Opportunities and Challenges: An Examination of Educational Landscape for People with Visual Impairment in China

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Globally, increasing attention has been paid to disability inclusion in the education sector, from international development to national policymaking. Discussions on inclusive education appear in various conferences, events, policy briefs, academic articles, and global reports. The 2020 Global Education Monitoring Report centralizes inclusion in education, advocates the message of "All Means All", and highlights inclusive education as its core recommendation (United Nations Educational, Scientific and Cultural Organization, 2020). In the context of increasing global discourse around disability inclusion in education, how does education for people with disabilities fare at local and national levels? Building on the author's prior research experience and connection to disability rights movement in China, this study sets out to explore the educational landscape for a specific population – Chinese people with visual impairments, and identifies various challenges and opportunities facing education inclusion in greater details.

Introduction

Cai lost his sight at age 10 and attended mainstream primary and middle schools in China, with the help of family members and friends who read the school learning materials to him. When Cai applied for accommodation to take the national College Entrance Exam (CEE), his request was denied and Cai was not able to take the Exam (China News Net, 2017). Hence, Cai did not go to a mainstream higher education institution in China as a CEE score is a prerequisite to be admitted.

The Chinese government issued several policies to guarantee the provision of reasonable accommodations for people with disabilities (PWD) during the national CEE in the last decade. This means people with visual impairment (PWVI) like Cai should be provided with reasonable accommodation if they take the CEE. The breakthrough took place in 2014 as a result of years of disability advocacy (Ma & Ni, 2020). Yet, after the policy change, data show that very few Chinese students with visual impairment (especially those with blindness) are accessing mainstream higher education (see Table 1 below).

Table 1
No. of Overall Students Taking CEE VS No. of Students with Visual Impairment Applied for Braille Paper in CEE

Year	No. of overall students taking CEE	No. of students with visual impairment applied for braille paper in CEE
2014	9.39 million	1
2015	9.42 million	8
2016	9.4 million	5
2017	9.4 million	7
2018	9.75 million	2
2019	10.31 million	10
2020	10.71 million	5
2021	10.78 million	11

Source: Cai, 2017; Chen, 2021

As shown in Table 1, the number of students with visual impairment who have applied for braille exam paper in CEE since the first implementation of reasonable accommodation in 2014 is very minimal, compared to the total number of students taking the CEE in the same year. The fact that virtually no students with visual impairment are taking the CEE begs the question of the reasons for such gaps. Are students with visual impairment (SWVI) or people with visual impairment (PWVI) not interested in advancing in educational ladder like the millions of other students do? What educational opportunities are available for PWVI in China? What is the educational attainment of PWVI relative to individuals with other disabilities and those without disabilities? What are the barriers for PWVI to access education?

Globally, there has been increasing attention on disability studies especially in more industrialized countries. There has also been sizable research on disability and PWD in China. Significant amount of research on disability in China tends to focus on rehabilitation, education, employment, and psychological characteristics of PWD. One study showed that over one-third of all PWVI registered with China Disabled Persons' Federation (CDPF) in central China have clinically significant depressive symptoms (Li, et al, 2013). Among the studies that look at education for PWD, the majority tend to emphasize on education of PWD in separate and often a limited number of special schools, rather than in mainstream schools.

PWVI in China accounted for about 18% to 20% of the world population with visual impairment (Han, 2017). Their illiteracy rate (78.87%) is not only much higher than that of people without disabilities (4.08%), but also higher than that of people with other types of disabilities (illiteracy rates for people with hearing and speech disability: 69.65%; people with psychiatric disability: 46.28%; people with intellectual disability: 56.25%) (First National Survey of PWD, 1987)[1].

[1] The Survey on PWD conducted in 2006 has not provided disaggregated data by disability type therefore an update on illiteracy rate of PWVI in recent years is not currently available.

Triggered by the recent policies and the questions around PWVI, this study examines closely the educational opportunities for people with visual impairment (PWVI) in China, in the hope of providing an overview of the challenges and opportunities PWVI face in their educational pathway. To do so, this paper begins by laying out the guiding conceptual framework. Afterwards, definition and cultural background around disability, methodology of the research, along with historical overview on the education for PWVI in China are provided to better contextualize the study. Following section examines the relevant legislations and policies affecting the education of PWVI. In light of the statistics above that indicate virtually no PWVI apply for college entrance in China, the paper assesses the reasons that could be occurring, noting gaps and barriers to education. Considering significant barriers, the paper concludes with opportunities for improvement.

Conceptual Framework: Models of Disability

Disability is a controversial, evolving, and complex concept. It is socially constructed and interpreted differently by different entities. In the China context, three models of disability are commonly used: the individual model, the medical model, and the charity model of disability. These three models remain dominant in China. They not only largely reflect non-disabled people's understanding of disability, but also affect deeply many PWD's perceptions of themselves. While in some disability advocacy communities, the social model is accepted and promoted.

The individual model sees disability as a personal tragedy (Oliver, 1983, 1995). The model also includes the psychological and medical aspects of disability. The individual model locates the "problem" of disability within the individual, and sees the causes of this problem as stemming from the functional limitation or psychological losses which are assumed to arise from disability. Similarly in the medical model, it is assumed that people's disabilities are caused by their own mental or physical impairments. The focus is on the impairment aspect and doctors should be trained to cure such impairments or to alleviate their impacts. PWD are viewed as victims of a disease, a problem, and a permanent impairment. As a result, they are in need of treatment to be changed or improved so as to be "normal" (Rieser & Mason, 1990). The individual and medical model of disability put more emphasis and responsibility on PWD instead of being concerned with whether the State and society is being inclusive to its diverse population. Lastly, the social model of disability sees disability as a social construct and lays emphasis on the social environment. Compared to the functional impairment within the individual caused by physical, mental, or sensory impairment, the social model emphasizes the loss or limited opportunities of PWD to participate in the daily life of the community equally with others due to physical, social or environmental barriers (Yeo & Moore, 2003). To address disability, social action aimed at integrating people with disabilities into society and modifying the environment to support their full participation in all aspects of social life is required (Emmett & Alant, 2006; WHO, 2001).

Definition and Cultural Background of Disability

The Article 2 of Law of the People's Republic of China on Protection of Disabled Persons (LDPD, 1990) defines disabled person/person with disability (DP/PWD, will be used interchangeably in this paper) as "one who suffers from loss or abnormality of a certain organ or function, psychologically or physiologically, or in anatomical structure and who has lost wholly or in part the ability to perform an activity in a normal way" (LDPD, 1990).

Six categories of disability are recognized legally in LDPD: visual, hearing, speech, physical or intellectual disabilities, mental retardation, multiple disabilities or other disabilities. Further, visual impairment (VI)[2] is defined as:

> The impairment of both eyes or the loss of field vision in both eyes due to various reasons. The impairment cannot be fully recovered or corrected through medication, surgery or other treatments. As a consequence, the person with VI is limited in conducting work, study or other activities (China Disabled Persons' Federation, 2006).

The legal definition of disability shows a strong influence from the medical model (Zhang, 2006) and has been used for over three decades. According to the definition, about 82.96 million people in China had a disability, accounting for 6.34% of the total population (1.3 billion). Among the 82.96 million PWD, about 14.86% of them reported to have VI, which was about 12.63 million. Among PWVI, 89.7% are of low vision (11.33 million) and 11.8% are with blindness (1.5 million). The number of children with VI of compulsory education age (6-14) was estimated to be 130,000, accounting for 2% of the 2.4 million school age children (Second National Survey of PWD, 2006).

Disability is defined differently in different country contexts. Definitions and percentages of PWD have a significant impact on national policies and supporting programs or services around disability (Mitra, 2006). Consequently, it is not surprising that different countries exhibit different statistics on the number of PWD and disability rates (see Table 2). Currently, developed countries exhibit an overall higher rate of disability prevalence compared to that of developing countries. For example, the United States has a broader definition for PWD and include more categories of disability. The Americans with Disabilities Act (ADA, 1990) defines PWD as someone who has "a physical or mental impairment that substantially limits one or more major life activities; has a record of such an impairment; or is regarded as having such an impairment" (ADA, 1990, Sec. 12102). Data from the Census Bureau indicated that 56.7 million people in the US had a disability in 2010, accounting for 19 % of the total population. While a recent study indicated an even higher disability rate - 26.8% of noninstitutionalized US adults aged 18 years or older reported to have one or more disabilities (Varadaraj et al., 2021). Both rates (19% or 26.8%) are higher than the percentage of PWD in China. The Individuals with Disabilities Education Act (IDEA) in the U.S. listed 13 categories of disabilities (2004). Notably, the inclusion of Specific Learning Disabilities (SLD) in the US likely explains the higher percentage of students with disabilities compared with that of in China where SLD is not legally recognized. About 2.4 million students in American public schools are identified with SLD, accounting for 42% of all students with disabilities (Cortiella & Horowitz, 2014; Kritzer, 2012).

The higher percentage along with a broader definition and more categories of disability in the US, may help contribute to a greater acceptance and awareness on PWD compared with that of China, where stigma and stereotype around disability affect PWD negatively (Deng & Guo, 2007). When PWD are enrolled in schools, they are not challenged or supported with the adequate resources for them to succeed (Deng & Guo, 2007). In regards to PWVI, the lack of awareness also prevents some parents from sending their children with VI (low vision) to special education schools for the fear of being labeled as having a disability (Xu & Ji, 2010). The majority of the PWD in China, about 75%, are concentrated in rural areas, according to the 2006 national survey on PWD.

[2] VI includes both blindness and low vision in China.

PWD in China traditionally are referred to as "残废"(*Can Fei)*, a derogatory term which translates to "disabled and useless." Today, the more commonly-used characters for disability are "残疾" (*Can Ji*). These two characters are hieroglyphics and reveal interesting etymological stories. For the first character "残" (*Can*), the left part of the character means "death," and the right part means "two spears or daggers." This reveals the original meaning of "残" (*Can*), which depicts a picture of people fighting with weapons to kill each other. Today "残" (*Can*) usually means injured, incomplete, and evil in different phrases. The second character "疾" (*Ji*) originally depicted a picture of a person getting hit by an arrow, therefore became injured and fell ill. Today, "疾" (*Ji*) usually means illness. As a result, disabled person (DP) or persons with disabilities (PWD) in Chinese are written as "残疾人" (*Can Ji Ren*), meaning injured, incomplete, and ill people. On the contrary, non-disabled people in Chinese are referred to as "健全人" (*Jian Quan Ren*), literally translating to "healthy and wholesome people." The Chinese languages for disability and non-disability reflect a strong influence from the medical and individual model.

Table 2
Differences Between the Definitions of PWD and PWVI in the US and China

	China (2006)	**United States (2010)**
Definition of PWD	One who suffers from loss or abnormality of a certain organ or function, psychologically or physiologically, or in anatomical structure and who has lost wholly or in part the ability to perform an activity in a normal way	Someone who has a physical or mental impairment that substantially limits one or more major life activities; has a record of such an impairment; or is regarded as having such an impairment.
No. of PWD	82.96 million	56.7 million
Percentage of PWD	6.34%	19%
No. of PWVI	12.63 million (89% low vision & 11% blindness)	8.1 million (Census, 2010; 24.6% blindness) 7.6 million (ACS, 2016; National Federation of the Blind)
Percentage of PWVI among PWD	14.86%	14%
Percentage of PWVI among Total Population	0.94%	2%
Total Population	1.3 billion	309 million
Illiteracy Rate Among PWD	43.29% (age 15 or above)	N/A

Methodology
This study is built on the author's prior research on disability and education in China, as well as the author's connection and involvement in the country's disability rights

movement. Using key words including "visual impairment," "education," "special education in China," and "blind education" to search relevant sources, the study reviews secondary data and grey literature on education for people with disabilities, and more specifically, education for people with visual impairments in China. The majority of the reviewed studies are from the recent four decades, during which access to education of all levels started to expand for individuals with disabilities in China. The study draws from existing data and research in either Chinese or English language, with the majority of the sources documented in Chinese. News, reports, surveys, and basic statistics on people with disabilities from different sources (e.g. China Disabled Person's Federation, Ministry of Education) are also reviewed for this research. Lastly, the study also reviews documents from a long-established Disabled Person's Organization (DPO) named One Plus One Group on Disability in China as well as an informal report produced by a male disability activist with blindness. These documents are shared by the DPO and by the activist himself respectively.

Historical Context on Education for PWVI

This section lays out the development of educational opportunities for PWVI, including provisions at different educational levels. The idea to support and help PWD could be traced back as early as 2000 years ago in ancient China. However, public education service for PWVI or PWD was virtually non-existent until recent decades (Deng & Manset, 2000). There were not much expectations placed on the education of PWD in general. The history of educating PWVI started from a few initial special schools established by foreign missionaries in the late 19th century to the emergences of special schools built by Chinese people in the early 20th century (Deng et al., 2001; Ni, 2014). The first School for the Blind in China was established in Beijing in 1874 by William Hill Murray, a missionary from the United Kingdom. For a very long time between the late 19th century and mid 20th century, the only chance for PWVI to get an education was through limited number of separate Special Schools for the Blind (Wan, 2015).

Before the establishment of the new regime under the Communist Party in 1949, there were only 42 Special Schools nationwide with some 2000 students with various disabilities enrolled. These schools were mostly charity-based while education for PWD was far from being accepted as either commonplace or crucial (Mazurek, 1994). The following three decades after 1949 did not witness any significant improvement in educating PWVI or other PWD, due to political instability and economic adversity. In 1953, there were only about 1,300 SWVI enrolled in 13 Special Schools for the Blind and 9 Special Schools for the Blind and Deaf. In 1990, these numbers increased to 2,600 SWVI enrolled in 25 total Special Schools for the Blind and 77 Special Schools for the Blind and Deaf. It was estimated that about 90% of the children with disabilities (about 130,000 children with VI of school age) did not attend school in the early 1990s (Deng & Manset, 2000; Liu, 1997; Guo et al., 1993). Though the adoption of opening-up reform policies in the late 1970s and the implementation of the compulsory education law in the mid-1980s provided some impetus for the development of education for PWD including PWVI (Deng & Manset, 2000).

The key educational development for PWVI occurred in the late 1980s when Learning in Regular Classroom (LRC) movement started (Zhao, 1993). The LRC movement greatly enhanced the enrollment of school-aged PWVI in schools, as it allowed students with disabilities (SWD) to enroll in mainstream schools as their peers without disabilities. One specific project within the LRC movement was the "Gold-Key Education Plan for Students with Visual Impairments," (Xia, 2011) which played a significant role in improving the

education access for PWVI and raising awareness for mainstream education for PWD. It was estimated that about 7,535 SWVI (almost triple the number since 1990) were enrolled in various schools in 1996. About half of these students were in mainstream schools. In terms of education levels, about 80% of the enrolled SWVI were concentrated in the primary school level and 20% in the junior high school level. There was a lack of senior high school for the blind prior to the 1990s. In fact, the first senior high school for blind students was not established until 1993 in Qingdao, Shandong Province (Wan, 2015). Starting in 1987, a special higher education institution was established, recruiting SWVI along with other students with disabilities specifically. Mainstream higher education institutions only occasionally offer admissions to SWD and SWVI.

Since the mid-1980s, three options in the basic education level are available for PWVI: Special Education Schools for the Blind; Special Classes Attached to Primary Schools and Junior High Schools; and learning in mainstream Primary Schools and Junior High Schools as followers[3]. In other words, educational provisions for PWVI are categorized into two tracks: Special Education School/Classes and Learning in Regular Classrooms as Followers. Similarly, PWVI have the option of going to mainstream higher education institutions or special higher education institutions (HEI) at the postsecondary education level. In addition, PWVI have the option of getting higher education via online open universities (Lai & Lin, 2018), although there is a lack of data on the number of PWVI enrolled in this type of higher education.

Legislation Outlining Education for PWVI

Four main legislations guide the education of PWD and PWVI in China: The Constitution (1949); Compulsory Education Law of the People's Republic of China (1986); the Law on the Protection of Disabled Persons (1990); and Regulations on the Education for People with Disabilities (1994, 2011, 2017). PWD and PWVI have the legal rights to access education in China. China also signed and ratified the United Nations Convention on the Rights of Persons with Disabilities (CRPD) in 2007 and 2008 respectively. CRPD specifies that PWD should be guaranteed the right to inclusive education at all levels.

The Constitution states that the State and society should plan for the work, livelihood and education of the blind, deaf-mutes and other handicapped citizens, laying the legal foundation to guarantee PWD to access education. The Compulsory Education Law (1986) mandates that all children are entitled to nine years of free public education, including six years of primary school education and three years of secondary school education. The Compulsory Education Law stipulates that all schools need to accept both students with or without disabilities. However, this Law does not mention education for SWD in any specific details and does not mandate that schools provide accommodations to SWD either (Zhang, 2011). For example, SWVI are usually not provided with braille and/or magnified printed learning materials in mainstream schools. The lack of accommodations in schools is supported by research conducted by Human Rights Watch in 2013.

Another legislation, the Law on the Protection of Disabled Persons (LPDP) reinforces the foundation that PWD enjoy equal educational rights along with other citizens. Article 21 of the LPDP states "the State guarantees the right of disabled persons to equally receive education." It explicitly states the guiding principle for special education in Article 22:

[3] Learning in regular classroom as followers implies that the final examination grades of the students will not be accounted for in the performance evaluation of the teacher or school.

> The principle of combining popularization with upgrading of quality shall be implemented in the education of disabled persons, with emphasis on the former. Compulsory education shall be guaranteed, priority shall be given to developing vocational education, while efforts shall be made to carry out preschool education and gradually develop education at or above the senior high school level.

Again, the LPDP does not mention accommodations for SWD. Rather, SWD must adapt themselves to study in mainstream schools if they choose to enroll in such schools (Zhang, 2011). In addition, there is an apparent emphasis on the compulsory and vocational education in the above-mentioned guiding principle rather than postsecondary education level for PWD in China. SWVI have limited access to mainstream HEIs since there was a lack of policy mandating the provision of accommodations (e.g. braille paper) in the College Entrance Exam, which was not changed until 2014. As a result, there has been a lack of data on the number of SWD in higher education from the annual statistics released by the MoE prior to 2014.

A final important legal piece is the Regulations on the Education for PWD (1994, 2011, 2017). In recent decades, there has been a growing development of awareness and acceptance in the education of PWD (Deng & Manset, 2000; Han, 2017; Cai, 2017). The amendments and updates made to the Regulations partly reflect this increasing awareness and acceptance. The Regulations still adopt the educational guideline from LDPD, with the emphasis on basic education and vocational education for PWD. The Regulations also spell out that local government agencies along with schools should coordinate and accommodate SWD in compulsory education based on local resource availability. However, the Regulations do not specify details on the how and what of providing accommodations. Moreover, the Regulations add that state-administered certification or qualifying exams should provide accommodations to eligible applicants and exam-takers.

For SWVI, the first state policy that has helped them gain access to mainstream schools is the Learning in Regular Classrooms (LRC), as briefly mentioned in the historical context. Some researchers have argued that LRC equates with mainstreaming SWD in education, while others have pointed distinct differences between the two. As Deng (1991, 2000) argued, LRC "provides only the option of general class placement as opposed to a continuum of services. In this way, the approach more closely reflects full inclusion than mainstreaming." Another summary stated that:

> (LRC) does not necessarily reflect allegiance to the concept of Mainstreaming, rather it more accurately reflects a shortage of personnel, limited fiscal resources, and facilities in addition to geographical considerations. In fact, the idea of Mainstreaming is viewed, at least by one Chinese expert, as presently not workable but instead, a desirous goal for the future (Xu et al., 1995, p. 11).

Testimonials collected from SWVI who were enrolled in mainstream schools showed that they were not held accountable for how much they learned in class:

> The principal (of the mainstream school) says I can study in the class as a follower. He meant that I just sit in the classroom and study, but my final grades will not be counted in the class performance evaluation. It is up to me whether I learn or not. It does not matter whether I take the exams or not…. Some students complained that why I do not need to do homework while they have to… (Unpublished testimonial of a student with visual impairment, One Plus One Disability Group).

Policies on College Entrance and Higher Education of PWVI

As mentioned above, the Chinese government issued several policy documents in the years 2014, 2015, and 2017. The first document was issued in 2014 about HEIs' admissions. This document specified that PWVI will be provided with braille and/or electronic papers to participate in the College Entrance Exam (MoE, 2014)[4]. The second policy "Regulation on PWD's participation in the College Entrance Exam (CEE)" was issued in 2015 to further delineate the specific categories of accommodations (13 categories; e.g., extended exam time for SWVI and students with other disabling conditions) (Tian & Wei, 2015). The 2015 Regulation was modified in 2017 with more specifications on supporting PWD to take CEE. As a result of the 2014 policy, braille exam papers were provided in the CEE for the first time in China's history. Prior to 2014, the participation of PWVI in CEE was restricted to a limited few who may be fortunate enough to secure accommodations at the mercy of exam administrators from individual provinces. Jin Xi, the first lawyer with blindness in China, acquired an accommodation (having someone read the exam papers to him in the exam) from his province when he took the CEE in 2007 (One Plus One Disability Group)[5].

PWVI are also able to access a small number of special higher education institutions (HEIs) in China where they would be streamlined to receive training in a limited number of programs that were traditionally deemed appropriate for them. In Cai's case (the blind person mentioned at the beginning of this article), he could not take the CEE due to a lack of accommodations. Cai ended up taking a different exam and was admitted to a special HEI where he studied in a five-year program on massage. After the legal provision of CEE accommodations, 557 students with VI (low vision) applied for magnified exam papers in CEE of 2017 (Cai, 2017).

The CEE accommodations are regarded as a milestone in the provision of higher education for PWD for two reasons. First, a CEE score has been a prerequisite for one to gain admission into mainstream HEIs for several decades. The higher the score in CEE, the higher the chance to secure a spot in postsecondary education. PWD have been largely underrepresented in higher education due to a myriad of reasons, lack of accommodations in CEE being a critical one (Hu & Lin, 2017). Second, gaining access to mainstream HEIs means that PWD including PWVI have a wider variety of programs to choose from, compared to the limited number of programs set up in special HEIs (Li & Ma, 2017; Han, 2017).

Despite the progress, the Chinese Ministry of Education has also set an Advisory Guideline consisting of three major parts that serve to limit PWVI from accessing mainstream higher education since the 1980s. The Guideline went through some revisions in 1993. The majority of the restrictions remained unchanged for PWD to access various programs in higher education (Han, 2017). According to part Three of the Guideline, PWVI are legally advised to not apply for a wide range of programs on the basis of their visual impairments. The range of programs includes the fields of Law, Psychology, Agriculture, Engineering, Biology, among many others. Admission officers from mainstream HEIs could also reject PWVI to a range of academic programs based on the first two parts of the Advisory Guideline (MoE, 2009). The Guideline restricting PWVI's access to higher education programs sends an unwelcoming and non-inclusive message to PWVI in general. This policy also contributes to PWVI's limited participation in the annual CEE as PWVI perceive taking the route of mainstream HEI as restrictive and risky,

[4] This was primarily the result of advocacy efforts from people with visual impairments in China (Han, 2017).

[5] Several years later, Jin Xi's request for reasonable accommodation to take graduate school exam in mainland China was denied. He is currently enrolled in graduate school studies in Taiwan.

while they may have a higher chance of being admitted to special HEIs where traditional programs (e.g., massage) await them.

PWVI in Schools

Given the legislations and policies outlining the educational provisions and support, this section examines the education enrollment and attainment of PWVI in a closer light. By the end of 1987 and early 1988, there were 21 Specials Schools for the Blind while the number of school-age children with VI was about 126,200 nationwide (Stratford & Ng, 2000; First National Survey, 1987). The school enrollment rate for school-age children with blindness was only about 3.75%, meaning that about 2929 out of an estimate of 78,100 children with blindness were enrolled in schools. Other enrolled SWVI (with low vision) were mostly concentrated in mainstream schools. The enrollment rate for SWVI (with low vision) was about 42.85% in 1987 (First National Survey of PWD).

An estimate of 2.46 million school-age children had one or more disabilities based on the Second National Survey of PWD in 2006. Approximately 63.19% of these children were enrolled in either mainstream or special education schools, lower than the enrollment rate for their peers without disabilities, which was about 99%. 5% (about 130,000 in number) of the school-age children with disabilities reported to have a VI, with 35 Special Education Schools for the Blind set up in place nationwide. The total number of enrolled school-age children with VI was reported to be 41,520 including the ones who enrolled in mainstream primary schools (22,207), SWVI who went to Special Education Schools for the Blind (8,177), the ones in special classes attached to primary schools (129), and the ones in junior high schools (11,007) (MoE, 2006). This gave us an estimated enrollment rate of 31.9% for SWVI in compulsory education in 2006, which was still significantly lower than that of children without disabilities. Again, the enrollment rate of all school-age children at the primary education and junior secondary education levels were reported to be 99.27% and 97% respectively (MoE, 2015). Due to the lack of disaggregated data on age groups, it was hard to estimate the enrollment rates at primary and secondary education levels for SWVI. Despite a growing economy and an increasing investment on education, the enrolled number of SWVI did not increase much. Rather, the number peaked in 2011 and later dropped again. Given the estimated number of school-age children with VI being 130,000 in China in 2006, one could reasonably infer that majority of children with VI are excluded from the compulsory education system (primary and junior high schools), let alone to proceed further to postsecondary education levels. Not surprisingly, among PWVI age 6 and above, only 0.2% held postsecondary education degrees, 0.94% had senior high school education, 3.94% had junior high education, and 16.05% had elementary school education (CDPF, 2008; First National Survey of PWD, 1987).

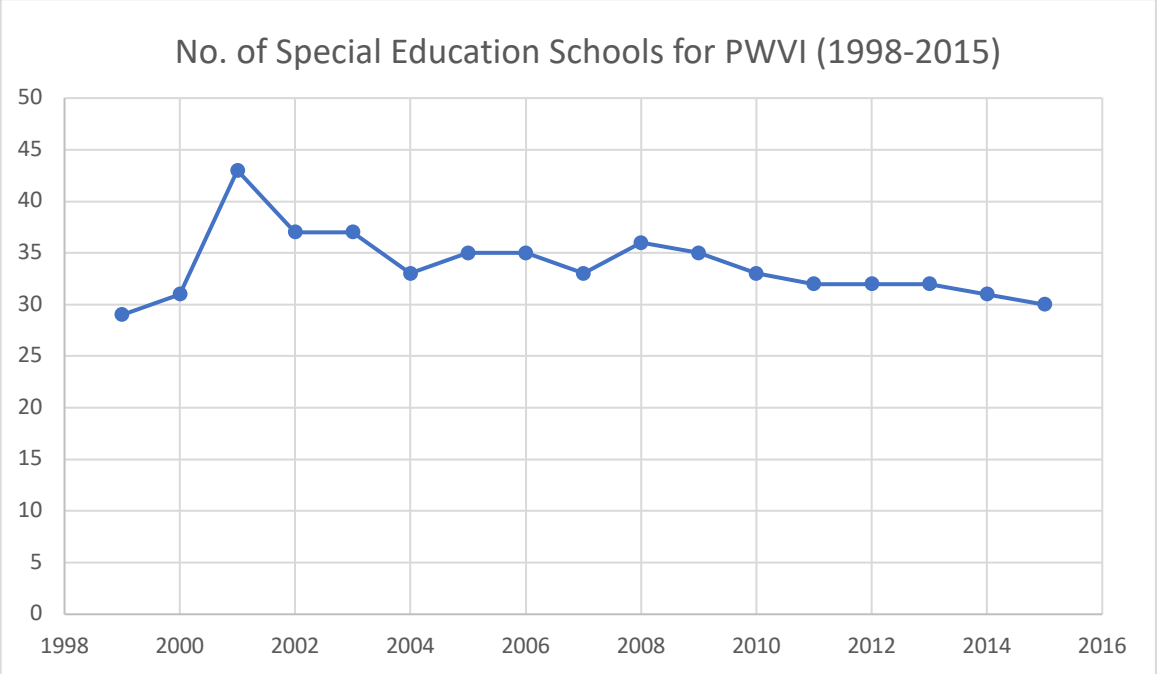
Apart from the picture of lower enrollment rates of SWVI, there has been a lack of studies examining the experiences of SWVI in special education schools and mainstream schools. As mentioned, majority of the SWVI enrolled in mainstream schools are students with low vision. More often, news about SWVI tell the repeated stories that they have been experiencing rejections and exclusions to take part in entrance exams for mainstream HEIs, for graduate schools, and certifying exams (BBC, 2011; China News Net, 2017; Cheng & Lu, 2022). While attending mainstream schools, SWVI have been faced with various barriers such as negative social attitudes and low expectations from people around them, as shown in some SWVI's first-person narratives (One Plus One Disability Group).

School and Teacher Resources For PWVI

From 1998 to 2015, the number of Special Education Schools for the Blind had not been increasing despite the overall economic development in China (see Chart 1 below). Nationwide, there were 30 Special Education Schools for the Blind in 2015 while there were about 130,000 school-age children with VI in 2006. For these special education schools, the capacity of a large one could accommodate about 200 SWVI in total. Even hypothesizing that all 30 schools were at full capacity, there would be only 6,000 SWVI in schools, accounting for about 4.6% of all school-age children with VI. Another estimate indicated that the current Special Education Schools for the Blind in China could only accommodate about 15% of the educational needs of school-age children with VI, meaning that the majority of children with VI would either seek education from the mainstream schools or simply do not get formal education in schools (Xu & Ji, 2010). Li Jinsheng, a renowned disability advocate with blindness, shared with disability community members an unpublished report he had drafted in 2020, in which he alerted a severe shortage of Schools for the Blind in his home province. Additionally, majority of the existing Special Education Schools for the Blind tend to provide education till the junior high school level. Among them, only eight Special Education Schools for the Blind have the capacity to provide senior high school education (Cai, 2017).

Chart 1

No. of Special Education Schools for PWVI

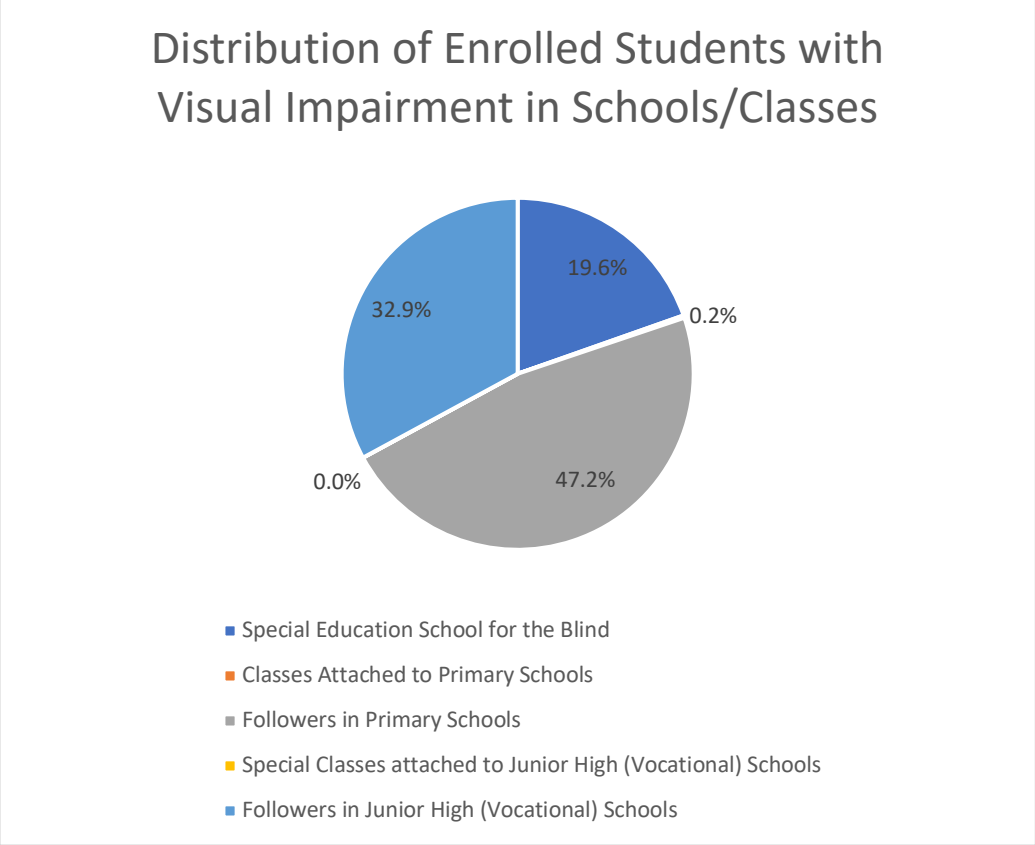


Note. This chart was compiled and created based on the data from Ministry of Education of the People's Republic of China (1998-2015)

The majority (89.7%) of PWVI are of low vision and they are more likely to enroll in mainstream schools. From Chart 2 below, it is estimated that about 80.1% of all enrolled students (41,520 in number) were enrolled in mainstream schools at the compulsory

education level. This percentage is similar to the percentage of PWVI who have low vision. The ones who were enrolled in special classes attached to regular schools were minimal in number. Also, almost all the enrolled PWVI were in classes of primary education level rather than junior high or vocation education. Further research could be done to examine why there is little or zero number of SWVI in the special classes attached to junior high or vocation schools.

Chart 2
Distribution of Enrolled Students with Visual Impairment in Schools/Classes (MoE)



Note. The Chart was compiled and created based on the data from Ministry of Education of the People's Republic of China.

Like many other countries, China has been in great demand for trained teaching personnel for PWD. It was once estimated that by 2000, 388,000 special education teachers were needed (Deng & Manset, 2000). Yet, even by 2003, the MoE shows there were only 30,349 special education teachers. In other words, there has been a significant shortage of special education teachers since 2000. In average, the number of full-time teachers educating PWD at all educational levels is about 38,827 every year, with 21,661 of them being special education trained teachers (MoE). This means that only about 55% of all full-time teachers for PWD are trained in special education. Moreover, special education training is also recommended for teachers in the mainstream education system, as many SWVI and SWD would enroll there. Without proper training among teachers in mainstream schools, many children with VI or other disabilities enrolled in mainstream schools encounter poor

quality teaching and end up having mental health issues to different extents (Xu & Ji, 2010). Considering 2.46 million school-age children with disability are in need of quality education, there is a huge demand for special education teacher resources and teacher training in China.

Findings and Conclusions

Some preliminary findings emerged from this study. To start, there has been some progress in the education for PWVI. Historical examination shows that education for PWVI in China has an early start but slow development. For PWVI, the places to go for formal education are either limited in the small number of Special Schools for the Blind, or the mainstream schools where they may not be systematically supported. In the past four decades, more PWVI have been enrolled in the basic education level due to policies and initiatives such as Learning in Regular Classroom and "Gold-Key Education Plan for SWVI" (Xia, 2011). And the provision of reasonable accommodations in CEE being a milestone incentivized more PWVI to take up the route for mainstream higher education where more opportunities exist.

Yet, the progress is limited given the size and immensity of the issue in educating PWVI in China. First, PWVI learning in regular classrooms as followers in primary and junior secondary schools could be better supported and held accountable in their academic performances. With little or no support at the early stages of their formal education, it is unlikely that a greater number of PWVI would be eligible applicants of accommodations in the CEE. Accommodations provided to students who persevered to senior secondary education level is only addressing the top of the crust, instead of dealing with the issue from its root. Awareness, accommodations, and support are all needed to better recruit and retain school-age children with various disabilities starting from lower education levels. They are just as important if not more than introducing the policies to allow more PWVI (which we do not see many in recent years) to sit in the annual CEE.

Second, related to the lack of accommodations and support in mainstream schools, PWVI overall have a lower enrollment rate in compulsory education compared to their peers without disabilities. In addition, there is a limited number of Special Education Schools for the Blind, low educational levels provided in the existing Special Education Schools for the Blind, and a lack of teaching personnel resources, especially for those who are professionally trained. As a result of lack of educational provision in both quantity and quality, PWVI in China not only exhibit a much higher illiteracy rate than people without disabilities, but also a higher illiteracy rate than people with other types of disability (except for multiple disabilities). And only a small number of PWVI have the opportunity to access mainstream higher education. Lacking the opportunity to participate in education limits PWVI's participation, interaction, and integration into the mainstream society at the very beginning. Equally important, the negative social attitudes and stigma towards PWVI in China also need to be addressed. A perspective from the social model of disability needs to be further promoted to understand disability, rather than seeing disability from individual, medical, and charity models.

Lastly, it is important to note a few limitations in this study. To start, there is a lack of detailed data around PWVI. For example, there is a lack of annual data in terms of the number of students with low vision taking part in the CEE. Students with low vision make up majority of SWVI (students with visual impairment) in China. Some data indicates that a larger number of students with low vision, compared with the number of students with blindness, are taking part in the annual CEE, however, the author was not able to locate

reliable and complete annual numbers on students with low vision. Neither is there any gender-disaggregated data among students with visual impairment (both students with blindness and students with low vision). Second, aside from the issues facing PWVI at the basic and secondary education levels as shown in this article, the study does not examine adequately the transition of PWVI to post-secondary education, which is worthy of further research.

Multiple factors are responsible for the lack of educational opportunities and lack of presence for PWVI in the Chinese education system. This is a complex challenge that requires collective efforts from multiple entities. By identifying some of the most significant barriers through research, it is the author's hope that different stakeholders could work persistently and collectively to push toward a more inclusive society for PWVI starting in the realm of education. Education should be at the forefront in pushing for social inclusion rather than a site to reproduce or perpetuate the exclusion and marginalization for an already disadvantaged population. For future research, some directions could be considered based on the findings of this study. Future research could be: 1) qualitative studies researching on experiences of PWVI in different schools (special education and mainstream schools); 2) studies on specific and reasonable accommodations for PWVI at all education levels, including the processes and operations to provide accommodations to PWVI in qualifying exams; 3) studies on the education of girls and women with VI; 4) issues PWVI face in their transition to postsecondary education. These future studies have the potential to better inform and assist multiple stakeholders to include and support PWVI in the Chinese education system.

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