ Accordingly, the data covers also the time between z-proso assessments
- ✓ Timing of educational (social) transitions is visible, important for developmental analyses



Limitations

Due to the source of the data (Zurich Department of Education) some important limitations are:

- Does not cover indicators of success (graduation, grades)
- Missing information on education outside of the Canton of Zurich
- Incomplete information about the tertiary level (e.g, entries from universities and universities of applied sciences are not included)

We integrated a detailed system for missing values that indicates (possible) reasons for missing data based on our z-proso data

- e.g., education outside of the canton of ZH, university, termination of educational career, interruption of educational career



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What's coming next?



Outlook

Applied for the LABB data (long file longitudinal data in the education system) from Federal Statistical Office

- This dataset combines four different sources of educational data
- Covers educational information in every canton of Switzerland
- Contains information from the *Database of students and degrees of the Swiss Higher Education Information System (SHIS)*

This data would provide additional important information on education outside of the canton of Zurich and the Tertiary level that offset limitations of the data from the Zurich Department of Education



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**Thank you for your
attention! 😊**



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https://www.zh.ch/content/dam/zhweb/bilder-dokumente/themen/bildung/bildungssystem/studien/bildungsverlaeuft_waehrend_der_obligatorischen_schulzeit_bericht.pdf

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https://www.stadt-zuerich.ch/ssd/de/index/volksschule/themen_angebote/schulsystem.html

Special Needs Education:

https://www.zh.ch/content/dam/zhweb/bilder-dokumente/themen/bildung/informationen-fuer-schulen/informationen-fuer-die-volksschule/besonderer-bildungsbedarf/sonderschulen/integrierte-sonderschulung/integrierte_sonderschulung.pdf

Vocational training and bridging programs:

<https://www.zh.ch/de/bildung/schulen/berufsfachschule.html>

<https://www.zh.ch/de/bildung/schulen/brueckenangebote.html>

HarmoS:

<https://www.zh.ch/de/bildung/bildungssystem/interkantonale-zusammenarbeit.html>

https://www.nzz.ch/weshalb_harmos_im_kanton_zuerich-ld.1096030?reduced=true

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Home and Special Needs Schools

For children who cannot be adequately educated in a small class setting in regular schools (e.g., due to physical disability)

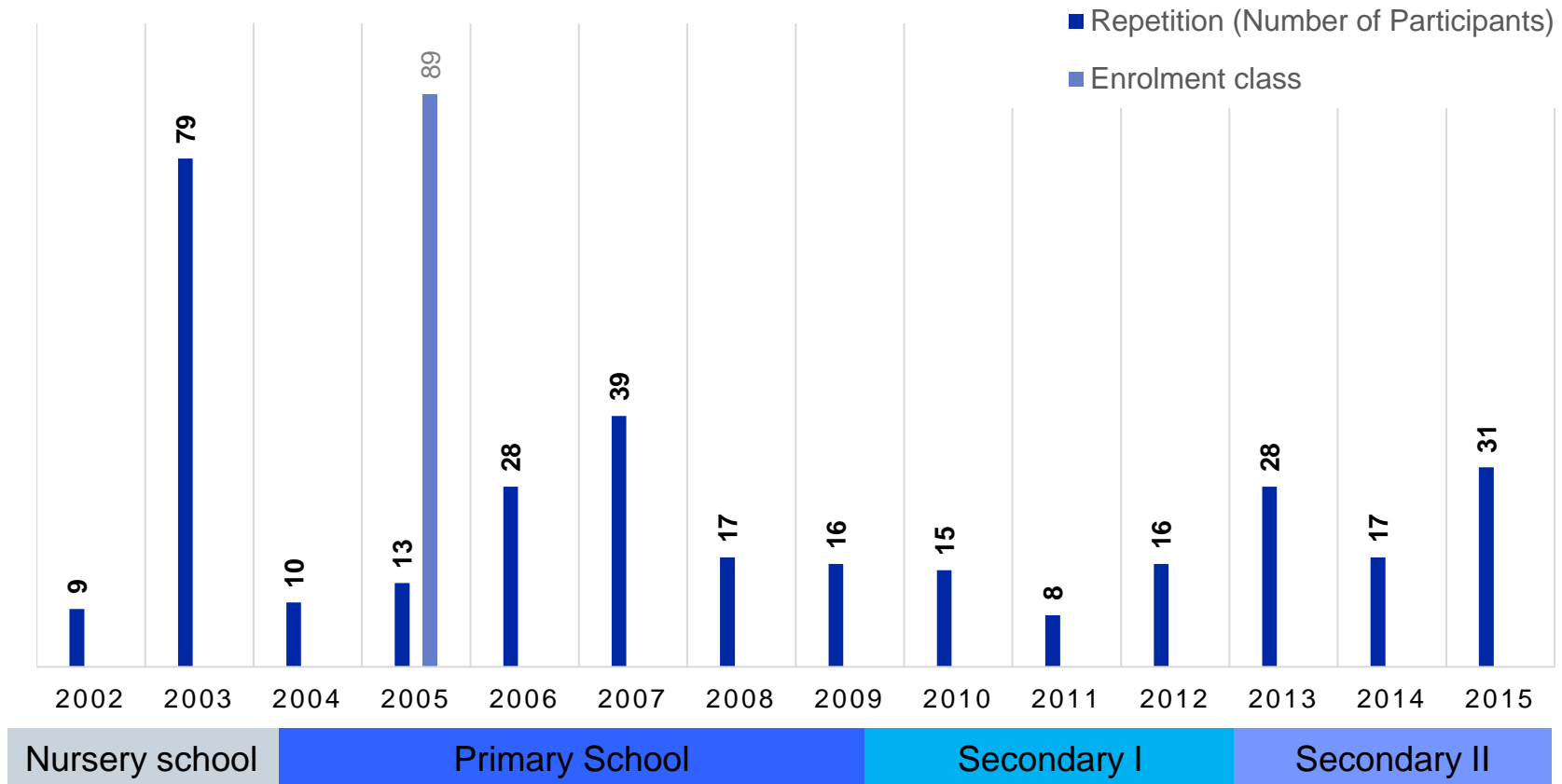
- Depending on the circumstances of the pupils, special school placement can be combined with a home care programme
- After completion of compulsory schooling (2 years nursery school, 6 years primary school, 3 years secondary I): offers for career choice and life preparation (upper secondary level)

Reasons for special school placement in our data set:

- School educable mental disability
- Behavioural impairment (normal aptitude)
- Mental health problems
- Learning disability
- Epilepsy



Repetition (w/o Special Needs Schools)



89.6% did repeat a class **once**, **9.8 %** **twice** and **0.6 %** **three times** until completion of secondary II



Change within school level

