

# Outdoor Education and the Inclusion of Children with Special Needs

– A Case Study from Germany

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<b>Sammanfattning</b> Abstract <p>Inclusion recognises the diversity of people and aims to use these differences as advantages. Since the ratification of the Convention on the Rights of Persons with Disabilities in 2009 there have been changes to the educational system in Germany; children with special needs are now attending general schools. This change has developed complex debate in societies discourse and the media. It has highlighted the need for changes within the education sector that support inclusion and allow all students to participate on their level.</p> <p>Within the field of Outdoor Education, learning contains practical and theoretical approaches, all senses should be used and emphasis is placed on students learning from experiences. Those learning methods are particularly well adapting for children with special needs as special education works with direct learning approaches. The place of learning is a key element within Outdoor Education and learning can take place outside the classroom in urban or rural environments.</p> <p>In order to determine if Outdoor Education has the potential to increase inclusion of children with special needs, a study in a German primary school was conducted. The study focused on a single class whilst they participated in mathematics lessons. Interactions were observed between students and teachers during indoor and outdoor lessons; follow-up interviews with students and teachers were made.</p> <p>The findings presented participation of all children while learning outside the classroom. In particular children with special needs showed an increased sense of achievement and a higher level of motivation and concentration in the outdoor lessons due to the fact that they were able to contribute to the exercises. The presented findings show that Outdoor Education has a meaningful potential in order to increase inclusion in German schools.</p>
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# 1 Introduction

Social exclusion can be observed all around the globe due to different factors such as ethnicity, gender, social class or a certain disability<sup>1</sup>. Children who are excluded from society are also commonly excluded from the educational system. Being excluded from the educational system reduces the chance of breaking through their exclusion and participating in society. Allowing children to interact with a diverse range of people breaks down barriers that could affect them in later life. This highlights the importance of creating an inclusionary educational system that grants equal access for all children.

The term inclusion stands for granting participation and takes diversity as a chance for all. The process of inclusion can be seen as a holistic concept whereas this thesis puts focus on the inclusion of children with special needs in German schools.

Inclusion gained a certain popularity in social and academic discourses as well as in the media. This can predominately be attributed with the *Convention on the Rights of Persons with Disabilities* which can be seen as a milestone for the process of inclusion.

Since the ratification of the Convention on the Rights of Persons with Disabilities in 2009 (United Nations) there have been changes to the educational system in Germany: schools for children with special needs were to be closed and all children should learn together in one inclusive school.

The implementation of inclusion in Germany is a complex process which will be discussed in a theoretical and practical perspective. The educational system in Germany differs from many other countries due to its complexity of splitting students into different school forms dependant on their supposed level of intellect. Due to the disposition of separating students it makes the process of inclusion challenging to implement in the current school system.

This thesis creates a connection between inclusion and Outdoor Education. The purpose of the study is to find if the methods of Outdoor Education can influence and increase the process of inclusion. The research questions are: *Can Outdoor Education influence the inclusion of children with special needs? And if so, how can Outdoor Education increase the inclusion of children with special needs?* The implementation of large system changes such as inclusion can

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<sup>1</sup> A further discussion about the terminology of disability and special needs will be provided in chapter 2.1.

be a challenging task. This thesis aims to research the potential of Outdoor Education and its ability to increase inclusion of children with special needs.

Within Outdoor Education learning contains practical and theoretical approaches, all senses should be used and emphasis is placed on students learning from experiences.

The place of learning is a key element of Outdoor Education and should support the subject matter being taught. Authentic learning environments outside the classroom can be created in the forest, the schoolyard or the supermarket, to name a few. The supermarket for instance which is not been associated as a common place for learning, can teach children in various matters: products and their origin can be analysed and linked to subjects such as biology or geography, as well as cash payments and measurements of products can be linked to mathematics lessons.

Practical learning and learning from experiences are important aspects within Outdoor Education. Concerning the example of the supermarket, independent living skills are taught which is a common element of special education<sup>2</sup> (R. Wilson 1994, p. 156). There are various parallels of concepts of Outdoor Education and special education, such as experiential learning and learning with all senses. This thesis will examine these correlations and discuss the effects on inclusion, where children with and without special needs are learning together. Thus examining if the methods of Outdoor Education can facilitate the collective learning of all children and as a result the process of inclusion.

In order to determine if Outdoor Education has the potential to increase inclusion, I conducted a study within a German primary school. The study focused on mathematics lessons of one class by observing lessons conducted indoors and outdoors. I made observations and followed up with face to face interviews with students and teachers. Two boys with special needs in the class, are main focus of the observations and interviews.

The study aims to discuss the differences perceived during the observations of indoor and outdoor lessons. Potential benefits of learning outdoors for children with special needs will be examined and those findings connected and discussed with a perspective on inclusion.

The first part of this thesis provides an overview and a discussion based on current literature about the two main themes *inclusion* and *Outdoor Education*. The process of inclusion will be presented in an international perspective as well as focused on the nation Germany. The

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<sup>2</sup> Special education is used in this thesis in order to describe the education of children with special needs.

concepts of Outdoor Education will be presented primarily focused on the benefits in relation to Outdoor Education and inclusion; potential obstacles will only be discussed marginally due to limited scope, as this thesis focuses on the connection between Outdoor Education and inclusion. Both main themes will be synthesized and discussed in connection to the findings of the conducted study in order to find out if and how Outdoor Education can increase the inclusion of children with special needs.

## 2 Inclusion

The phenomena of social exclusion is a current and growing issue seen all around the world. It can be argued that a major contributing factor is the global economy, which in its current form produces disparity between the rich and poor. According to UNESCO, the majority of children who are living in poverty have substandard or no access to education. Granted access to education in turn would give those children a chance to escape poverty. (UNESCO, 2014b, p. 7)

Despite economic factors there are other reasons of which people are excluded from society in general and from educational systems in particular. Amongst others, these factors include religion, spoken language, gender, sexuality, ethnicity, or a disability (Montag Stiftung Jugend und Gesellschaft, 2010, p. 2). The United Nations and many organisations and movements around the world are working to stop exclusion and shape a world and in particular an educational system which includes all people. This political process will be described in more detail in Chapter 2.3 a focus will be on the nation Germany. Different aspects of inclusion will be presented in chapter 2.2 and will discuss in depth what inclusion is.

Chapter 2.4 describes the educational system in Germany in order to create a basic knowledge about the educational system in which this thesis is based. This will be help to understand the discussion about the implementation of inclusion in Germany (chapter 2.5).

## 2.1 Terminology of *special needs* and *disability*

The terms *special needs* and *disability* are often used synonymously, within literature and general usage. This chapter introduces the terms in order to clarify their usage within this thesis.

There are various definitions of the term disability, this thesis will focus on the definition of the Convention on the Rights of Persons with Disabilities, as this convention can be seen as a milestone within the process of inclusion.

Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. (Bundesgesetzblatt, 2008, p. 5)

This definition puts their focus on participation rather than potential impairment.

In the German context, the legal definition of disability can be found in the Ninth Book of the Social Code (Sozialgesetzbuch IX). Article 2 characterizes a person as disabled if their body functions, their cognitive ability or emotional health is impaired and limit their activities ("SGB IX ", 2001).

The term of special needs emerged in the 1980s in order to “get rid of the rigid categories and organisations based on specific impairments” (Vehmas, 2010, p. 87). Wilson (2002) adds, that the term special needs is widely used “as a kind of semi-technical or specialized term which creates the impression that we already know what we are talking about. But in fact it is nowhere clearly defined” (J. Wilson, 2002, p. 62). Thus it is meaningful to get a closer view on the terms *need* and *special*. He argues that a need has to be seen in the particular context, this can be personal, or the context of local conditions (J. Wilson, 2002, p. 65). We can differ between distinct needs: a need can be instrumental or basic (Vehmas, 2010, p. 89). For instance, there is a no need to learn hunting in the contemporary western society, in order to get food, whereas centuries ago hunting was a vital need in order to survive. In connection to contemporary education we have to ask what is needed to be learned.

The context of the term special has to be considered as well, it can be seen in a negative way, such as special in sense of an impairment or in a positive light such as a special talent (Vehmas, 2010, p. 91). However in special education the term refers to disabilities. In the context of education, special education is thus focused on the specific needs of the children who for

instance have to learn to use aids like a wheelchair or a hearing aid. (Hausstatter & Connolley, 2012)

This thesis is using the term of children with special needs in order to describe children who are characterized with a certain disability.

Here it is to clarify that there are various disabilities, which can be physical, mental, intellectual or sensory (Bundesgesetzblatt, 2008, p. 5). However due to the limited scope this thesis cannot provide a specification of the various disabilities. Therefore the term children with special needs will be used to describe all children who are characterized with a disability.

The rhetoric of “children with special needs” is used in this thesis as being more politically correct and respectful towards the children. The children stand in front and not their disabilities or special needs. This has to be seen in the context of inclusion, where diversity is seen as a positive aspect and not as an impairment.

## 2.2 What is inclusion?

Inclusion is the concept of granting access and participation for all human beings in society. This thesis will focus on inclusion within the educational system and the inclusion of children with special needs in particular. The process of inclusion grants everyone the chance to participate within the educational system with equal opportunities. Inclusion recognises diversity of children and aims to use differences as advantages to create a dynamic learning environment. Inclusion therefore means to detect, esteem and use all forms of diversity within the group (Montag Stiftung Jugend und Gesellschaft, 2010, p. 2).

In order to understand why inclusion is such an important and discussed term today, we have to understand the antinomy between exclusion and inclusion. As mentioned before, exclusion happens everywhere in the world and because of varying factors. The determination of what is “normal” and what is “different”, depends on the historical context and can be influenced by culture, time period and religion to name a few. The ruling society defines what is “normal” and what differs from that, what is the “Other”. Those “Others” suffer from discrimination and marginalisation, which most likely means they are excluded from society and therefore the educational system. (Asselhoven, 2015, p. 148)

Today’s society has the moral responsibility to overcome exclusion and create an inclusive system. In kindergartens and schools children get the majority of their education, they learn and

form norms and values. Therefore in the early educational phases there are great chances to overcome exclusion if heterogeneity is taken as a chance for all (Reich, 2014b, p. 31).

The wider notion of inclusion attempts to create an equal participation for all children, no matter which ethnicity, religion or gender they are. The narrow notion of inclusion involves the children with special needs.

According to the UNESCO, worldwide, one third of children who are not attending school are children with special needs (UNESCO, 2014b, p. 8). Therefore it is important to create an educational system which includes all children and grants children with special needs school attendance.

In Germany the topic of inclusion differs slightly due to the fact that children with special needs have the same compulsory school attendance as all children (KMK, 1978, p. 1). This means that children with special needs are going to school in Germany, however the majority of children with special needs attending special education schools. Therefore, the inclusion process in Germany is more focused on the inclusion of children with special needs into the general education system.

In order to support the development of children with special needs it is not sufficient to just grant school attendance in the general education system. To increase a child's personal development and learning outcomes it is important to create an inclusive school that gives all children the opportunity to access the support needed to excel and experience equal esteem. (UNESCO, 2014b, p. 5)

Surrounding the discussion of *inclusion* there commonly appears the term *integration*; these two terms are often used synonymously. In order to clarify these terms a short explanation will be provided in the following section, that relates to the German discourse.

Primarily, the translation of the terms between German and English have to be considered, particularly in English literature inclusion and integration is used synonymously. This leads to difficulties in international discussions and in interpreting international documents, such as documents published by the United Nations. (Hinz, 2002, p. 235)

The German discourse separates the terms; inclusion can be seen as a broader concept than integration. The term integration often provokes negative associations as the term is frequently used in the public discourse and in the media with a negative connotation, as for instance reports are about failure of integration. The individual failure is put in focus and not the system which perhaps contains deficiencies to integrate the individual (Schröder, 2013, p. 251).

Within the concept of integration people have to adapt to the existing system, whereas within the concept of inclusion the system acknowledges the diversity of all people (Schröder, 2013, p. 253).

Inclusion brings a new perspective, diversity is seen as opportunity for people to learn from one another (Giese & Weigelt, 2013, p. 3). Inclusion perceives all people as whole persons, this is especially important for children with special needs; who are generally categorised as being “disabled” (Boban & Hinz, 2003, p. 11). It is said that the discussion about integration created a good base in order to bring the process of inclusion forward (Reich, 2014a).

In order to grant children with special needs participation in society, and particularly in the general educational system, within the process of inclusion we have to detect barriers and actively minimize them (Montag Stiftung Jugend und Gesellschaft, 2010, p. 2).

There are several books published with guidelines or indices, which help detect barriers and give examples on how to minimize them and evaluate in general if the school is inclusive (Boban & Hinz, 2003; Montag Stiftung Jugend und Gesellschaft, 2010; Reich, 2014b).

### 2.3 Inclusion in an international context

The Salamanca Conference 1994 was a significant first public appearance which initiated an international discussion about inclusion. Representatives from all over the world discussed how to increase inclusion within the educational systems. As conference results they published the Statement of Salamanca and proclaimed the “urgency of providing education for children, youth and adults with special educational needs within the regular education system”(UNESCO, 1994, p. viii). They refer to the Universal Declaration of Human Rights, which states the right to education of every individual, and the World Conference on Education for All (1990) to “ensure that right for all regardless of individual differences” (UNESCO, 1994, p. vii).

Even more important was the Convention on the Rights of Persons with Disabilities in 2006. This convention declares equal opportunities for persons with special needs without discriminations.

States Parties shall ensure an inclusive education system at all levels and lifelong learning directed to:

- (a) The full development of human potential and sense of dignity and self-worth, and the strengthening of respect for human rights, fundamental freedoms and human diversity

(Bundesgesetzblatt, 2008, p. 18)

This convention encourages countries worldwide to respect the rights of persons with special needs and to create inclusive educational systems. So far 162 countries ratified the convention, Germany's ratification was in 2009 (United Nations). This act can be seen as a milestone in the process of inclusion in Germany, paving the way towards an inclusive educational system.

## 2.4 The educational system in Germany

In order to give a better understanding about what happens in Germany in the course of inclusion it is important to get a general idea about the educational system in Germany. The following section will outline the different schools in Germany with a focus on the special education schools.

Being a state of federalism, every *Bundesland* (province) has their own government which is in charge of education in that region. Agreements between the provinces such as the *Hamburger Abkommen*, establish several aspects for the whole federal republic. However in general the provinces are in charge of the educational system, therefore differences occur dependent on provincial laws. The following outline focus on the province Nordrhein-Westfalen (North Rhine-Westphalia), as the research study was conducted in a primary school placed in Nordrhein-Westfalen. The *Hamburger Abkommen* defines the framework of the school system in Germany, such as compulsory school attendance for all children, which begins at the age of six (KMK, 1978). Before then, the majority of children visit a kindergarten.

Every child has to visit primary school for 4 years. After that, the children will be selected into different type of schools dependant on their performance in Primary School: *Hauptschule*, *Realschule*, *Sekundarschule* or *Gymnasium/Gesamtschule*.

Hauptschule and Realschule are lower secondary level, from grade 5 to 10. With the certification of the Realschule it is possible to visit the higher secondary level of the Gymnasium or Gesamtschule. The Gymnasium and Gesamtschule contains lower and higher secondary level, which means the pupil are finishing school after grade 12 or 13. After this, the

pupils can reach their *Abitur*, the general higher education entrance qualification, with which they can attend a university or another higher education institution. (KMK, 2015a)

Running alongside the general education system is the special education system, which will be discussed more detailed in chapter 2.4.1.

Through the process of inclusion, the educational system in Germany is gradually changing. Since 2011 the schools of the lower secondary level (Hauptschule and Realschule) have merged into one school: the *Sekundarschule* (Schulministerium, 2015). With this merge, the selection between Hauptschule and Realschule does not exist anymore, therefore more children are learning together for a longer period. With the formation of this new school, the ministry of education of North Rhine-Westphalia aims to increase the diversity of learning (Schulministerium, 2015).

Hence the number of children with special needs attending a *Sekundarschule* are raising (Ratzki, 2011, p. 7). However it is with great importance to fully fill the criteria of an inclusive school in order to support all children in those schools. Germany still has some steps to implement inclusion in the educational system and continue supporting current instances of inclusion.

### 2.4.1 Special schools

The special education system educates children with special needs in special schools, called *Förderschule* or *Sonderschule*. The schools contain primary and secondary education (KMK, 2015a).

Förderschulen vary according to the type of special education on which they focus and the educational courses they offer. They provide support to pupils in any developments which may lead to their possible transfer to a mainstream school and to training.

(KMK, 2015b, p. 238)

Förderschulen are specialized to handle the different special needs of the children attending those schools. It can be noted that Förderschulen may cater to only one or more special needs. For example, students with learning disabilities may attend a different school than a student who is blind. They often require more specific technical equipment and special teaching aids in order to give the best support to the children. The buildings and rooms have no barriers for pupils, who for instance may use a wheelchair or other walking device. It is possible to award

a certification equal to the lower secondary level of the Hauptschule (KMK, 2015b, pp. 238-240).

Due the process of inclusion there is a dispute about the special schools (Förderschulen) in Germany. Since the ratification of the Convention on the Rights of Persons with Disabilities, every child has the right to attend a general school.

Nevertheless the majority of the children with special needs attend a special school. There are several voices who criticize this. As Seitz states, a majority of the children visiting a Förderschule are leaving the school without a qualification (Seitz, 2012, p. 163). Reich (2014b) describes the reason for this are lower learning incentives placed on the children within Förderschule. With the inclusion in a general school the learning incentive raises and pupils with special needs more likely finish the school with a qualification. (Reich, 2014b, p. 18)

A study from the University of Bielefeld analysed differences in literacy competences of children with learning disabilities who are visiting a general school or a special school. They found that children in Förderschulen are less competent in language and literacy skills than children attending a general school (BiLieF Projektteam, 2014, p. 6).

Other study's came to similar results: pupils with special needs are showing higher performance when they go to general schools (UNESCO, 2014b, p. 17). If the special schools are to be closed, the general schools have to be inclusive schools in order to support children with special needs. There is no positive learning outcome if children with and without special needs are placed together in one school without developing a plan of inclusion.

## 2.5 The implementation of inclusion in Germany

In the last years the discussion about inclusion gained a certain popularity in the media and in society's discussions. Inclusion is a disputed term in Germany; various actors like teachers, parents, politicians and researchers are discussing about the possible implementation of inclusion in German schools.

A milestone of this discussion was the conference "Inklusion – Die Zukunft der Bildung" [Inclusion – The Future of Education] held 2014 in Bonn<sup>3</sup>. The representatives discussed the

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<sup>3</sup> For more information: <http://www.unesco.de/bildung/inklusive-bildung/gipfel-inklusive-bildung.html>

current implementation and level of inclusion in Germany and developed guidelines for the implementation of inclusion in Germany (UNESCO, 2014b). Furthermore in their final declaration they request the government, the governments of the provinces, the economy, the civil society and all actors of education to work together in order to break down barriers and implement inclusion in Germany (UNESCO, 2014a).

On an international perspective Germany has to catch up in order to accomplish an inclusive educational system (Reich, 2014a, p. 1).

One reason for this is the early selection of school children, after grade 4 they finish their primary school education and then get separated into the different school forms. This early selection produces exclusion and can be seen as an antinomy to inclusion and diversity. Especially the Gymnasium can be seen as an “inclusive free zone” as children with special needs will be selected to visit either a Förderschule, which is not inclusive at all, or a lower educational school, like Hauptschule or Realschule (Reich, 2014a, p. 3). Once the selection is made it is a difficult process to change schools (Reich, 2014b, p. 15). Furthermore children with migration background are often selected to visit a lower secondary education or even a special school, those selections are often based on their language knowledge and not necessarily on their learning abilities (Seitz, 2012, p. 163).

This process of selection makes the implementation of inclusion questionable; as such, educators and researchers are requesting the development of a school system where children attend one inclusive school for their whole school career (Reich, 2014a, p. 3).

One area that is particularly important for an inclusive school system is the education of teachers. The teacher education in Germany is divided towards the different school forms. The majority of the teacher education is focused on specialized knowledge concerning the subject they are specializing in and not the pedagogy. It is therefore requested to put a higher pedagogic standard and quality in the teacher education (Reich, 2014b, p. 19). Currently merely the education for special education teachers is focused on pedagogy and in particular on how to support children with special needs in their learning and living.

At the moment there are special education teachers who are employed in different schools in order to support the children and also the teachers. This could be bypassed if all teachers are educated in order to be inclusive teachers (von Saldern, 2013, p. 9). The European Agency for Development in Special Needs Education developed a profile of inclusive teachers (European Agency for Development in Special Needs Education, 2012). The profile is developed around a framework of four core values:

Valuing Learner Diversity - learner difference is considered as a resource and an asset to education.

Supporting All Learners - teachers have high expectations for all learners' achievements.

Working With Others – collaboration and teamwork are essential approaches for all teachers.

Personal Professional Development – teaching is a learning activity and teachers take responsibility for their lifelong learning.

(European Agency for Development in Special Needs Education, 2012, p. 7)

These core values are important perspectives in order to create an inclusive school. The valuation of diversity is the first and most important step, which has not only to be embraced by the teachers, but also by civil society. In order to fulfil the profile of inclusive teachers in Germany the teachers need to be educated in a more profound pedagogical way.

It is suggested there should be further education for the teachers who are already teaching at schools and now are confronted with the process of inclusion.

The working environment of the teacher's changes with the process of inclusion, for instance teachers who were solely responsible for their classes, now have to work in close teams.

Teachers are the key point of the learning outcome of the pupils, and moreover to the implementation of inclusion. They create the learning environment and the relationship between teacher and pupil, both are important aspects in order to learn. (Reich, 2014b, p. 64 )

Whereas to implement a professional and qualitative teacher education there has to be changes in the educational system, in particular the universities.

There have to be structural changes within the educational system as a whole, only then can Germany attempt to fulfil inclusion. There needs to be a binding concept from the federal government, as representatives of the educational sector are requesting. (Reich, 2014a, p. 5)

Due to the fact that Germany is structured in provinces and their governments are responsible for the education it is hard to implement such a general concept. The German federalism can be seen as a difficulty in the process of inclusion, but it cannot be used as an excuse to “not act” (Seitz, 2012, p. 164).

Another aspect as to why reforms towards an inclusive educational system are moving slowly is due to rejection of inclusion by the educated middle class who do not want to change the system in order to protect their advantage (Reich, 2014b, p. 16). As mentioned above, the higher secondary level can be seen as an “inclusive free zone” and not many children with special

needs or a migration background are being selected to go to a Gymnasium. Due to the fact that middle class children have reduced contact to persons with special needs or a migration background the cycle of an uninclusive system continues as these children become adults and influence reforms in Germany, hence disparity continuous. Therefore inclusion is an important process not only for the educational system however for society as a whole.

### 3 Outdoor Education

Human life is characterized by a lifelong learning process. Formal learning in today's society generally takes place in institutional settings, such as kindergarten's, school's or universities. This institutionalized education is based on strict curricula where learning goals have to be fulfilled (Dewey, 1963, p. 18). It is questionable if we can talk about *educating* children within that system or if we limit the learner's freedom of thinking? Should students learn to repute or should we educate them into critical thinker's, who recognize a problem and have the ability and creativity to find solutions?

Outdoor Education is an integral approach which puts one focus on enhancing critical thinking and connection towards real life, nature-human relations and the world as a whole (Gilbertson, 2006, p. 7). Another important focus within Outdoor Education is *where* we learn and teach. The place where we learn creates the learning environment and therefore plays a central role in educational processes (Szczepanski & Andersson, 2015, p. 2). Today (institutionalized) education commonly takes place indoors, this can be seen as a relatively young tradition, whereas centuries before education was based in the outdoors.

#### 3.1 What is Outdoor Education?

Outdoor Education is a concept of learning where the focus is predominantly on the place. This place can be a natural environment such as the forest or other natural rural settings. Alternatively learning can take place in an urban or sub-urban area. The choice of places is unlimited within the Outdoor Education classroom, the importance lies to learn in an authentic environment that reflects or reinforces the content or lesson (Dahlgren & Szczepanski, 1998, p. 19).

The methods of learning within Outdoor Education contain practical and theoretical characteristics (Dahlgren & Szczepanski, 1998, p. 16). Students gain theoretical knowledge out of books, lectures and exercises indoors as well as learning outdoors. The outdoor learning is experiential, in that students learn from their experiences and are trained to recognize and resolve problems, this develops amongst other things critical thinking skills (Gilbertson, 2006, p. 7).

Learning is reinforced in the outdoor setting by learning with all senses such as smell, touch and taste in addition to senses predominantly stimulated in the classroom such as sight and hearing. There are possibilities of stimulating senses such as smell, touch and taste in the classroom, however outdoor environments naturally offer a multitude of sensory experiences. Stimulation of smell in the indoor environment appears to be artificial, as the smell stimuli are taken out of their natural environment in order to be presented to the children in the classroom. Within Outdoor Education all senses are stimulated naturally in an authentic environment. (Szczepanski & Andersson, 2015, p. 3)

Another significant aspect is the interdisciplinary approach of Outdoor Education, not only one subject will be taught, moreover subjects and content can overlap. For instance, students of a mathematics lesson in the forest will also always learn about the forest, the weather, etc.

In addition, a more informal approach to learning where students can interact helps to improve social skills. The group members feel more connected to each other if they are together outdoors as a group than if they learn inside (Passarelli, Hall, & Anderson, 2010, p. 121).

Outdoor Education does not have an established definition, distinct authors highlight different aspects in their definitions, therefore this thesis is not based on one fixed definition of Outdoor Education but rather gives an overview about this interesting branch of education.

Outdoor Education consists of different approaches, as Gilbertson (2006) describes there is a distinction between Outdoor Education, Adventure Education and Environmental Education. Those approaches put their focus on different notions: Within Outdoor Education the focus lies on the learning environment, which takes place outdoors; while Adventure Education concentrates on active challenges in a natural environment, for instance canoeing or climbing. Environmental Education emphasis learning about nature and environmental issues in nature. (Gilbertson, 2006, p. 4) Other authors (Dahlgren & Szczepanski, 1998; Hammerman, Hammerman, & Hammerman, 2001; Passarelli et al., 2010) put these three approaches under one umbrella, as this thesis will do. Therefore Outdoor Education contains approaches of Adventure and Environmental Education.

## 3.2 Outdoor Education and special needs

The following chapter focuses on children with special needs and how Outdoor Education applies to their needs. Benefits and obstacles which are discussed in this chapter will focus on children with special needs however, can be applied generally too all children and youth. Considering different disabilities there are differences in carrying out Outdoor Education programmes; for instance the accessibility of a child in a wheelchair differs than that of a child with learning disabilities. As the purpose of the study aims to find out if and how Outdoor Education can increase the inclusion of children with special needs in general, there will be no detailed descriptions concerning different disabilities. The term children with special needs thus describes all children who are characterized with a certain disability. Teachers have to consider the individual needs and accessibilities of children in order to apply Outdoor Education. Based on current literature this chapter discusses the various possibilities to teach and learn with the concepts of Outdoor Education focused on children with special needs.

The integral approach of Outdoor Education can be seen in the aspect, that learning outdoors “elevate[s] the physical, emotional, cognitive, social and spiritual level of the individual.” (Gilbertson, 2006, p. 5). This opens up new possibilities of learning, as the traditional education clearly puts focus on the cognitive level. Here a potential benefit for children with special needs can be realised. For children who have problems learning on a cognitive level, such as children with learning disabilities for instance, new levels of learning emerge with Outdoor Education. Every person has an individual style how they learn most effectively. This can be explained with the theory of multiple intelligences by Howard Gardner, who describes several forms of intelligences within each person. This means some persons have a strong verbal-linguistic core area whereas others have a logical-mathematical or a naturalist core area (as cited in Gilbertson, 2006, p. 38).

Experiential and place-based learning activates various learning styles and are thus favourable for children with special needs, who may have problems in adapting content via a specific sensory channel, for instance deaf or blind people.

Outdoor Education can empower children with special needs, whose attitudes towards learning and school are often negative, due to experienced failure (R. Wilson, 1994, p. 159).

Many students who are unsuccessful in the classroom experience success in an outdoor learning situation.

(Gilbertson, 2006, p. 54)

Achievement is an essential aspect of learning in order to be motivated to continue the learning. Outdoor Education with its wide range of methods can encourage the attitude of those children and can convert learning into an exciting process. Furthermore, learning in natural environments can create joy in students. These positive emotions widen the mind “to a wide range of cognitive and behavioural options”(Passarelli et al., 2010, p. 122) and therefore increase the learning outcome.

Due to the positive approach of Outdoor Education students show higher school attendance, within outdoor educational methods compared to traditional methods, as Price (2015) found out in his study about school attendance in special schools in England. As another positive impact of Outdoor Education he detected an increased punctuality of students.

In addition to increased learning, Outdoor Education can lead to a higher self-esteem and self-confidence (Berger, 2008; Massey & Rose, 1992; Passarelli et al., 2010; R. Wilson, 1994). Berger (2008, p. 322) describes that children with learning difficulties experience a wide range of failure in schools, when they learn outdoors they make positive experiences which leads to a more positive conception of themselves. Passarelli (2010) describes a strength-based approach, within Outdoor Education learning environments and experiences are created “that amplify students’ greatest resources – their natural talents and strengths.”(Passarelli et al., 2010, p. 121). These empowering approaches can be seen as an essential aspect for children with and without special needs in the inclusion process, where children with a wide range of different strengths are learning together.

Inclusion demands a high level of collaboration within the class, when groups learn together outdoors there can be observed a higher level of teamwork and co-operation (Berger, 2008, p. 323). Group activities demand increased social interaction with peers, which not only increases social interaction in general, however in particular learning with and from peer students increases the learning outcome (Brodin & Lindstrand, 2006, p. 30). Group activities are a crucial element of Outdoor Education, in particular Adventure Education programmes creates a wide range of intimate and extreme group experiences.

Children with special needs are often “overprotected“ by parents, guardians or teachers, therefore it is crucial to give those children a chance to distinguish themselves and give them opportunities to show their abilities and competences. A suitable approach to achieve this can

be in Adventure Education, which creates challenges where everyone can show their individual talents. Another important aspect of Adventure Education is the social component of group work, in most Adventure Education programmes a group has to reach a goal together, for instance cross a river, climb a mountain etc. It is essential that the group holds together in those situations and the participants learn to take care of each other. In addition to that, the ability of making a decision and cope with the consequences is trained in adventure educational settings. Other benefits are the development of trust and increased muscular strength (Massey & Rose, 1992, p. 1415). In particular people with learning difficulties benefit from Adventure Education, they show an “increased participation, competence and community presence”(Massey & Rose, 1992, p. 1416). As well as the aspect that they are “in charge” of something and an equal group member for once. Massey & Rose (1992) conducted their study of people with learning disabilities, however their results can be transferred to children with different special needs. As the level and risk of a challenge can be adjusted, educators have many possibilities to conduct adventure educational programmes which include all participants. For instance, if students with wheelchairs or other mobility helpers participate, the teacher has to adjust the activities to facilitate the accessibility of those children in order to fulfil the exercises. Planning to see if equipment is available or can be procured, such as “off-road” wheelchairs for sand or rough terrain is crucial for outdoor activities with children with special needs. (Gilbertson, 2006, p. 51).

Methods of Outdoor Education can serve well to adopt into the special education curriculum, as “a similar hands-on, direct learning approach serves as the foundation for many special education curricula”(R. Wilson, 1994, p. 156). Experiential learning hereby obliges perfect for children with special needs. Furthermore special education is more focused on the “needs of the whole child, versus focusing exclusively on academic skills”(R. Wilson, 1994, p. 158), this matches with the adaptations of Outdoor Education.

A consideration here has to be the changing educational system in Germany, which no longer separates special education curricula from other curricula within the process of inclusion. However as experiential learning provides various benefits for children with and without special needs, these method of learning can promote the process of inclusion.

Another aspect is that the existing special education curriculum puts a focus on “the development of independent living skills”(R. Wilson, 1994, p. 156) and already involves more field trips than normal schools in order to teach children for instance how to buy food in the supermarket. Here we can see an aspect of Outdoor Education, which claims to learn in

authentic situations and imbedded in the context of places. The visit to the supermarket gives a good example for an inclusive lesson in which the level can be adjusted by the various skills and abilities of the children: children with higher mathematical abilities can be asked to solve different calculating exercises, while children with special needs can focus on the practical skill of buying groceries. These activities can be conducted in group work, so that each member of the group put their certain ability into the exercises.

As described, Outdoor Education has many possibilities and benefits for children with special needs, obstacles like accessibility can be overcome through preparation or selection of accessible places and equipment. In terms of inclusion learning together in the outdoors can increase the co-operation of the group and on the same time every child can participate in their pace in order to gain their individual highest learning outcome.

### 3.3 Background and concepts within Outdoor Education

This thesis connects Outdoor Education and the inclusion of children with special needs, therefore it is important to take a closer look on what Outdoor Education is.

A focus is put on the benefits of Outdoor Education as most obstacles, such as weather concerns and clothing, can be overcome by professional preparations. Outdoor educational programs are often limited due to costs, cultural or political will (Dyment & Potter, 2015, p. 156). Financial factors can be minimized as Outdoor Education can take place in local areas or on school yards. Cultural and political will can be seen as more powerful limitation, as this influences the perception of Outdoor Education and therefore the will of teachers to conduct outdoor lessons. Despite that, changing perceptions and habits usually takes time and courage, however those limitations can be overcome due to the various benefits Outdoor Education offers for children with and without special needs. Safety and risk concerns are commonly named obstacles of Outdoor Education. Those concerns have to be taken serious as little safety training was provided a few years ago. However over the last years risk management and safety trainings have evolved in order to conduct safe and professional Outdoor Education. (Dyment & Potter, 2015, p. 152)

The previous chapters provided an introduction of Outdoor Education and presented various benefits of Outdoor Education particularly for children with special needs. In order to provide

a deeper understanding, the following chapters will present a brief historical background and discuss important key concepts and aspects of Outdoor Education.

Benefits of Outdoor Education described in the previous chapters were applied in particular to children with special needs. The following chapters present a wider perspective, related to inclusion and its positive effects for all children with or without special needs.

### 3.3.1 A brief historical review of Outdoor Education

Outdoor Education is often described as a young field, but its roots can be found throughout the history of humankind. For centuries children learned from the older generations about life and survival. Learning and teaching was based on an oral tradition and experiential methods, living as well as learning took place outdoors. With the process of urbanisation, education became more theoretic and literacy and was moved indoors (Dahlgren & Szczepanski, 1998, p. 9). This process describes mainly western traditions and stands in contention to many indigenous cultures throughout the world.

The ideals of education became theoretical rather than practical. Nevertheless, philosophical tendencies can be found, whose understandings were based in and out of nature. In general, holistic concepts and tendencies, which inherent learning from senses and from nature exist throughout history. However, the current western educational system is based on a theoretical educational approach.

Various pedagogues put nature and the chance to learn with and out of nature in their focus: for instance, Comenius(1592-1670), who highlights the garden as an authentic environment for learning, or Pestalozzi (1723-1827), who puts focus on sensory learning (Dahlgren & Szczepanski, 1998, p. 17).

Through industrialisation and urbanisation traditional schools became more common: children are taught teacher-centred and thereby lose their freedom of thinking, judging and movement, as Dewey criticises (Dewey, 1963, p. 61). Dewey can be seen as an important thinker for Outdoor Education, he claims progressive schools, where children learn through practical and theoretical learning methods, means from first hand experiences and from books (Dewey, 1990). Here we see a key concept of Outdoor Education: the combination of theoretical and practical learning experiences.

Learning in and from nature, learning with our hands and our minds has a longer tradition than theoretical schools with teacher-centred instructions. However, the concepts of Outdoor Education have not yet reached every school.

### 3.3.2 Place based learning

The place of learning is a key element within Outdoor Education, therefore it is important to give the notion of place a closer view. The Earth is full of locations where learning can happen, however not many teachers are using places to learn other than the classroom. This can be explained with their concerns of safety issues and potential risks (Mannion, Fenwick, & Lynch, 2013, p. 798). The classroom instead offers a closed space, free from external factors such as weather and distractions where not as many unexpected things happen. Nevertheless, with good preparations and knowledge about the place, teachers can minimize their concerns. As Mannion et al. (2013) have shown with their study, inexperienced teachers could overcome their concerns through multiple pre-visits and even got encouraged and motivated by teaching outside, in new places (Mannion et al., 2013, p. 799). Place responsive-planning where potential risks and distractions are mitigated is crucial in order to teach outdoors.

Place-responsive pedagogy describes a pedagogy which relates with the place, through this interplay a location can become a place of learning. Moreover the “place becomes imbued with meaning through the interactions that people have with it” (Hill, 2013, p. 25), this meaning varies from person to person and is not static. The teacher creates a learning environment by choosing a specific place, though every student will interact slightly different with the location and therefore create a personal relation with the place. Seen in a wider perspective, places construct identity’s, as we can observe strongly in indigenous cultures, however also in the western tradition people are connected with their place of birth and living and therefore the place is a part of their identity (Wattchow & Brown, 2011, p. 180).

Every place opens up different educational possibilities, place-responsive pedagogy uses these unique opportunities in order to teach at and about the place (Gilbertson, 2006, p. 13). In practice, this can mean story-telling and history of the place, or a lesson about water animals can best be told near a lake or a river, for instance. Therefore, it is important to choose the right place for the right lesson. It is assumed by many that Outdoor Education means teaching in the forest and in the wilderness, with this assumption local places will be ignored and this “could

present a dichotomous view of ‘nature’ to students” (Hill, 2013, p. 19), when students only think about remote wilderness places as being nature. Consequently, Hill (2013) suggests to teach students in and about local places and show them the beauty of nature in those places (Hill, 2013, p. 26). Learning and teaching in local areas has several advantages: the class can frequently return to local places for their lessons, this creates a more intimate connection with the place, if children feel safe and “home” their learning outcome can raise; the children can return to the place in their leisure time; transportation expenditure are towards zero; the teacher can easily arrange pre-visits and other preparations (Hill, 2013).

These advantages also apply when using the schoolyard as an educational place. Schoolyards are mostly seen as a recreational space, where children can “burn off steam”, as White (2004) expresses. Nevertheless, there are many possibilities to use the schoolyard for place-based learning.

### 3.3.3 Experiential learning

Learning from experiences is a key concept within Outdoor Education. Rather than study all the content in books, students learn from their own experiences. The role of the teachers slightly shifts, instead of lecturing the students in a teacher-centred instruction, they create authentic learning situations, based on the existing knowledge of the students. The teacher poses questions and boundaries as well as giving support to students. The students learn to critically analyse the situation, reflect upon it, solve problems and construct meanings. This increases their creativity and competences, they learn to take initiative and to make informed decisions (Gilbertson, 2006, p. 9).

Whereas teacher-centred instruction mostly stimulates hearing and seeing, experiential learning outdoors stimulates all senses. Natural environments offer an infinite variety of different shapes, colours, sounds, smells, etc. (Dahlgren & Szczepanski, 1998, p. 20).

The sense of touch becomes important within experiential learning, as students learn ‘minds-on’ and ‘hands-on’. Learning and working with the hands creates a deeper connection with the topic than just reading about it, or seeing it. In addition, completing tasks with hands and feet trains motor skills which would normally not be trained in a traditional classroom setting.

Direct contact is crucial in order to relate children with the learning content but also with their environments (Szczepanski & Andersson, 2015, p. 6). This direct contact often gets lost in

today's society, where an increasing amount of interaction happens through technology which can lead to a disconnection from reality.

However, technology can also be used to support Outdoor Education. With devices such as smartphones or tablets children can be sent out on a treasure hunt; taking pictures and sending GPS coordinates the teacher does not have to be on the same place as the students, however the teacher knows where they are. Although, teachers have to consider the age of the children they want to send outdoors on their own, as safety issues are of crucial importance within Outdoor Education. Another positive effect of using technical devices is the opportunity to bring back pictures from their excursions outdoors into the classroom. Photos of plants or animals could open up possibilities to conduct follow up lessons in biology for instance. (Fuchs, Arvola, Nyman, & Szczepanski, 2015)

Another aspect of experiential learning is learning from mistakes, a learning process which naturally happens in the early years of a child's development, however throughout institutional education children do not get the space or time to learn trial and error. Learning from mistakes is characterized as a valuable approach of learning within Outdoor Education (McKenzie, 2000, p. 21).

In addition to the benefits of experiential learning towards the learning outcome, this concept also increases social develop through group work. As Gilbertson states that children hereby become learners to themselves, to others and to the world at large (Gilbertson, 2006, p. 9). Group work is an essential method in order to bring children with and without special needs together. It allows for more intimate interactions and gives the possibility for children to work collectively on a common goal. Creating smaller groups facilitates an inclusive environment that may be harder to achieve in a large group.

Through sensory, hands-on methods of experiential learning it is more likely to gain knowledge, as a learner who creates meaning throughout their experiences is more likely to memorize and profound that knowledge. Particularly children with special needs adapt more likely through experiential learning than theoretical learning.

### 3.3.4 Outdoor Education and Connection to Nature

An important effect of Outdoor Education is the increasing connection towards nature, which results from being in nature. People who are spending time in nature create positive feelings like harmony or oneness with nature (Gilbertson, 2006, p. 33) furthermore many people feel a

sense of freedom when they are in natural environments (Gurholt, 2014, p. 241). Oneness, means “to be *in* and *one* with the landscape” (Szczepanski & Andersson, 2015, p. 2), this can increase ecological awareness and understanding. This can be seen as an important consequence of Outdoor Education, within environmental educational programs or as a “side effect” of being in and one with nature while for instance learning mathematics outdoors.

If people really care about and love the natural environment they might be more inclined to take action to protect and conserve it.

(Hill, 2013, p. 23)

Outdoor Education can be seen as a chance to build a caring and loving feeling for nature. Due to the fact that children spend increasingly less and less time in nature, educational institutions can take the mediatory role to bring children outdoors (Louv, 2009).

In general, a lack of nature connectedness can be observed throughout western society. Due to urbanisation and technologisation humans relation to nature slowly decreases (Dahlgren & Szczepanski, 1998). This has effects on how we behave towards nature and therefore how we use natural resources, and as a result how environmental problems increase etc. When we start spending more time in nature once more and bring children outdoors to learn from and with nature in natural landscapes their environmental awareness will grow, this has a direct effect on their behaviour in nature but also towards their “household environmental practices” such as water conservation or recycling (Mannion et al., 2013, p. 794). Outdoor Education can therefore help to create a sustainable future.

Nevertheless, it has to be considered, that the debate surrounding nature awareness is complex. The rationalist model that environmental knowledge leads to environmental awareness can be criticized as humans are commonly not acting rational (Kollmuss & Agyeman, 2002, p. 241). Measuring attitude and behaviour is difficult and a gap between attitude and behaviour is common. Thus changing habits and behaviours are challenging. (Kollmuss & Agyeman, 2002, p. 248)

Different factors such as demographic factors (gender and years of education), external factors (institutional, economic and social factors) and internal factors (motivation, environmental knowledge and values) influence pro-environmental behaviour. Internal factors are seen to have strong influence on nature awareness, direct experiences in nature seem to have a powerful effect on people’s behaviour towards nature. Especially experiences in and with nature in the childhood are described as having strong influence on nature awareness and connection in later life. (Kollmuss & Agyeman, 2002)

Another important aspect is the connection between nature and identity. Nature can support the construction of identities, as mentioned before a place can have a significant impact on identities. Wattchow (2011) adds that being connected in nature can also help against rootlessness, a phenomenon which is observed towards children, youth and adults in today's abstract society (Wattchow & Brown, 2011, p. 197).

As we see, there are various reasons why connectedness with nature is important for human beings on a personal level, but also for nature and their protection.

On a personal level a connection towards nature can be seen as particularly important for children with special needs for whom a connection to nature and their lifeworld can be more difficult due to physical or mental accessibility for instance.

### 3.3.5 Outdoor Education, health and well-being

The previous chapter about nature connectedness already mentioned some aspects of well-being, such as feeling a sense of freedom or harmony while being in nature. There are a range of benefits for well-being and health which occurs when being outdoors, hereby Outdoor Education can play a central role to increase health and well-being of students.

Through Outdoor Education children increase their physical health, this can be attribute by the fact that children move more being outdoors (Dewey, 1963, p. 63). When observing traditional education in schools it is conspicuous that the children are sitting most of the time. Learning methods within Outdoor Education engage physical activity and motivate children to move while learning. This can be seen as an important aspect, as children today not only sit in the classroom; they are spending more and more time outside of school sitting, in front of the television, computer or other electronic device (Louv, 2009, p. 35).

Additional, to increased movement Outdoor Education promotes better motor skills (Dahlgren & Szczepanski, 1998, p. 47). Children are learning hands-on; they are using their hands instead of only writing in their textbooks. The use of a hammer in order to practice woodwork or to calculate using pinecones or a tangible object stimulates different motor skills and supports motor coordination.

On a cognitive level, children have to memorize facts, numbers, vocabularies, etc. Studies found, that learning outdoors increases the memory, because in natural environments all senses are in use, that means more memory channels are active which leads to better retention and learning (Szczepanski & Andersson, 2015, p. 19). Furthermore concentration abilities are higher when learning outside (Wells, 2000, p. 781). These benefits of Outdoor Education lead to a more positive feeling about learning and therefore better well-being of students. An increased well-being can also be attributed with the fun children have while learning outdoors and with experiential learning methods. Exercises and activities outdoors can be created more playful than learning from books. There is a close connection between learn and play and even if it is a discussed topic various pedagogues promote the approach of playing as a rich method in order to learn (Brodin & Lindstrand, 2006, p. 7).

In general less illness amongst the children in outdoor based schools than in normal school was found (Dahlgren & Szczepanski, 1998, p. 49). Wells (2000) describes that also a home where nature is accessible, for example trees in the courtyard increases well-being and minimizes illness (Wells, 2000). The healing effects of nature are not new, but it seems modern society needs to rediscover this phenomenon. For centuries people used nature in order to heal, healing plants and healing gardens can be found in many places (Stigsdotter & Grahn, 2002).

The study of Berger (2008) was conducted within nature therapy, where the healing elements of nature support the therapy process; various positive benefits for children with learning disabilities were found.

Nature's restorative benefits can help alleviate stress or fatigue as Kaplan describes it. He specifies four ideas surrounding nature's restorative effects: Being away (at the lake or the mountain); fascination (of plants or snow patterns); extent (we don't have to be in wilderness, also for example local forests with their hiking trail net can lead to restoration); compatibility (in nature we don't have to full fill 'civil patterns') (Kaplan, 1995, p. 174).

As seen here there are various benefits for health and well-being that we can find in nature, Outdoor Education can create the bridge to bring more children and youth outside into natural environments. Students not only increases their mental health and learning outcome, through better concentration or memorization but also increase their physical health and motor skills.

Many children with special needs, mainly children with physical disabilities, have to train their motor skills, due to certain physical limitations. If Outdoor Education increases physical skills while learning this can be seen as a valuable benefit particularly for children with special needs.

## 4 Methodology

In order to answer my research questions, I collected data in a primary school in Germany. The aim of my study is to find out, *if Outdoor Education can influence the inclusion of children with special needs?* And if so, *how can Outdoor Education increase the inclusion of children with special needs?*

The primary school contains pupils from grade 1 to grade 4, with the children's ages varying between 6 and 11 years old. The school has five classes with approximately 24 pupils, in each class are a few children with special needs. For the purpose of the methodology this means the child is characterized with a physical, mental, social, emotional or developmental disabilities.

The classes are not separated into different grades; children from grade 1 and 2 are learning together in one class and children from grade 3 and 4 are learning in another class. The school has two classes with pupils from grade 1 to grade 2 and three classes with children, in grades 3 and 4. This system of learning together with two grades is school dependent. Most primary schools in Germany are separating the classes related to the particular grade. Whereas the primary school in which I conducted my research are using the system of overlapping grades since 2006. The headmaster advised, that this class structure provides positive learning outcomes, as the children learn from their peers.

The location of the school is in a village within a rural area in mid-west Germany.

The research took place in January 2016, due to time constraints, I focused my study on one class in which I spend three weeks, and conducted approximately 40 hours of observation. In this class 21 children from grade 3 and grade 4 are learning together. Of the 21 students, two children are characterised as children with special needs. Fred<sup>4</sup> has been identified as having a learning disability, whereas David is characterized with an emotional/behavioural disability and a learning disability. An emotional/behavioural disability will be diagnosed if the individual has limitations in their emotional, social and behavioural development, their self-monitoring and their experiences. Emotional reactions and behaviours differ from the cultural, ethnic or age based norms. Emotional/behavioural disabilities are often connected with other disabilities, such as a learning disability (Opp, 2009, p. 229). Learning disabilities are based on failure in the educational performance (Opp, 2009, p. 339).

Beside the main teacher, there is a special education teacher in the class. The teacher for special education works in all classes of the school and is focused on the children with special needs.

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<sup>4</sup> To protect the confidentiality of the participants all names have been changed.

The main focus of my study were the mathematical lessons. As mathematics is known for being a predominantly theoretical subject that is taught indoors with books and exercises I wanted to find out how mathematics lessons outdoors will influence the children's learning. In the first week I visited all lessons of the class in order to get to know the children, understand how they interacted with each other and what a typical day looked like. The second week was focused on the mathematical lessons indoors; the children learned algebra. The grade 3 children worked on column addition, whereas the grade 4 children worked on column multiplication. In the third week the mathematics lessons took place outdoors, the new topic, measurement was introduced in that week.

The study is conducted with a qualitative approach including the methods of participant observation and interviews. Qualitative research is commonly used in order to understand social contexts as qualitative research aims to gain an inside view in the meanings and perspectives of the participants actions and words (Maykut & Morehouse, 1994, p. 17). This study intent to gain a close view on the behaviours and meanings of children and teachers, therefore a qualitative approach was chosen.

#### 4.1 Participant observation

Whilst performing the study I used the method of participant observation. This method has its roots in anthropology but is used today in many fields of social sciences. I decided on a participant observation for my study in order to find out how the children behave in the class in general, and in particular while the outdoor lessons.

In order to create a more relaxed and "natural" atmosphere I participated as much as possible in the class, to limit the feeling children may have of being observed. Concerning the reactivity of the children I was in the class for several weeks (Bernard, 2011, p. 265; Spyrou, 2011). With this immersion into the class I tried to experience what the children experience and what they consider as important and meaningful (Emerson, Fretz, & Shaw, 1995, p. 2). In the three weeks I merged into the class and had friendly relations to the children. I tried to follow the ideas of Spyrou (2011), he describes techniques "whereby the researcher minimizes their adult characteristics (both physical and social) and authority so as to blend in with children's activities more easily." (Spyrou, 2011, p. 154). Furthermore Teachman and Gibson are stating, even if children are often shy with strangers or taught not to speak to strangers, children with special needs are more used to cooperate with unknown adults, as they are more used to meeting

different professionals, for instance doctors, therapists, etc. (Teachman & Gibson, 2013, p. 271).

The field notes I wrote down in little breaks between the activities, concerning to minimize my role as a researcher. Directly after the observation I wrote down my observation in a more detailed text, which was used as a data set for my analysis.

The observation was centred in one class and focused on the mathematics lessons indoors and outdoors. I focused my observation on the children with special needs: How is their behaviour in the class room? How does this differ from their behaviour outside? How are the group processes indoors? And do those group processes differ if the class is outdoors? Are the children with special needs more included in the class when they are outdoors?

## 4.2 Interviews

Succeeding the observation, I conducted several semi-structured interviews. The interviews were held in the school, a familiar place for all participants, beneficial to their comfort.

I interviewed both teachers, the main teacher and the special education teacher in order to find out how they experienced the outdoor lessons: if they observed increased inclusion of the children with special needs, concerning social skills and group processes, but also if their learning outcome differed from the classes indoors. Moreover I asked them about their personal feelings and experiences regarding the outdoor lessons.

The teachers have a broad idea about Outdoor Education, but they are not teaching frequently in the outdoors, therefore it is very important to ask them about their experiences and meanings, because in the end, they as teacher, have the power to decide whether the class is learning inside or outside the classroom.

The teacher for special education works with all students of the school classified as having special needs. As she spends time with different students, it is normal for the teacher to move around classes as necessary and due to this was not present for every lesson. She has worked with the children with special needs for several years and has a close relationship with each child, thus she could provide interesting aspects of the children's different personalities and developments from her professional perspective.

Further to the teachers I interviewed several children of the class. As I put my focus on the children with special needs, I interviewed Fred and David. In addition, I interviewed two girls of the class, who are not characterized as being children with special needs. Although this thesis is focused on children with special needs it is interesting to get to know experiences and meanings of all children. It is important to give children possibilities to express their experiences and meanings on their own, and not via an adult (Danby, Ewing, & Thorpe, 2011, p. 74). In particular children with special needs have problems to be seen as capable social actors. Parents and teachers often patronize children with special needs too much, so that their voices can't be heard.

I elaborated questions focused on the outdoor lessons and in comparison to the indoor lessons. I asked them, what they experienced outdoors; how they felt according to their class mates, personal and according to the taught subjects; what did they learned, etc. and how this differs to the regular indoor classes. In addition to the questions I used practical methods introduced by Teachman and Gibson (2013) who used those techniques to interview children with special needs. The authors recommend to apply a warm up card game and to use cartoons, puppets or photographs in order to create a good interview atmosphere for the children and help them to response in a playful way (Teachman & Gibson, 2013). In order to reduce the anxiety of the children I made a warm-up card game: there are two identical piles of cards on the table, each card has a question on it. The child may start to choose a card and ask me that question. Here the child will be the interviewer, this should help to comfort the child with the interview situation and break up the hierarchy between interviewer and child (Teachman & Gibson, 2013, p. 267). Furthermore I used photographs, which I took while the outdoor classes, in order to remind the child about the class and to facilitate asking about certain situations. Hence, the photos can "provide a "break" from more abstract discussions of feelings." (Teachman & Gibson, 2013, p. 270). Moreover the children have a tangible material in their hand and even pictures of nature can create a more relaxed atmosphere. Another method I used was, that the children should end sentences for me. I gave them a sentence starter such as "The best thing about being outdoors is...", "The worst thing about being outdoors is,..." and they had to end those sentences. This technique can help children who have difficulties to express themselves. In order to avoid bias the questions will be stated as neutral as possible. According to Teachman and Gibson, using this method they "found a surprising range of responses, including deflection of the topic area." (2013, p. 271).

### 4.3 Analysing the collected data

After collecting my data (the field notes of the observations and the recorded interviews), I transcribed the interviews. To ensure accuracy of the transcriptions, slang is used and the statements of the participants were transcribed as close to the original as possible, therefore the transcriptions contain incomplete sentences. The translations were made by the author considering to keep the translation as close to the original German transcriptions as possible.

In order to analyse my interviews, I used the method of thematic analysis. Within thematic analysis the researcher determines themes out of their data set. There is no strict rule set which makes it a flexible method to analyse interviews (Braun & Clarke, 2006, p. 6). After transcribing the interviews, I read and reread the interview texts and highlighted potential themes and subthemes in different colours. Similar themes were paired together, whereas themes which appeared in several interviews were highlighted again. In the end I extracted three main themes which will be discussed in chapter 5.

In order to find specific themes in my data set I used an inductive approach. Within the inductive way, the researcher puts direct focus in their data to identify themes. Another theoretical framework would be a theoretical approach, whereas the researcher is guided by a certain theory. Hence it is important to mention that even if the researcher chooses the inductive approach their mind is never entirely free from theories (Braun & Clarke, 2006, p. 12). This point is also to be considered while analysing the field notes of the observations. The researcher has to keep in mind that their observation always has a subjective influence, because everyone observes something different and interprets it differently (Emerson et al., 1995, p. 5). Analysis of the field notes started with an open coding; the texts were organised in key words, or codes. While reading and rereading the texts codes were noted on the margin of the field note text. These codes have been connected in order to find out concrete themes and subthemes. With a focused coding these themes could be edited again, possible themes could be paired together, or be broken apart. (Emerson et al., 1995)

The last step was to compare and combine the themes from the interview data and the observations.

## 4.4 Ethical considerations

Ethical considerations play an important role in a study, especially when the study is focused on children, furthermore children with special needs, “because of their perceived vulnerability or incapacity.”(Teachman & Gibson, 2013, p. 153). While researching with children power and hierarchy have to be considered. It is important to hear the children’s voices to learn about their experiences and opinions. The researcher has to keep in mind that he or she as an adult automatically is in a position with power towards the child. This means that the researcher should try to break the adult-child hierarchy and take the child as a serious social actor (Meloni, Vanthuyne, & Rousseau, 2015, p. 119). Therefore, I informed the parents, the teachers and the children about myself and about the plan of my study beforehand. It had to be evident, that all children participate voluntarily and that they can stop the interviews whenever they feel uncomfortable. In particular, I had to focus that the children with special needs understood that they can have a break or stop the interviews in case of fatigue or feeling uncomfortable (Teachman & Gibson, 2013, p. 268).

Another important aspect I put in my ethical considerations were the photos I took in the outdoor lessons and used in the interviews. Permission was obtained from all participants and their legal guardians to take photos, provided they were used only for my study and would be destroyed them after my study concluded.

In addition to those named ethical considerations, it is important to change the names from the interviews and observations in order to guarantee anonymity for all participants. In the following text all names are changed and given aliases are used to provide a more reader-friendly text.

## 5 Findings and Discussion

With the analysis of the data sets several themes and patterns were found and summarized into four themes: Implementation of inclusion; anxiety and nature; Outdoor Education for all; and practical learning.

The themes are presented with quotes translated from the original German data and discussed with existing literature.

A larger quantity of quotes out of the interviews are used due to the fact that the study aims to give children and teachers a voice. Often the participants confirmed the already made observations and with focusing on the statements of the participants less subjectivity will be provided.

## 5.1 The implementation of inclusion in a practical perspective

As described in chapter 2.5 the implementation of inclusion in Germany is a complex process with various problems like the difficulty of structural changes or the early selection in the German educational system. Even though children with special needs are visiting general schools since the Convention on the Rights of Persons with Disabilities the level of inclusion in Germany can be seen as meagre. There are no general guidelines existing to ensure inclusion is implemented at all schools in Germany (Reich, 2014a, p. 1). In a practical perspective it can be seen that general schools in Germany have not been changed in order to create inclusive schools. Gradual processes towards inclusive schools can be observed within the last years however no general changes were made before the first children with special needs came into the general educational system. In this part of the interview Anna, the main teacher of the class, describes her first contact with children with special needs in a classroom setting.

*Interviewer: since when are you working with inclusive children<sup>5</sup>*

*Anna: yeah see 2004 I came to Loope [the village where the school is- author's note] and 200,,,,,I this is estimate 2006 a child with down syndrome came in my class[...] and then I got directly a year later 2007 another child in the class that was cognitive disabled no down syndrome but a cognitive disability that was on the border of cognitive and learning disability*

*Interviewer: mhm*

*Anna: they put those then into primary school quite so*

*Interviewer: ok and they just came to you there was not any, further education or something like that*

*Anna: Nah*

*Interviewer: then you had to—*

*Anna: --you had to look out for yourself*

*[translated by the author]*

*[ Interviewer: seid wann arbeitest du überhaupt mit Inklusionskindern / Anna: ja pass auf 2004 bin ich nach Loope gekommen und 200,,,,,ich das ist jetzt Schätzung 2006ist ein Down-Syndrom Kind in meine Klasse gekommen,,[...] und dann hab ich direkt nen Jahr später 2007 noch ein Kind in die Klasse bekommen das war geistig behindert kein Down-Syndrom aber ne geistige Behinderung das war so die Grenze zwischen geistig und LB / I: mhm /A: die hat man da in die*

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<sup>5</sup> *Inclusive children* [german: *Inklusionskinder*] is a colloquial term used to describe children with special needs who are attending regular schools.

*Grundschule getan genau / I: ok und die sind einfach zu dir gekommen ne da gabs keine irgendwie, Fortbildung oder irgendwie sowas /A: ne / I: da musste man dann -- / A: --musste man selber gucken wo man bleibt ]*

Anna describes in this part of the interview that children with special needs came in her class without any preparation or further education for her as a teacher. Although it is known that the learning process is poor when children are not supported on their individual level, no education was provided in order to train Anna to support and include the children with special needs in her class (UNESCO, 2014b, p. 5).

As discussed in previous chapters the teacher education in Germany is focused on specialized knowledge instead of pedagogies, therefore it is essential to restructure the teacher education in order to educate inclusive teachers (see chapter 2.5). This is an important step to implement inclusion in German schools. Only if teachers can adapt to the needs of all children a profound learning process for all children can be granted.

There are an increasing number of special education teachers who are working in primary and secondary schools. They do not have an individual class however support the other teachers and children with their professional knowledge. Since the formal change to an inclusive system there is no formal training provided to existing teachers. Although the working profile of all teacher has changed. Mona, the special education teacher describes in the following interview excerpt, in which way the working profile of a special education teacher has changed.

*Interviewer: [...] the inclusive lessons so how was the difference for you if you worked at a special school before you experienced this process of inclusion*

*Mona: „ yeah so my duties are totally different before if you are class teacher you got different duties as now in my position where I virtually come additionally each lesson in a different class „ and we that it's working more with team teaching and , ehm advice for the teachers,*

*[ Interviewer: [...] den inklusiv Unterricht also wie ist der da Unterschied für dich wenn du vorher an ner Förderschule gearbeitet hast hast du diesen Inklusionsprozess ja auch mitbekommen.. / Mona: ..ja also meine Aufgaben sind jetzt gänzlich andre davor wenn man selbst Klassenlehrerin ist hat man selbst andere Aufgaben als jetzt in meiner Position wo ich in jeder Stunde quasi in ner andere Klasse zusätzlich dazu komme,, und wir das mehr über Team Teaching läuft und, äh Beratung für die Lehrer,]*

Mona describes a complete change of her area of responsibility, instead of teaching one class she is giving support and her professional knowledge as a special education teacher to other

teachers. Furthermore she puts special attention on the children with special needs and supports them individually.

This requires a high level of flexibility from all teachers as they have to teach as part of a team when traditionally they were solely in charge of their class. Especially Mona must adapt to the other teachers and find her place in the class. Mona seems to be an important support for a lot of teachers, however it must be considered they should not rely on her support every lesson due to the fact she is changing classes constantly.

Since a close bond and continuity is important for children in order to create a good rapport and trust which leads to a more profound learning, it is questionable if the system of permanently changing special education teachers supports this close bond with the teacher.

Another aspect where Germany has to improve in the process of inclusion, is the early selection of children after primary school and separation of students during secondary education (see chapter 2.4). This selective character of the educational system in Germany cannot be within the meanings of inclusion (Reich, 2014b, p. 134). The children express concerns when they think and talk about the upcoming selection into different secondary schools. Christina, a grade 4 girl from the class expresses her concerns about the upcoming school change in this part of the interview.

*Christina: and that's why, yeah don't want to any other school, because I just like this school and I don't want to leave here anymore because the because you are right,,after 4 years you are right here like home you could go here in your sleep I would know where every room would be and ehm and that's why yeah, well it's a big change if you go to another school then*

*[Christina: und deswegen, ja ich will eigentlich auch auf keine andere Schule , weil ich mag diese Schule einfach und ich möchte hier einfach nicht mehr weg weil die weil man ist ja dann auch richtig,, nach 4 Jahren ist man hier richtig wie zu Hause man könnte da im Schlaf hier langgehen ich wüsste wo jeder Raum wär und ehm und deswegen ist das ja ,also schon ne Umstellung wenn man dann auf ne andere Schule geht]*

Christina is talking about how well she feels in school and that the upcoming change will be a big difference. She feels “like at home in school” and does not want to go to another school. After four years of primary school children feel home and safe at school, which can be considered as an important aspect towards their learning. Only if children have a good feeling about their place they can learn, furthermore a place is also part of a person's identity (Wattchow & Brown, 2011).

Another significant aspect is an emotional stability which children get through their friendships. Especially for children with special needs this is a crucial aspect as they can find it more difficult to find friends. Fred, who is characterized with a learning difficulty and seems calm during the lesson, tells me in the interview a lot about his friends.

*Fred: yeah, it is good that I am with in the class with my friends again*

*Interviewer: you haven't be in one class before*

*Fred: yes but then I repeated and then he [his best friend- author's note] normally is originally we started school together then I had to repeat , and know he is in grade 4 and I would be normally in grade 4 but now I am in grade 3*

*[...] And we are both if we be in Marienheide then together then but I'll come to Marienheide maybe because my brother is there*

*[ Fred: ja, es ist gut das ich jetzt wieder mit meinen Freunden in der Klasse bin / Interviewer: ward ihr vorher nicht zusammen in der Klasse / Fred: doch aber dann ich hab ja wiederholt und dann ist der [sein bester Freund – Anm.d.Verf.] schon eigentlich sind wir zusammen eingeschult worden dann musste ich sitzen bleiben, und der ist jetzt 4. Klässler und ich wär eigentlich auch schon 4.Klässler aber ich bin jetzt 3.Klässler [...] und wir sind beide ob wir in Marienheide dann zusammen dann aber wenn ich dann ich komm vielleicht nach Marienheide weil mein Bruder dann da auch ist]*

It seems important for Fred to be in the class with his friends again, as he had to repeat a year. The system of overlapping grades brings a positive outcome for Fred, considering that he can be in one class with his friends, even if they are in grade 4 and he is in grade 3 now. However at the time of my research this status only lasts half a year longer, then his friends are going to a secondary school, whereas he has to finish grade 4. Therefore during the interview, he mentioned multiple times *Marienheide*, referring to a secondary school in the area. Even if he still has to visit primary school for a year longer, the upcoming change of school seemed present in his thoughts, as his friends and twin brother are changing school this year already. Here we can see a positive aspect of inclusion, without this process Fred would have to go to a special education school, whereas he now has the chance to go to the same school with his friends. Both learning in the overlapping grade system and the possibility to go together as friends to one school increases peer education which has positive outcomes to successful learning (Asselhoven, 2015, p. 155). Learning with and from peers is a common aspect of Outdoor Education, as group activities are an integral part of learning outdoors (Brodin & Lindstrand, 2006). Peer education can be supported with a connection of outdoor educational approaches and decreasing the selective character of the German educational system.

Germany has some way to go in order to implement inclusion in German schools. Since the educational system is embedded within a larger system and general changes are slow, the teachers are the ones who can initiate changes and are therefore key actors in the process of inclusion.

As in a practical perspective no special needs teacher was in the school at the time when children with special needs came in Anna's class and she did not get any further education, she helped herself and the children by doing more practical lessons.

*Interviewer: and then you had to think about something yourself how you could support them [children with special needs – author's note] specially*

*Anna: yes we worked practical a lot and, ehm, yeah with the little ones I always made a forest day and we made forest weeks*

*[ Interviewer: und dann musste man sich selber sonen was bisschen überlegen wie man die [Kinder mit Behinderung- Anm.d.Verf.] speziell fördern kann / Anna: genau wir haben auch viel praktisch gearbeitet und, ehm,, ja mit den Kleinen ich hab dann immer nen Waldtag gemacht und Waldwoche haben wir mal gemacht,]*

In order to support the children with special needs Anna worked in a more practical way with the whole class. Furthermore she describes that she made forest days and –weeks. Due to potential bias, it must be considered that Anna knew the topic of this thesis which may have steered the interview towards the topic of Outdoor Education and her teaching in the forest. However, in the ongoing interview she describes that those days were always especially appealing to children with special needs.

This shows that a connection of Outdoor Education and inclusion can be meaningful for children with special needs. As the process of inclusion is rather complex in Germany and in praxis only few changes were made, Outdoor Education can be seen as a potential chance in order to conduct meaningful lessons for all children.

## 5.2 Anxiety and nature

The conducted study works with an inductive approach, meaning themes and patterns are extracted out of the data sets. One theme which was expressed by all interview participants was a certain anxiety towards nature or towards teaching outdoors. As the benefits of Outdoor Education are distinct, anxiety can be seen as a limitation or barrier why there is not more

Outdoor Education at schools however also why people are not spending as much time outdoors.

Everyone has felt anxiety in their life before, sometimes a feeling of anxiety can protect us from something, sometimes it helps us to keep up a certain respect towards something however sometimes it limits our actions. Anxiety can be our own anxiety or the anxiety of parents, guardians or teachers. Anna, the main teacher of the class, describes a certain anxiety of parents towards the outdoors in this part of the interview.

*Anna: [...] the anxiety of the parents they don't let them outside anymore,,*

*Interviewer: yeah*

*Anna: I mean if they are little,,okay but with a certain age I think like at primaryschool a child can go in the forest alone because then you can also go alone to school that is also important then the mother does not have to go with you every day*

*[ Anna: [...] die Angst der Eltern die lassen die ja gar nicht raus,, / Interviewer: joa / Anna: ich mein wenn die klein sind , , klar ne aber ab nem gewissen Alter ich find so ab Grundschule kann sonen Kind schon alleine in Wald gehen dann kann man nämlich mal alleine zu Schule gehen das ist auch wichtig da muss ja auch nicht die Mutter jeden Morgen mitgehen ,, ]*

Anna describes the phenomena that today many parents are afraid to let their children be outdoors. This can be connected to a changing childhood, that children in general are not spending that much time in the outdoors (Louv, 2009). One reason might be the increasing influence of technology and media, meaning that children spend a lot of time in front of the computer or other electronic devices however also anxiety of the parents can be seen as on cause. In the conducted study this was also expressed by Ronja, a 9-year old student, who liked to go for walks but since her mother told her about “scary men” she does not dare to go for walks anymore.

*Ronja: in front oft the door or sometimes I go for walks, but I ,, I don't dare anymore,,to go for walks*

*Interviewer: why don't you dare*

*Ronja: because my mum told me a lot of men [...],,, they take the children with them [...]*

*[ Ronja: vor der Tür oder ich geh manchmal auch spazieren, aber ich ,, trau mich jetzt nicht mehr,, spazieren zu gehen / Interviewer: warum traust du dich das nicht,, / Ronja: weil meine Mama hat gesagt viele Männer [...],,,die nehm immer Kinder mit [...]*

Ronja expresses that her mother told her about men who would take children, therefore she has anxiety to go for walks. This is an example for transference of anxiety; where parents' fears transfer to their children. Anxiety up to a certain level can be seen as positive as it raises the attention towards potential hazards and the potential hazard of a little girl abused by a man will not be neglected here (Magraf & Schneider, 1990, p. 203). However, it is important that we do not let anxiety rule our lives and give us limitations, as is shown in the case of Ronja who does not go on walks anymore. A certain anxiety is also shown by other children concerning how they feel in the forest.

*Interviewer: „in the forest I feel...“<sup>6</sup>*

*Fred: scared (laughs) mhm if there jumps out a fox or something just like that*

*Interviewer: ok*

*Fred: but also interesting there you can find new stuff or something*

*Interviewer: “ in the forest I feel, ..”*

*Christina: weeeellll, if , but not if I hear such a noise then I think there comes a wild pig or something (laughs)*

*Interviewer: mm*

*Christina: and then I am a little bit afraid, but normaly I feel very good because my grandpa he knows there everything and he explains me always what I can eat which mushrooms there are , or something*

*[Interviewer: “Im Wald fühle ich mich,...”/ Fred: gruselig (lacht) mhm wenn jetzt einfach so nen Fuchs oder so rausgesprungen kommt oder so / Interviewer: ok / Fred: aber auch interessant da kann man da sowas neues finden und so,,]*

*[ Interviewer: “Im Wald fühle ich mich,...” / Christina: woohl, wenn , aber wenn ich schon so Geräusche höre dann denk ich dann schon da kommt nen Wildschwein oder so (lacht) / Interviewer: mm / Carolina: und dann hat man schon nen bisschen Angst, aber ich fühl mich sonst eigentlich richtig wohl weil mein Opa der kennt sich halt super damit aus und der erklärt mir dann immer was man essen darf welche Pilze es gibt, oder so ,]*

Both children express an anxiety towards the wildlife they could meet in the forest. However they also describe the forest as a place to explore, where they find interesting and new things and as a place to feel well. This shows that the forest as a place itself is perceived by the children as a place to feel good. People who frequently spend time in nature create positive feelings towards nature, like harmony, oneness or experience a sense of freedom (Gilbertson, 2006, p. 33; Gurholt, 2014, p. 241). Also the children describe a fascination of nature in general and Carolina expresses she feels a sense of wellness in nature as she spends time with her grandpa

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<sup>6</sup> As described in chapter 4.2 a method of ending sentences was used in the interviews with the children.

in the forest. In order to reduce anxiety, it is important get to know the forest. The anxiety towards wildlife will reduce when children are often in the forest. Their experience will show that even if there are wild pigs in the forest, they will almost never show themselves neither will they attack humans but rather flee from them. Nevertheless, it is important for children to learn about nature in order to reduce anxiety. If they do not have the possibility, like Carolina for instance to learn this from family members, school should take that responsibility. Here the school can intervene and support positive feelings towards nature with Outdoor Education programmes.

Another approach to reduce anxiety are Adventure Education programs. In those programs activities are conducted which construct a level of anxiety or risk in order to push the participants to take a risk and overcome their fears.(McKenzie, 2000, p. 20)

As the Hattie study (2009) has shown, teachers can be seen as key actor in school education, beside their personality the teachers create the learning environment and climate which has a direct impact on the learning outcome. Outdoor and Adventure Education programs are described as being the most successful programs connected to this study about excellent teaching (Hattie, 2009, p. 23). Nevertheless, in a practical perspective teaching outdoors seems a peripheral phenomenon as most of the classes are taught inside the classroom overlooking the positive benefits of teaching outdoors.

Teachers are the key to conduct Outdoor Education as they prepare their lessons concerning the given curricula. A reason why most teachers staying indoors can also be attributed to anxiety. The teachers interviewed describe a certain anxiety of teachers in general concerning conducting lessons outdoors.

*Anna: [...] now I'm not in this classroom no more and that it takes courage to do that well where many, where many are afraid of I'm not that afraid of that and I don't think they [children - author's note]took advantage of it*

*Mona: [...] you maybe feel safer as a teacher in the own four walls,*

*[Anna:[...]jetzt bin ich eben nicht mehr in diesem Klassenzimmer und das ist das was ja Mut erfordert das zu tun also wo auch viele, wo man viele auch Angst vor haben ich hab da jetzt nicht so Angst ich fand auch nicht das die [Kinder- Anm.d.Verf.] das jetzt irgendwie ausgenutzt haben*

*Mona: [...] man fühlt sich vielleicht sicherere als Lehrer in den eigenen 4 Wänden ,]*

Mona describes a feeling of security while teaching in the class room whereas Anna adds the anxiety teachers can have when the children are not in the classroom anymore. She describes the necessity of courage in order to teach outdoors.

Concerns of safety issues and potential risks are often named hazards of Outdoor Education. The general perception of the classroom instead is seen as a secure place. Safety issues should be priority while teaching in general, while teaching outdoors other risks have to be concerned as apposed while teaching indoors. However as the study of Mannion et al.(2013) has shown, a good preparation of outdoor lessons is crucial, in contrast indoor lessons also require preparation to deliver a safe and meaningful lesson. Furthermore it has been shown that even inexperienced teachers got encouraged by teaching outdoors (Mannion et al., 2013, p. 799). This shows that risk concerns and preparations are slightly shifted for Outdoor Education programs however through good preparation teachers should be able overcome anxiety towards teaching outdoors. Furthermore adventure education programs are working with anxiety in order to create challenging activities, to overcome the anxiety is seen herby positive, as a possibility of personal growth (Gilbertson, 2006, p. 8). This especially applies to children with special needs, who are often not seen as independent social actors and therefore are overprotected. Through challenging activities they can overcome their anxieties and have the possibility to show their individual strength. This can be connected to the conducted lessons of Outdoor Education in the primary school: Fred and David's participation was observed by the teachers as well as by myself as being minimal whereas outdoors they could contribute well to the exercises and influence the work in their group positively through their individual skills and competences. Moreover the children could be observed as having a high level of concentration while performing their exercises being outdoors and as Anna describes the children did not take advantage of the freedom they got while being outdoors.

### 5.3 Outdoor Education for All

Inclusion sets out to grant access and participation for all children in the educational system. The implementation of inclusion in Germany has to catch up as discussed out of a theoretical and practical perspective. As the research question states this study aims to find if Outdoor Education can increase the process of inclusion.

On a theoretical perspective benefits of Outdoor Education were discussed, such as increased memory through experiential learning and a sense of achievement to name a few. The empirical

study endeavours to find if Outdoor Education shows positive benefits towards children with special needs in their learning and if Outdoor Education can help to include those children into the class. The study will investigate if participation by special needs children is influenced in a different more positive way when they are learning outdoors as apposed to indoors.

The first outdoor lesson in which I participated was the introduction lesson to the new topic of measurements and weights. The children were asked to find out what is heavier: water, snow or ice. It was the first week of snow in this winter thus the children were excited about the snow in general, using the snow and ice for mathematical lessons was therefore a positive surprise for them.

*Most students calculating quietly and talk here and there with their neighbours. Fred is playing with Nathalie and a roll of toilet paper. After approximately 10 minutes Anna (teacher – author’s note) stops the individual exercises and tells the students to put their exercise books away in order to give them an “explorer mission” to conduct outdoors. Anna explains the mission: the children are explorer and should find out in groups of three students what is heavier: water, ice or snow. All children are listening carefully and seem very excited, I never saw the class so attentive while something was explained at the blackboard. [...]*

*(field notes 22/01/16)*

*[Die meisten rechnen ruhig und quatschen hier und da mit ihren Nachbarn. Fred spielt mit Nathalie und einer Rolle Klopapier herum. Nach ca. 10 min. stoppt Anna (die Lehrerin-Anm.d.Verf.) die Einzelarbeit und ruft alle auf ihre Hefte beiseite zu packen um ihnen einen „Forscherauftrag“ für draußen zu geben. Anna erklärt den Auftrag: die Kinder sind Forscher und sollen in 3er Gruppen herausfinden was schwerer sei: Wasser, Eis oder Schnee. Alle Kinder hören ruhig zu und wirken sehr gespannt, ich habe die Klasse niemals so aufmerksam gesehen, wenn etwas an der Tafel erklärt wurde. [...]]*

This excerpt of the field notes describes how excited and calm all children were when they listened to the teachers’ introduction of the explorer mission. To be an explorer seems like something exciting and fun for the children. That they are allowed to go outdoors in the snow and search for samples in order to conduct their experiments allowed them be concentrated on listening to the teacher’s introduction and the rules of the activity. In other mathematics lessons it took a while to get the children quiet in order to introduce a new activity. There were always some children talking to their neighbours, dreaming or playing around with something. In the outdoor lessons all the children were instead busy and worked concentrated in their groups in order to find the solution of which is the heaviest.

In this part of the interview the special education teacher, Mona, reports about the concentrated work flow of the children while learning outdoors.

*Mona: there I had all that they all were busy the individual did not stand out then such as David who is loud everyone is somehow loud then and busy and very concentrated on themselves*

*[Mona: da hatte ich alle das die dadurch alle beschäftigt waren viel der Einzelne da gar nicht mehr raus da fällt so ein David der dann laut ist da sind ja alle irgendwie laut und beschäftigt und sehr auf sich konzentriert]*

Mona describes here that *all* the children were occupied with the exercise and concentrated within their group. As inclusion describes participation for all children, a positive connection to Outdoor Education can be seen here, due to the fact that while participating in outdoor activities all children were participating in an equal position. The individual child does not stand out and as David is often disturbing the lessons for being loud he can be loud in these kind of activities as all children are loud however still concentrated on their tasks. Participation and esteem for all children are two main aspects of inclusion (Boban & Hinz, 2003, p. 10). In the observed activity all children were involved and could participate in order to find the solution of the explorer mission. The framing of a mission created a fun environment for the children as they discussed with me in the interviews.

*Ronja: yes that was fun,,*

*Christina: [...] and this with the snow was also pretty cool I have to admit even for mathematics and also now with the scales it's alright,,*

*David: more ,, outside was more fun than ,, inside ,*

*[Ronja: jaa das hat auch Spaß gemacht,,/ Christina: [...] und das mit dem Schnee das war auch cool muss ich jetzt bei Mathe zugeben und auch jetzt mit den Wagen ist ganz ok,, / David : mal mehr,, draußen hat mehr Spaß gemacht als ,,drinne,,]*

The children express that they had fun while conducting the exercises outdoors. Carolina and David who previously advised that mathematics is their most unpopular subject also express that they had fun while learning outdoors which reinforces the benefits of changing the style of delivering a subject. In particular, unpopular subjects like mathematics can be made interesting to the children through the methods of Outdoor Education. Fun while learning lead to a positive connotation towards mathematics, creating a personal meaning and relating to a subject can increase retention of the content, hence raising the learning outcome (Gilbertson, 2006). Having fun while learning can be seen of particular importance for children with special needs who often dislike school, as David describes in this part of the interview.

*David: I hate school*  
*Interviewer: You hate school, why,,*  
*David: because school is stupid,,*  
*Interviewer: why is school stupid,,*  
*David:,, I can't reach the thing,,,,switch it off,,I go then now (David switches the tape recorder off) that was close*

*[ David: Ich hasse Schule, / Interviewer: Du hasst Schule, warum ,, / D: weil die Schule doof ist,, / I: warum ist denn die Schule doof,, / D: „ich komm nicht an das Ding ran,,,,,schalt das aus,,,,dann geh ich jetzt mal (schaltet das Tongerät aus) das war knapp]*

David tells me he hates school; when I enquire him about the reasons why he hates school he gets nervous and stops the voice recorder. As I explained in the beginning, the children were allowed to stop the voice recorder or the entire interview if they felt uncomfortable. David took use of this however it seemed that he also wanted to test the boundaries and apply his “rules” to the interview. After I was allowed to switch the voice recorder on again and continue with the interview he started writing his answers on the blackboard instead of just talking to me. Nevertheless he gave me interesting information during his interview and I gained an insight into his perception of school.

Considering that he hates school it can be seen as a positive aspect that he had fun while learning outdoors and as was observed he participated with more motivation during the outdoor classes, whereas in the classroom he often disturbs the lessons. Those findings can be connected to the study Price (2015) conducted on students with emotional/behavioural disabilities: Price found students with an emotional/behavioural disability showed enjoyment learning outdoors and increased school attendance through the outdoor programmes (Price, 2015).

In this interview excerpt Danny’s teachers comment on his increased motivation in the mathematics lessons outdoors and the positive changes the outdoor lessons brought to his participation in the activities.

*Mona: yeah David definitely worked super in the group you could see that, normally he has problems working together fools around a lot and now he could collaborate really well , because he could read things it was ehm on his level he could do things which were easy for him reading or put something on [the scales – author’s note] or simply guess without a right or wrong I think that was super for him , and he could integrate himself into the group,,*

*Interviewer: mm*

*Mona: ,, ehm and this is for him who has such emotional social difficulties much more important as knowledge just accumulate knowledge through worksheets but there is there is a difficulty there is more the difficulty and then Fred also can show more what he can he brings his scale and is very proud that the children are using it and to explain the technique how it works,,*

*Anna: but so Fred also collaborated a lot he really worked well, with David it's always depending on the day but today for example he is also a bit , today he got involved well „[...] ]*

*[Mona: ja der David auf jeden fall super in der Gruppe gearbeitet da haste auch gemerkt der hat sonst Schwierigkeiten mit anderen zusammenzuarbeiten macht viel Blödsinn und da konnte er richtig gut mitarbeiten , weil er Dinge ablesen konnte es war ehm auf seinem Niveau konnte er für sich Dinge rauspicken die ihm leichtfallen ablesen oder was drauflegen oder einfach nur schätzen ohne das es ein Richtig und Falsch unbedingt gibt das war für ihn glaub ich echt super , und da konnte er sich integrieren in die Gruppe , / Interviewer: mm / Mona: , ähm und das ist für ihn der auch so emotional soziale Schwierigkeiten hat halt auch sehr viel wichtiger als jetzt ein wissen nur wissen durch Arbeitsblätter anzuhäufen sondern da ist ne da ist ne Schwierigkeit da liegt die Schwierigkeit eher und der Fred kann dann auch viel mehr zeigen was er kann der bringt seine Waage mit und ist mega stolz das die Kinder sich jetzt da drauf stellen und wie die funktioniert die Technik zu erklären ,,*

*Anna: aber also beim Fred der hat ja echt viel mitgemacht also der hat ja echt gut gearbeitet , David ist es ja immer sonen bisschen Tagesform abhängig aber obwohl heute zum Beispiel ist der ja auch wieder sonen bisschen , heute hat der sich ja auch wieder gut drauf eingelassen ,,, [...] ]*

Both teachers describe the increased participation of children with special needs while partaking in the outdoor classes. Mona describes that David could participate in his group due to the fact that he could contribute on his own level, he could read scales, collect samples and estimate weights. Due to his characterized emotional/behavioural disability it is difficult for him to develop social relations or participate in groups. As he could show his competences and skills in the outdoor lessons he had the chance to include himself into the group. It is especially important for children with special needs to be able to show their competences and abilities. Outdoor Education creates frame conditions where those children can grow personally and socially (Massey & Rose, 1992).

The teachers observed an increased encouragement of David and Fred, both could participate as meaningful members of their groups in order to complete the given exercises. This is what idea of inclusion describes.

Through increased participation it can be said that Fred and David felt a sense of achievement. This is an important point in particular for children with special needs, as they are often confronted with failure (R. Wilson, 1994). A repeated feeling of failure reduces self-esteem and can also be connected to a negative perception of school which is directly linked to the motivation of learning (Berger, 2008). Outdoor Education can create strength based activities and exercises where all children are included and participate on their individual levels (Passarelli et al., 2010).

Mona's professional perspective as a special education teacher and the children themselves both confirm the importance of individual strength and achievement.

*Mona: [...] I think this whole topic of measurements was super for them [the children with special needs-authors note],, connected to the aspect I show what I can and I'm secure in the field and not so unsure and I can work together with the others,, and then I have a result*

*Mona: [...] the [children with special needs – author's note] are learning motivated if they manage something to do and they need this sense of achievement and when there are always people surrounding you who are managing everything better and yeah I imagine that being difficult for a lot of them [...]*

*Interviewer: but eh do you have a certain favourite subject where you like to go to or how is it*

*Fred: yeah physical education and swimming*

*Interviewer: I also always liked physical education and swimming,,*

*Fred: and mathematics quite so*

*Interviewer: you like mathematics as well*

*Fred: (laughs) not so much (laughs) but now I do because I got better ,*

*[Mona: [...]dieses ganze Thema Größen ist glaub ich jetzt super für die [die Kinder mit Behinderungen – Anm. d. Verf.]gewesen ,, unter diesem Aspekt ich zeig was was ich kann und ich bin mal sicher auf dem Gebiet und nicht so unsicher und ich kann mit anderen zusammenarbeiten ,, und hab dann auch nen Ergebnis*

*Mona: [...]die [die Kinder mit Behinderungen – Anm. d. Verf.] ja auch motiviert lernen wenn sie was schaffen und diese Erfolgserlebnisse brauchen und wenn du immer nur um dich herum Leute hast die das alles besser können ähm joa stell ich mir das für viele schwierig vor [...]*

*Interviewer: aber eh hast du nen bestimmtes Lieblingsfach wo du gerne hingehst oder wie ist das / Fred: joa, Sport und Schwimmen / Interviewer: Sport und Schwimmen hab ich auch immer gerne gemacht,, / F: und Mathe ungefähr so / Interviewer: Mathe magst du auch gerne / Fred: (lächelt) nicht so aber (lacht) jetzt schon weil ich jetzt besser geworden bin,]*

As Mona describes; it is essential to be secure in a field which leads to an increased participation within the class. Furthermore she underlines the importance of success for children with special needs who are often experiencing being surpassed by other children in the class academically. Beside physical education and swimming Fred states mathematics is his favourite subject. After my enquiry he laughs and explains that mathematics is not really his favourite subject however he likes the subject more now due to improvement of his mathematical skills. Here it can be seen that through a recent success in the subject also the aversion towards the subject sinks. This can be connected to the fact that mathematics lessons were conducted outdoors and experiential methods of learning were easier to adapt for him.

Due to the presented findings and connected to the aim of the study, it can be said that Outdoor Education influence the learning on various level. The outdoor lessons showed increasing participation of the children with special needs, as they could contribute by showing their

competences and skills. This is a key factor of inclusion, where all children can participate and contribute and thus learn together with each other and from each other. Outdoor Education can increase these aspects due to the multifarious concepts the field offers.

Anna the main teacher, sums up, that learning in the outdoors can be a good chance to implement inclusion.

*Anna: I think learning outdoors gives a good chances I think that that that it gives good chances actually to implement a good inclusion , and ehm, but in general for all children not only for the children with special needs but actually for all children , ehm ,,*

*[Anna: ich glaube das außerschulisches Lernen gute Chancen bildet ich glaub das das das gute Chancen bietet tatsächlich ne gute Inklusion auch hinzukriegen , und ehm , überhaupt aber für alle Kinder nicht nur für die Kinder mit Behinderung sondern tatsächlich für alle Kinder ehm ...]*

Anna accentuates that learning outdoors can be a chance for all children not only exclusively for children with special needs. This can be seen in the discourse of inclusion, where diversity is seen as a chance for all. Learning with the methods of Outdoor Education can be a possibility to include the children with special needs into the general schools and to implement a good inclusion.

This chapter ‘Outdoor Education for All’ discussed the findings of the study connected to the subthemes of increased concentration; increased participation (in particular for the children with special needs); fun while learning; individual strength and sense of achievement. All these aspects were shown in the outdoor lessons and can be connected towards an increased inclusion through Outdoor Education. The following chapter focuses on how Outdoor Education generated those benefits, and which methods and aspects of learning are particularly meaningful for children with special needs.

## 5.4 Practical learning

Learning in authentic situations with direct contact means to learn in a practical way with hands-on methods, the use of all senses and learning through experiences (Sczcepanski & Andersson, 2015). Practical experiences and learning is one of the key concepts within the field of Outdoor Education.

It was observed during the outdoor lessons, both children with special needs could increase their participation as they could contribute to the activity. The following excerpt of the field

notes describes a scene where Fred is working with his group partner and he was able to demonstrate that an object weighs the same amount as long as all the original pieces are placed on the scale.

*Fred and Nathan are going directly outdoors in order to find the demanded 5 things, to estimate and weight them. They find an approximately 1 m long stick which they want to weigh, the stick is not straight that's why it always touches the table tennis plate when they put it on the scale. They find out by themselves that because of this not the whole weight of the stick is on the scale. Then they think about what to do now. Fred finally has the idea to break the stick in order to put the small pieces of the stick on the scale, like this they would not loose any weight of the stick. Nathan seem sceptical but when it worked out he is happy, as well as Fred who could put his clever idea into practice.*

*(field notes 25/01/16)*

*[Fred und Nathan gehen sofort raus um die gefragten 5 Dinge zu finden, sie zu schätzen und zu wiegen. Sie finden eine ca. 1 m langen Stock den sie wiegen möchten, der Stock ist nicht gerade deshalb liegt er immer wieder auf der Tischtennisplatte auf, als sie ihn auf die Waage legen. Sie bemerken selber das dadurch nicht das ganze Gewicht auf der Waage ist. Dann überlegen sie was zu tun sei. Fred kommt schließlich auf die Idee den Stock zu zerbrechen und die kleinen Stücke des Stocks auf die Waage zu legen, dadurch würden sie ja kein Gewicht verlieren. Nathan scheint skeptisch aber als es funktioniert ist er froh, genau wie Fred der seine kluge Idee umsetzen konnte.]*

Fred who can be observed normally as quiet and dreaming in the lessons takes the initiative here and solves the problem of the stick which was too big to weigh on the small scale. This is bringing him a sense of achievement which reinforces his self-esteem and negative perception towards mathematics. In this observation can be seen that the boy who is characterized with a learning disability recognizes the problem and solves it with a creative and logical way. Whereas in the indoor classes he does not seem to be very motivated, probably due to often experienced failure, instead in the outdoor classes he is fully participating and in this case even leading his group. Moreover with this finding can be seen that learning in a practical way, with the stick in his hand triggers a high level of cognitive thinking, whereas I question if this exercise would have been explained in a book that Fred would have connected to it and solved it.

Outdoor Education supports children to recognize problems and solve them, with creative approaches, and to investigate and explore by themselves in order to find solutions.

The main teacher, Anna, observed that children outdoors are more explorative and hence more free in their ideas.

*Anna: [...] simply ehm,,discovering , more discovering ,, also to think about something more freely because they are more free but ehm because of that they have ideas other ideas as I think,[...]*

*[Anna: [...] einfach auch ehm,, entdeckend , entdeckender auch noch mal ,,auch sich freier noch was selbst überlegen können weil sei da sie sind freier aber ehm die haben dann auch nochmal ideen andere idEen find ich dadurch ,[...]]*

This quote shows that children are opening their minds outdoors, Anna describes how they are uninhibited outdoors and hence through free exploration create new and other ideas.

Outdoor Education supports creativity and aids children to reflect their experiences and then construct a meaning and find solutions (Gilbertson, 2006, p. 9).

The educational system today is mainly focused on theoretical learning whereas many children relate more to practical or experiential learning. People in general learn through different ways, some are theoretical cognitive thinkers and others adapt easier through practical ways of learning (Gilbertson, 2006, p. 38). Outdoor Education can offer meaningful learning methods and environments for all children which can be seen as a chance in particular for the children with special needs. Practical learning methods are used in special education and children with special needs adapt easier to direct learning approaches (Wilson, 1994).

In this part of the interview Mona describes the advantages of practical learning in relation to Fred whereas Anna talks more in general about the topic of hands-on.

*Mona: he [Fred- author's note] is also such a type he needs the practical and create and something to do yes that suits him he was here in the wood workshop project and that was exactly his thing,,he is no one who learns via the head or the theory he needs the practical component eh with all 5 senses yeah that is what he needs*

*Anna: so to learn to learn you understand something right and it is like that you have to touch it, in order to understand it,, and then there are many who are learning much more so there are people they can learn everything from theory and there are many who yeah , I would count myself into who have to touch something many things are much easier for me if I experienced it , than to read about and understand it and ehm I think this is totally this haptic story with the children [...]*

*[Mona: der [Fred – Anm.d.Verf.] ist auch sonen Typ der braucht dieses handwerkliche und schaffen und was tun ja da geht der auf ja der war auch mal hier in der Holzwerkstatt Projekt und das war genau sein Ding , der ist halt keiner der über den Kopf und die Theorie der braucht das Lebenspraktische äh mit allen 5 Sinnen ja doch das braucht der*

*Anna: also um das Lernen also lernen tut man dann begreift man etwas hast du das begriffen ne und es ist tatsächlich so man muss es eigentlich be-greifen , um es zu verstehen ,, und da gibt es ja viele die da viel mehr drüber lernen also es gibt ja Leute die können alles theoretisch lernen und es gibt ja viele die ja erstmal was , ehm also ich gehör ja auch dazu die das erstmal tatsächlich be-greifen müssen ne anfassen müssen vieles fällt mir viel leichter wenn ich*

*irgendwas mal gemacht hab , als es so zu lesen und zu verstehen und das ehms das find ich eben bei Kindern total diese habtische Geschichte[...]]*

Mona describes in the interview excerpt the importance of practical learning for children with special needs. She refers to Fred who does not learn well from theory instead with practical methods and all senses.

Anna the main teacher, refers to practical and hands-on learning, she describes that often we have to touch something in order to really understand it. The German term of *be-greifen* describes this in an elegant way, as *begreifen* in itself can be translated with the verb *to understand*, whereas *greifen* can be translated with *to touch*. She describes that a lot of people learn better with a hands-on approach than just a theoretical approach. Hands-on methods are directly connected to Outdoor Education, where students are supported to use their hands and their minds in order to gain knowledge (Dahlgren & Szczepanski, 1998). Many children can relate to the concepts of practical and experiential learning and some more than others find they learn better with tangible objects rather than lectures and reading.

Learning does not necessarily mean to gain theoretical knowledge but also gain practical knowledge. This is in particular important for children with special needs, as the curriculum for special educational schools put one focus on independent living skills (R. Wilson, 1994, p. 156). Mona as a special education teacher also states the importance of this focus in the following interview excerpt.

*Mona: [...] there I would put the focus on yeah the practical living independently and or learning outdoors everything what is important in order to live independent*

*[Mona: [...]da würd ich eher Schwerpunkte setzten ja im Lebensweltbezug und oder außerschulische Lernorte alles das was wichtig ist um selbständig zu leben]*

Mona underlines the core area of learning independent living skills and learning regarding the habitat of the children. Training children with special needs in order to live independently is a main emphasis depending on the level of disability of the individual child. In the course of inclusion, Outdoor Education can support the development of independent living skills through its wide range of methods and possibilities.

In field trip to a museum for instance, children not only learn about the exhibition, however also the way to the museum can teach children how to use public transport, which is an important skill in order to live independently in later life. This example shows how Outdoor

Education can create learning situations which are meaningful to all children, dependent on their individual level.

Freedom of movement is another important aspect of Outdoor Education. The children I interviewed all name physical education as their favourite subject, a finding which is unsurprising however it shows the wish of more movement in school. As children have to stay seated most of the day, the school restricts the freedom of movement although movement is important for physical and mental health (Dewey, 1963, p. 63).

Positive outcomes due to increased movement while the outdoor lessons are also described by both teachers during the interviews.

*Anna: I've also seen that's something you've seen ehm, for many children for whom it is hard to sit still and to learn, ehm that they, that they could compensate that better [...] those who can't manage it that long or Johan to sit still for half an hour and that's why they are always disturbing, and now they could move more and outdoors different than in the classroom when they were allowed to move, much better mm, do and there were results, so they really learned and that's what I think was super exciting to observe no one did anything else*

*Mona: [...] yeah but for the bumpy children I think it can be calming if you go outdoors and, a bit more running then and move more and then on the same time learn something, so for the bumpy children*

*[Anna: ich hab aber auch gemerkt das hat man eben auch total gemerkt ehm, für viele Kinder denen es eigentlich ja auch eher schwer fällt lange zu sitzen und zu lernen, ähm das die, das einfach auch besser kompensieren können [...] die das noch nicht so lange schaffen oder nen Johan so lange ne halbe Stunde still zu setzen sondern dadurch dann auch immer stören, und jetzt konnten sie das dadurch das sie sich mehr bewegt haben und draußen nochmal anders als im Klassenraum als sie sich bewegen durften, viel besser mm, machen und da ist ja auch was bei rum gekommen, also die haben tatsächlich gelernt und das fand ich eben total spannend zu beobachten da hat keiner was anderes gemacht*

*Mona: [...] ja aber auch durch die unruhigen Kinder ich glaube das das auch beruhigend sein kann wenn man dann rausgeht und, bisschen mehr laufen kann und sich mehr bewegen kann und dann gleichzeitig was dabei lernt, so für die unruhigen Kinder [...]]*

Anna refers to less disturbance due to increased movement in the outdoor lessons. In particular children who cannot “sit still” improve their learning when they can engage in physical activity in between exercises. She describes an increased concentration while the activities were connected with movement through physical activity.

Mona points out the advantages of increased movements in particular for restless or noisy children, who have the possibility to engage in physical activities in the outdoors and similarly learn. In addition she refers that movement can be reassuring for those children.

In particular children with special needs, such as David, who are often noisy and have problems to stay seated in the classroom can benefit from learning activities outdoors, where they can follow their natural need of movement.

Several studies have shown benefits of movement outdoors in particular for children with ADD (Attention Deficit Disorder) or children with ADHD (Attention-Deficit/ Hyperactivity Disorder), like the study of Kuo and Sullivan (2001) who found milder ADD symptoms for children with greener play settings; or the study of Levin (2016) where children diagnosed with ADHD use the movements of Capoeira in order to express and balance themselves. As Kühn (2008) states it, being indoors in the small classroom is unnatural for the child's body which has the natural need and desire to move. Outdoor educational programmes can increase the movement of children and therefore adapt to the natural need of their bodies and increase their development and health.

In in the context of inclusion a freedom of movement which can be provided within Outdoor Education can help balance the children towards an eloquent learning environment for children with and without special needs.

## 6 Conclusion

Inclusion intends to grant education for all and take diversity as an asset. The discussion surrounding inclusion of children with special needs in the general educational system is a complex issue in Germany. The school system selects and splits up pupils after primary school into different school forms, dependant on the supposed level of intellect. This selective character of the educational system in Germany is far from inclusive where all children should learn together. Few changes were made in Germany; children with special needs can now attend a general school. As the study shown this has a profound effect on the emotional stability of children if they can stay together in one class with their friends.

After the legislative changes to include special needs children into general schools, existing teachers were not given any additional training to help them with this transition. Special education teachers were employed to support these teachers however this was a partial

arrangement and they share their time between classes. As the interviews have shown there seems to be a need for additional training or more special needs teachers to provide support. Teachers have a key role in the learning process of children thus it would be necessary to change the teacher's education in order to train inclusive teachers. Structural changes are slow and particularly so in Germany due to federalism and the fact that education is in the responsibility of the provinces this thesis aimed to find out if Outdoor Education could bring possibilities to increase inclusion in a practical and direct way at the schools. As the teachers are in charge of how to conduct their lessons, they can choose the methods and prepare the lessons in order to fulfil the goals of the curriculum. Outdoor Education is an interdisciplinary approach and offers various methods with which aiming the curricular goals could be fulfilled competently.

Outdoor Education and its concepts of learning brings several positive benefits for students. Learning can be created more freely which can support positive feelings for unpopular subjects as was experienced in the study with the mathematics lessons outdoors. Even if the children did not like mathematics in general they expressed learning outdoors was fun for them. Positive emotions widen the mind as the children connect to the subject and create meaning to the content, thus it is more likely to understand the content and learn more profoundly.

The findings presented participation of all children while learning outside the classroom. Whereas in the indoor lessons mainly the children who like mathematics and are good in it participated; outdoors all children participated on their individual level. The activities and exercises outside the classroom were more practical which particularly empowered children with special needs, who may not learn well by theory however can adapt to content easier through practical experiences. With the perspective on inclusion they could present their abilities and as such were more included in the outdoor lessons than in the theoretical lessons. Another important aspect is the sense of achievement the children with special needs got in the outdoor lessons. Achievement is important in order to motivate children to learn and continue their learning. The children with special needs showed a higher level of motivation and concentration when learning outdoors due to the fact that they were able to contribute to the exercises.

Inclusion wants to provide a meaningful education for all children, Outdoor Education can intervene as children are empowered in their strengths, individual failure which is often felt by children with special needs becomes minimal.

Outdoor Education encourages children to use their whole body in order to experience, all five sense are stimulated. An increased movement can support the child's body in their natural habits

and promote motor skills. For children who are characterized as being loud and disturbing to the class they become more calm and concentrated through increased movements. This leads to better learning for all children as the noisy children are not disturbing themselves or the other children in their learning process. Children who are characterized with an emotional/behavioural disability or ADHD for instance may follow their desire to engage in physical activity while learning. The findings showed positive influence of movement, as the children who commonly have problems with sitting still in the classroom showed increased participation and concentration in the outdoor lessons. This can be linked directly to an increased inclusion, as hyperactive children for instance are disturbing less outdoors than in a small classroom, which has positive benefits for all children of the class.

As Outdoor Education presents positive benefits, it is questionable why there is no more learning outdoors. An interesting finding which could provide an answer is the connection of anxiety and nature. The teachers as well as the students articulated some kind of anxiety towards nature; anxiety towards wildlife or anxiety of teaching outdoors were presented. Everyone feels anxiety of certain situations or things, most often anxiety is towards something new or strange, something we do not know well can cause anxiety. Anxiety towards nature can be attributed by the less contact we have with nature in today's society. This can be overcome with spending more time in nature and adjust to nature once again. Reinforcing the connection to nature can not only reduce anxiety but also restore our physical, emotional and spiritual health.

With the perspective on education it has to be the teachers and parent's anxiety that needs to be addressed, in order to bring children outdoors so they are more comfortable in the environment. As found in the study, teachers have to be encouraged to teach outdoors. It seems that teachers already know about the positive benefits of learning outdoors however they feel an anxiety to be outside the classroom. This anxiety or insecurity can best be overcome throughout preparations and a profound knowledge about the place where to teach outdoors, which can be best done with several pre-visits.

The presented findings show that Outdoor Education has a meaningful potential in order to increase inclusion in German schools. Large scale changes such as the change towards an inclusive educational system in Germany is a complex process. Outdoor Education can be seen as a potential for teachers to increase inclusion in their classes by conducting outdoor lessons. Further teacher education has to be considered in order to educate and motivate teachers to work with the methods of Outdoor Education.

As this study has shown, learning outdoors have increased participation and learning motivation for all children in the class. Experiential learning particularly supported the children with special needs in their learning, as they created meanings more easily with practical and sensory experiences. Those concepts of learning present a meaningful potential on how to increase the inclusion of children with special needs.

In order to support the findings of this study further research can be conducted with numerous and larger studies in several schools. As this thesis takes a study conducted on a primary school as a basis it is recommended to expand the research to secondary schools. In addition, it would be interesting for further research to conduct studies with classes where numerous children with different special needs participate.

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