Chinese Primary School Teachers’ Perceptions and Experiences of Outdoor Education

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A cultural construct comprises outdoor activities, personal and social development, and environmental education. However, the learning process within the Chinese educational system is mainly based on traditional models of teaching. As a relatively new and progressive teaching method, outdoor education tries to find and consolidate its place within the existing educational system. Thus, the aim of the current research is to investigate Chinese primary school teachers’ perceptions and experience in outdoor education. Specifically, ten Chinese primary school teachers reported their views and experiences about outdoor education. The current research uses qualitative approach methodology, which specifically is thematic analysis of data extracted from semi-structured interviews with those ten Chinese primary school teachers. From the thematic analysis of the data four themes emerged to report the participants’ opinions. The participants revealed their basic knowledge and perceptions about outdoor education and presented examples including some characteristics of outdoor education. However, they emphasized outdoor activities more than other characteristics and tend to consider outdoor education as environmental education, without other essential aims, theories and practices that defined this multidimensional approach. Besides, although Chinese education is still based on traditional teaching and learning approach, the participants showed the willingness to enrich their classes in various ways. The outdoor activities in their classes were mainly combined observation and participation. The participants also revealed that the places they chose were mainly schoolyard and other places out of the classroom but still within the school. Moreover, Chinese primary school teachers acknowledged several benefits of practicing outdoor education such as stimulating multi-senses to help experience, improving social relation and both mental and physical health, promoting educational knowledge and attitude, developing creativity and imagination, and increasing interest and participation. Additionally, the participants reported several barriers that suppress their willingness of practicing outdoor education, such as restricted time, limited place, large population, lack of financial support, air pollution situation, weather factor, insufficient pedagogical training, lack of preparation, teachers’ attitude and preference. It is highlighted by the participants that air pollution situation and large population are two essential factors that prevent them applying outdoor education. The above findings contribute to the current limited scientific knowledge concerning the practice of outdoor education in the context of China. Thus, further qualitative research is a prerequisite so that the results of the current research can be testified and be further discussed.
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ACKNOWLEDGMENTS

There are a lot of people who support me and help me to grow up as the person I am right now. Without their company, I would not have make through so many difficulties. And now, I am writing this to remember and to acknowledge some of them.

First, I would like to extend my sincere gratitude to my supervisor Emilia Fägerstam for her support and valuable guidance with gentle attitude. She never push me and command me to finish my job, which motivated my inner passion and responsibility. I sincerely appreciate her insights, suggestions, comments, and commends.

Besides, I want to express my thanks to the student nurse Gisela Öhnström, who listened a lot of my stories and feelings, and guided me walking out of the darkness. Now I can be positive and live my life strong, facing the difficulties and conquer them!

Moreover, I would like to thank all my teachers who taught me professionally in Linköping University. They enriched my knowledge and broadened my horizon. Moreover, I want to thank my classmates for their warm companionship through the whole program year. Besides, there are my Chinese friends who gave me so much warm and help when I felt not so well, they are Xuan Lu who is always warm-heart to help everyone, Mingduo Zhao who hold board game/movie/dinner party every week, Huiqiao Liang for offering me Beijinger’s friendship, and other friends in Linköping 2015-2016.

Then I would like to thank my Chinese friends in Beijing. Ruimou Zhang, my best friend, thank you for keeping me company for over 7 years. I love you, Melody. Xin An, who has been my girl for over 11 years, thank you for giving me this precious friendship though we do not contact each other often. Nan Wang, my precious friend, who can always be the one that I want to spend time with and talk about everything without worrying being judged.

Additionally, I would like to express my gratitude to all the participants in my research and all of the people who helped me to finish the current research.

Here comes to my parents and my family! Dear mom and dad, thank you so much for giving me life and lighten my life with your love. We are all human beings full with flaws, it is love that make us forgive everything. Without your support, I cannot study abroad and finish my master program. Yinuo Wang, my soul mate, I want to express so much that I do not know where to start. You know everything, don’t you?

Last but not least, giving credit to e-dictionary because it helps me a lot when I write every assignment and the current research. And music, arts and TV series are the things colored my life.

THANK YOU ALL!
CHAPTER 1: INTRODUCTION

The present thesis focuses on Chinese primary school teacher’s attitude and thoughts about outdoor teaching methods. Nowadays in China, teachers in primary school need not only to prepare their daily class, but also to cope with class suspensions due to heavy air pollution situation. Gaining information from those teachers is a good way to discuss the potential development of outdoor education in China in the future.

Outdoor Education as an alternative teaching and learning approach has been an area of interest for many studies within the educational sphere over decades. As Outdoor education is not only about connecting human beings to nature, but also connecting human beings to their life experience, outdoor education is about authentic learning and being practical. According to Freire (2005), an experiential teaching approach opposes the traditional pedagogy which focus on textbook knowledge and leads. While there are a lot of studies about the meaning of outdoor education, its terminology is often debatable as researchers refer to this term in different ways. Concisely, outdoor education as an alternative education approach enhances experiential learning and supports practical activities. During the process, students gain direct interactions from the environment and it is easy to learn with their former life experience.

The Chinese education system focuses on practical knowledge and aims to train equipped laborers for the society. In the mean time, it is stated in the curriculum that one of the commissions of school is to give students an environmental perspective in all subjects and topics (Ministry of Education of the People’s Republic of China, 1996). This study is going to discuss whether teachers involved environmental ideas and taking students outside the classroom in their classes. Although Chinese educational system still principally relies on traditional teaching methods and practices, which means teaching and learning indoors and focus on theoretical knowledge, Ministry of Education of China encourages primary schools to use advanced teaching methods and to be creative (Ministry of Education of the People’s Republic of China, 1996). There are regular outdoor educational activities in Chinese primary schools, for example visiting museums more than 2 times per semester. However, teachers are not familiar with outdoor education theory and sometimes they use outdoor education teaching method subconsciously.

Although different socioeconomic background affects learning and teaching processes, learning and teaching method in Chinese primary school-based environment is a direction which can be discussed and explored.

Research Aim and research questions

The aforementioned questions triggered the conduction of this study and contributed to the formation of the basic aim, which is to increase knowledge about Chinese primary teachers’ ideas and attitudes about outdoor teaching method in an air pollution context. The purpose of this study is to cover the views of Chinese primary
school teachers in general about outdoor education.

For a better guidance to the main aim of this study, the research aim and the research questions have been formulated:

➢ **Research aim:** To investigate Chinese primary school teachers’ perceptions and experiences of outdoor education.

➢ **Research Questions:**

1. Do Chinese primary school teacher’s knowledge and have experience in outdoor education?

2. What are Chinese primary school teachers’ perceptions of benefits and impediments of outdoor education in their teaching field?

Through this study I hope to provide a comprehensive image relevant to Chinese primary teachers’ perceptions about outdoor education. By analyzing thematically ten Chinese primary school teachers of different subjects, the themes are connected to the research aim and questions of this study.

**Research Contribution**

The findings of this research can be helpful to educators who are concerned of Chinese outdoor education development, specifically Chinese primary school educators. As this research is expected to discover and identify Chinese primary school teachers’ thoughts and ideas about outdoor education, teachers can use the research findings to improve structuring their lessons based on an alternative philosophy; while administrators in primary school can use the research findings to reduce the difficulties with implementations of developing outdoor education in China. Beyond the educational system, the study results can help parents to adapt the new method of having class outside the classroom.

Although the interview sample is too small to representative at a general level, according to Cohen, Manion and Morrison (2011), such research findings can still be adequate and interesting.
CHAPTER 2: LITERATURE REVIEW

As stated, this study will try to investigate Chinese primary school teachers’ attitude and experience about outdoor education. In this chapter, I will present the theoretical background of both outdoor education and China’s current education situation.

In this chapter I am going to present the relevant background of outdoor education and the relevant facts about China’s educational system. As outdoor education is a multifaceted educational concept, I choose to present a discussion about the most appropriate definitions. Besides, previous researches of teachers’ perceptions about outdoor education are briefly presented under the last heading, including both benefits and barriers of outdoor education. All of the background knowledge contribute to investigate and understand Chinese primary teacher’s perceptions about outdoor education.

Outdoor education theory

Definition of outdoor education

“Tell me and I’ll forget, show me and I may remember, involve me and I’ll understand.” (Chinese Proverbs)

The word ”outdoor education” was started to be used in United State of America in early of 1900s (Dahlgren, Szczepanski, 1998). In an effort to put a framework into this newly arrived concept, a discussion of the most appropriate definition has been developed within realm of studies. To start from a simple definition, “Outdoor education is education in, for and about the outdoors” (Donaldson & Donaldson, 1958, cited in Priest, 1986). The dimension of experience in Outdoor Education is a stepping stone to a more active and useful knowledge (Dahlgren & Szczepanski, 1997). The hallmark of Outdoor Education is its focus on the ‘outdoor’ side of this education (Web 1: May 25th 2016). Let’s take a look at the history, philosophy and theory of Outdoor Education to get a deeper understanding about the root of Outdoor Education.

During Stone-age and Neolithic revolution, human beings gathered together to learn from each other through hands-on practice in order to fulfill the need of surviving (Harman, 2008). After generations, Ionic and Greek natural philosophers Plato and Aristotle who believed in the connection between first-hand experience and the authentic outdoor learning environment are the historical roots of outdoor education (Dahlgren & Szczepanski, 1998). Their attributes of outdoor education can be found in old (Comenious, 1967; Rousseau, 1991; Dewey, 1997) and contemporary (Nicol, 2002a, 2002b; Higgins & Nicol, 2002) pedagogic essays. They argued that outdoor education as a cultural construct offers three areas of outdoor activities, personal development, social and environmental education (Nicol, 2002a, 2002b; Higgins & Nicol, 2002). It is a contrast to modern society, an immersion in a natural environment where quality of life can be increased (Sandell, 2006). The intrinsic values of outdoor
education can bond theory and practice whilst giving diversity to learning environments and styles. School subjects can combine team work and problem solving training while having outdoor physical movement in the normal school day (Brügge, 2006). To sum up, outdoor education as a cultural construct comprises outdoor activities, personal and social development, and environmental education (Szczepanski, 2016).

**Theoretical concepts in Outdoor Education**

**Basic Aims of Outdoor Education**

According to Dahlgren and Szczepanski (1998), the main ideas of outdoor education are experience and action, and understanding of nature, culture and society. Outdoor environment can be used teaching knowledge and gaining first-hand experience (Quay & Seaman, 2013). Besides, outdoor education supports that the experience is the main point of learning and teaching process. Through outdoor education, educators expect to enhance the connection between personal and social development (Beard & Wilson, 2006). To sum up, outdoor education is an approach that aims to provide learning in interplay between experience and reflection based on concrete experience in authentic situations.

**Experiential learning and sensory learning**

Educational theorist David Kolb established the idea of experiential learning and contributed to outdoor education theory based on the study of Dewey, Piaget, Lewin and Montessori. First-hand experience helps the learners to connect themselves to authentic environment and other people in the field (Higgins & Nicol, 2002). In this case, when having an outdoor class, the students are experience the knowledge while learning it. However, the knowledge cannot be perceived immediately because there is a process when previous experience and knowledge interact with present experience and the learner needs to have reflection then reconstruct his/her knowledge theory (Healey & Jenkins, 2000). After that, the learner can gain the new concrete knowledge.

Through outdoor education, there is a direct connection between outdoor environment and human beings. Students have an opportunity to be closer to the authentic environment to have various experiences. In this case, students become more active participants by communicating with teachers and other students. Compared to traditional teaching and learning method, the experiential learning way is in a broader scope as the place can be the school yard, a park, a nature reserve, a farm, a forest, a stream, the ocean, a hill, a mountain, or such (Dahlgren & Szczepanski, 1998). It can also be a museum, a historical square, a music concert or a sport stadium.

The process of experiential learning is presented through the “Kolb’s experiential learning cycle” (Higgins & Nicol, 2002). It provides a framework of how do four stages work when experiencing an activity:
Figure 1: The Kolb cycle of experiential learning

- **Experience stage:** In the first phase, the learner gain direct experience by contacting with the learning materials and explore. Through first-hand experiences, the learner gives meanings to abstract concepts and to be an activist.

- **Reflection stage:** In the second phase, the learner need to interpret the experience by combining former experience and exploring new findings. Through interpreting the experience, the learner becomes a reflector.

- **Conceptualization stage:** In the third phase, the learner needs to analyze all of the reflections and transforms the experience reflection into conceptualized shaped ideas, then generalizes them into logical theories. Through generalizing the experience reflections, the learner becomes a theorist.

- **Experimentation stage:** In the fourth phase, the learner decide to examine and apply the theory in various future experiences and situations. Through applying the experience and doing experimentation, the learner becomes a pragmatist.

(Healey & Jenkins, 2000)

Adding sensory experience to the experience learning process is important as using senses while learning gives a direct contact to the nature. “Outdoor experience is very much about capturing the moment” (Fredman, Stenseke, Liljendahl, Mossing, Laven, eds., 2012) by using multi-senses during the outdoor activities and those senses would be general motivated by various teaching purposes, such as specific subjects, team-building, environment, self-reliance, etc (Fredman, P. Stenseke, M. Liljendahl, H. Mossing, A. Laven, D. eds., 2012). Teacher can instruct the student to block his eyes, to lead by another student, to knee on the grass, to grab the mud, to come closer to smell and taste the moss (Szczepanski, 2009). During the sensory learning process, students lose some senses to feel more about those senses left. It is about trust,
concentration, experience and recreation. When students lose some senses, they have to focus on the ones that are left and rely on them to explore the landscape then through senses experience and hand-on experience students can understand efficiently (Chauvel & Chauvel, 1998). Sensory experience has to be based on the landscape material and being in the landscape in order to motivate senses perfectly (Szczepanski, 2009).

Additionally, nature experience is important to teaching and learning knowledge as well as instilling values and developing individuals (Nicol, 2002; Higgins & Nicol, 2002; Bögeholz, 2006; Szczepanski, 2009).

**Place based learning**

Every landscape, if it is natural or cultural will be a multi-purpose resource for study, recreation and aesthetics (Ahern, 1995). There are possibilities of hands-on experience, situated learning and (in-)direct attention that will teach students knowledge that cannot be found in books. From the nature, students can gain plenty of opportunities of sensory experience.

During outdoor teaching, educators can use place experiential learning as a constant method of teaching and make use of nearby places and environments that are within reach from school. That makes it easy to include place based learning in different school routines. The selection of the proper place to process outdoor education is an essential part of outdoor education theory as the essential knowledge is given within the learning environment (Sobel, 1996). It is the authentic place that gives students opportunity to learn about the connection between the surroundings and individuals (Higgins & Nicol, 2002). The environment of the place should be various and loose of structure so that it can be considered creative potential (Dewey, 1997; Dahlgren & Szczepanski, 1998; Higgins & Nicol, 2002). According to Szczepanski (2009), because of the man-made fences, students are disconnected from the nature surroundings. There are various of “protecting fences”, including teaching form, information and entertainment, such as school buildings, social networks, visual images, shopping mall, indoor playroom, etc. Students have not much opportunity of contact directly to nature surroundings and authentic places (Szczepanski, 2009).

Then why do teaching and learning process need to be in authentic outdoor places rather than indoor places? In the book “Beyond Ecophobia” Sobel illustrates that outdoor environment gives students primary experience which enhances students’ exploration and comprehension (Sobel, 1996). Through outdoor place-based teaching, students can reach to nature easily and there is a connection established which free themselves from indoor doctrinal fences (Sobel, 1996). While Sobel (1996), Sandell (2006), Szczepanski (1998), etc. believe bring students outdoor landscape can build up relationship between human beings and nature, as well as enhance society bonds, Harisson (2010) supports that the role of place in outdoor education needs further investigation because it is lack of research and documentation.
Potentiality of Outdoor Education

Nowadays people tend to be indoor and stay in the same posture the whole day long so that people lack movement and the bodies are numb to the surrounding world. Both old and contemporary researches presented that joining outdoor education programs and having outdoor activities can be beneficial in several ways, such as promoting students’ creativity, curiosity and cooperation (Szczepanski, 2008), enhancing students’ physical condition (Szczepanski, 2008), and improving students’ environmental knowledge and attitudes (Fančovičová & Prokop, 2011).

From the individuals’ development perspective, students with access to a variety to outdoor education are healthier, concentrate better and get better motor skills (Szczepanski, 1998). As outdoor education has a feature of compatibility, being in the authentic places to experience and study can fulfill the wishes and needs of applying the knowledge practically (Higgins & Nicol, 2002). Besides, students improve their social relations during outdoor activities as they induce their positive emotion of cooperation (Szczepanski, 1998; Higgins & Nicol, 2002; Mygind, 2009). Nature is not only as a leisure time paradise, but also as the spiritual room of our time and as a place for recreation (Dahlgren & Szczepanski, 1997). Kanterst et al (2002) present that being outdoors and having outdoor activities can reduce students’ anxiety and depression levels thus students can has a feeling of freedom to express themselves. Additionally, outdoor education can promote students’ physical condition by motivating their senses and allowing the body to recover coordinately (Szczepanski, 1998; Higgins & Nicol, 2002). From the perspective of learning environment and sustainability, the exploration experience of outdoor activities establishes a connection between students and nature surroundings so that their concern and empathy for nature are promoted (Emmons, 1997; Johnson & Manoli, 2008). Through the concern and empathy feelings, students can coexist with nature harmoniously, which means reducing pollution both from the beginning and from creating eco-friendly new technology when they grow up, and living physically and mentally healthy (Emmons, 1997; Johnson & Manoli, 2008).

Although “Outdoor education has the potential to become an integrative, complementary education form in a pragmatic and progressive pedagogy tradition” (Fredman, P. Stenseke, M. Liljendahl, H. Mossing, A. Laven, D. eds., 2012) as it offers educators opportunities to teach and to learn by observing and experiencing in authentic situations, there are limitations of applying outdoor education. Applying outdoor education to a great extend depends on time schedule of school, materials, and weather conditions (Robertson & Krugly-Smolska, 1997). Besides, it is considered a risk to apply outdoor teaching and it also depends on if the school location is close to nature (Backman, 2011).

Previous researches on teachers’ perceptions for outdoor education

Since teachers are the competent persons who are applying alternative teaching methods and techniques, their attitudes and perceptions about outdoor education is
essential to discuss the development of outdoor education (Richardson, 1996; Neophytou & Valianides, 2012). Besides, teachers can provide useful information to interpret the curriculum so that their opinions can be a focal point of educational research (Tsaggaridou, 2008).

The perceptions of benefits

According to Braund and Reiss (2004), during the outdoor education process, teachers developed their knowledge about learning and they enjoy the whole process as much as the students. Gilbertson et al (2006) support this idea and present that being outdoors and having direct connection to nature is different from staying indoors, even if teachers apply the same activity. Tan and Pedretti (2010) mentioned that those teachers who advocate outdoor education theory like to access outdoor area to apply their subjects because they are aware of place can be used as a medium to discuss subject-related issues. When having activities outdoors, it is easier to motivate multi-senses thus gaining sensory experience and interest. There are many researches (Szczepanski, 1998; Higgins & Nicol, 2002; Gilbertson et al, 2006; Fägerstam, 2012) who support that sensory experience within the outdoor environment is helpful to a learning process. Additionally, being in the outdoor surroundings to learn about the environment and related issues, students can improve their critical thinking skills (Goldenberg, 2001).

The perceptions of barriers

Apart of the benefits of outdoor education, there are several barriers and negative perspectives which are expressed by school teachers who apply outdoor education theory into practice. First of all, time schedule and the curriculum is overcrowded while the outdoor education is not stated in the school curriculum (Backman, 2011). Therefore, school teachers believe that applying outdoor lessons is difficult as time of teaching is limited and schedule is tight (Robertson & Krugly-Smolska, 1997; Tan & Pedretti, 2010; Write, 2010; Backman, 2011). Secondly, the lack of financial resources, educational materials, and infrastructure lead to another important barrier of outdoor education (Robertson & Krugly-Smolska, 1997; Rickinson, 2004; Tan & Pedretti, 2010). However, it is a common barrier within the realm of education process. As Tan and Pedretti (2010) mentioned, “it was almost a job description to have to work with limited time and resources” (p.79). Teachers feel unconfident and not cable to control the class outdoors due to they are lack of outdoor education knowledge (Backman, 2011) and there is lack of support coming from other teachers and administrators of school (Robertson & Krugly-Smolska, 1997; Write, 2010). Besides, teachers are used to use modern technology to teach so that when they are being outside they feel unsafe as they think their teaching method is limited (Tan & Pedretti, 2010). Since students are tightly related to modern technology achievements too, teachers can shape their lessons into different modes by using their own experience (Jewitt, 2006). However, it is mentioned by Li Sternäng (2011) that students have strong faith in technology and they believe technology can deal with environmental problems as school curriculum emphasis on scientific knowledge.

Thirdly, there are safety and weather issues of concern to school teachers as these factors may prevent their outdoor activities eventually (Goldenberg, 2001; Write, 2010; Backman, 2011). Additionally, students’ ignorance of being outside and preference of staying indoors to have class affect teachers’ decisions of having
outdoor lessons (Tan & Pedretti, 2010). Teachers worry about students’ comprehension level of having class outdoors as students present inattention status while having outdoor activities (Write, 2010). However, according to Emilia Fägerstam, teachers report that school-based outdoor teaching takes the same time as indoor teaching in terms of letting student focus on their lessons (Fägerstam, 2014).

**Characteristics of China’s education**

**Short facts of China**

The People’s republic of China locates in east Asia, and borders on the west Pacific Ocean. China has a territory area of 9.6 million square km, second to Russia and Canada, with a sea area of about 4.73 million square km. The capital city is Beijing, which symbolized politic and culture, and the financial center is Shanghai which symbolized economic. The main religions in China are Buddhism, Taoism, Islam, Christianity, and Catholicism. Chinese citizens' right of the freedom of religious belief is protected by the Constitution and laws (Web 2: May 26th 2016).

According to 6th nationwide population census in 2010, the population of China is over 1.33 billion with 56 ethnic groups. There are 709.8 million people resident in Hong Kong, 552 thousand residence in Macao, 23.16 million resident in Taiwan. The juvenile group is around 16.60% and there is 70.14% of population aged from 15 to 59. The grow rate of population is 0.46% in 2013. There was approximately 64% of population poverty people in 1978, and with the economy raised, billions of Chinese people lifted themselves from poverty. Nowadays, there is 10% of poverty population in China. The urban unemployed rate is 4.1%. 49.68% of population resident in urban area while 50.32% resident in rural area. (National Bureau of Statistics of the People’s republic of China, 2011)

In mainland China, 8.9% of the population has above college degree of education, 14% of population has above high-school degree of education, 26.8% of population has above primary school degree of education. The illiteracy rate is 4.08%, which means there are over 54 million Chinese people who have never been educated. (National Bureau of Statistics of the People’s republic of China, 2011)

Concerning giant population with reducing natural resource, Chinese government start to propagandize One-child policy in 1955 and officially promulgate One-child policy in 1979. Families in urban area are strictly limited to have only one child, while ethnic minorities and families in rural area can have more than one child. Besides, identification of sex of fetus and abortion are forbidden by Chinese government unless there is a medical necessity. In 2013, in order to encourage population balance, the government released an additional policy permitting when one side of the parents is the only one child of his/her family, they are allowed to have second child (Web 3: May 26th 2016). In 2015, Chinese government abrogated One-child policy and promulgated Two-children policy.
Chinese education system

The education system of the People’s Republic of China includes preschool, primary school, junior middle school, senior high school, college and university, and graduate school. Compulsory Education Law of the People’s Republic of China stipulates that the state implement 9 years compulsory education system, that is, China's primary and secondary education is compulsory education. "When children aged 6 years of age (can be postponed to 7 years of age when it is necessary), regardless of gender, ethnic, race, all have to accept compulsory education. The state, society and families must support." (The National People’s Congress of the People’s Republic of China, 1986)

- **Preschool (kindergarten)** is 3 years and enrolls children who are above 3 years old.
- **Primary school** in most areas of China are using “6+3” system (6 years of primary school and 3 years of junior middle school), while few areas are using “5+4” system (5 years of primary school and 4 years of junior middle school). The school age of primary school is 6 or 7 years old, and 12 or 13 years old for junior middle school.
- **Senior high school** is 3 years and enrolls age 15 or 16 years old students. Trade school in China includes two categories, one enrolls middle school graduates and schooling duration is 3-4 years, the other one enrolls high school graduates (no more than 22 years old) and schooling duration is 2 years.
- The duration of full-time undergraduate programs is 4-5 years (bachelor’s degree), while medical university is 5-8 years (bachelor’s degree continue to a master’s degree). Specialized college and higher vocational college is 2 or 3 years (diploma / certification)(Ministry of Education of the People’s Republic of China, 1998).To be admitted by a university or college, Chinese students have to take “Gao Kao”, which means college entrance examination. There are two classifications of Gao Kao, of which students can choose either one to take, one is arts and the other one is science. In art category, students of arts will be examined in Chinese, mathematics, English and integrated arts (history, geography, politics). In science category, students of science will be examined Chinese, mathematics, English and integrated science (physics, chemistry, biology). The state will give ranking of students and then the students who are fulfilled the university or college entrance score line will be admitted unless the recruit number full (Chen, 2015).
- **Graduate school** includes postgraduate degree and doctoral degree. Postgraduate program enrolls students who are no more than 40 years old, and the duration is 2-3 years. Doctoral program enrolls students who are no more than 45 years old, and the duration is 3 years (Chen, 2015).
Current Situation

The main character of Chinese education is aiming at scores (Epstein, 1991). As China has a huge population, examination is the comparatively fairest way to select qualified people. To be competitive, the curriculum is set for gaining scores and then the teaching process aims directly to gain scores. Most of the classes are indoors and the exercise course will be only 5 hours or so per week, let alone field trip. There will be only one time per semester that students can get a chance to go to a field trip like visiting museum or climbing a nearby mountain together (Epstein, 1991). Mostly students watch experiment videos rather than do it themselves in order to save time to learn more and to do more practice quiz.

As aiming to gain better score on every subjects, Chinese education tends to be more and more indoors. In primary school there are around 30 class hours study a week, and only include 4 class hours physical activities including P.E. and Activity lessons (see Appendix 2). As Ministry of Education of the People’s Republic of China has promulgated a policy of primary school must ensure over 1 hour outdoor activity per day since 1996 (Ministry of Education of the People’s Republic of China, 1996), there are also a morning exercises that every primary school has and it is around 30 minutes and each school should arrange their schedule of outdoor physical activities to fulfill the policy. Although students have opportunities to play outdoors as there are rules in the curriculum prescribed that there should be more than one hour outdoor activities to ensure students’ health (Ministry of Education of the People’s Republic of China, 1996), most teachers prefer to “lock” students indoors to have classes. In Chinese primary school, school must provide more than 1 hour outdoor activity time for students and the activity can be acrobatics, subjects teaching outdoors, P.E. Class, or outdoor playing, etc (Ministry of Education of the People’s Republic of China, 1996). However, there is no specific suggestion of having other subject classes outdoors or requirement of letting the teachers attend to outdoor teaching or environmental teaching project.

Moreover, there is no Outdoor Education training program in China. In fact, only if one passes two certificate examinations which are Pedagogy and Educational Psychology, one can get a teacher certification and to be teacher legally (Ministry of Education of the People’s Republic of China, 1996). The pollution situation affects the school education, for instance, classes were suspended two times due to heavy haze situation in winter time of 2015 (Web 4: May 31st 2016). According to Beijing Heavy Air Pollution Emergency Contingency Plan, the government will real-time monitor and evaluate the air quality on the basis of Ambient Air Quality Standard (GB3095-2012) (General office of Beijing People’s Government, 2015). And according to the Air Quality Index (AQI) published by the Environment Protection Department, it is recognized as heavy air pollution when the index is over 200. There are four level of heavy air pollution (General office of Beijing People’s Government, 2015):

- Blue warning (level 4): when heavy air pollution last 1 day (within 24 hours);
- **Yellow warning (level 3):** when heavy air pollution last 2 days (within 48 hours);
- **Orange warning (level 2):** when heavy air pollution last 3 days (within 72 hours);
- **Red warning (level 1):** when heavy air pollution last 3 days (over 72 hours).

During the blue, yellow and orange warning, students are suggested to reduce their outdoor activity time. All of the outdoor activities are canceled, such as P.E. Class, morning acrobatics exercise, etc. During the red warning, all of the classes are suspended and students are asked to stay at home or at least indoors (General office of Beijing People’s Government, 2015). There were 2 red warning and continued blue/yellow/orange warning in 2015 winter and the students cannot go out to have outdoor classes (website 4). Primary school teachers have to teach indoors when there was a heavy air pollution situation (General office of Beijing People’s Government, 2015).
CHAPTER 3: METHODOLOGY

In this chapter, I aim to present the process of the research in details, including information about the participants of the research, the tools which are used to collect the data, the process of the collection data and the analysis of them. Briefly, this study is based on a qualitative research through semi-structured interviews with 10 Chinese primary school teachers. Moreover, ethical considerations about this study and validity and reliability issues are discussed. All the information in methodology chapter refers to the purpose of the study and the research questions that are included above.

Research area and sample

The reason for choosing the research area and research sample has been mentioned in the introduction part of this study. We do not know much about Chinese primary school teachers’ perception of outdoor education while there are few studies about this topic. Besides, personal curiosity motivates designing the research sample. China has a long interesting history and there are so many fabulous natural areas waiting for people to visit, it is a shame that Chinese teachers do not apply outdoor activities often. Outdoor teaching and learning approach is less known and recognized by Chinese schools. Thus, both current scientific research gaps and personal interest contribute to the decision of research area and sample.

In a qualitative research, there are three forms of sampling under the umbrella of “purposive sampling”: theoretical, generic and snowball sampling (Bryman, 2008). In this study, snowball sampling technique which refers to the purposive is used. According to Bryman, purposive sampling as a non-probability sampling aims to sample participants in a strategic way in order to ensure the sample is relevant to the study (Bryman, 2008). A research with non-probability sampling method does not select sample randomly but it comes purposively as the researcher samples with him or her purpose in mind (Bryman, 2008).

The current research is concentrated on three primary schools in Beijing, two of them is located in an urban area while the other one is located in an rural area. There are 10 primary school teachers participate the interview: 2 Chinese teachers, 2 Mathematics teachers, 2 English teachers, 1 Natural Science teacher, 1 Art teacher, 1 Moral Education teacher and 1 Music teacher. There are 7 women and 3 men included in the research and the average age of the research sample is 31.9 years old (from 23 up to 46 years old). Their average duration of teaching is 9.7 years (from 1 up to 24 years). (see appendix 1)

In this case, it is important to mention that the sample of this study cannot represent all Chinese primary school teachers because non-probability sampling limits the generalizations of the extracted results (Bryman, 2008), thus the result of this study cannot be generalized and applied to all Chinese primary school teachers. Even so, this study does start an exploration of Chinese primary school teachers’ knowledge,
experience and perceptions of outdoor educational approach as this study can still contribute to further and more extended researches in the realm of outdoor education (Silverman, 2001; Cohen, Manion & Morrison, 2011).

**Description of the method**

The method I used in this paper is qualitative research interview. After that, Thematic analysis is the method I choose to analyze and to process my raw data.

Qualitative research is an umbrella term that encompasses a range of theoretical approaches and methods (Povee, Kate and Roberts, Lynne D, 2014). According to McMillan and Weyers, researchers can obtain authentic and case-specific details in the certain realm through qualitative research (Povee, Kate and Roberts, Lynne D, 2014). It contribute to academic study through providing in-depth contextualized understandings of human behavior and accounts of personal experience and meaning that may not be possible with quantitative methods (Povee, Kate and Roberts, Lynne D, 2014).

Interview can be defined simply as a conversation with a purpose. As the aim of this study is to understand Chinese primary teachers’ ideas and attitudes about outdoor teaching under the context of air pollution, it is hard to use quantitative method. According to Bryman, a qualitative method is suited when you are interested in values and views of individuals in a social group (Bryman, 2002). In semi-structured interview, the participants are asked to answer open questions and the interviewer is free to ask follow-up questions so that the interviewer can obtain the answers in details (Berg, 2009). This method allows researchers to ask unprepared additional questions within certain range. Moreover, semi-structured interview gives opportunity of finding the meanings and intentions of certain factors in a certain situation by examining participants’ experience, feelings and opinions (Bond, 2004; Bryman, 2008).

**Interview schedule**

In the current study, an interview schedule which includes demographic questions and 12 main questions was designed for the collection of valuable data from the participants (See Appendix 5). According to Salmons (2011), in a semi-structured interview, all of the main interview questions and the sequences of the questions should be designed in advance. The researcher need a interview protocol to remind him/her to cover all of the main questions (Creswell, 2012). The interview protocol gives researcher flexibility of changing the sequences of the main interview questions depending on participants’ responses, and it helps preventing to get digressed during the interview process. The researcher can add in-depth questions or reform the interview question list based on the participants’ responses (Bryman, 2008; Salmons, 2011). Moreover, probing can be used to elicit specific questions from the participants (Hitchcock & Hughes, 1995; Creswell, 2012).

The interview questions in the current study were introductory, follow-up, probing, specifying, direct, indirect, structuring, silence and interpreting (Kvale & Brinkmann,
2009), combining with demographic questions at the beginning of the interview, which included sex, age, years of teaching, teaching subject and level, location of the school, and brief discussion of his/her job. These questions covers the main aim and the questions of this study and were tested through a pilot interview. Through the pilot interview, the questions were checked whether they can meet the research questions, and whether they can motivate the participants to give reliable responses. After the pilot interview, some of the questions were reformed to make the interview process efficient, thus the interview data could be valid and reliable (Cohen et al, 2011). In current study, the interview questions were expected to reveal basic knowledge (question 1), experiences and attitudes (question 4-6), and opinions and perceptions of Chinese primary school teacher in terms of implementing outdoor education (question 2, 3, 7-12).

**Use of the computer**

According to Kvale and Brinkmann (2009), a semi-structure interview can be carried out by either face-to-face or computer-assisted, such as the telephone and the computer. Salmons mentioned, “when participants are in a location that limits access to outsiders, it might be possible for a researcher to have a virtual presence where a physical presence not be allowed” (Salmons, 2011). Kvale and Brinkmann (2009) also state that virtual communication is similar to face-to-face interaction. Since the current research needed to focuses on teachers working in China, who are located geographically distant from the researcher, and the travel expenses were out of the personal budget, the above requirements motivated me to consider online research options. According to Murray, as the telephone or computer provides simultaneous video transmission, the researcher and the participants can see each other while they talk, thus the interview can be as the same as face-to-face interview (Murray, 2003).

**Data collection**

Before the interview, all of the participants were informed about the study information by giving an interview invitation letter through email, including the purpose of the research, the voluntary participation, the confidentiality and anonymity (See appendix 6). They were also asked whether they would allow the use of an audio recorder in order to make the research data transcription easier. These explanation to the participants ensure the protection of their own rights, when they voluntarily participate the interview (Kvale, 1996). The reassurance of the participants’ anonymity was achieved by using pseudonyms names.

The interviews were carried out in April of 2016. All of the participants decided to use WeChat application, a telephone and computer social application, to proceed interview. All of the interviews were held in a quiet setting with no external interruptions and the duration of the interviews were from 20 to 40 minutes. The interviews were proceeded in Chinese and I transcribed all of the audio and translated when I use quotes. As I did not know the participants personally before, the first part of the interview was to establish a friendly relationship with no judgment with them.
by briefly introduced me as a master student, my research topic and to gain basic information about the participants. According to Kvale and Brinkmann (2009), when the participants have been informed about the research aim and questions, a comfortable atmosphere is prevailed. Besides, according to Hughes, a voice recorder can make participants suspicious, thus it is important to not use voice recorder for at least the first a few minutes when the friendly relationship is building through brief introduction and discussion (Hughes, 1996). So only after the introduction and the demographic questions had been completed, I asked the permission from the participants of starting to use a voice recorder. 3 of 10 participants were not audio-recorded due to their personal willingness.

Moreover, although the sequence and the form of the questions was changed depending on the participants’ responses, all of the main questions were covered. According to Salmons (2011), the re-ordering of interview questions is not a problem as interview is a research approach carrying out by interactive discussion.

**Data analysis**

According to Cohen *et al* (2011), there is a coherent bond between research questions and the method of analysis. Interviews as a popular data collection approach can provide interesting and useful information, choosing a proper analyze approach is important to the researcher. Kvale and Brinkmann (2009) mentioned that the purpose of a qualitative interview is to obtain life-world descriptions from the participants’ expression, then to interpret the meaning of the described information. According to Cohen *et al* (2011), qualitative data analysis focus on interpretation and there are various ways of interpreting raw data.

The chosen analyzing approach is thematic analysis because the whole set of responses of individuals is complex and disorientating from the research aim. As Cohen *et al* (2011) mentioned, analyzing individual interview separately would neither connect respondents’ answers properly nor reveal the overall picture referring to research aim and questions. Thematic analysis can provide rich details by identifying, analyzing and reporting patterns from raw data (Braun & Clarke, 2006). According to Braun and Clarke (2006), thematic analysis can be an essentialist or realist method, which reports experiences, meanings and the reality of participants, or it can be a constructionist method, which examines the ways in which events, realities, meanings, experiences and so on are the effects of a range of discourses operating within society. In the mean time, contextualist is in between of the realist and constructionist approach, which put individual experience in the broader social context combined with literature reviews (Braun & Clarke, 2006).

Thematic analysis can be inductive, linked to empirical material, or deductive and theory driven (Braun & Clarke, 2006). In this study the two approaches were combined. As the aim of this study is to understand Chinese primary teachers’ ideas and attitudes about outdoor teaching method in an air pollution context, inductive approach is a proper way to find teachers’ common and different perspective. Besides,
as the other aim of this study is to figure what is the current situation of outdoor education in China and to explore how to develop outdoor education in China in the future, deductive approach is used to relate themes to theory and to obtain findings.

The extracts in thematic analysis are illustrative of the analytic points the researcher makes about the data, and should be used to support the researcher’s point of view (Braun & Clarke, 2006). It is the way to make sense of the raw data and to tell the reader what it might mean so that the researcher can discuss more. According to Braun and Clarke (2006), there are six phases during analyzing the data in a thematic way:

![Figure 2: Six phases of thematic analysis](image)

**Phase 1: Familiarizing yourself with your data**
At the beginning I familiarized myself with your data by transcribing the audio data in literal data in Chinese. Then as Braun and Clarke (2006) mentioned, phase 1 requires researchers to immerse in the raw data by repeating reading data in an active way while searching for meanings. Therefore, after the transcription I started reading raw data several times thoroughly and tried to capture some ideas.

**Phase 2: Generating initial codes**
While reading and rereading interview data, I took some notes and highlighted some information for coding and analyzing them into few words, trying to find interesting ideas. Those ideas can be produce into initial codes (Braun & Clarke, 2006). According to Cohen et al (2011), a code can be a simple word refers to a certain idea of information which help the researcher to identify related information. Therefore, I created a long list of codes and needed to be organized further on.
Phase 3: Searching for themes
According to Braun and Clarke (2006), defined the theme as a pattern that captures important aspects of the data. Therefore, the task in phase 3 was to generalize codes into potential themes. I started finding the connection between the codes by using visual representation. Some codes were merged under a common theme while the other codes were separated into more codes. According to Braun and Clarke (2006), the researcher can create a particular theme called miscellaneous containing those codes do not fit in main themes. Then I began to find connection between those themes and tried to put them into sequence with main and sub-themes. After that, the production of a set of themes were completed, which can answers to the research question.

Phase 4: Reviewing and checking the themes
According to Braun and Clarke (2006), phase 4 is necessary as through reviewing the themes the researcher may find some themes need to be separated in to more themes while some themes can be merged together under a new theme. Additionally, relating back of the analysis to the research question and literature, there is a need of checking if the themes work in relation to the coded extracts and the entire data set in order to reveal more interesting points.

Phase 5: Defining and naming themes
In this phase, I define the different themes and resolve what aspects they capture and why they are important to the research. Besides, I should also decide in what aspect do they limit the current research.

Phase 6: Producing the report
In the last phase of thematic analysis, I produced a report by presenting the strong connections between the themes and in which way it answers the research aim and questions.
Thematic analysis of the results

Figure 3: Thematic analysis of the results
**Ethics**

According to Kvale and Brinkmann (2009), moral related issues should be concerned extremely in an interview inquiry. According to Bryman (2002), there are four ethical demands for scientific studies: the informational demand, the approval demand, the demand of use and the demand of confidentiality. As Kvale (1996) stated, the confidentiality in a research should be achieved by protecting the private data which can identify the participants not to be disclosed. All of the participants in current research are protected by anonymous their names and not report their primary schools’ exact location.

Moreover, both Cohen et al (2011) and Kvale (1996) metioned, participants’ right to information should be protected in a research interview by informing the participants the overall purpose and the main features of the research, as well as the possible risks and benefits to them. All of the participants in current study were informed about the main topics of the study including aim, questions, background, confidential privacy before the interview start.

Besides, according to Bryman (2002), the participant only chooses a way to present his/her ideas to show respect. During the interview process the researcher should be curious and humble. And also, the researcher should avoid posting suggestive questions and rather simply repeat what the participant said in order to encourage the participant to clarify and express himself more. Because as Moser and Kalton (1983) mentioned, motivation is important for qualitative research as if the participant feel valued and respected they are willing to contribute.

**Reliability, Validity and Limitation**

As Cohen et al (2011) mentioned, “reliability is a necessary, but insufficient condition for validity in research; it is a necessary precondition of validity and validity may be a sufficient, but not a necessary condition for reliability” (p.133). It is important to keep these two points in mind during the whole research process otherwise the data analysis would be worthless (Coombes, 2001). There are two aspects to achieve reliability, external and internal. External reliability can be achieved by replicating studies to generalize findings while internal reliability can be achieved when there is a connection between extracted data and the ideas (Bryman, 2010; Cohen et al, 2011). Concerning reliability and validity of the research, the chosen decisions are to determine the process of data validation, to discuss minimum topics, to organize the plans, to pilot the research, and to balance open and closed questions (Cohen et al, 2011).

To ensure that I transcribed proper raw material, I started to transcribe, summarize and analyze raw data right after each interview. As Bryman mentioned, mishearing, tiredness and carelessness are the main factors that lead to mistakes (Bryman, 2002). To avoid those problems, after I transcribed raw data, I reviewed my data twice and get familiar with my audio raw data. When I generate data, I get back to the original
audio data randomly to make sure that I did not misunderstand my participant. According to Cohen et al (2011), “a research does not strive for uniformity; two researchers who are studying a single setting may come up with very different findings, but both sets of findings might be reliable” (p.149).

All of the teachers have passed their teaching certificate examination and now they work in regular primary schools in Beijing. Their opinions of outdoor teaching and learning method are well grounded in their personal aspects. However, data collection can be subjective and there may be recall bias and self-report bias because one’s desire of response (Zunker, Ivankova, 2011). Thus, the results of the current study rest on the specific ten Chinese primary school teachers’ perceptions that participated the research, and the result of the study cannot be generalized for all the primary school teachers in China. Nonetheless, the data extracted from the interviews fulfill the targets of the current study.
CHAPTER 4: RESULTS

This chapter presents the results of current study. The findings are presented in four themes which are introduced in this chapter and are further discussed in next chapter. They are summarized as following: (1) Chinese primary school teachers’ view about outdoor education; (2) Chinese primary school teachers’ experience in outdoor education; (3) The perceived benefits of outdoor education; (4) The perceived barriers of outdoor education. The connection of the themes, and the aim and the research questions is presented in Table 1.

<table>
<thead>
<tr>
<th>RESEARCH AIMS</th>
<th>DESCRIPTION</th>
<th>THEMES</th>
</tr>
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<tbody>
<tr>
<td>Basic aim</td>
<td>Chinese primary school teachers’ perceptions and experiences of outdoor education</td>
<td>All themes</td>
</tr>
</tbody>
</table>
| Research question 1 | Do Chinese primary school teacher’s knowledge and have experience in outdoor education? | **Theme 1**: Views about outdoor education  
**Theme 2**: Experience in outdoor education |
| Research question 2 | What are Chinese primary school teachers’ perceptions of benefits and impediments of outdoor education in their teaching field? | **Theme 3**: Perceived benefits of outdoor education  
**Theme 4**: Perceived barriers of outdoor education |

*Table 1: The connection between the research aim and the themes*

**Theme 1 : Chinese primary school teachers’ views about outdoor education**

The first theme had the purpose to investigate Chinese primary school teachers’ view on outdoor teaching and learning approach. Teachers reported their knowledge and thoughts about outdoor education including its basic attributes and experiential practices. Their answers are related to the research question 1 of the current study.

◆ The various interpretations of the concept “Outdoor Education”

To start the discussion about outdoor education, the Chinese primary teachers were asked to talk about the definition of outdoor education. There are 6 teachers who referred to outdoor education as a lesson which is carried out outside the classroom or the school. Teachers’ phrases such as “to have a class in the schoolyard rather than in
the classroom”, “educational activities produced outside” and “physical activities within a lesson outdoors” are some examples. There are 4 teachers considered outdoor education as an alternative educational approach. As Susan mentioned:

It is on the opposite side of traditional school education which means staying in the classroom all day long. It contains advanced principles. (Susan, 2016)

Those thoughts reveals an interesting perception, that is the close relation between outdoor education and environmental education. Teachers stated that the most important principle of outdoor education is to be outdoors. Then Samantha mentioned:

Being outdoors and having lessons perhaps can let pupils be aware of protecting the environment because there is a big chance that they will love the place or the nature. (Samantha, 2016)

Gustav also pointed that outdoor education is not only related to the environment, but also completing lessons outdoors:

Outdoor education should be having lessons outdoors, which means any subjects can use outdoors to learn. Not only the natural science, P.E., but also Chinese language and other subjects ... It is just having educational activities outdoors. (Gustav, 2016)

Moreover, there are 2 teachers replied they had less information about outdoor education and asked for example teaching plans so that they can explain how to apply outdoor teaching and express their opinions. Susan said “It is my first time of hearing it. Maybe just literally being outdoors and teaching?”, and Melody simply answered “Sorry I don’t know. Can you give me an example?”

The opinions above reinforce what Dahlgren and Szczepanski (1998) argued in their book that outdoor education comprises outdoor activities, personal and social development, and environmental education.

◆ Outdoor Education attributes: experiences, senses and social relations

The participants also reported some basic attributes of outdoor education, such as experiential learning, using multi-senses, and the development of social relations.

To be specific, there are 4 participants who mentioned that the experience in outdoor environment is an important element in outdoor education:

... experience can contribute to learning and there are more possibility of having experience in an authentic environment. (Carrie, 2016).

Besides, there were 2 participants mentioned multi-senses usage contributes to outdoor education:
Pupils can use their senses to explore outdoor world, like looking, smelling, touching, and even tasting outdoor objects! (Gustav, 2016)

Additionally, social development in outdoor education was mentioned by 5 participants. Phrases like “teamwork can be encouraged outdoors” and “easily discover leadership among a group of pupil when having outdoor activities” are used by the participants. Two teachers of them mentioned the development of relationship:

... after having outdoor activities, they (pupils) get along better then before ... Teachers can find difference afterwards easily because they (pupils) even treat us more nicely. (Leo, 2016)

◆ Outdoor Education practices: observation and participation

Teachers were also asked to give some examples of outdoor educational practices, including their experience and knowledge. Subjects as P.E.(Physical Education), Natural Science, Art, English and Chinese were mentioned by the participants. According to the participants, observation and participants are two main factors in outdoor education:

Outdoor environment gives opportunities to explore ... Taking students outdoors and letting them to observe nature objects can be a way of teaching natural science ... And also, teachers can teach language outdoors by letting students to observe, talk and write something, maybe describe the flowers or trees, or maybe write a story ... Students can learn to appreciate the nature. (Charlotte, 2016)

There were three teachers mentioned that outdoor game activities can be a educational tool to enhance participation:

I let my pupils outdoors to play games and to find leaves, branches, stones and other materials to create a pattern on the ground ... They (pupils) created fantastic pictures together and none of them were left ... All of them paid attention to the class. (Gloria, 2016)

Additionally, two participants reported outdoor educational activities as indoor activities out of classroom or school, such as library, laboratory and museum. One example is addressed:

An outdoor class can be anywhere outside the classroom ... We go to museums, both historical and scientific ones, and connect to the subjects we can have introduction beforehand and give homework afterward ... Other places within the school is easy to enter and use, such as library and laboratory. (Miranda, 2016)

To sum up, the first theme refers to the report of Chinese primary school teachers’ perceptions and knowledge about outdoor education theories, attributes and practices. Most of the participants know at least the basic factors of outdoor education, which have been introduced in former chapter. Their opinions also give an insight of Chinese primary school teachers’ view about outdoor education, which affect the rest of the study.
Theme 2: Chinese primary school teachers’ experience in outdoor education

The second theme of current study revealed the participants’ experience in outdoor teaching and learning. Teachers reported their experience of outdoor education including teaching methods and places with their attitudes. Their answers are related to the research question 1 of the current study.

◆ Chinese primary school teaching profile: indoor lessons with traditional approach

Starting from the place of teaching, all of the participants mentioned that they teach only or mainly inside classroom with traditional approach. Samantha reported that she had her Chinese class outdoors 2 to 5 times a year, “... mainly indoors but I keep going out to teach around two to five times per year.”; Charlotte and Gustav had their classes outdoors 1 to 2 times a year; Leo and Gloria tried to have their classes outdoors only once. Other 5 participants have not tried outdoor teaching yet; some of them had thoughts of teaching outdoors while others have not considered teaching outside of classroom yet.

Discussing about the teaching methods, all of the participants reported mainly using traditional indoor lectures, and all of the them mentioned they used audio or visual materials and they play games or energizers in the classroom:

Lectures can be really boring. So every teacher tries his best to find some way to attract students ... Sometimes I play English cartoon clips by using the computer in my class and let pupils to play the dialogue as a drama ... Once I let students sitting in a circle to play a story game in English. (Ben, 2016)

Besides, all of the participants reported that they use tasks a lot, such as assignments, presentations in the class with homework to follow-up. The participants asked students to present themselves in front of their groups or the whole class to share ideas and to build up their confidence:

I think children need to exchange ideas and talk with each other a lot to gain knowledge rather than only from teachers ... Our class has a routine of one student per lesson to introduce a famous musician by giving a 5-10 minutes short presentation in front of class. The students have to prepare at home beforehand ... Some of the presentations are really creative, for example, pretending to be the musician and to tell us his story dramatically ... I can see students love this part of my lesson and they enjoyed seeing their classmates being as a teacher in front of the classroom. (Miranda, 2016)

To sum up, although Chinese education is still based on traditional teaching and learning approach, many teachers want to enrich their class in various ways.
Chinese primary school teachers’ experience in outdoor lessons: willingness, activities and places

The participants revealed their attitudes and opinions about outdoor education based on their experience. This section is separated into three parts so that it can be easier to understand the participants’ ideas.

Willingness of having outdoor classes

All of the participants showed their interests and willingness when they were asked the applicability of outdoor lessons in their teaching field. They reported that it is possible to teach their subjects outside by using phrases like “very possible”, “a interesting try”, “of course” and more. Two of them provided an assumption of how to practice their outdoor classes, as Leo mentioned:

I think can take my students out in the schoolyard and let them form figures by using ropes or other materials to practice geometry. (Leo, 2016)

However, some of the participants doubted how to practice outdoor teaching in their subjects though they wanted to know and try.

Teaching maths outdoors sounds so cool! ... It is interesting and creative ... I don't know how to teach maths outdoors but maybe I can think about that. (Susan, 2016)

At this point, the willingness of having outdoor lessons that expressed by the participants somehow does not comply with their reported actions, as they hardly teach outdoors.

Outdoor activities in both cultural and natural subjects

Most of the participants mentioned their school keeps the routine of taking students out to a museum or outward training at least once per semester, though it is decided by the administrators of the school instead of the teachers. Those outdoor activities include both cultural and natural subjects.

Our school arranged outdoor activities like spring and autumn outings, which commonly visit a museum, a nature reserve place, or an amusement park. There are more events randomly hold outdoors, like sport festival or cultural performance ... Teachers can give students tasks to finish before, during, and after the activities ... Teachers don’t have much rights to arrange activities, especially for young inexperienced teachers like me. (Melody, 2016)

However, Gloria and Gustav reported that they have arranged interdiscipline field trips by themselves.

Me and a Chinese teacher discussed to have a field trip lesson together. As our school is in the rural part of Beijing, there are some nature reserve parks near our school. I taught the students sketch at that semester so I asked them to find a place where they liked most and try...
to draw it down. The Chinese teacher asked them to observe the spring scene in that park and to work in a group to discuss then write a prose with descriptions in detail. (Miranda, 2016)

Besides, some of the participants tried to practice their lessons within the schoolyard. However, as Charlotte mentioned, “it is the easiest way to achieve but difficult to design”.

To sum up, Chinese primary schools have various way of outdoor activities in both cultural and natural aspects by using guided tours, visits, observations and participation.

**Various reasons for choosing an outdoor place**

The participants were asked about the location where their outdoor lessons took place and the reason for the selection of that place. All of the participants who had outdoor teaching experience reported that schoolyard is a common choice.

*Within the schoolyard is the best choice ... It is always convenient to have my class in a place I am familiar with.* (Charlotte, 2016)

Three participants mentioned that sometimes they randomly chose an outdoor place to have class outdoors only by spontaneous feelings:

*As you know, Beijing’s air pollution is heavy. It is common to have haze more than 3 days a week and it is hard to see blue sky with sunshine. So whenever it is a great day, I have an impulse of letting students to be outdoors like free birds, and having our class while enjoying the good weather.* (Samantha, 2016)

Besides, instead of going out to have class, teachers sometimes bring outdoor natural objects indoors to assist their class:

*Once I brought a tree crotch into my English classroom and then affix it onto the blackboard. Students were curious about what were they going to learn that day. As the topic of that chapter was ‘family’, there was an inspiration of using a real ‘tree’ to build a family tree to start that chapter.* (Ben, 2016)

To sum up, all of the participants stated that they mainly teach indoor with traditional approach, though they are willing to have classes outdoors to try new teaching method. When they have their classes outdoors they usually choose schoolyard to carry out. Besides, outdoor activities organized by the school administrators used both cultural and natural places relating to certain subjects or education aims. During the outdoor lessons, most of the activities were observation with participation. The importance of choosing a proper place to have outdoor lessons is not clearly stated within the participants’ responses. The above findings reveal Chinese primary school teachers’ experience in outdoor teaching and will help to comprehend their general perceptions about outdoor education.
Theme 3 The perceived benefits of Outdoor Education

The third theme of current study revealed the participants’ opinions on the advantage of having outdoor education. Teachers reported various benefits that they saw from outdoor learning and teaching with examples. Their answers are related to the research question 2 of the current study.

◆ Simulation of senses

Three participants mentioned that when having students outdoors there are more chances to motivate their senses within the environment:

I can see my students like to play with dirt. They grab, smell and even once I saw a few boys tasting the dirt and share feelings. In the classroom they cannot achieve that and even if I bring the dirt into the classroom they would not be so active to explore. It seems too stiff. (Gustav, 2016)

Besides, Leo argued that using senses provides richer and more interesting experience so that students can enhance their knowledge:

After four months they can still remember that day when we went out to have my maths class ... They talked about their experience on how much fun they had; and I think they learned addition within 100 really well. (Leo, 2016)

◆ Social relation and health

Almost all of the participants reported they can see the benefits of being outdoors and having classes in the aspects of developing relationships and promoting both mental and physical health:

Pupils can make friends by playing together ... Where else can be a better place to play than outdoors? ... If the teacher had a great time with them outdoors and play together with them, it is a lesson but they always think it is just games, you can easily become their friends. (Carrie, 2016)

Besides, the participants mentioned that through outdoor lessons the students learned how to take care of each other and concern about other people:

In order to keep the group working, they have to communicate a lot. They are all single child in the family, they need to improve their social skills. When they do outdoor tasks together they know to concern others, to share with others and to be less selfish. (Melody, 2016)

Specifically, there are 8 of the participants reported that outdoor activities reduce students’ stress and give them more positive energy so that they can learn better:

To imagine a child sitting in the classroom for 6 hours? They are just children. They need to move ... The movements of the body make them healthy ... By taking students to authentic life
scene to practice speaking English, they reduced their fear and stress of speaking English ...
They had fun, they feel happy. (Charlotte, 2016)

◆ Promotion of environmental knowledge and attitude

Almost all of the participants mentioned there is a need of being outdoors to connect to the nature to improve students’ environment knowledge and attitude:

Primary school students need to learn the environmental knowledge in the nature. They should learn how to protect the environment and to reduce pollution after they appreciate the nature. Being outdoors and playing can be a motivation. (Ben, 2016)

Moreover, three participants mentioned that outdoor environment can provide inner peace to the students and build up a friendly relationship:

Nature can give children inner peace. They can calm down and enjoy the moment ... One of the boys in my class once asked me if he can hug the tree when he feels sad. I said ‘of course, the tree is always your friend. (Gloria, 2016)

◆ Development of creativity and imagination

Four participants reported that through outdoor lessons students can develop their creativity and imagination referring to both cultural and natural science disciplines:

Students’ imagination is locked within the walls ... They should find inspirations outside in the great nature and explore their potentials. (Gloria, 2016)

They talk and experience together, which means they share their ideas and feelings together. It is like having a brainstorm! Sometimes they can find an interesting solution. (Leo, 2016)

Also, Gustav mentioned that learning natural science in the authentic natural environment can let student explore possibilities from the original resource:

Learning from the textbook is not enough as pupils should learn directly from the original materials ... They may use their imagination to discover and develop the world. Their imagination can be crazy to us, but it may be right or possible in the future. (Gustav, 2016)

◆ Increase interest and participation

Eight of the participants reported that outdoor teaching can improve students’ interest to learn. As Ben mentioned, “students are curious about changing a place to learn”. Four participants mentioned, the students become more interested to the class when the lesson is switched outdoors:

They were excited and asked each other what will they do in this lesson. When I gave instructions, I found them paying more attention than before ... All of the students were involved in the class, even the naughty ones. (Samantha, 2016)
The participants mentioned outdoor class improve their students’ participation and improved their concentration to the class. One of the participants reported that students become active learner due to their interest:

*Everyone was doing their tasks without distraction because they wanted to to it. But when I had my class indoors, they always whisper and chat and don’t listen to me carefully.*

(Charlotte, 2016)

To sum up, the above findings reveal Chinese primary school teachers’ perception about the advantages of outdoor education, which includes stimulation of senses to help learning, improvement of social relations(student-student and student-teacher), improvement of both mental and physical health, improvement of educational knowledge and attitudes, development of creativity, and increase of their interest and participation. The participants mentioned that direct contact of the nature and experiential learning can bring various benefits to the students to develop their abilities. All the aforementioned statements verify and reinforce previous relative results about outdoor education advantages in the former content of the current research.

**Theme 4: The perceived barriers of outdoor education**

The last theme had the purpose to investigate Chinese primary school teachers’ view on the barriers of applying outdoor education in their daily teaching routine. Teachers reported their knowledge and thoughts about the difficulties in various aspects, including educational system and social barriers aspect, air pollution and weather limitation, and teachers’ individual difference. There are more subtitles within those aspects to specific the participants’ ideas. Their answers are related to the research question 2 of the current study.

◆ **Educational system and social barriers**

All of the participants reported various barriers in relation of educational system and in social aspects which hold back the application of outdoor activities relating to certain subjects. Time restrictions and place limitation, educational culture, population, lack of financial support, infrastructure constraints were stressed out as important impediments of applying outdoor teaching and learning approach.

**Time restrictions and place limitation**

All of the participants reported that the lack of time is the important factor that affect their choice of having class outdoors. Tight semesters, lack of class hours, short class duration were mentioned by the participants. Although the participants understand outdoor teaching has several advantages, they think outdoor teaching is a time-consuming approach. One example is addressed below:

*Time is a main problem. You can have a look of my maths time schedule. Mathematics only have 4 class hours a week, which means 2.6 hours in total. If I want to apply a class*
outdoors I need 1 class hour to give instructions and to teach basic knowledge; then I need at least 1 class hour to practice the outdoor class and send out the homework; then I need 1 class hour to answer questions and to share the reflections with my students. After that a whole week will be just focus on few simple knowledge points ... Maybe outdoor is good but it takes too much time. (Susan, 2016)

Other than time restrictions, seven participants who work in urban primary school mentioned that inappropriate place is another factor, such as place conflict with other class and lack of natural surroundings:

Our school is really small and the schoolyard sometimes can be busy because of the P.E. classes. It will be a trouble if I decide to bring my class to the schoolyard where P.E. class is processing and there is a conflict of using the space ... I cannot disturb other classes. (Ben, 2016)

If I want my students to appreciate the nature, there at least should be some 'nature'! There are ugly artificial scenes everywhere. (Carrie, 2016)

Additionally, three participants reported that safety issues and risks are factors needed to be concern, no matter within the schoolyard or out of the school:

Every nerve of mine is alerted when I take students outdoors. I feel so insecure if I take students outside of the classroom because there are lack of scientific protective design to support me having the class and protecting the students. (Melody, 2016)

Therefore, the participants revealed that lack of class hours, improper designed places, places conflict and safety issues were concerned by Chinese primary school teachers, which hinder them bring their lessons outdoors.

**Educational culture & population**

All of the participants mentioned that Chinese educational culture with large population make school lessons moving outdoors difficult. Examples are addressed below:

The average number of pupils is 35. There are around 10 classes per grade and we have six grades. It is difficult to make a plan to take that many pupils outdoors to have class ... Too hard to control ... It was exhausting. (Charlotte, 2016)

You need to face the crucial truth that is even if the Ministration of Education encourages changing school lessons’ form, every student is facing Gao Kao. You need to be well-prepared to compete ... Of course we want students have fun and play games, but they have to learn a lot efficiently and do a lot exercises to enhance ... At least for now, Gao Kao cannot be canceled or replaced because we have so much population. It is the fairest way to some extent. (Susan, 2016)

According to the participants, Pupils need to prepare their Gao Kao since they entered the primary school so that they can get bigger chance to enter a university:
Pupils need to prepare their Gao Kao since they entered the primary school. They have to learn well so that they can be competitive to enter a key middle school, then you have to work harder to enter a key high school, finally you have to work over 12 hours a day to study to fight for Gao Kao. Once you left behind, you may lose the chance to enter a university. (Leo, 2016)

Furthermore, the participants reported that China’s large population aggravate the competitive education pattern:

… Do you know here came a new policy of permission to have second child? I think the future pedagogical tasks will be much more intensive as the pupils are facing a situation that more people to compete with them. (Gloria, 2016)

Additionally, six participants mentioned that since most of the students are the only child of their family, their family pay great attention to their safety and wellness, thus some students are spoiled:

Their parents ignored my criticism on their bad behavior but just concerned if they ate well and felt happy. (Carrie, 2016)

They are spoiled and disobedient. (Melody, 2016)

Therefore, the perceptions above revealed the current Chinese educational culture, which includes intensive competition for reaching university entrance requirement (Gao Kao), large population, and parents’ indulgence on the single child.

**Lack of financial support**

There were seven participants mentioned that lack of financial support hindered outdoor education application:

If we have money, we can hire someone who is professional in outdoor education … We can buy professional protections to support outdoor activities. (Samantha, 2016)

The economic base determines the superstructure. If there is no financial support from some institution or the Ministry of Education, it is really hard to apply alternative educational approach, like outdoor education or experiential learning. (Melody, 2016)

Besides, the participants also mentioned only when there is a financial support, the implement of outdoor education can be achieved as it can express the supportive attitude from the administrator:

Although the government encourage students going out often during their daily school time, no institution offers financial support … Without money, nothing can be serious … If the government command the Ministry of Education to make such change, there will be money given on this move. Thus, it means the government is serious. (Charlotte, 2016)

If there is a financial support, it would be easier to practice outdoor education as I don’t need to ask the headmaster for money. And she know that there are someone or some institution or even the government support this idea. (Ben, 2016)
To sum up, the above statement revealed the barriers of applying outdoor education in Chinese primary school referring to educational system and social aspect. Limited time and inappropriate school settings makes applying outdoor teaching difficult. Also, Chinese current educational culture with large population make outdoor class design harder. Besides, without official financial support teachers cannot apply outdoor teaching as a routine with administrators approval.

◆ Air pollution and weather

Almost every participants mentioned that another two important factors that prevented them having outdoor lessons is the heavy air pollution situation in China and the weather. Some examples related to the affection of the haze is addressed below:

*It can be really harmful to take children outdoors because of the haze. Taking students outdoor should have been good, now staying indoors with the windows closed is the smart choice.* (Susan, 2016)

*Last winter the primary schools’ classes were suspended two times due to the red warning of heavy haze. Half of the year are air-polluted days without blue sky. How can I take my students outdoors?* (Samantha, 2016)

*Students have to stay at home or at least indoors during the red warning time. We just sent their parents the homework and assignments ... When there’s no red or orange warning, I still do not dare to take students outdoors because the air is still not good ... Last winter was horrible. Maybe spring and summer will be better.* (Gloria, 2016)

The above participants explained that they feel more safe to stay indoors because the air pollution situation is heavy and harmful. Besides, during the orange or red air pollution warning time it is not allowed to take students outdoors. Moreover, weather is another factor that two participants mentioned that prevent them to practice outdoor lessons:

*Maybe I have designed my outdoor class for a long time and when it is a rainy windy or really cold or hot day, my precious class may suddenly be a disaster. I don’t want to waste my class because of the bad weather ... I could have a Plan B, but then it doubled my time of designing the class ... Not worthy.* (Ben, 2016)

According to the statements from the participants, an outdoor class is very much related to the environment so the air pollution situation in China and the possibilities of so called bad weather prevent Chinese primary school teachers apply outdoor education.

◆ Teachers’ individual difference

Apart from the above impediments, there were barriers in the aspect of individual difference. Lack of pedagogical training, lack of preparation for the class, teachers’
individual attitudes and preference were the impediments of practicing outdoor education.

**Insufficient pedagogical training and preparation**

Almost all participants reported that lack of pedagogical training hold back their application of outdoor teaching. Two illustrative examples as follow:

*To apply outdoor education ... At least I should know what exactly outdoor education is and how to teach my subject with that approach. You cannot just ask a teacher who is inexperienced in outdoor education to teach out of the classroom all by his/her imagination.* (Carrie, 2016)

*Unfortunately I don’t know how to teach moral education in outdoor education approach. I think I am still too young and so inexperienced in handling pedagogical methods.* (Melody, 2016)

According to Samantha, at least the subject group leader should be professional in outdoor education so that the group can practice the alternative approach as the basic teaching schedule was set by the group leader:

*The experienced teacher will be the group leader of that subject. He or she will set up the basic teaching plan. Other teachers should follow the plan to teach and it is allowed to change small details to some extent ... If the group leader is experienced in outdoor education, the whole group can be benefit.* (Samantha, 2016)

Besides, three participants reported that they were lack of pedagogical training when they were Education major students in university:

*I only need to pass two exams to get teacher certification, which are Pedagogy and Educational Psychology. Both exams were just written tests ... During my university time there was no practical training in pedagogy.* (Miranda, 2016)

*My university major was English Literature but not in education field. I was a translator in a private company then I took teacher certificate examination and found this job. When I first came to this school I knew less about how to teach practically. Then the group leader taught me a lot by guiding me with her teaching plan ... I just don’t dare to try new methods because I worried it might be all wrong.* (Ben, 2016)

The above findings reveals the participants need professional guidance in outdoor education and to improve their pedagogical ability. Besides, the participants reported that they feel nervous and insecure to apply outdoor education without theory or specific guidance.

**Teachers’ attitudes and preference**

There were four participants reported that their personal attitudes of their work and their personal preference led them not having outdoor lessons:

*I haven’t had outdoor class when I was a student so I cannot imagine whether I would like it or not. As a grown-up, I prefer to stay indoors. I feel safe.* (Carrie, 2016)
Every nerve of mine was alerted when I take students outdoors. I feel so stressed because there are so many possibilities of pupils getting hurt outside the classroom. Okay, you may say there are possibilities of getting hurt indoors too, of which I admit. However, I am the one to take responsibility if someone hurts him/herself because I am the one that bring students outdoors … I am such an indoor guy. (Ben, 2016)

Besides, teaching preference was taken consideration by the participants:

I am used to play classic piano to teach music. And I like to use computer to play music clips to assist my teaching. Though perhaps I can bring my students to a concert or something to teach music. But it is not easy to organize and achieve. (Miranda, 2016)

In the meantime, two participants mentioned that their colleagues’ attitude influence them a lot. One example is addressed:

Just so you know, natural science only have two class hours per week and one teacher only teach two grades … My colleagues prefer to use traditional teaching approach. Every time I bring some ideas, they persuade me to save the effort. They always tell me that we can take our salary and teach by the guidance, it is easy. (Gustav, 2016)

In general, both the participants’ and their colleagues’ personal experience, attitude and preference are the impediments that affect their implementation of outdoor education. According to the participants, they were used to teach indoors; and as they were lack of outdoor experiences they prefer to stay indoors.

Additionally, the participants need professional guidance in outdoor education and to improve their pedagogical ability. Besides, the participants reported that they feel nervous and insecure to apply outdoor education without theory or specific guidance.

To sum up, the above findings reveal Chinese primary school teachers’ perception about the barriers of applying outdoor education. The participants mentioned that in the aspect of educational system and social barriers, time restrictions, place limitation, large population, lack of financial support hindered outdoor education application. Additionally, according to the participants, current air pollution situation and the unsatisfied weather are the two factor that hold back the thoughts of applying outdoor education. Concerning to the aspect of teachers’ individual difference, the participants’ individual experience, attitude and preference as well as the peer influence affect the practice of outdoor teaching and learning approach. All the aforementioned statements verify and reinforce previous relative results about the impediments of applying outdoor education in the former content of the current research.
CHAPTER 5: DISCUSSION

In this chapter, the most important research findings are going to be discussed connecting to the literature with the research aims. The purpose of this chapter are to present the interconnection between research findings and the literature, and to further analyze and comprehend the Chinese primary school teachers’ perceptions and attitudes about outdoor education, fulfilling the basic aim of the current research.

Chinese primary school teachers’ views about outdoor education

The first and second themes revealed Chinese primary school teachers’ basic views and experiences about outdoor teaching and learning approach. Through the study, all of the participants were asked about their opinions of how is the experience or assumption of having classes outdoors including what to do with outdoors, where to have classes outdoors, when to have classes outdoors, how to arrange the teaching and learning process outdoors.

There were six teachers defined outdoor education as an educational approach which carried out outdoors. They also gave examples that included some of the basic characteristics of outdoor education, such as the close relation between outdoor education and environmental education, using outdoor games, tasks and activities, and personal and social development. The perceptions above reinforce what Dahlgren and Szczepanski (1998) argued in their book that outdoor education comprises outdoor activities, personal and social development, and environmental education.

In terms of outdoor education characteristics, there were five participants mentioned personal and social development referred to teamwork building and leadership improvement, which related the argument of Beard and Wilson (2006) that educators expect to enhance the connection between personal and social development. Besides, according to Nicol (2002), Higgins and Nicol (2002), Bögeholz (2006), and Szczepanski (2009), nature experience is important to teaching and learning knowledge as well as instilling values and developing individuals. Four participants mentioned experience within the environment and authentic learning experience was emphasized. Moreover, most of the participants did not recognize the sensory learning concept in outdoor education (Fredman, P. Stenseke, M. Liljendahl, H. Mossing, A. Laven, D. eds.,2012) as there were only two participants mentioned multi-senses stimulation when having outdoor activities. Also, most participants failed to recognize the relation between outdoor education and various disciplines and only two participants mentioned there is a possibility of combining their subjects to outdoor teaching. As Higgins and Nicol (2002) argued, going outdoors does not constitute outdoor education, not if there is a specific educational aim and connection with the teaching disciplines. Additionally, two participants said that they had less information about outdoor education.
Concerning the outdoor practice, subjects as P.E. (Physical Education), Natural Science, Art, English and Chinese were mentioned by the participants. All of the participants stated that they mainly teach indoors with traditional approaches, though they are willing to have classes outdoors to try new teaching methods. According to the participants, observation and participants are two main factors in outdoor education, which related to the experiential learning theory. There were three teachers mentioned that outdoor game activities can be a educational tool to enhance participation. Besides, two other participants reported that except schoolyard, outdoor activities can also be out-of-classroom activities, meaning indoor activities out of classroom or school, such as library, laboratory and museum. The above findings reinforced what Dahlgren and Szczepanski (1998) argued that compared to traditional teaching and learning method, the experiential learning way has various choices. According to Szczepanski (2009), students have not much opportunity of contact directly to nature surroundings and authentic places. As Dewey (1997) mentioned, it is important to select a proper outdoor place to practice outdoor teaching and learning activities so that the teaching goals can be fulfilled, rather than pick a place randomly. However, the importance of choosing a proper place where utilize natural outdoor landscape to have outdoor lessons is not clearly stated within the participants’ responses.

The above analysis may be an exploration of in which fields teachers should improve their knowledge to develop outdoor education as a basis teaching method in the field of school-based teaching environment in primary school in China.

The perceptions of benefits

The third theme connected to the participants’ view on the benefit of outdoor education. The participants mentioned that outdoor environment provides more opportunities to stimulate senses so that the knowledge can be enhanced. This multiplication of experiences by using all of the senses is also supported by many researchers, such as Sobel (1996), Dewey (1997), Chauvel and Chauvel (1998), and Dahlgren and Szczepanski (1998). Besides, almost all participants mentioned the improvement of both mental health and physical health, including reducing stress, exciting the mood, and moving the body, which reinforced the idea of outdoor activities reduce students’ anxiety and depression by Kanters et al (2002) and the idea of outdoor education promoting of physical condition by Szczepanski (1998), Higgins and Nicol (2002). They also mentioned the social development during the outdoor education as through the outdoor games the students became friends easily and they learn how to concern others. Moreover, improvement of educational knowledge and attitudes was reported by the participants, which connected to the argument of through establishing the connection between the students and the nature, students’ concern and empathy for nature are promoted by Emmons (1997), Johnson and Manoli (2008). Additionally, the participants reported that through the direct contact of the nature and experiential learning students’ creativity, interest and participation can be developed and improved, which related to Szczepanski and Andersson’s (2015)
argument of one advantage of going outdoors to learn is to explore the potential from the original resource.

The above analysis illustrated the potentials of school-based outdoor teaching and learning in Chinese primary school based on a general contextual feedback of the participants.

**The perceptions of barriers**

The fourth theme is about the barriers that Chinese primary school teacher concerned of applying outdoor education. Concerning to the impediments of implementing outdoor education, the participants gave responses in three aspects: educational system and social barriers, air pollution and weather, and teachers’ individual difference.

In the aspect of educational system and social barriers, all of the participants reported that the lack of time is one big factor that affect their choice of having class outdoors. According to the participants, tight semesters, lack of class hours, and short class duration cannot support outdoor education practice. Time limitation has been recognized as a common limitation for all teaching approach by many researchers like Robertson and Krugly-Smolska (1997), Tan and Pedretti (2010), Write (2010), and Backman (2011).

Besides, reported by seven participants, place limitation was another factor prevented the participants from applying outdoor education. The place conflict with other subjects like P.E. and the artificial improper environment settings brought difficulties to take class outside and use the natural environment to teach. Safety issues were concerned by the participants as well as many researchers such as Goldenberg (2001), Write (2010), and Backman (2011). According to the participants, there was not enough protection when they were outside, if the students were injured there was a high risk of not getting emergency aid when they were outdoors. The participants also mentioned when they took students out of the class room, the whole responsibility for the students’ safety rested on them.

Moreover, the participants reported that large population is a big problem referring to practice outdoor education. There were too many pupils in a class and the participants reported that it is hard to control the class when that many pupils were outdoors at the same time. The participants stated that due to the large population, Chinese students have to study efficient since they entered the primary school so that they can be competitive to join the examination which will decide whether they can enter an university. All of the relevant information regarding to Chinese educational system and China’s current situation were stated in the literature review part of the current study. Population problem is highlighted as it has not been discussed in previous researches.

Additionally, lack of financial support was reported by seven participants. As Samantha mentioned, with the money they can hire an outdoor education expert to guide them and they can buy professional protections and other materials which will assist the class. Other than that, the participants mentioned that it is not only about the money, but also the supportive attitude from the administrators level, like the Ministry of Education or Chinese government.
In the aspect of air pollution and weather, almost every participant mentioned that it is an important factor that prevent them going outdoors, not to mention having class. According to the participants, there were two times classes suspension due to the air pollution red warning, which has mentioned in the literature review part of the current research. The participants reported that they felt safe when they were indoors and when there was no air pollution warning they still do not dare to take students outdoors because they worried about the air quality. Other than air pollution, two participants mentioned weather factor is another reason that hinder them practicing outdoor lessons, which reinforced the point mentioned by Write (2010) and Backman (2011) that weather must be taken into consideration when teacher designing an outdoor class.

In the aspect of teachers’ individual difference, insufficient pedagogical training and preparation was reported by almost all participants. The participants mentioned there was a need of professional pedagogical training in outdoor education so that they could practice. Besides, the participants also mentioned they felt not confident to try alternative teaching method as they were inexperienced or have not worked for many years. According to three participants, there was another possibility of lack of pedagogical training that was the teachers have not been trained in an education program. As Ben mentioned that he passed two examination then he received a teacher certification to be a teacher. Thus, without the outdoor education systematic training and lack of working experience, the participants felt nervous and difficult to apply outdoor education in their daily teaching. Moreover, as the participants themselves haven’t been experienced outdoor lessons, they felt insecure when they were outdoors and they prefer to stay indoors. This point related to Higgins and Nocol’s (2002) argument about teachers who expose their students and themselves to the outdoor environment are aware of the possibility of accidents and have a better comprehension of unpredictable circumstances and dangers. Additionally, the preference of the participants and the peer influence also affect the implement of outdoor education.

To sum up, the aforementioned statements verify and reinforce previous relative results about the benefits and impediments of applying outdoor education in the former content of the current research. It is highlighted that population and air pollution factors have not been discussed much in terms of outdoor education by previous researches. The current study can be an opening towards exploring the future development of outdoor education in the context of China under the circumstances of large population and heavy air pollution.
CHAPTER 6: CONCLUSION

This chapter aims to summarize the main results of the current research. Additionally, it provides some recommendations regarding to methodological implications of the current research and future research proposals of outdoor education research.

Summary of the results

The current research aimed to investigate Chinese primary school teachers’ perceptions and experiences of outdoor education by using qualitative research approach to semi-structured interviewed ten Chinese primary school teachers. The current research succeeded the above aim, achieving to answer to all the research questions as well as shedding light to the under researched scientific area. The current research revealed Chinese primary school teachers’ knowledge, experiences and perceived benefits in outdoor education. The participants also revealed the barriers that prevent them from practicing alternative teaching method like outdoor education even though they have willingness.

The analysis and interpretation of the data led to the following basic conclusions:

- Chinese primary school teachers revealed their basic knowledge and perceptions about outdoor education and presented examples including some characteristics of outdoor education. However, they emphasized outdoor activities more than other characteristics and tend to consider outdoor education as environmental education, without other essential aims, theories and practices that defined this multidimensional approach.

- According to the participants, although Chinese education is still based on traditional teaching and learning approach, many teachers have the willingness to enrich their classes in various ways. The outdoor activities in their classes were mainly combined observation and participation. The participants revealed that the places they chose were mainly schoolyard and other places out of the classroom but still within the school.

- Chinese primary school teachers acknowledged several benefits of practicing outdoor education such as stimulating multi-senses to help experience, improving social relation and both mental and physical health, promoting educational knowledge and attitude, developing creativity and imagination, and increasing interest and participation.

- The participants reported several barriers that suppress their willingness of practicing outdoor education. Restricted time, limited place, lack of financial support were common impediments of alternative teaching method application, which were also recognized by the participants. Other than above impediments, weather factor, insufficient pedagogical training, lack of preparation, teachers’ attitude and preference were common impediments of practicing outdoor education, which were mentioned by the participants as well. Besides, it was
highlighted by the Chinese primary school teacher that air pollution situation and large population are another two essential impediments that prevent them moving outdoors to teach lessons.

Generally, future steps towards the outdoor education development in China is promising as the teachers in this study revealed a willingness to learn and to practice outdoor teaching, despite there are various barriers.

**Methodological implications and future research**

To begin with methodological limitation, the size of the research sample is small and provide only an idea of Chinese primary school teachers’ perceptions about outdoor education. To involve larger sample from different provinces of China including both urban and rural schools can accurate the results and increase the reliability of the research. Besides, except of semi-structured interviews, adding observation of teachers’ practice of outdoor teaching and traditional teaching can also provide more information in terms of applying outdoor education. Nonetheless, the information acquired from the qualitative approach, which has been presented in the current research was rich, included new views and perceptions, fulfilling the basic aim and questions of the current research.

Moreover, further qualitative research is a prerequisite so that the results of the current research can be testified and be further discussed. Changing target participants and changing research dimension can also receive more information, for instance, students’ perceptions about education can be studied to illustrate a broader picture of outdoor education research.

Additionally, it would be of a great value for the current research if extended in other Asian countries and in countries that are well known for their pedagogical bond with nature and outdoor activities such as Sweden and Norway. Thus, it would be interesting to compare those countries’ results and to investigate if there is difference or common in terms of outdoor education and if the difference due to the geographical difference, cultural difference, or other factors.
REFERENCE

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Web 2: https://en.wikipedia.org/wiki/China (May 26th 2016)


Web 4: https://zh.wikipedia.org/wiki/2015%E5%B9%B4%E8%87%B32016%E5%B9%B4%E5%86%AC%E4%B8%8A%E5%9B%BD%E5%8C%97%E4%BA%AC%E9%9B%BE%E9%9C%BE%E4%BA%8B%E4%BB%B6 (May 31st 2016)
# APPENDIX I. PARTICIPANTS (ALL NAMES ARE PSEUDONYMS)

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Age</th>
<th>Years of Teaching</th>
<th>Subjects</th>
<th>Experience of outdoor teaching</th>
<th>Rural / Urban</th>
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<td>Samantha</td>
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<td>46</td>
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<td>2-5 times a year</td>
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<td>13</td>
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<tr>
<td>Gustav</td>
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<td>5</td>
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<td>1-2 times a year</td>
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<tr>
<td>Leo</td>
<td>Male</td>
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<td>6</td>
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<td>Only once</td>
<td>Rural</td>
</tr>
<tr>
<td>Gloria</td>
<td>Female</td>
<td>28</td>
<td>7</td>
<td>Art</td>
<td>Only once</td>
<td>Rural</td>
</tr>
<tr>
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<tr>
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<td>Ben</td>
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# APPENDIX II. CLASS HOURS\(^1\) OF PRIMARY SCHOOL

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<th>Three</th>
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<th>Five</th>
<th>Six</th>
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<td>Chinese</td>
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<tr>
<td>Moral Education</td>
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</tr>
<tr>
<td>English</td>
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<tr>
<td>P.E.</td>
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</tr>
<tr>
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<td>2</td>
<td>2</td>
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<tr>
<td>Computer Technology</td>
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<td></td>
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<td>1</td>
</tr>
<tr>
<td>Handwriting(^2)</td>
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<td>1</td>
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<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>Art</td>
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<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Reading(^3)</td>
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<td>1</td>
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<td>1</td>
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<tr>
<td>General Life Knowledge(^4)</td>
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<td></td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Class Meeting(^5)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Activity(^6)</td>
<td></td>
<td></td>
<td>1</td>
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<td>28</td>
<td>28</td>
<td>30</td>
<td>30</td>
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<td>30</td>
</tr>
</tbody>
</table>

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1 A class hour means 40-45 minutes
2 Chinese Handwriting
3 Chinese Books
4 The whole class is leaded by a certain teacher and to learn general knowledge about life, such as housework, hand craft and traffic safety knowledge.
5 The whole class is gathered and have meetings leading by their head teacher.
6 The whole class is leaded by P.E. Teacher to have outdoor physical games or sport together.
### APPENDIX III. CURRICULUM SCHEDULE - A 2ND GRADE CLASS OF AN URBAN PRIMARY SCHOOL

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mathematics</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Chinese</td>
</tr>
<tr>
<td>2</td>
<td>Moral Education</td>
<td>Handwriting(^7)</td>
<td>Mathematics</td>
<td>P.E.</td>
<td>Mathematics</td>
</tr>
<tr>
<td>3</td>
<td>Natural Science</td>
<td>Chinese</td>
<td>Computer Technology</td>
<td>General(^8)</td>
<td>Music</td>
</tr>
<tr>
<td>4</td>
<td>Mathematics</td>
<td>Music</td>
<td>English</td>
<td>Natural Science</td>
<td>English</td>
</tr>
<tr>
<td>5</td>
<td>English</td>
<td>P.E.</td>
<td>Art</td>
<td>Chinese</td>
<td>Reading(^9)</td>
</tr>
<tr>
<td>6</td>
<td>P.E.</td>
<td>Art</td>
<td>Moral Education</td>
<td>Game Activity(^{10})</td>
<td>Class Meeting</td>
</tr>
</tbody>
</table>

\(^7\) Chinese Handwriting

\(^8\) The whole class is leaded by a certain teacher and to learn general knowledge about life, such as housework, hand craft and traffic safety knowledge.

\(^9\) Chinese picture books

\(^{10}\) The whole class is leaded by P.E. Teacher to have outdoor physical games together.
APPENDIX IV. CURRICULUM SCHEDULE - A 4TH GRADE CLASS OF A RURAL PRIMARY SCHOOL

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
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<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mathematics</td>
<td>English</td>
<td>Moral Education</td>
<td>Mathematics</td>
<td>Elective Course&lt;sup&gt;11&lt;/sup&gt;</td>
</tr>
<tr>
<td>2</td>
<td>Chinese</td>
<td>Music</td>
<td>Mathematics</td>
<td>Chinese</td>
<td>Elective Course</td>
</tr>
<tr>
<td>3</td>
<td>Chinese</td>
<td>Mathematics</td>
<td>Chinese</td>
<td>Reading&lt;sup&gt;12&lt;/sup&gt;</td>
<td>Elective Course</td>
</tr>
<tr>
<td>4</td>
<td>Game Activity&lt;sup&gt;13&lt;/sup&gt;</td>
<td>P.E.</td>
<td>Chinese</td>
<td>English</td>
<td>Class Meeting&lt;sup&gt;14&lt;/sup&gt;</td>
</tr>
<tr>
<td>5</td>
<td>P.E.</td>
<td>Chinese</td>
<td>Handwriting&lt;sup&gt;15&lt;/sup&gt;</td>
<td>Art</td>
<td>P.E.</td>
</tr>
<tr>
<td>6</td>
<td>Music</td>
<td>Chinese</td>
<td>P.E.</td>
<td>P.E.</td>
<td>Art</td>
</tr>
<tr>
<td>7</td>
<td>Special Activity&lt;sup&gt;16&lt;/sup&gt;</td>
<td>Special Activity</td>
<td>Special Activity</td>
<td>Special Activity</td>
<td>Special Activity</td>
</tr>
</tbody>
</table>

<sup>11</sup> Every student choose their elective course from Chinese/ Mathematics/ English at the beginning of the semester.

<sup>12</sup> Chinese books

<sup>13</sup> The whole class is leaded by P.E. Teacher to have outdoor physical games or sport together.

<sup>14</sup> The whole class is gathered and have meetings leading by their head teacher.

<sup>15</sup> Chinese Handwriting

<sup>16</sup> The whole class goes to certain room to learn musical instrument every Monday, Wednesday and Thursday.
APPENDIX V. INTERVIEW SCHEDULE

Introduction

➢ Some basic information about myself, my educational background and my study.
➢ Brief description of my current research with basic aim and questions.
➢ Remind participants that if they have any problem with me using a voice recorder in order to easily transcript into data. Moreover, clarify them the data will only be used as research materials and their anonymity and privacy of their personal details are guaranteed.
➢ Remind participants that the interview is voluntarily participate. They have the right to refuse answering any questions they do not want to; and they can terminate the interview whenever they want.

I. Demographic questions

1. Sex
2. Age
3. Years of teaching experience in primary school
4. Teaching subject/s and level
5. Location of the school (urban/rural)
6. Short discussion about his/her teaching work to show interest

Now open the voice recorder

II. Main questions

1. Could you tell me what do you know about Outdoor Education? (theory, principles, activities)
2. Some educators believe that outdoor education could be an important part in the education system. What do you think about that?
3. Does outdoor education/ experimental education approach constitute a necessity for the current Chinese educational system? What is your opinion?
4. Where do you mainly teach? (indoors/outdoors)
5. Please describe about your main teaching methods.
6. Have you ever applied outdoor lessons?
   If yes: (a) Please state the subject/s and describe the main methods and activities
you used. (b) How often do you teach outdoors?

If no/not often: (a) Could you explain the why not having outdoor lessons?
(reasons, factors)

7. Do you think students can benefit from outdoor lessons? Why/Why not?

8. Where do you prefer teaching? Where do you feel more comfortable? Why?

9. Do you think if it is possible to teach your subject outdoors? If yes, please state an example; If no, please describe the reason/s.

10. Do you think outdoor teaching can be a supplemental teaching approach to the teaching approach/s that you already used? If yes, how can you implement, practically? If no, why not?

11. Is there any of your colleagues use outdoor teaching approach? If yes, in what way do they apply?

12. Are there any barriers of practicing outdoor teaching and learning? Do you have any suggestions in order to assist outdoor education?

III. Closing the interview

1. Ask the participants if they have any questions that they would like to ask.

2. Thanks the participants for their contribution to the research and remind the participants that they can be notified when the research is completed if they want.

Important notes

- The first interview will be a pilot interview, then based on it reconstruction or small alteration in the interview schedule may be applied.

- If needed, probing will be used in more questions, e.g. “Some people believe that ... What do you think of that?”

- If possible, in-depth additional information would be asked, e.g. “Could you tell me more about that?”

- The questions can be reformed according to the participants’ response.

- Some question

- Possibility for more non-planned questions would be asked, depending on each participant.
APPENDIX VI. INTERVIEW INVITATION LETTER

Research Topic: Chinese Primary School Teachers’ Perceptions and Experience of Outdoor Education

LINKOPING UNIVERSITY
DEPARTMENT OF CULTURE AND COMMUNICATION
MASTER PROGRAM IN OUTDOOR ENVIRONMENTAL EDUCATION AND OUTDOOR LIFE
Student: He Zhao
hezh438@student.liu.se
Academic Year: 2015-2016
Supervisor: Emilia Fägerstam

Dear Mr. / Ms.,

My name is He Zhao and I am a master student in Linköping University, Sweden. As part of my master thesis I have decided to investigate Chinese primary school teachers’ perceptions about Outdoor Education. My main research questions wish to reveal the current perceptions, attitudes and feelings of Chinese primary school teachers concerning the outdoor education didactic approach. You are one of the most suitable people that can provide me with valuable information relevant with my subject, and thereby help me form a detailed picture of the studying theme. Therefore, you are kindly requested to contribute to the current research, through your participation in a personal interview.

The interview will take place at the beginning of April. The duration of the interview is 20-40 minutes. Since I am in Sweden, the interview will be done through telephone or WeChat application depending on your willingness. In this point, I would like to mention that the participation in the interview procedure is voluntary and optional. You have any right not to answer in one or more questions, or to completely deny your involvement in the research. For the best possible interpretation of your answers, and only with your permission, a voice recorder will be used, as the interview will be semi-structured and plenty of information will be acquired.

Finally, I would like to inform you that all your answers are confidential and the provided information is intended solely for research use. The confidentiality and anonymity is personally guaranteed as the interview data will be destroyed after the completion of the thesis. Also, after the results and findings of the research can be notified to you.

Please do not hesitate to contact me if you have any question.

With appreciation,

He Zhao