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Authors

Fu, Wangqian

Lu, Sha

Xiao, Fei

et al.

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A social–cultural analysis of the individual education plan practice in special education schools in China

Wangqian Fu¹, Sha Lu², Fei Xiao¹ and Mian Wang³

¹Beijing Normal University, Beijing, China, ²Beijing Academy of Educational Science, Beijing, China, ³University of California Santa Barbara, Santa Barbara, CA, USA

Objectives: The objective of this study was to gain insight into how Chinese special education teachers¹ conceptualize individual education plan (IEP) and how IEP is implemented in their daily work.

Method: Fourteen administrators and teachers from several special education schools in three metropolitan cities in China were interviewed about their perspective of IEP and IEP practice at their work.

Results: The results suggested that despite remaining concerns about the implementation of IEP Chinese teachers highly commit to the value of IEP. It is noted that the IEP process in Chinese schools is quite similar to that of US schools in terms of some major requirements and yet some adaptations are made given the different social–cultural context and that the IEP practice is influenced by a variety of factors such as schools' policy, curriculum, and the paucity of educational resources.

Conclusion: There is a need for developing a systematic guideline of IEP considering inconsistency of implementing IEP in schools. Improving teachers' professional competence is critical to the effectiveness of IEP practice in China, and local governments should put in more efforts in ensuring adequate resource being provided to schools and teachers regarding the implementation of IEPs.

Keywords: IEP; special education schools; China; special education teacher

Introduction

The first public special school for children with developmental disabilities² (DD) in China was established in 1984 (Piao 2006). Since then, the number of special schools has increased dramatically. By 2015, China had 2053 special schools, which served 316,100 students with DD (Ministry of Education 2016). With the development of China's social economy in China, the Government has gradually attached greater importance to the quality of special education. At this time, the Ministry of Education (MOE) has established regulations to address the quality of education for students with disabilities. For example, the Special Education Promotion Plan (2014–2016) proposed various strategies in order to increase the relevance and effectiveness of individualized education in public schools in China (Ministry of Education 2014).

The individualized education plan (IEP) was introduced in China in the 1980s (based on the model used in the United States), and is accepted as the cornerstone of quality education for children with disabilities (U.S. Department of Education 2000; Xiao 2005a). In the US educational system, Public Law 94-142 requires schools

to develop an IEP for each child who has a disability to ensure they receive free and appropriate special education (e.g. math) and that related special service programs (e.g. occupational therapy) are provided (94th Congress, 1975; Maher and Barbrack 1980). Since the establishment of this law, IEPs have been the cornerstone of efforts to provide quality education for children with disabilities – namely through the establishment of individualized educational and behavioral goals and objectives (Bagnato *et al.* 1997; Bailey and Wolery 1992; Davis *et al.* 1998).

With the influence of the US, the importance of IEPs is widely accepted by scholars and special education teachers in China (Sun *et al.* 2015; Xiao 2005b). At the policy level, there is provision which states that 'teachers should formulate individualized educational plans that meet the physical and mental characteristics and needs of disabled students if appropriate' (State Council 2017) in the 'Regulation on the Education of Persons with Disabilities' to make IEPs a formal requirement by law.

The influencing factors of IEPs' implementation

The development of IEPs is closely related to the requirements by law and the reality of special education

Correspondence to: Wangqian Fu, Beijing Normal University, Beijing, China. Email: tiffanyfu001@163.com

in the US. It was firstly stipulated in the Education for All Handicapped Children Act (EHA) that the basis for a handicapped child's entitlement to an individualized and appropriate education is through an individualized educational program ('IEP'), and that a school system must design and meet the unique needs of each child with a disability. In 1990, the EHA was replaced by the Individuals with Disabilities Education Act (IDEA) in order to place more focus on the individual, as opposed to a condition that an individual may have (National Association of State Directors of Special Education 1991). Since then, IEPs have always been at the heart of IDEA. The legislation of IEPs in the US has made a great influence in the world leading to the value of them for pupils with special educational needs being accepted internationally and is underpinned by law in many countries (Prunty 2011).

The implementation of IEPs greatly contributes in the education of children with disabilities. It raises the involvement of parents and students (Gross 2000; McCausland 2005; Nugent 2002; Strogilos and Xanthacou 2006) and yields collaboration from different stakeholders (Hartas 2004; Tod et al. 1998), to guide teachers' instruction (Lee-Tarver 2006; Sattler 2001) and evaluate students' process (Torana et al. 2010) which acts as a safeguard for parents ensuring their child receives instruction designed to meet their unique educational needs (Frankl 2005). Meanwhile, questions over problems with the effectiveness of IEPs have not ceased (Carri 1985; Frankl 2005; Gross 2000; Ysseldyke et al. 1982). The questions raised about the utility of IEPs are a result of the lack of congruence between the data presented at team meetings and the instructional decisions reached by the team (Bricker et al. 1998; Dudley-Marling 1985; Morgan and Rhode, 1983, Grisham-brown et al. 1998; Ysseldyke et al. 1982); the inappropriateness of goals and short-term objectives (Carri 1985; Michnowicz et al. 1995; Schenck and Levy 1979); and the lack of parental involvement in developing IEPs in the early years (Lynch and Stein 1982).

Many factors impact the implementation of IEPs. First and foremost, since they are required by law, the legislative guidelines of IEPs have an essential effect. The content of an IEP, the team members and the procedure are stipulated by IDEA. Secondly, the involvement of parents and students. At an IEP meeting, the school districts and professionals should design and facilitate the conference to maximize parental involvement which is critical for determining the education and relative service for the disabled person (Simpson 1996; Wagner et al. 2012). Moreover, considering that an IEP should be a valid reflection of students' voice, more and more people call for the engagement of older students in IEP meetings (Martin et al. 2006). Students participate in their own IEP, specifically to determine

the transition goals according to their interests and needs, which can contribute to their persistence and effort on them (Arndt et al. 2006). Thirdly, the participation of professionals. Especially with general education teachers, Vacc et al. (1985) observed 56 teacher-directed IEP meetings and found that general education teachers seldom participated. Similarly, Martin et al. (2004) surveyed IEP teams general education teachers who had less understanding than other team members of what to do next with procedural matters.

Teachers' perspectives on IEP

Apart from the previous mentioned, teachers are the key factors in the implementation of IEPs in special schools. As educators, teachers are expected to develop IEPs based on the needs of students with disabilities and carry them out in their daily work. Their perspectives on IEPs have great influence on their quality. An IEP could help teachers know more about students, organize teaching time, and provide higher satisfaction of work (Dudley-Marling 1985; Margolis and Truesdell 1987; White and Calhoun 1987). However, there are also suggestions that teachers are not committed to the IEP process and extremely concerned regarding excessive demands on their time and heavy paperwork (Dildine 2010; Dudley-Marling 1985; Kreutzer 2004). Teachers are also blamed in China. Research studies attribute the low quality of IEPs to the lack of skills of teachers in special schools to develop them. Specifically, they are unfamiliar with the process of IEPs, cannot evaluate students' capacity scientifically (Yuan 2013; Zhao 2015), fail to match the students' current level with their long-term goals, and are unable to design the clearly operational detectable short term goals (Xin and Cao 2015; Zhao 2015).

Taken together, these studies (and others) provide the teachers' perspective on IEPs in the US. Significant variation exists among special education practitioners in their views about IEPs in different cultures and contexts. Besides, there is no unified guide for special education teachers to develop IEP in China. Thus, most special education schools are exploring to implement IEPs in various ways (Xiao 2005a) and forming their own patterns. The only thing that is consistent about special education system in China is the lack of consistency, from school-to-school, city-to-city, and province-to-province (Kritzer 2011). In this regard, the real practice of IEPs in special education schools in China is open to necessary critical interrogation. Existing studies focus on the reasons why we should implement IEPs for children with disabilities and some introduction of other countries or schools; empirical studies on the actual practices in special education schools in different parts of China are rare.

Therefore, this paper attempts to address those challenges. With reference to the practice of IEPs, this

article contributes to reveal what happens in special education schools in China and teachers' perceptions on the implementation of IEPs in their schools. In addition, particular focus is placed on why it results to such a status in each special education school. The research applied a qualitative method, including interviews and object gathering. Three questions were addressed in this study, with the aim of improving our understanding of the ways special education teachers' perceive IEPs, revealing the real practice of IEPs in special schools in China, and interpreting their relevance in the contexts.

1. What are the special teachers' perspectives on IEPs in special schools?
2. How do they implement IEPs to the curriculum and instruction?
3. What are the factors influencing the implementation of IEPs in reality?

Method

As a complex and challenging area, special education is often shaped by emotional responses and historical and cultural beliefs (Winzer 2007). The IEP model introduced from the US has been implemented in China for more than a decade. The practice of using IEPs can contribute to our understanding of the education for people with disabilities in special schools in China, which is regarded as a phenomenon. In this view, practice is much beyond from what practitioners actually do, and is considered as central locus of organizing and, thus, critical in producing consequential organizational outcomes. The use of IEPs in special schools in China should be studied not only in their development but also co-development, together with the context in which they occur, constituting an ecology of social-material relations (Star 1995). In order to understanding practitioner perspectives and the implementation of IEPs, we drew on some of the precepts of sociocultural theory as a general framework for investigating ways in which social and material conditions shape workplace learning and practice (Billett 2003; Engeström 2001; Vygotsky 1978). Thus, the triangle model about the relationships between people, organizations, and tools was applied to understanding both the composition and their interactions (see Figure 1).

Our choice of a sociocultural perspective was based on several of its key precepts that we believed would be useful in understanding practitioner perspectives on the implementation of IEPs. First, sociocultural theory foregrounds the analysis of relationships between individual and collective dimensions of social practice—in this case, the analysis of the transactions that take place between individual practitioners and the organizations in which they work (Engeström 2001). Second, this view assumes that human thought processes (including, of course, one's own views about IEPs) are shaped by the demands of the practical activities in which people

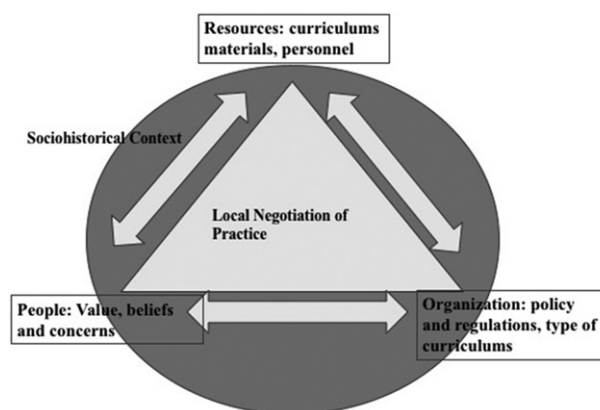


Figure 1. Relationships between people, organizations, and resources. Adapted from McDiarmid and Peck (2012).

are regularly engaged. A third assumption of this stream of sociocultural theory is that participation in social practice is affected by the affordances and constraints of the conceptual and material tools available (e.g. the characteristics and representations of IEP available in schools and other professional resources; see Falmagne 1995; Scribner 1997). Overall, the sociocultural perspective suggests the value of undertaking a more focused analysis of the social and organizational conditions in which decisions about practice are made than has been reflected in much of the extant research on the problem of implementation.

Participants

A total of 14 special education teachers participated in our study, who worked in special schools in Shanghai, Guangzhou, and Beijing which are the first-tier cities in China. Since China is a developing country where the systematical exploration of IEPs was not started until the 21st century, putting IEPs into practice effectively are still being realized. The special schools in first-tier cities in China have more experiences and resources than those in undeveloped areas. For instance, in Xinjiang (one of the most undeveloped provinces), the rate of implementing IEPs in special schools is very low with 11 out of 25 special education teachers not utilizing them in their work. The reasons are due to the short time of the establishment of special schools, low proportion between teachers and students, and low quality of teachers (Hu and Gu 2016). Thus, we chose Shanghai, Guangzhou, and Beijing to investigate the practice of IEPs in special schools. We non-randomly selected a special school for developmental disabilities (DD) in each city – School A in Shanghai, School B in Guangzhou, and School C in Beijing.

There are two types of curriculum – integrated curriculum and subject curriculum which are carried out in special schools for children with DD in China. Special School A in Shanghai was selected as the school using a subject curriculum. Special School B in Guangzhou

was a special school using an integrated curriculum. Special School C was chosen since it was applying a curriculum between the subject curriculum and integrated curriculum which used a theme topic at certain times when different subject classes were teaching the subject knowledge related to the theme topic. All three special schools were model schools in their cities and recommended by professors from Beijing Normal University and East China Normal University which are the top teacher training universities in China. Nonrandom purposive sampling was used to select key respondents to conduct in-depth interviews. We contacted the principals of the three special schools and invited their schools to participate. Teacher participants were nominated by the principals with the following criteria: (1) experienced teachers with more than 8 years teaching experience; (2) willingness to be interviewed for the study; and (3) there were one director of teaching and discipline³, one training teacher, and classroom teachers in each school. A total of 14 special education teachers were participated in our study.

Demographics for these special schools and teachers are presented in Table 1.

Data collection

The primary data source for our study consisted of telephone interviews. They were conducted individually in Chinese which was the native language of the 14 participants in order to let them fully express themselves. The interviews were all carried out by the first author who is a PhD candidate at Beijing Normal University (BNU) and the second author who graduated from BNU. Both of them visited the three participating schools several times and became familiar with them. Initial contact with participants was made through phone text to introduce the aim of this study and make an appointment for telephone interviews. Time was

taken to ensure that each individual was at ease and each interview lasted about one hour. Participants were assured of anonymity and confidentiality.

Semi-structured interview protocols were created by using the literature review research on teachers' perceptions of IEPs, experiences of IEP meetings by the researchers in School B, and findings from previous studies on factors regarding the implementation of IEPs (Gilliam and Coleman 1981; Kurth and Mastergeorge 2010; Lynch and Beare 1990; Smith 1990). The interviews were audio-taped with agreement from the interviewees. While the protocols for administrators and teachers varied in some ways, both were structured to proceed from general, context-descriptive questions such as 'What's your daily work?', 'What's your school curriculum?' We asked each informant 'What's your first opinion of IEP?' 'Define the term IEP and how does it relate to your daily instruction?' Interview protocols also included a series of questions about the process of making an IEP in each school, the content of it and how to put it into practice. The final part of the questions asked about the factors influencing the implementation, how to improve them, and comparisons to IEPs in the US. Interviews were generally between 45 minutes to 60 minutes in length. In addition, objects were collected including the texts of 6 IEPs, of which there were 2 IEPs from each school, the questionnaire to investigate parents' educational expectation in School B, and the school curriculum outline of Schools A and B.

All interviews were transcribed by the researchers and all transcripts were anonymous to ensure confidentiality in Chinese. A total of 49,835 words in Chinese of the transcripts were produced from the semi-structured individual interviews. The flow of analysis used to examine the qualitative data occurred in three steps (Miles and Huberman 1994): (a) transcribing interview

Table 1. Demographics for these special schools and participants.

School	City	The context of the school	Participants
A	Shanghai	<ul style="list-style-type: none"> subject curriculum, around 10 types courses one teacher who taught 1-2 subjects 	<ul style="list-style-type: none"> 4 in total 1 director of teaching affair 3 special teachers (one special teacher who also worked as the training teacher) Average Teaching Years (ATY) of the participants: 16.6
B	Guangzhou	<ul style="list-style-type: none"> integrated curriculum without subject courses all classes were self-contained and 3 teachers responsible for the whole class 	<ul style="list-style-type: none"> 5 in total 1 director of teaching affair, 3 special teachers responsible for the self-contained classroom, 1 training teacher ATY: 12.4
C	Beijing	<ul style="list-style-type: none"> curriculum between the subject curriculum and integrated curriculum, using a theme organized different subjects one teacher teaching 1-2 subjects 	<ul style="list-style-type: none"> 5 in total 1 director of teaching affair 4 special teachers (one special teacher also worked as the training teacher) ATY: 17.75

tapes; (b) generating categories, sub-themes, and themes to identify important issues; and (c) establishing trustworthiness (Lincoln and Guba 1985). The responses were analyzed using NVIVO 8.0 software. The data analysis process involved a series of steps. First, the project investigator imported the raw data into the NVIVO computer software after transcription in Chinese directly since it was easier for the researchers to use the original meaning of the interviewees. This involved first reading the raw data repeatedly, writing the memo when reading, and conducting the free codes. Second, the researcher marked the data units relating to each pattern code and moved the data units into a hierarchical tree organized according to the various levels of developing pattern codes. As the researchers continued to re-read the data, we molded the codes into more or fewer categories, looking for the best fit of the data. Members of the research team reviewed the tapes independently and identified common themes. Triangulation was used to ensure the reliability by comparing the data from the interviews of different participants and the material objects (Wu and Xin 2011). At last, we translated the original data used in the analysis, including the quotes in the results section from Chinese to English which were checked by the fourth author who is a Chinese American professor fluent in both Chinese and English.

Results

The initial intent of this study was to better understand the perspectives of special education teachers on the value of IEPs and how they implemented them. We organized the presentation of the results into the three themes identified during the data analysis: teachers' definitions of IEPs, implementation of IEPs, and the organizational contexts of IEPs.

People: Teachers' views of IEP

We asked each of our informants what their first opinion of IEPs was and how they defined them in the context of their work in special education. The definition of IEPs was various, with someone describing it by drawing an analogy:

When I graduated from general education while I worked in special schools, I had no idea of IEPs. After learning, doing, and slowly accumulating in this field, now I'd like to say it's a unique contract with parents for a student on what education

provided to the student and how he/she will make the progress. (GZ2)

It's very individualized, like menu customization for what you provide to the children. (SH1)

While some respondents tried to define IEPs using some part of them.

(IEPs) are personalized goals for the students based on their cognitive characteristics, practical needs, and the individual's ability which help their development. (SH3)

IEPs are individualized instruction. (BJ4)

IEPs are case meetings. (BJ5)

The individuality of IEPs elicited the greatest number of comments (9). Meanwhile, two informants mentioned that not only individuality should be considered in IEPs but also generality should be included, which considered age-appropriate goals which were the same for the students in the class.

Besides the definition of IEPs differing, teachers' views about the advantages and disadvantages of IEPs were various as well (see Table 2).

The most widely shared advantage was good for the students with disabilities due to the individual design and the process records on the students' progress.

It respects the children's development and needs so that the instruction and management can be more suitable for them. (BJ2)

The good point of IEPs is let me be clear of each child's growth. It's impossible for me to teach every student I'm teaching now at the beginning and accompany him to the age of 18. But I now know what the goals the students completed and the present level by the IEPs. (BJ4)

The advantage is clear that for the student who has been study in our school for nine years, has a data in vertical axis of time. (It offers) clear development process. (SH2)

Meanwhile, the contribution to teachers' instruction that IEPs could be used as a guide for the special education teachers to teach the students with disabilities was also highly agreed among the practitioners. The DFES (2001) clearly states IEPs should be a working document that conveys the strategies and interventions used to teach children with special education needs.

The advantage is to let the teacher know what are the teaching targets in each class, what is the key point rather than teaching blindly. Even the visual prompts for each student are different in classes after analyzing the strength and weakness of the students. (GZ2)

It's a foundation of instruction for the students with disabilities. Using IEPs to teach is totally different with

Table 2. Teachers' view on the advantages and disadvantages of IEPs.

Themes		Frequency
Advantages	Good for students by recording the students' progress	11
	A guide for the teachers' instruction	10
	Show the ideological commitment for the special education	4
Disadvantages	Increase workload	9
	High demand of teachers' profession	4
	Hard to implement all students' IEPs in the same class	5

teaching in general education where I worked before. In general education, I taught the whole class students the same content mainly according to the textbooks. While in special education, I need to know what's the goals of every student since each student are different. (BJ3)

With regard to the benefits above, the strong ideological commitment of the importance of IEPs in the classroom was shared by some teachers:

The introduction and practice of IEPs is such an impact in special education influencing how we see the students with disabilities, how we see special education. IEPs make it happen that even if there is no textbook, we still know what to teach based on the goals in it. Using IEPs to teach is also good for the change of thinking for the special education teachers that teaching is not start from the textbooks but the students. (GZ3)

I think it's a document which is represent the most essential part of special education, making it be different with the general education. Every special school should try to find the way make it effectively. (BJ1)

Even though the values and advantages of IEPs were acknowledged in abstract terms, more often, however, we found that teachers' views about IEPs in daily practice, including paperwork, the goals of IEPs in planning, the role of IEPs in decision making about instruction in classes, were more ambivalent. The most widely shared concern about IEPs expressed by the participants had a lot to do with paperwork and the high demand of teachers' profession during the making of them.

This will increase the workload of the teacher, and the requirements of the teacher's professional ability will be very high. For 2 teachers in one class, there are more than 10 tables need to finish, and continue to do the unit teaching plan. (BJ3)

For us, the implementation of IEPs does increase the workload of our teachers. It's a complicated process for novice teachers who need a lot of guidance in the process. (BJ2)

For many teachers, the practice of IEPs was difficult due to the uncertain of the process of making. These teachers often queried the objectivity of the assessment and the goals made in IEPs:

I wonder what I observe and what I know is truly a reflection of the student's current ability? Is it objective and appropriate of what we observe and evaluate? Even our school offers the curriculum evaluation standard which contains more than 600 teaching goals. It is difficult to extract more than a dozen teaching goals from more than 600 teaching goals. (GZ2)

Talking about the goals of IEPs which is really important since you designed the development road of children in this school year. But is it suitable? I was in charge of a class in middle term and when I saw the IEPs of the students, found those goals were not suitable for some students, e.g. setting of goals too low that the student had mastered it already. Thus, setting goals is also a challenge for teachers. (GZ2)

Besides, the challenges of IEPs in practice were clearly expressed by the teachers. Similar with former researchers (Pyecha *et al.* 1980), teachers expressed lower self-confidence on how to carry out the goals of so many IEPs in the same class.

The bad thing is that it's too hard to carry out. It is difficult for teachers to design such a teaching activity to integrate all children's goals when the students have too many different goals. I think the biggest obstacle is that. (BJ1)

What makes IEPs to be not ideal is that in collective teaching, teachers fail to take into thorough account of every student. There are 7-8 students in one class and each student has different goals, which is still difficult for each student to be taken into account. (SH2)

To summarize, participants' definitions of IEPs were not clear and unified. They often referred to a part of the content/work of IEPs or the characteristics, and the coincident function of IEPs was shared to monitor the students' process and provide prescription for teachers' instruction. There were many concerns about the implementation of IEPs including the increasing workload of teachers, the high demand of teachers' professionalism, un-objective evaluation and assessment, and the difficulty in taking all of the goals of IEPs into account in one class.

In the following sections, the findings are related to the second question, describing the ways of conducting IEPs in special schools and the ways teachers are using IEPs in their daily work.

The process of conduct IEP

Common process

When talking about the procedure of IEPs in their schools, the similar responses to this question reflected the process of IEPs were evaluation—design goals by teachers—IEP meetings—assigning goals to different classes—assessment of students' process based on the goals:

Making an IEP: Firstly, evaluate the student. Secondly formulate his/her goals. Thirdly following with the case meeting to discuss and determine the goals. Then assign the goals to different classes which is the guide for teachers to plan teaching. At last, assess the students' process. (BJ1)

School features

Even though the general framework of the procedure of IEPs resembled each other in the three schools, we found that the concrete operations were disparate in each step:

Unlike the other two schools where the head teachers were in charge of the IEPs of students in their classes, School C had a school-wide arrangement in which each teacher was responsible for certain students decided by the director of teaching affairs and had an initiation meeting before evaluation.

In the early stage, our school will have a comprehensive arrangement on who is responsible for a student's IEP based on the whole number of the teachers and students. That teacher is the head of a student's IEP who will organize the IEP team members for the student, including the teachers, experts (the professors from the higher institution), parents and doctors (in a few cases). After the team has established,

we will have an IEP initiation meeting, discussing the responsibility for each person. (SH1)

For the evaluation of students, each school had a different operation. There are no national or local standard tools for evaluation. Schools A and B applied the curriculum-based evaluation to know about the children's current performance in Chinese, Math, motor, behavior, and social adaptation, while School C evaluated students' academic ability in each discipline including Chinese, Math, sensory ability, motor, self-care, music, language, emotion, and social relationship. In that part, only School C tried to take parents' expectation into account. The teachers in School B gave out a questionnaire of basic information to the children; the things children like or dislike and the education expectations of parents along with the children's homework assignment and ask them to return in a week.

We will send some questionnaires to parents to fill out the progress made in this year, what are parents' expectations for the children in the next year, what are the problems of children at home which desperately needs support. Then we will synthesize those questionnaires as well as teaching diagnosis, course assessment, teacher's assessment results to know the students' abilities. (GZ2)

Following that, the teachers set the goals in all three schools and parents were involved in various ways. It was required that head teachers in charge discussed the goals with parents one-by-one, and if needed, would conduct home visits to meet with parents in School A:

After setting some goals initially, the teachers will discuss them with parents. It's necessary to have a discussion with the parents in our school and every year we have a week to do that with parents one-by-one. Even some teachers will go to visit the family to discuss the goals. When it is confirmed then we will continue the next step— making the teaching objectives. (B)2

In School B, they had a formal IEP meeting once every three years in which the administrators, classroom teachers, art teachers, and training teachers participated, and then the classroom teachers had a smaller meeting talking with parents in the classroom together to see if there were any suggestions and amendments. For the annual IEP meeting, the classroom teachers discussed with the art teachers and training teachers by email to collect the students' annual goals and then had a meeting in the classroom with parents together.

At present in our school, we have a comprehensive analysis meeting for the students in Grades 1, 3, 6, 9 to formulate the IEPs concluding with the following members: the administrators, classroom teachers, art teachers and training teachers to work together expressing children's ability, reviewing the results of the evaluation, what's the children's advantage, then combine all the information to set the goals. The classroom teachers are responsible for make the paperwork. In the meeting, the administrators will question the teachers and give some suggestions to refine it. After that, the classroom teachers will meet with the students' parents in the classroom to discuss the IEP again. While for the students in other grades, they will not have the former

meeting, and only have a meeting with parents in the classroom. (GZ3)

In all three schools, the goals were assigned to different classes and activities so that it was clear which teachers were responsible for each goal. At last, the assessment of the students' progress. There were monthly assessments and end-of-term assessments in Schools A and C, while School B only had end-of-term assessment.

Organizational contexts of IEP

Our data suggested that the local procedure of IEPs was often part of a larger process of coping with the organizational conditions of their work. Behind teachers' individual practice there lies the social organization that institutionalizes IEPs as a value in special education, and creates policy and regulations in order to safeguard and develop relative expert knowledge, furnishing them with finances and resources. Every individual practice is situated within a broader field of organizations to institutions to ever more complex systems (Gherardi 2009).

Policy

One of these was with regard to the policy about the curriculum and IEPs. The teachers of School B found it hard to keep pace with the national policy regulations since they changed frequently.

The adjustment of national curriculum standard changes frequently, and the curriculum of our school has changed following the guide with that. So the teachers are still very tired and annoyed. For the new curriculum standard issued last year, our school participates in it as a test point and has needed to adjust the curriculum and IEP in practice. Before that, we used the evaluation system learning from Taiwan and now we're going to use the new course. Thus, the evaluation standard and the score of the students are different from before. (GZ5)

In Shanghai, local policy regulates the curriculum outline in special schools which stipulate how many certain courses should be executed weekly in each grade.

The national curriculum standard for the special schools for the students with DD was issued last year while there is the local curriculum outline in Shanghai. The national one is not put into practice now and we still design the courses according to the outline in Shanghai. (SH1)

Due to that, the evaluation for students focused on their ability in subjects in School C. The teachers set goals mainly depending on the curriculum standards which could be unsuitable for some students with severe disabilities. This is similar with Schenck's (1980) finding that insufficient assessment information in students' IEPs can lead to the IEP not matching the students' needs and appropriate services (Pyecha et al. 1980).

In Beijing, there is a special education center which developed the template of IEPs and recommended that special schools apply it, which has resulted in the detailed content of IEPs, including basic information, living and learning environment, health, education background, summary of the intelligence/social adaptability test results, other tests, personal learning style, comprehensive analysis, educational priorities, education placement, parents expectations and suggestions, signature and responsibility, and the long-term and short-term goals (The text of IEPs from School A).

In Guangzhou, there is no specific policy about curriculum and IEPs. School C is a model school in that city and, therefore, the research center calls for other special schools to learn practice from School C. Thus, the procedure of IEPs is mainly developed by the administrators and teachers in the teaching office.

IEPs are a rigid rule in our school. I didn't know about how it is in other special schools (in our city), and there was no clear stipulation on the education bureau's documents. Our school is the first special school to do IEPs (in Guangzhou Province). The researchers in the city education center thought it's a good way to carry out it in special schools and recommend other special schools to draw lessons from the pattern of our school, not only IEPs but also the integrated curricular modules. (GZ3)

Type of curriculum in schools

As previously mentioned, the three schools adopted different types of curricula (see Table 3). School B had an integrated curriculum named theme-based classes apart from art classes and training classes. Thus, the classroom teachers were in charge of the IEPs in each class and the art teachers and training teachers designed the goals in their classes and handed them to the classroom teachers. Since School B put emphasis on the functional learning in activities, the classroom teachers divided the goals into every class and the daily activities as well, such as morning exercise, lunch time, and afternoon snack. The theme-based classes were designed as one theme per month; for example, Grade 4 had a theme class named how to go outside by proper transportation during one semester. Without any other guideline of a curricular, the IEPs of students played a critical role on teachers' instruction.

Because our school carries out the integrated curricular with a certain theme per month. Although two of the themes are fixed, including sports meet and art festival, the specific teaching content still needed to be designed by the teachers themselves. It is impossible to teach without IEPs. When I

design the teaching plan, I have to look at the goals of the IEPs in different classes and activities. In the theme course, I teach Group A students' goals first, then look for teaching materials depending on the activities, and design the suitable tasks for students. (GZ4)

In contrast, School A adopted a discipline curriculum required by the local policy, which used IEPs in a very different way. All special schools for children with DD implement the subject curriculum using the guidelines of the nine-year compulsory education curriculum program for special schools who teach children with DD in Shanghai (Education Commission of Shanghai, 2011), which contains three types of curricula: the basic courses (e.g. Life, Practical Chinese, Practical Math); the developmental courses (e.g. information technology, Daily English); and the compensatory courses (e.g. sensory motor training, communication training).

In order to relieve the disconnection between IEPs and curriculum, we take measures from two aspects. One is the evaluation. At first, we evaluated the students from the subject ability and the ability in different areas including language, behaviors and so on. But we found it's hard to integrate the area goals into the subject classes. So we encourage teachers to evaluate the students by the curriculum assessment to see the students' level on the curriculum outline. The other one is hooking the IEP goals with the curriculum standard. Because the curricular standard is arranged in sequence and the development of the students' goals also are sequential. Therefore, the teachers choose several subject curriculum standard as goals. (SH1)

Taking a balanced position, School C implemented their curriculum between the subject curriculum and integrated curriculum which used a theme topic in a certain time when teaching different subjects through the subject knowledge related with the theme topic in class.

We need to have the IEPs firstly, secondly, we can design a unit topic, and then we can divide the goals to various subjects to set the teaching goals in each class. It's difficult for teachers to be completely focused on each child's IEPs implementation, because there are more than 10 children in one class. Meanwhile, we still strive to make every child reach his/her IEPs goals in a big activity and using the topic to make the subjects to be connected. For example, if the unit is having a meal, I (the head teacher) will set various goal into different subjects. The student will be taught the etiquette in life adaption class, be taught how to put the dishes and clear the dishes in labor skill classes. That is how we try to use a single unit theme to conclude each child's goals in every subject. (BJ5)

Table 3. Type of curricula in schools.

School	City	Type of curricula	Characteristics
A	Shanghai	Discipline curriculum	Similar with general education, including around 10 subjects
B	Guangzhou	Integrated curriculum	Functional learning in activities
C	Beijing	Between the discipline curriculum and integrated curriculum	A theme topic to connect all the disciplines

Resources

IEPs require individualized education based on the students' characteristics and needs. Such requirements are very different with general education in China having textbooks, text materials, and united exams. Only Shanghai has a curriculum outline and standards for special schools, and the other two (Guangzhou and Beijing) are trying to develop the system by themselves. The resources for special schools and teachers are very limited, especially for teaching using textbooks and materials.

Our schools used the textbooks compiled by a special school for children with DD in Beijing when I came here to teach. After working for 3-5 years, the students' abilities were getting worse and worse in our school so that the former textbooks were not suitable and we tried to develop school-based textbooks. In the past few years, we employed the textbooks and materials from other special schools in Shanghai and tried to compile the content around the curriculum standard in Shanghai by ourselves. The teaching textbooks and materials have always been our confusion; we pick up something from here and something from there. I think the best way to solve it is by providing the systematic teaching textbooks and materials for the students with moderate/severe disabilities. (SH2)

Apart from that, a common problem for all three schools was lack of the specialists, which led to the professional evaluation for students being deficient and no one being responsible for providing effective training. Therefore, there were no related services written in a student's IEP and only some services that the special schools could provide, such as touch and talk pen, and one-to-one training classes.

We do not have certified or professional specialists, such as language and speech therapists, physical therapists, occupational therapists. Some of the trainer teachers in our schools chose one area just because of his/her interest, but they may not have a professional license. We know some certain professional evaluation should be done by the specialists while we don't have. (BJ5)

I think one of the strengths of implementation of IEPs (in the US) is that the division of labor is more specific. The responsibility of each personal in the IEP team is clear, including language and speech therapists, physical therapists. While in China, we do not have the certificated specialists which result to some responsibility is ambiguous, such as who need to in charge of the students' nutrition need. (SH2)

Conclusion

Since the 21st century, the notion of IEP has become one of the most influential in special education in China which many people consider to be the core and makes special education special (Deng and Pan 2003; Xiao 2005a). In order to describe the practice of IEP in China and figure out what are the contextual factors forming it, we interviewed administrators and special education teachers in three special schools. According to sociocultural theory, social practice can be understood as a process in which individuals are continually negotiating ways of participating in collective activities

(Nicolini *et al.* 2003). Practices in a specific situation will have strong local determinants also, which can include policies and the philosophy and disposition of a student's individualized educational program team (Jackson *et al.* 2008). Thus, we examined the perceptions of teachers and the context factors of IEPs.

In the study, we were encouraged to find that all three special schools implemented IEPs. Each student had an IEP, and the value of IEPs was widely accepted by administrators and teachers. Nevertheless, the participants interviewed in the study did not have a clear definition of IEPs and tended to define them in way that made an analogy or referred to part of an IEP, such as IEP goals. The procedure of IEPs was similar with the US on the surface while each step had some adaption due to the context including policy, curricula in the schools, and limited resources.

Perception, practice, and context

As we can see, the idea of individual education was introduced from the US rather than grow up from the Chinese educational context. The belief of individual education is that whoever the students are, they have the equal right of proper education based on their current level and characteristics. It's of strong consciousness of right. While the special education teachers in China started to carry out IEP during work due to the national policy rather than internal motivation. External factors are more influential than internal ones.

Political commitment plays a significant role in bringing about change. The first time IEPs appeared in formal policy was in the Curriculum Program (2007). The positive side was IEPs being introduced into most special schools as the professional strategy and one of the main characteristics of special schools (Yu 2006). However, the document does not compel schools that developmental disabilities must be implemented. Individual education plan implementation, content development, supervision, and management are not made clear. In other words, legislation on IEPs in special education is not as clear as in the US and individual education plan formulation, as the implementation and management of rules or laws have not been established in China (Yang 2014). Far less attention has been paid on procedure issues in China due to there being no standard on it. Without a detailed operation guide, schools and teachers are confused with regard to its concept, leading to the reality that schools have differing and specific steps when designing their IEPs.

With respect to policy mandates, current organizational research suggests that policy mandated implementation is affected by practitioners' individual beliefs (Wise and Darling-Hammond 1984). Even though special education teachers are highly consistent on the significance of IEPs in the education of disabled students, the realistic problems of workload, lack of standards

and how to carry out different IEPs in the same classroom affect the teacher's perception of its function. Perception significantly impacts how teachers react and respond to their environment and thereby guide their behaviors.

Besides, practice itself may be understood as essentially social, relational, and distributive in nature (Edwards 2012). Situated contexts make local practice form specific patterns. The different special schools claimed to implement IEPs in their schools while the specific operation was various, including evaluation for students, the procedures of IEP meetings, parents' involvement in IEPs, and student assessments. In the interviews, we found the ideas and operation of IEPs of the special education teachers were shaped by policy, curricula styles and resources available to them. With regard to different types of curricula, the subject curriculum in School B in Shanghai had specific regulations on the content and curriculum standards so that the teachers determined the IEP goals mainly based on them; while for the teachers in other schools applying the integrated curriculum, before they tried to design the curriculum activities and materials, they needed to turn to the IEP goals. The limited resources of IEPs including evaluation and assessment materials, teaching materials, and specialists meant that the teachers had to turn to curriculum-based assessment, and were duty-bound to develop curriculum and teaching materials, and take on the responsibility of specialists to provide related services. Besides, the source of students in special schools has changed dramatically with the impact of policies in order to promote LRC (Learning in Regular Classroom) in China since the 1980s which has led to more and more students with mild/moderate disabilities accessing general education rather than being placed in special schools (Lu 2004; Xiao 2005b). However, it remains difficult for special schools to transfer from subject curriculum to functional curriculum for students who have severe disabilities. Tradition (the long history of subject curriculum) and limitation of resources position IEP practice far behind some research discoveries in the field. With all such obstacles, teachers struggle with how to design and apply IEPs efficiently in the process of instruction in their daily work.

Challenges and recommendation

Over the past century or more, the organization of public educational systems worldwide has been influenced strongly by models developed in the United States (Hallinger and Leithwood 1998). The philosophies and administration of IEPs have generally been adopted as part of evidence-based practice in Chinese systems of special education. However, many obstacles will need to be overcome before IEPs can be practiced effectively.

Primarily, a systematic guideline of IEPs should be developed. Unlike in developed countries such as the US, whose concerns for students with disabilities are the issues of lack of access to better long-term options and how to develop their potential for self-determination in order to become independent, the challenges faced by children with disabilities in China are compounded by placement in segregated education systems. The key point that needs to be settled is how to guarantee the quality of education in this system since it is difficult to suddenly reform even with the influence of inclusive education. IEPs as the cornerstone in education for disabled students were introduced from the US to China while the localization process is missing. Even though there exists the policy to require the implementation of IEPs in educating disabled students, no national guidelines of IEPs have been developed which makes the practice of IEPs in different cities, and even in different schools in one city problematic, therefore, emphasizing the lack of basic standards and disciplinary procedures.

The national professional organization should develop the guild of IEPs, including what are the compositions that should be considered in IEPs, how to develop each part and the related resources, and tools such as when evaluating, to provide direct and systematic support. Beside the content of IEPs, the procedure of making them should also be further standardized, such as IEP teams, as currently in special schools, the people who design and carry out IEPs are mainly special teachers. It is commendable that DD parents have become more and more involved in the education of their children; however, they do not have the right to participate which is protected by law. Their views should be taken into account in their child's education (Goepel 2009). The formulation and implementation of individualized educational programs for special schools is a crystallization of collective cooperation. They are usually not drawn up by a single person but by a professional group typically an interdisciplinary team.

Secondly, the professional ability of teachers should be improved. In this study, we found that special education teachers' definition of IEPs were unclear which is negative for their implementation in their daily work. Moreover, it was found that IEPs were usually designed by one or two teachers on the basis of consultation with parents in our country, which was a lack of the diagnosis, training and evaluation of the relevant professionals. Evaluation is the start-point of making IEPs. The special education teachers in China who participated in this research mainly used informal evaluation tools. For one reason, the use of standardized tools for measurement requires evaluators to have certain professional skills. Nevertheless, most of China's special school teachers have no psychological background (Ai 2013; Ministry of Education 2015); and short of professional

knowledge and skills regarding the importance of evaluation due to a lack systematic and specialized training on standardized assessment techniques. With the guide of an imperfect and unscientific plan, teaching may not only improve children's development in an incorrect direction, but may miss their critical period of development.

Afterwards, the biggest problem for special teachers was how to implement IEP field goals into each class. From the interview results, we found many teachers believe docking IEP goal with curriculum goal was 'difficult, blunt, time-consuming, laborious', which directly led to the emergence of another problem: some teachers did not carry out teaching in accordance with the IEPs after the formulation of an 'IEP'. Salle (2013) believes that curriculum based IEP goals reflect school curricula better than curriculum standards and student progress. That is to say, teachers should design an appropriate, individual, measurable IEP target to achieve teaching effectiveness based on students' academic achievement and functional performance, combining with the special school curriculum standard, and considering function and learning results that are expected. Therefore, there is an urgent need to carry out relevant training in order to improve the professional quality of special education teachers and their ability to compile IEPs. Meanwhile, the higher education of training for special education teachers should be reformed due to the real needs of special education.

Thirdly, more resources should be developed and provided. Once a strategy has been decided, it is necessary to allocate the resources which have been calculated, which is necessary for successful implementation. Firstly, concerning special education teachers in the implementation of IEPs, a more complete support system should be built. As previously discussed, there were no unified teaching materials for the special schools. Some schools tried to develop them by themselves which added to the teachers' workload and the developed teaching materials were poor quality. In addition, referring to evaluation: the evaluation of students' current ability was divided into formal assessment and informal evaluation in formulating individualized education programs (Yang, 2014). Special schools developed their individual educational plans with a lack of standardized assessment tools, thus, teachers could not accurately measure students' current level of ability. Even though standardized evaluation tools have become more and more diversified in developed countries, providing more choices for special schools to choose, it is difficult to use evaluation tools from other countries directly due to different languages and backgrounds. Systematic research and development on evaluation should be conducted urgently in order to provide special education teachers with standardized assessment instruments.

Notes

1. There are three types of special schools in China, one is for the children with hearing impairments, the other is for those of visual impairments and another is for the children with developmental disabilities. Special education schools in this paper only refers to the last one.
2. Developmental disabilities include all the disabilities apart from children with hearing disabilities and visual disabilities who are studying in other kinds of special schools.
3. Nowadays, most middle and primary schools in China have the position of the director of education teaching daily affairs, being responsible for the implementation of routine teaching management requirements, and directly responsible and reporting to the principal's leadership. The main responsibility is according to the national or local curriculum requirement to set the school curriculum and teaching plan and assign the middle-level teaching management, such as teaching and research group leader, grade leader, etc.) to ensure the completion of teaching tasks and improvement of the quality of teaching.

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