

# INCLUSIVE PRIMARY SCHOOLS



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# Inclusive primary schools

## 1 | Research topic

### 1.1 Inclusive education

Inclusive education is for all children. This also includes 'different' children with special needs because of physical or intellectual disabilities, developmental delays, behavioural and emotional problems and/or specific learning difficulties (Bosdriesz & van Veen 2023).

Education was approved as a right for all children by the UN in 1948. With the Salamanca statement in 1994, UNESCO addresses the importance of inclusive education. And in 2007, the UN approved inclusive education as a legal right for all children (Fuchs et al., 2012).

Inclusive education does not only exist solely on legal rights. Multiple sources have proven that all children benefit from inclusion rather than separation. 'Different' children improve their social and cognitive skills and children without special needs improve their communication skills and empathy (Høeg & Alber, 2023).

Besides that, inclusive education is a strong foundation for an inclusive society. The inclusion of children in schools will help resolve traditional negative attitudes and stigmas towards those who are 'different' (Dudek, 2007).

There is still a small group, often rich western countries, that still maintain a segregated education system and therefore lag behind in inclusive education. Examples are Germany, the Czech Republic, Belgium and the Netherlands. This is mostly because of a long tradition of special schools and little change in teacher education. There is also a performance culture because of groups focussing on maintaining the status quo. Examples from other countries show that it can be done differently. Countries like England, Austria, Norway and Canada are already very developed in the field of inclusive education (Groeneweg, 2012).

### 1.2 Physical environment and universal design

Primary schools are environments where children socialise, develop themselves and learn to accept differences between people. There is a lot of research showing that the quality of the physical environment affects student learning and achievement, it can minimise physical, sensory and cognitive barriers so that children can learn and play together. The architectural is strongly intertwined with the pedagogical, but often overlooked. Also for inclusive education, the physical environment of the school, is important and plays a role in a functional way, as well in social, psychological, cultural and ethical levels. Therefore can be stated that the design of the school building has an essential supporting function for the success of inclusive education (Acknah & Danso, 2018).

Research already addresses topics and themes that should be taken into account while designing an inclusive school. These topics are classroom management, physical access, adequate spaces, safety, acoustics, lightning, ventilation, colour and decoration, but these are often too technical (Acknah & Danso, 2018).

Children have different needs for protection and challenge, control and independence, and respond differently to stimuli. The diversity of children is large in an inclusive school, and how these themes should be interpreted in the physical environment is not straightforward (Fuchs et al., 2012). In general, inclusive education asks for an environment which supports presence, participation and achievement for all children. It needs to be architecturally accessible and usable so that no child is denied equitable educational and social experiences. Designers focus on the question for proper school buildings to support inclusive education in primary schools. Universal

Design (UD) is an design strategy that support the idea of inclusion in physical environments. The 7 principles of UD are developed in 1997 by the Centre for Inclusive Design and Environmental Access. It can be applied in architecture and product design, but also in business and society. For physical environments, it creates a design for all, to make it accessible, usable and tolerable for all children with diverse abilities (Erkilic & Durak, 2012). The 7 key principles of UD are:

1. Equitable use: the design is usable by anyone, and does not disadvantage, stigmatise or privilege any group of users.
2. Flexibility in use: the design does not only accommodate a wide variety of individual choices, but also adapt to the user's varying functional abilities.
3. Simple and intuitive use: all aspects of the design are easy to understand regardless of the user's experience, knowledge, language skills or concentration level.
4. Perceptible information: The design communicates all necessary information effectively to all users regardless the cognitive or sensory abilities, or condition of the user.
5. Tolerance for error: the design minimis hazards and consequences of accidents or unintended actions by all users.
6. Low physical effort: everyone can use the design efficiently, comfortably and with minimal fatigue.
7. Size and space for approach and use: the design provides appropriate size and space for approach, reach, manipulation and use regardless of the user's body size, posture or functional abilities.

These 7 key principles are an abstract approach for any inclusive environment. In order to make concrete guidelines, they need to be placed in context. The education system of the country, time and place will shape the physical environments in inclusive primary schools.

### 1.3 Inclusive education in the Netherlands

The Netherlands has a highly differentiated education system, as shown in the figure below. Primary education (bao/sbao/sbo) is 8 years and there is freedom of school foundation how you organise your education and the vision of pedagogy. As a result, the Netherlands has a diverse range of schools with educational concepts and religions (OCW, 2021). Besides that, the system has its own column for special education. Inclusive education tries to close the gap between regular and special education, which has direct influence on the educational environment. It focusses on what the function of education should be, for who it is and how it is designed. This results in one environment for all children and covers both the level of organisation and vision of education (van Veen, 2017).

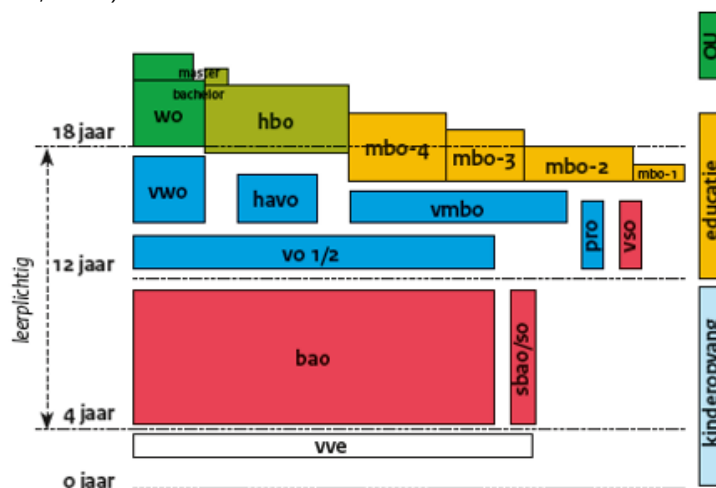


Figure 1 Schematic Dutch education system (OCW, 2021).

Inclusive education has been preceded by earlier developments. These developments mirror the change in views on people with disabilities in society and therefore also children with disabilities in education. In 1901, compulsory education was introduced, the legal obligation to educate children. Soon, teachers were complaining about problems of children with disabilities in their classrooms. Special schools were built for these children and a great expertise developed. The regular and special schools were given separate financial flows what highlighted the segregation even more. At the end of the 20th century, inspection showed the lack of stimulating education in the special schools and high costs. In 1994, the earlier mentioned Salamanca statement was also signed by the Netherlands, stating that every child has the right to education and participation in the school community close to home with a school in their own neighbourhood, and the school system should be designed in that way (Fuchs et al., 2012).

In the Netherlands, steps have been taken from the segregative to the inclusive school system since 1970; projects stimulating collaboration between regular and special education in 1975, the Interim-wet in 1985 and Weer Samen Naar School in 1990. But despite everything, the number of children in special education kept rising. With pupil-linked funding (*het rugzakje*) in 2003, school choice for children with disabilities should increase, and in 2014, *zorgplicht* within *de Wet Passend Onderwijs*. *Passend Onderwijs* didn't expect to solve segregation, it wanted to see a shift of children from special to regular education (Fuchs et al., 2012). A short decrease in children in special education followed, but soon turned back into increasing.

In 2020, it became clear that things could and should be better, and advice and improvement approaches followed from OCW and the *Onderwijsraad*. The government wants to further develop the concept of *Passend Onderwijs* into inclusive education, where all children have access to education close to home, with necessary support, in schools that include both children with and without disabilities (Onderwijsraad, 2020).

The goal for Dutch education is to be inclusive by 2035. On 17 March 2023, the *Werkagenda "Route naar Inclusief Onderwijs 2035"* was written by OCW, outlining the ambitions, actions and measures for achieving inclusive education. It describes initiatives and opportunities that already exist, such as collaboration between regular and special education, Samen naar School classes, educational care arrangements, customisation and care in teaching time. In addition, 6 action lines are given:

- Equipping school and staff
- Easy accessible help in and near the school
- Organising covering offer of (inclusive) education and support
- Creating regulation space in learning path and development
- Realising inclusive school buildings
- Standardising inclusive education

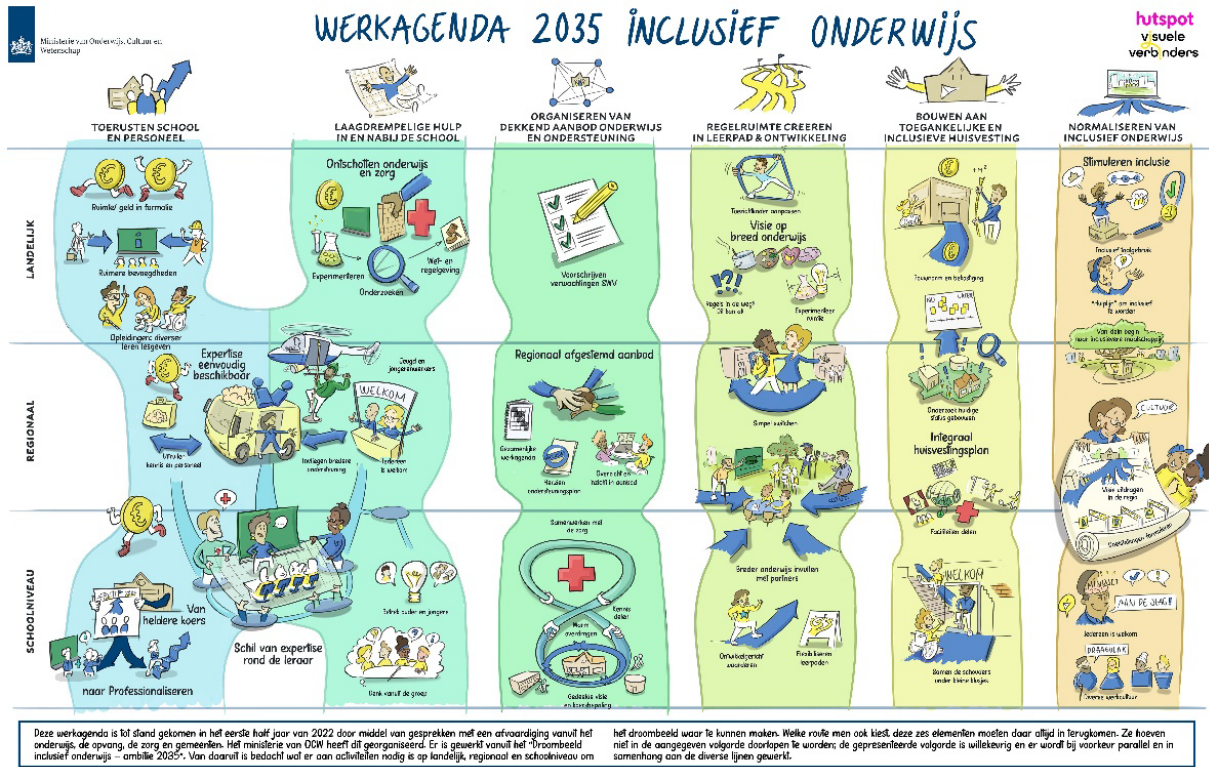


Figure 2 Werkagenda Route naar Inclusief Onderwijs (OWC, 2023).

The *Werkagenda* (2023) states that housing requirements for inclusive education should be set for school buildings so that municipalities can include this in their policies and IHP. Little or nothing is currently known about housing requirements for inclusive education in the Netherlands. This is confirmed in an interview HEVO on 20 October 2023, one of the leaders in housing advice for inclusive education. Various parties are involved in education housing; government, municipalities, national councils,  *Samenwerkingsverbanden*, foundations, boards, schools, teams, developers and architects. But working on inclusive education is a process that needs to be given meaning and shape from the bottom up, within its own context. Therefore, there is a need to look into practice to learn about housing for inclusive education. "We need to think better about what an inclusive school building should look like," according to school leader Berdi de Jonge. "It's about way more than lifts and ramps." Berdi de Jonge is school leader of De Korenaar in Eindhoven, one of the pioneers when it comes to inclusive primary schools. Besides De Korenaar, there are already another 500 schools, 5%, in The Netherlands working on various scales and fields of inclusive education. By 2035 this should be 100% (FNO, 2023).

### 1.4 Conclusion

*The Netherlands and inclusive education*; we have to come a long way and are late compared to many other countries. We have developed one of the most differentiated school systems over the years and this does not make it any easier. A lot of work has been done in recent years to make Dutch education more inclusive and this is showing positive results. Also the Dutch government wants to move towards inclusive education and there are many ways to stimulate and accelerate this. School buildings have an important supporting function to facilitate inclusive education, so that children, teachers and other users do not continuously face obstacles. A proper building and clear design guidelines are needed in order to enable the development in the Netherlands in the field of inclusive education.

## 2 | Theoretical Framework

### 2.1 Theoretical Framework

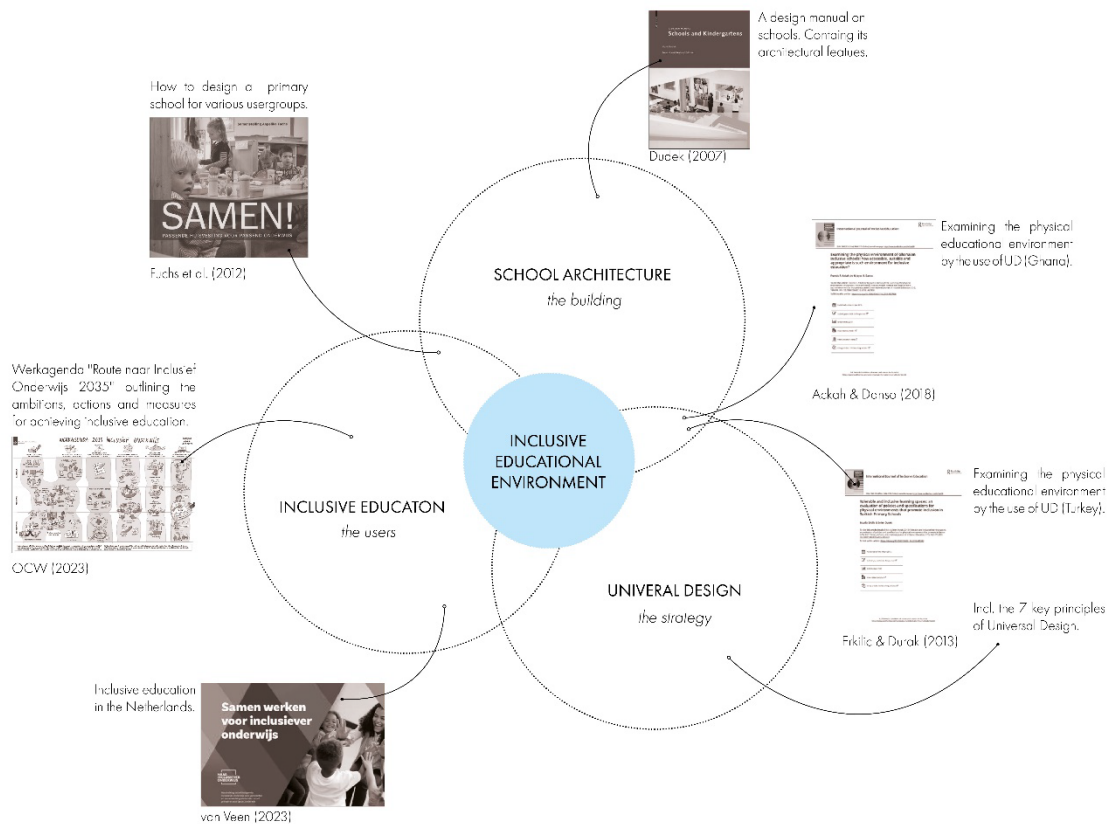


Figure 3 Theoretical framework by author (2023)

### 2.2 Hypothesis

Because of the diversity of children and their different needs in the physical environment, it is impossible to give general and always applicable answers to design questions. The perfect building does not exist. However, through research, more information will be available about the spatial needs of inclusive education. This could improve the physical environment to improve support for inclusive education. Through the design and structure of the building, calmness and protection can be created so that every child has a basis from where they can experience the school's challenges.

As seen from previous and similar research by Erkilic & Durak (2012) and Acknah & Danso (2018), 3 universal design key principles, will probably play a big role in the design for an inclusive school. Number 7, size and space for approach and use, will play an important role in making the school accessible to all users. Following, number 3, simple and intuitive use, would be an essential factor to minimise barriers and allow every child to participate. Finally, number 2, flexibility in use, in all ways should ensure that all children find their place in school. Nevertheless, once design guidelines are set up, they only make sense if they are placed in the correct context.

### 3 | Research questions

#### 3.1 Research aim

Developing design guidelines for inclusive primary schools in the Netherlands.

#### 3.2 Research question

What physical environment features support inclusive primary schools in the Netherlands?

#### 3.3 Sub questions

1. What are the features of the physical environment?
2. What are the needs for inclusive primary schools in the Netherlands?
3. What does universal design mean for inclusive primary schools in the Netherlands?

#### 3.4 Definitions

The *physical environment* is the classroom and its furnishings, but it also involves the school building and all its contents, including physical structures, materials, infrastructure, various in- and outdoor spaces, furniture and the site on which a school is located and the site conditions which all children come into contact with (Acknah & Danso, 2018).

*Inclusive primary schools in the Netherlands* are 'regular' primary schools where all children can go to. This also includes 'different' children with special needs because of physical or intellectual disabilities, developmental delays, behavioural and emotional problems and/or specific learning difficulties (Bosdriesz & van Veen 2023).

#### 3.5 Include/exclude

Every country has a different education system, demography and geography. Therefore, only studying primary schools in the Netherlands will be relevant in order to come to useful results.



## 4 | Research Methods

### 4.1 Features of the physical environment

The first question will be answered by literature review on the features of the physical environment of primary schools. The goal is to know of what elements the physical environment consists of, can be worked with and have to be taken into account while researching and designing school buildings. *Schools and kindergartens, a design manual* by Mark Dudek (2007) will be used for more general features of the physical environment of primary schools. *Samen!* by Fuchs et al. (2012) will be examined in order to gain more understanding of architectural features for special needs and disabilities in a regular primary school. And finally, practical information and regulations on schools in the Netherlands will be gathered by using *Frisse Scholen* and *Kwaliteitskader*, both by RuimteOK, and *modelverordening onderwijshuisvesting* by VNG.

### 4.2 Needs for inclusive primary schools in the Netherlands

To answer the second question, two case studies on inclusive primary schools in the Netherlands will be done. This will be De Kroevendonk in Roosendaal (BDG Architects) and De Korenaar in Eindhoven (Raffaan Architects), both outstanding examples of Dutch inclusive education. The schools will be visited in order to get an understanding of the environment that is created. Furthermore HEVO, the project manager, and the architects will be interviewed. I am in contact with all 5 parties.

The fieldwork, to find out more about the needs, will also be done at De Kroevendonk and De Korenaar. Approximately 30 staff members will be shortly interviewed on their needs for inclusive education and their experiences with the physical environment of the school. And approximately 15 children will be interviewed by using photovoice. They will be asked to take pictures of positive and eventually negative spots in or around the school, based on what the inclusive schools means for them. In an additional chat they will be asked for further explanation of their photos. Spots which are often mentioned by the staff or children can be additionally studied to discover their qualities or weaknesses.

### 4.3 Universal Design

To answer the third questions, more literature review on universal design and the physical environment will be done. The studies of Ackah & Danso (2018) and Erkilic & Durak (2013) on the physical environment of inclusive education will be used. After that, the research data will be evaluated and organized according to the 7 key principles of universal design. *Are there similarities/differences? With which key principle(s) do they match? Which are more frequent? And what does that mean? Etc.*

## 5 | Research output

To answer the main question, the features of the physical environment of primary schools, followed by key principles of universal design, based on the result of the fieldwork and case studies, will be translated into design guidelines for primary schools in the Netherlands.

6 | Research Diagram

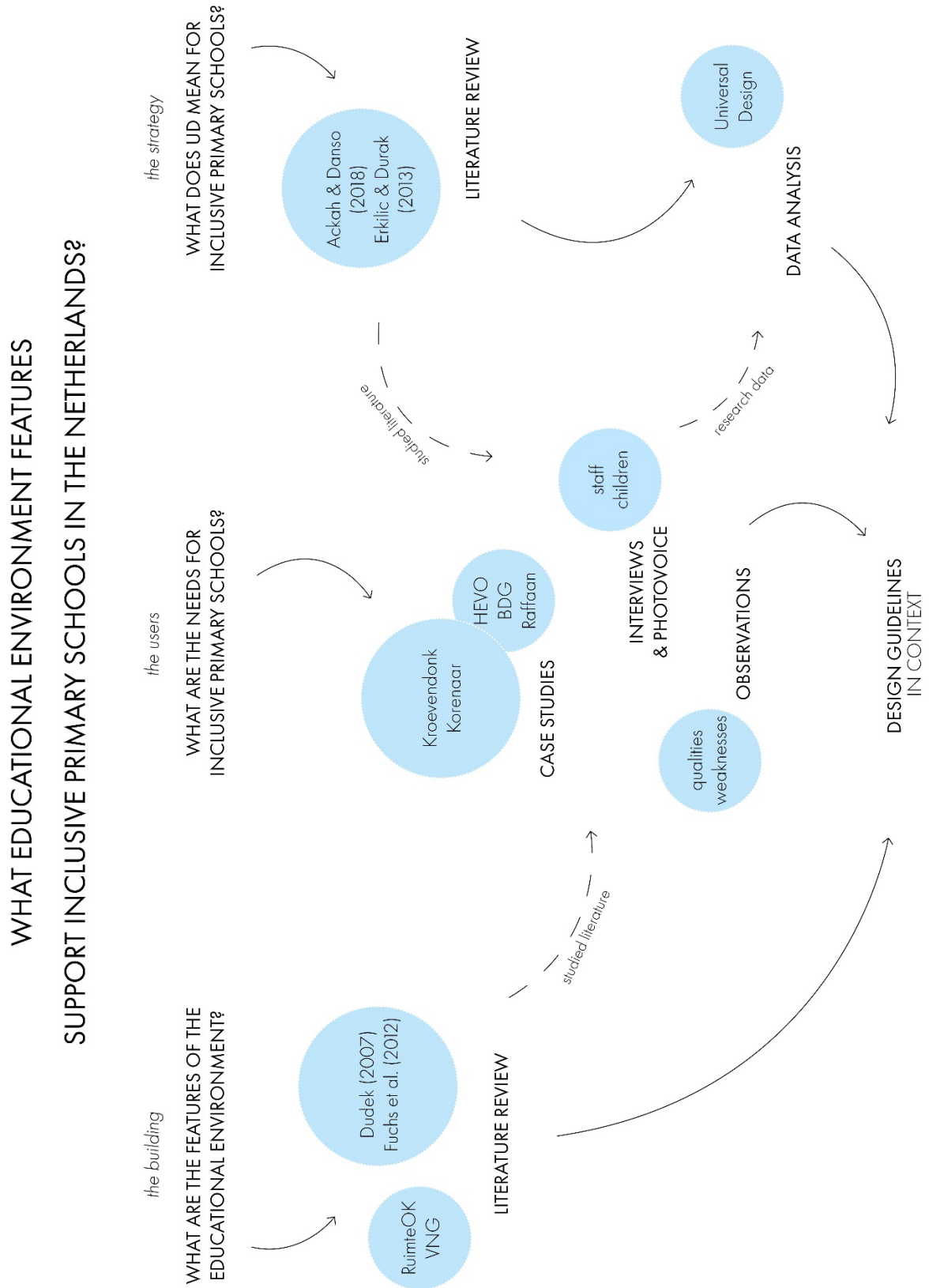


Figure 4 Research diagram by author (2023).

## 7 | Literature

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### List of figures

- Figure 1** Ministerie van Onderwijs, Cultuur en Wetenschap (2021). *Schematische weergave Nederlands onderwijsstelsel*. OCW in cijfers. <https://www.ocwincijfers.nl/sectoren/onderwijs-algemeen/schooltypen/schooltypen>
- Figure 2** Werkagenda Inclusief Onderwijs (2023). *Contouren Werkagenda Route naar inclusief onderwijs 2035*. Retrieved from <https://www.rijksoverheid.nl/documenten/kamerstukken/2023/03/17/werkagenda-route-naar-inclusief-onderwijs-2035>
- Figure 3** Theoretical Framework by author (2023).
- Figure 4** Research Diagram by author (2023).

## 8 | Appendix (Fieldwork)

The fieldwork will take place at inclusive primary schools *De Kroevendonk* in Roosendaal and *De Korenaar* in Eindhoven, both places will be visited for 2 full days. These 2 schools are pioneers in the Netherlands in the field of inclusive education. They have recently moved into their new building, but will also be able to tell me about their old building.

### *Observation*

I rarely visit a primary school anymore and have never been to an inclusive primary school. Being present at the school for several days gives me a feeling for the environment that I will design. Interesting and relevant information that I gather during the day by observation of various situations, I will write down or sketch. I can make a list in advance of various situations that take place during the day in a primary school and make sure I have seen and experienced each situation. If necessary, additional study of notable and common situations can be done during the fieldwork. Places often mentioned by staff or children during the interviews can be additionally studied to discover the qualities or weaknesses. For example, their ways of use or moments of the day.

### *General information interviews*

- Interviews always begin with an icebreaker. Besides that, I will introduce myself and make sure the participant is comfortable. I will also ask briefly about the participant's background and make sure the participant stays anonymous.
- Almost all of the questions below will be followed with "why?" or "can you tell me more about it?" to find out the underlying reasons.
- If an area of the school building is mentioned, additional questions may ask how that area is used.
- Optionally, the question "What do I not see as a visitor when I walk through this school?" can be asked of to the school leader or staff to find out hidden themes of the building or its users.
- The interview will end by asking if the participant has anything to add and then thanked for their cooperation.

### *To the school leader*

1. What does inclusive education mean for your school?
2. What did you do the school building in order to facilitate your inclusive education?  
Additional questions:
  - a. What were the goals and did you achieve them?
  - b. Who all were taken into account in the design of the building?
3. What works well?
4. What works less?
5. Is anything missing, if so what?

*To the staff (1 to 1 interview)*

1. What does inclusive education mean for you?
2. What do you need from the school building in order to facilitate inclusive education?
3. What works well?
4. What works less?
5. Is anything missing, if so what?

*To the children, in pairs (language and form of communication adapted to level)*

1. What is your favorite place in school?
2. What is an inclusive school? From the answer will most likely come a topic useful for the photovoice assignment, this can be filled in below at [...].
3. Take a picture of the place you like best/fine [...] ?
4. Take a picture of the place you like least/less [...] ?
5. Why did you took [photo 1]?
6. Why did you took [photo 2]?