

Literacy and Deaf Students in Taiwan: Issues, Practices and Directions for Future Research: Part II

HSIU TAN LIU

Department of Speech, Hearing and Otolaryngology, Chung Shan Medical University, Taichung, Taiwan

JEAN F. ANDREWS

Department of Deaf Studies/Deaf Education, Lamar University, Beaumont, TX, USA

CHUN JUNG LIU

Department of Speech and Hearing, Chung Shan Medical University, Taichung, Taiwan

In Part I, we underscore the issues surrounding young deaf and hard of hearing (DHH) learners of literacy in Taiwan who use sign to support their learning of Chinese literacy. We also described the linguistic features of Chinese writing and the visual codes used by DHH children. In Part II, we describe the reading and writing practices used with Taiwanese DHH children. Teachers reported they taught Chinese literacy bridging meaning to print using pictures, speech, sign, visual and visual/gestural codes. Theoretical and practical implications of our descriptive study were given.

KEYWORDS deaf, hard of hearing, Chinese, Taiwanese Sign Language, Zhuyin, character signs, Zhuyin finger alphabet, deaf community, reading, emergent literacy, speech

Classroom reading and writing practices

Preschool to kindergarten (age 3–6 years)

While it can be considered a sexist practice, the teachers reported to us that all mothers of deaf children in Taiwan are required by the government to attend

All three authors prepare teachers and educational leaders of deaf and hard of hearing students.

school with their deaf child. We observed groups of young mothers sitting in the back of the classroom or behind a one-way window and observing the methods used by the teacher. The teacher gives them extra work to bring home with their child and to reinforce the instruction that occurred in the classroom. One mother reported she had to give up her professional job as a teacher to accompany her deaf child to class. This practice ensuring the school and home connection with early learning for DHH preschoolers is handled differently in the U.S., U.K. and Australia where a peripatetic service visits the family at home in the preschool years (Law *et al.*, 2001).

IPA	Zhuyin in	Zhuyin in finger	IPA	Zhuyin in	Zhuyin in finger	IPA	Zhuyin in	Zhuyin in finger	IPA	Zhuyin in	Zhuyin in finger
Onsets											
p	ㄆ		p ^h	ㄆˊ		m	ㄇ		f	ㄈ	
t	ㄊ		t ^h	ㄊˊ		n	ㄋ		l	ㄌ	
k	ㄎ		k ^h	ㄎˊ		x	ㄒ				
tʂ	ㄐ		tʂ ^h	ㄐˊ		ʂ	ㄑ				
tʂʰ	ㄑ		tʂʰ ^h	ㄑˊ		ʂ	ㄑ		ʐ	ㄑ	
ts	ㄊ		ts ^h	ㄊˊ		s	ㄙ				
Rimes											
a	ㄚ		ɔ	ㄛ		ɤ	ㄜ		ɛ	ㄝ	
aɪ	ㄞ		eɪ	ㄟ		aʊ	ㄠ		oʊ	ㄡ	
an	ㄢ		ən	ㄣ		aŋ	ㄤ		əŋ	ㄥ	
ə~	ㄥ										
i	ㄟ		u	ㄨ		y	ㄩ				

FIGURE 1 International Phonetic Alphabet, Zhuyin Fuhao phonetic written symbols, and the Zhuyin finger alphabet.





Written Chinese	貓跳到樹上。 CAT JUMP TO TREE UP.				
Taiwan sign language	 TREE CAT CL-animal JUMP to TREE				
Signed Chinese	 CAT JUMP TO TREE UP				
Zhuyin and IPA	 m aʊ tʰ i aʊ t aʊ ʂ u ʂ aŋ				
Zhuyin finger alphabet	 CAT JUMP TO TREE UP				

FIGURE 2 The sentence ‘The cat jumps up the tree’ in Written Chinese, English, Taiwanese Sign Language, Signed Chinese, Zhuyin, and the Zhuyin finger alphabet.

The teaching of literacy as we explain below begins first with the teaching of speech, by the matching of speech expressively through articulation exercises and receptively through lipreading or speech reading exercises. In addition, children are shown pictures of objects that name the words, Zhuyin Fuhao symbols, and Chinese characters at the word level. After acquiring a small set of sight words (thirty to fifty), the children are exposed to Chinese words in simple sentences, simple paragraphs and then simple stories.

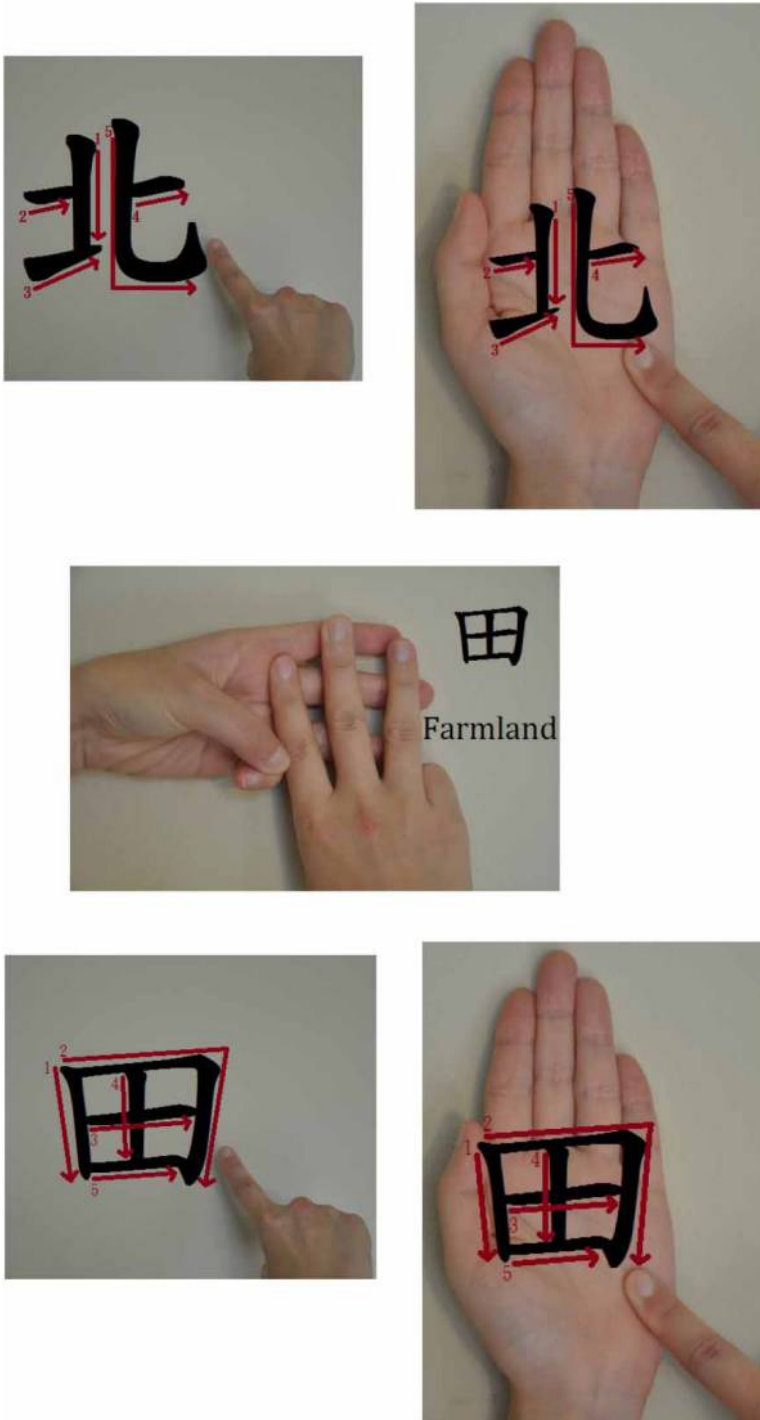


FIGURE 3 Character signs, palm-writing, and signing in air.

For most of words, we can use the Zhuyin finger alphabet to demonstrate a word simultaneously using left and right hands together.

If the rime of the word is only one vowel , we can demonstrate a word simultaneously using left and right hands together. For example the word 貓(cat),

it is demonstrated in Zhuyin as ㄇ ㄠ (there are only two symbols, the left one is the onset, the right one is the rime, there is no tone symbol in this word because it is the first tone), you can see the first pictures in the Zhuyin finger alphabet of figure 2,



However, if the rime has two vowels(not many), we need two step to demonstrate a word.

For example, in the word 跳(jump), the Zhuyin symbol is ㄊ ㄞ ㄛ ˊ

(there is 4 symbols in this word, the first one is the onset, the second and the third one are rime, and the other is the tone.)

So we must have two pictures to demonstrate this word.

See below.



FIGURE 4 A demonstration of the Zhuyin finger alphabet with Chinese words.

Preschool teachers combine the use of pictures with modeling the visual articulation of the Chinese sounds on the lips, as well as demonstrate Chinese print, including Zhuyin Fuhao visual phonetic symbols.

Next, the preschoolers learn a set of additional sounds which are onsets. The only visual aid the deaf children have is the visual symbol of Zhuyin Fuhao and the teacher modeling the sounds on her lips. In other words, in a teaching sequence, the teacher teaches the children about rimes. For example, in our notation, we illustrate the Zhuyin Fuhao symbol, the International Phonetic Symbol (IPA), the tone, the Zhuyin Fuhao symbol, and the IPA symbol (as in ㄚ /a/, ㄞ /i/ ㄨ /u/). After this, the children learn a series of three to five rimes. Then they learn three to five onsets (ㄅ /b/, ㄆ /p/, ㄇ /m/). In the next step, the children learn how to combine the onset and the rime in the Chinese character sounds as in 逼 /bi/ (pen). Tone is also

an important aspect of meaning in Chinese. The children learned written symbols, which signify tone.

As such, this part-to-whole method of teaching speech is found in preschool and kindergarten. In this class, the teacher will combine the Zhuyin Fuhao symbol, the Chinese written character, and a picture cue. But in effect, she is teaching the children how to identify print words or printed Chinese characters supported by pictures, Zhuyin Fuhao phonetic symbols plus the demonstration of how the Chinese characters are displayed on the lips through lipreading or speech reading. The reading unit is the word which is broken down into written symbols—both the Chinese characters and the Zhuyin Fuhao symbols.

Teachers in the preschool and kindergarten in mainstream settings and the deaf schools, we observed, would use many visual aids such as pictures from magazines, photographs, drawings or the internet to support the children's learning to speak, read and write the Chinese characters.

We observed that the teachers begin with a set of sight words or words that children must learn using the methods above until they memorise them. The teachers emphasised building a sight word vocabulary by using pictures of the objects or persons paired with the Chinese characters that comprise the words. For example, there may be two or three characters in each word 眼 (eye), 睡覺 (sleep), 巧克力 (chocolate).

But before teaching the Chinese characters for the words, the teachers will teach the Zhuyin visual phonetic code. Using a chaining or sequencing strategy, the child is asked to match the Zhuyin Fuhao phonetic code + the picture + the written Chinese character(s). In a next step, the teacher takes away both the picture and the Zhuyin Fuhao symbol and the student is required to pronounce the Chinese word. If the child fails, the teacher may have several activities where the child matches pictures with Chinese characters or pictures with Zhuyin Fuhao symbols, or Zhuyin Fuhao symbols with Chinese print or variations of these combinations. In fact, we observed that the majority of Taiwanese DHH children's time is spent in these visual matching activities rather than meaning-based storybook reading activities.

After children acquire approximately fifty words by sight or memorisation, they will be taught to put together words into short-to-long sentences. Then, the children will be exposed to paragraphs and nursery rhymes in Chinese. After paragraphs, the children will be exposed to whole stories using pictures with the Zhuyin Fuhao phonetic symbols and Chinese characters for words.

Two teachers we interviewed mentioned that many of the deaf children using the methods described above are able to identify approximately one hundred words using these methods. They could also read the Chinese words (in the Chinese logographic script) as well as read the words in simple sentences and read simple stories.

We also observed teachers having spoken conversations with children using a bin full of environmental print such as favourite food cartons, candy wrappers, and cereal boxes that are labelled with Chinese characters. How much conversation

the children really understood could not be determined in our study. We also noted that names of the children are written in Chinese characters along with pictures of the children displayed on the bulletin board. Other print examples included directions about washing hands before snacks written in Chinese characters by the sink. We also observed that lots of furniture in the classroom were labelled such as the sink, chair, table, and other furniture labelled with Chinese characters and corresponding English print words. In our observations, we saw that copies of picture books in classroom library were labelled with Chinese characters and Zhuyin Fuhao symbols beside them. In the classroom, we saw calendar and weather reports with drawings and labelled with Chinese characters and Zhuyin Fuhao symbols displayed on the front bulletin board and on white boards in the classroom. The teachers reported that the children were engaged in singing and pronunciation of rhymes and songs that were written with pictures, Chinese characters, and Zhuyin Fuhao symbols on boards in front of the room for all to view. Some classes have computers for children to play games related to learning Chinese vocabulary. Chores were listed in Chinese characters on the front board with the chosen child or the 'little leader' of the day. The 'little leader' is asked to write the date, the day, and the weather on the whiteboard to give him or her practice. Children complete many worksheets on practising numbers and matching Zhuyin Fuhao symbols to characters. On the ways were printed directions of daily routines displayed in pictures, drawings, and in Chinese characters such as washing hands and eating snacks.

Elementary: grade one to six

In the primary grades, we observed teachers using direct instruction focused on the syllable-to-the-word level. For example, when DHH children are taught by the oral (or speech-only) method, the Chinese words are broken down into syllables for them. The words are divided into syllables and in two parts: the onset and the rime. For example, the Chinese word, pen (筆). Pen is composed of one syllable. In English, the onset is /p/ and the rime is /en/. In Chinese, the onset is (ㄅ/b/), and the final is (ㄣ/i/).

If the DHH child attended a public, mainstream school, then he or she was exposed to the Zhuyin Fuhao code system much like hearing Taiwanese children in the first grade. Both hearing and DHH children were directly taught and drilled with the Zhuyin Fuhao written code for the first ten weeks of school. However, the children, both DHH and hearing, continued using the Zhuyin Fuhao symbol system whenever they encounter a new vocabulary word with Chinese characters right up until the sixth grade.

Also, while in the first grade, DHH children found Chinese characters in their storybooks and textbooks that are annotated with Zhuyin Fuhao written symbols. Such annotations of the Zhuyin Fuhao symbols with the Chinese characters are found in children's books until the fourth grade. In the fifth and the sixth grade textbooks, Zhuyin Fuhao symbols will only be used for new and more complex vocabulary words.

In the mainstream public school in self-contained deaf education classes, the teachers in the first to sixth grade classes introduced a new tool—the Zhuyin finger alphabet. Deaf students in elementary school learned to chain Zhuyin Fuhao written symbols with the Zhuyin finger alphabet and this is then related to the corresponding in meaning, Chinese word expressed in one or more characters. This learning can be, but not always, supported by pictures. Teachers also reported to us that they used commercial reading materials developed for hearing Chinese children which include electronic components. These electronic materials which are bright and colourful and full of animation allowed the teacher to show a preview of the story. The preview included pictures, movies, a dialogue or song, in which the auditory components are not accessible to the deaf child but only the visual components. It is up to the teacher to translate or make meaningful this preview.

A typical strategy we observed was that the teacher pretaught a list of about five to ten vocabulary words. After the children learned the words using speech, pictures, Zhuyin Fuhao symbols, and Chinese characters, they were exposed to the whole text of the story.

As part of the structure of the Chinese written language, the children have to learn that the same Chinese characters when combined with other characters can make very different meanings; for example, the character 馬 in the word 馬路(road) and another word 馬上(immediately) have different meanings. From our interviews with teachers, there was no direct instruction to deaf children about this linguistic feature of the Chinese written language.

Often, DHH children in the deaf schools across different ages and ability levels were placed in the same classes because hearing loss is a low incidence disability and the numbers may shift with class size. The curriculum that is used for the hearing schools is adapted and modified for use of DHH children in the deaf school. DHH students in the public schools often attended a resource classroom where the teacher of the deaf provided remediation.

Each grade level has a textbook for reading and writing. Each textbook was made up of fourteen lessons. It took the children about one week to do each lesson. The lessons contained pictures, games, and activities. Every subject (i.e. science, social studies, and math) had its own textbook. Most deaf children cannot read them so the teachers spend lots of time using pictures, drawings, Signed Chinese, Zhuyin Fuhao symbols, and Zhuyin finger alphabet to explain the concepts. The textbooks also have companion e-books (the same content as the textbooks) that are projected onto a large, classroom Smart board. These e-books contained colourful pictures and cartoons that are visually motivating for young children and the pictures are matched with single words, phrases, and sentences. The e-books also contained games and activities for students to practise reading vocabulary, phrases, and sentences. The Zhuyin finger alphabet is introduced along with Signed Chinese in the deaf schools as a tool to teach Chinese reading and writing. In the e-book multimedia presentation, for new words, the teacher points to a vocabulary word (i.e. the

Chinese word for 'voice'). She shows the children how to analyse the word into its two parts that are also colour-coded. The computer will make the character strokes in order so that the children can see how they are drawn. Following this, the children will practise making the strokes for each of the vocabulary words on their own. This system is repeated for many new vocabulary words. For new vocabulary words, the teachers used 'character signs' and trace the formation of the character strokes in the air (or on her palm). Then point to its written counterpart on the computers. Teachers use visual strategies such as drawings, role-playing, and graphic organisers to explain difficult vocabulary words. The children learn how to analyse the morphemes in Chinese characters and identify homophones. There was continued practice in writing Chinese characters from simple to the complex. The teachers reported to us that the direct teaching of speech was reduced as the children progress in elementary school and more focus is on the reading and writing of the Chinese characters.

The teachers informed us that students in the elementary grades were taught how to use a Chinese dictionary that was organised around semantic radicals. For example, if the student wants to know what is the meaning of the word 松, the teacher will tell the student that the word 松 belongs to the 木 radical family and guide the student to find the radical 木 in the radical index of the dictionary. The order of the radical of the radical index is according to the strokes of the radical from one to two, three, or four. There are four strokes in the radical 木, so the students can find it under the four strokes part of the index, then they can follow the direction to page the 木s. When they go to the radical 木 page, they can find the word 松 and find its definition.

In the deaf schools, grammatical signs (Signed Chinese) and Taiwanese Sign Language (TSL) were used. Some teachers expressed the view that Signed Chinese was inadequate in that it does not present the meanings of phrasal verbs and idiomatic language that TSL can handle. This problem is similar to DHH children in the U.S. who have difficulties with phrasal verbs and idiomatic expressions (Payne & Quigley, 1987) as well as in the U.K. when teachers are using Sign Supported English (source). The natural language of the deaf, be it TSL, ASL, or BSL, even though it has a different grammatical structure than the written language, English or Chinese, is better equipped to teach meanings.

Chinese grammar was emphasised more in the elementary grades with the emphasis on reading and writing. Some teachers used the Communication book for children to write a diary everyday. This diary went home to the parents. Younger children wrote shorter sentences in their diary with the assistance of the teacher. The teachers used the Language Experience Approach where they took digital snapshots of children's activities and they wrote about these experiences in their Communication books or in their diaries.

We observed the display of environmental print throughout the school. Names for classrooms were translated into English and Chinese on the doors. We observed the writing of short inspiring phrases from Confucius the philosopher written on

the stairs. So, as the children walked up the stairs they would see and read the Chinese and English print (e.g. 'In a group of three people, there is always someone I can learn from'). Teachers reported to us that parents would take their young DHH children to the 'night market' as well as take them shopping to stores during the day where parents would point out the meanings of environmental print to their DHH children.

Junior high

At the junior high level, the teachers reported that more emphasis was placed on writing short essays in Chinese. Bilingual techniques were utilised in the teaching of mathematics. For example, the teacher would explain the whole word problem using Signed Chinese or TSL, and after this he would teach how to do the calculations of the word problems.

Teachers reported that DHH students had difficulty reading their on-grade level textbooks. As such, these textbooks contained no visual aids such as pictures or the Zhuyin Fuhao symbols. Instead, the texts reflected content made up of classical stories which were complex syntactically for DHH students who are reading below grade level. DHH students seldom completed all their lessons in these textbooks because they were written at a higher reading level than they could comprehend.

When reading books, the teachers reported that they frequently used Signed Chinese and TSL to explain concepts and build vocabulary as well as to teach Chinese grammar. Chinese poetry found in the textbooks had to be taught as DHH students were tested on poetry as part of their high entrance exam. Needless to say, because of their low linguistic levels, most deaf students in junior high do not pass the high school entrance exam. If the DHH students failed the exam, they could not attend a hearing high school. In the deaf high schools, teachers reported that they frequently rewrite the Chinese poetry into a simplified text for students with low reading levels. Most deaf students stay at the deaf high school and take the deaf high school curriculum or go into a vocational curriculum (i.e. cooking, printing, sewing, printing, art, and computer graphics). Emphasis in the deaf high school is on functional reading rather than academic reading.

High school

As stated above, in the deaf high school, there was an emphasis on vocational trade. DHH students in high school are provided with coursework in Chinese cuisine, dressmaking, printing, and the graphic arts.

The culinary arts school was a popular major in high school because of the numerous job opportunities in the restaurant businesses on the island. The teachers reported that in cooking class, they rewrote the handbooks into simpler Chinese so that the students can understand the recipes. However, still an obstacle existed as students must pass a written government test. The high school teachers reported that many DHH students are not able to pass the government test to get their chef's

license. While, after 18 years of age, DHH youth can attend driving school and use a sign interpreter during the driving test, it is interesting to note that they are not allowed to use a sign language interpreter for their culinary arts test.

As in junior high, the textbooks in high school are longer, more complex, and contain many classical stories so the teacher will rewrite the stories into simpler language. Teachers reported that they used expansion techniques in the teaching of key vocabulary by giving the meaning of the Chinese words with examples and then asking the student to put the words into sentences using Chinese grammar. Many deaf students in high school cannot write an essay in Chinese. Teachers reported that the syntax of written Chinese was very difficult for them.

Many DHH students in high school are transferred from public schools and many have minimal sign language skills. Teachers have to teach them sign language along with Chinese literacy and their other academic content. One commonly used activity that teachers reported to use was the daily journal to practise writing. Teachers reported that they worked on functional writing especially for students who do not go on to college. Teachers reported that they work on showing DHH students how to fill out job applications and resumes, how to rent an apartment, and how to conduct themselves during a job interview.

Summary

As we suggested in the beginning of the paper, in order to understand the literacy learning of DHH children it is our belief that the researcher must not only understand the written structure of the languages, but also take into account the background language learning variables such as aetiology, age of onset, the type and extent of hearing loss, parent hearing status, and the type of educational programme—all of which can affect literacy learning. They must also take into consideration the mediation languages and codes that DHH children use such as Chinese, English, the sign code of Signed Chinese, and pedagogical tools such as Zhuyin Fuhao, the Zhuyin finger alphabet, character writing, air writing and palm writing to mediate printed Chinese (see Figs. 1–4). More research is needed to determine the efficacy of using these mediation tools to the comprehension of printed Chinese.

In our observations and teacher interviews, first, the DHH child was exposed to numerous matching activities of pictures, print, sounds, and symbols. Very little attention was focused on comprehending whole stories in shared book reading activities until after vocabulary was taught. Shared book reading is a practice used with hearing Chinese children (Anderson et al., 2002; Wang & Anderson, 2010). However, to our knowledge, shared book reading has not been used to a great extent, if at all, with signing DHH Taiwanese children using TSL, Signed Chinese or the pedagogical tools of Zhuyin Fuhao, the Zhuyin finger alphabet, palm writing, air writing, and character signs.

Theoretical and practical implications and directions for future research

Understanding how DHH Taiwanese children learn to read a logographic script without having full access to a spoken language and limited access to a sign language has raised interesting theoretical questions. Answers to these questions can inform our understanding of how both deaf and hearing students learn language and literacy. For example, it raises a fundamental question of whether audition is necessary for the acquisition of literacy. Clearly, for some signing deaf children in the U.S. it is not necessary (Andrews & Mason, 1986; Musselman, 2000; McQuarrie, 2008; Andrews, 2012; Andrews *et al.*, 2013). If it is not necessary, in the case of Taiwanese DHH students, can they instead use their emerging and developing TSL, Signed Chinese, and visual tools of Zhuyin Fuhao, the Zhuyin finger alphabet, air writing, palm writing, and character signs to bridge meaning to written Chinese? Future research is needed to address these questions.

The learning of both languages—Chinese written language and TSL—raises theoretical questions on how DHH students can develop Language Interdependence as proposed by Cummins' model (2000) through the use of code-switching activities. But how can DHH students develop Language Interdependence when they have not yet developed strong threshold levels in a first language (Cummins, 2000)? In a paper related to American deaf children learning to read English using their ASL skills, Cummins (2006) claims that they can use their ASL as a bridge to transfer their conceptual understandings in ASL to their learning to read English. Can this happen with signing DHH Taiwanese children in learning Chinese? More research is needed.

How can we gain more precision on this sign to print language transfer process using signs in the case of bilingualism and using signs and speech in the case of bimodalism? Can we consider DHH Taiwanese students to be emerging simultaneous bimodal/bilinguals where they are learning both spoken and written Chinese and TSL at the same time? This notion contradicts what is understood about how hearing children become bilingual. Indeed, hearing children build a second language on a fully developed first language (Grosjean, 2010).

Future studies of DHH children in Taiwan learning language can shed light on this topic. It can also provide clarity in describing the concept of sign bimodalism/bilingualism for DHH children and youths. Sign language plays an important role in the deaf child's cognitive, social, and linguistic development as it helps children develop close ties with family, develop early cognitive abilities such as reasoning, abstracting and memorising, accumulate world knowledge, as well as it can be used by teachers to clarify concepts, explain problems, and summarise texts and stories (Grosjean, 2008). Still the notion of sign bimodalism/bilingualism for deaf children has not been fully developed, nor has its vocabulary been fully defined beyond the vague statements of the use of both the minority language (sign language) and the majority

language in its written form and sometimes in its spoken or signed form during the everyday use of two languages (Grosjean, 2008, 2010). Clearly, more definitive work is needed to define and describe the language behaviours of DHH children in Taiwan who are sign bimodal and bilingual as well as to develop pedagogical strategies to develop both of the languages.

Given that these pedagogical tools are commonly found in schools for deaf children, studies are needed to test the efficacy of the use of Zhuyin Fuhao written scripts and the Zhuyin finger alphabet in the teaching of Chinese literacy to DHH students in Taiwan. A similar work by Trezek et al. (2010) has shown that the use of the instructional tool of Visual Phonics can result in improvements in vocabulary learning through decoding and word study skills for DHH children in the U.S. learning English. Visual Phonics is a multisensory system consisting of forty-six hand cues and the corresponding written symbols that represent aspects of the phonemes of English and its grapheme–phoneme relationships (phonics) (Trezek et al., 2010).

Such a study of DHH Taiwanese children can also raise interesting theoretical questions related to the Emergent Literacy framework. The Emergent Literacy theory captures cognitive, social, perceptual, and linguistic understandings of how young children acquire story concepts, word recognition abilities and vocabulary knowledge, and writing, among other important emergent literacy concepts (Au et al., 1995). Studies in the U.S. (Andrews & Mason, 1986; Andrews et al., 2013), in the U.K. (Kyle & Harris, 2011), and Australia (Parkes and Power 1993) have identified developmental emergent literacy skills with DHH children. Future research can explore how emergent literacy skills unfold in a similar or different manner for signing DHH children in Taiwan compared with signing DHH children in other countries who are learning either logographic or alphabet scripts.

References

- Anderson, R., Gaffney, J., Wu, X., Wang, C., Li, W., Shu, H., Nagy, W. & Ming, Z. 2002. Shared-Book Reading in China. In: W. Li, J. Gaffney & J. Packard, eds. *Chinese Children's Reading Acquisition: Theoretical and Pedagogical Issues*. Boston, MA: Kluwer Academic Publishers, 131–150.
- Andrews, J., Liu, H.T., Liu, C.J., Dacres, K. & Gentry, M. 2013. 'Adapted Little Books': An Emergent Literacy Intervention for Signing Deaf Children. The Association of College Educators of Deaf and Hard of Hearing (ACEDHH) Conference, Santa Fe, New Mexico.
- Andrews, J.F. 2012. Reading to Deaf Children who Sign: A Response to Williams (2012) and Suggestions for Future Research. *American Annals of the Deaf*, 157:307–19.
- Andrews, J.F. & Mason, J.M. 1986. How Do Deaf Children Learn about Prereading? *American Annals of the Deaf*, 131:210–7.
- Au, K., Mason, J.M. & Scheu, J. 1995. Emergent Literacy and Beginning Instruction. In: H. Kathryn, J.M. Mason & J.A. Scheu, eds. *Literacy Instruction for Today*. Boston, MA: Allyn & Bacon.
- Cummins, J. 2000. *Language, Power, and Pedagogy: Bilingual Children in the Crossfire*. Clevedon, U.K.: Multilingual Matters.

- Cummins, J. 2006. *The Relationship between American Sign Language Proficiency and English Academic Development: A Review of the Research*. Paper presented at the conference Challenges, Opportunities, and Choices in Educating Minority Group Students, Hamar, Norway. Retrieved from [http:// www.gallaudet.edu/documents/cummins_asl-eng.pdf](http://www.gallaudet.edu/documents/cummins_asl-eng.pdf)
- Grosjean, F. 2008. *Studying Bilinguals*. New York: Oxford University Press.
- Grosjean, F. 2010. *Bilingual: Life and Reality*. Cambridge, MA: Harvard University Press.
- Kyle, F. E. & Harris, M. 2011. Longitudinal Patterns of Emerging Literacy in Beginning Deaf and Hearing Readers. *Journal of Deaf Studies and Deaf Education*, 16:289–304.
- Law, J., Lindsay, G., Peacey, N., Gascoigne, M., Soloff, N., Radford, J. et al. 2001. Facilitating Communication between Education and Health Services: the Provision for Children with Speech and Language Needs. *British Journal of Special Education*, 28:133–7.
- Mcquarrie, L. 2008. *Phonology and Deaf Readers: New Insights on an Old Debate*. Saarbrücken, Germany: Verlag Dr. Muller Aktiengesellschaft.
- Musselman, C. 2000. How Do Children who can't Hear Learn to Read an Alphabetic Script? A Review of the Literature on Reading and Deafness. *Journal of Deaf Studies and Deaf Education*, 5:9–31.
- Parkes, B. & Power, D. (1993). *Emergent Literacy Profile for Deaf and Hard of Hearing Children*. Queensland, Australia: NLLIA Centre for Deafness and Communication Studies, Faculty of Education, Griffith University.
- Payne, J. A. & Quigley, S. P. 1987. Hearing-Impaired Children' Comprehension of Verb-Particle Combinations. *Volta Review*, 89:133–43.
- Trezek, B., Wang, Y. & Paul, P. 2010. *Reading and Deafness: Theory, Research and Practise*. Clifton Park, NY: Delmar.
- Wang, Q. & Anderson, R.C. 2010. An Early Reading Intervention for an At-Risk Chinese First Grader. *Literacy Teaching and Learning*, 15(1 & 2):81–108.