

# New progress in written language for children with hearing impairment (1996-2015)

Pan Jiao

( Huazhong Normal University School of Education Hubei Wuhan 430079

---

**Abstract:** article through special pedagogy , The five major core journals of the psychology field 1996 - 2015 literature on the study of written language for children with hearing impairment count , from literature number , researchers , Topic Nature , Research Methods , Research results Five aspects of the analysis , summarizes nearlyProgress in the study of written language for children with hearing impairment , and making recommendations for research status : Cooperative Research , encouraging front-line workers to participate in ; Expand research Topics , Deepen the study of written language ; Enhance communication , Promote cross-learning Section Cross-Regional research form ; focus on comparative studies , Balanced Multivariate research methods .

**keywords:** hearing-impaired Children ; written ; Research Progress

---

written , is the carrier of the text record , It is based on the spoken Word , text-recorded language symbol system , This voice is silent to express the spoken language symbol system to a "" look "" language character system [1]. written relative to colloquial , has intrinsic stability , Learning Book The face facilitates communication and interaction with hearing-impaired children . This article selects CSSCI Source periodicals in the past calendar year included more stable journals , including China special The only core journal in the field of educational research a China Special Education Yukon , and Psychological Science Psychology journal Progress in Psychological SciencePsychological Development with education " Four psychology core periodicals " [2]statistics, These five journals 1996 year to 2015 literature on the written language of hearing-impaired children published in the year Retrieve and analyze .

## 1. Quantity Changes

diagram 1 with 5 The number of documents in the year for periodic measurement shows a hearing impairment Children's written language research with the trend of first increase and subtraction , 1996-2000 years to 2001-2005 year maximum , Number of documents from 5.6° % Add to 38.9° % , % \$ starts dropping after year , 2006-2015 no ups and downs , a Keep Straight over ten Chapter , The number of documents tends to stabilize . table 1 list 1996-2015 year this | Year literature periodical and annual distribution , Five core periodicals text total Count Chapter, with + Year No related literature , after , every year number of articles in 1 one 4 Chapter , year up to 9 article ,Total number of documents is relatively low . from distribution of periodicals on the written language of children with hearing impairment main distribution China Special Education , Total article , proportional to 88.9%, Progress in Psychological Science 2 article , occupies 5.6% , and Psychological Science only Kim No in , Song Yongning , " " Experimental study on the relationship between hearing status and reading and writing performance and cognitive ability of deaf students research " (2008) [3]1 article ,Psychology journal only the Zhang Ji Home , Chen Huo Write , "" Age effect of deaf students ' vocabulary acquisition "" ( a ) [ 4] 1 Chapter , Psychological development vs. Education " No related literature studies . " China Special Education " in hearing-impaired children's book The main position of the face research is .

---

Copyright ©

This is an open-access article distributed under the terms of the Creative Commons Attribution Unported License

(<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction to authors : Pan Jiao (1991-, women , \* , "" ") Anhui anqing People , huazhong Normal University special Education graduate,, , Research Direction : Special Child Psychology and education .

	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Total
Special education in China	0	0	0	0	2	2	1	0	9	1	3	2	1	0	2	4	2	1	0	2	32
-Psychological Science	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Journal of Psychology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Progress in Psychological Science	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
Psychological development and education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	2	1	1	9	1	3	2	2	1	2	4	3	1	0	2	36

1.1 discipline background independent , differences between disciplines highlight . from table 2 unknown , The academic background of the written language researchers for children with hearing impairment is mainly in special education Fertility Research , % of people 77.8%, followed by 16.7% is the psychology researchinvestigators , Speech Hearing Rehabilitation researchers only ECNU speech hearing Rehabilitation Science Institute Liu xiaoming (% [5] , doing basic medical research only XuState Medical school Sun Guoren ( + ) [6] , are all 2.8%. drill-down text offer , the author of each article is under the same disciplinary background , between disciplinesResearch mutually independent , There is no interdisciplinary background collaborative research form , speech Listen Awareness of rehabilitation and medical personnel in the written language of children with hearing impaired attention less , the differs significantly from the focus of special education researchers .

Table 2 The subject background of the written language researchers for children with hearing disabilities ( Chapter )

Disciplinary Background special pedagogy Psychology basic Medicine speech Hearing Rehabilitation Literature number 6 1 1

Note : Statistics by the first author's disciplinary background

2. University researchers as the main force , First-line Teacher participation is insufficient . Analysis table 3 discovery The article has a total of Articles for university researchers writing , proportional to 75%, - Line Teacher participation in the study only accounts for 19.4%, and university researchers and a Line Teacher Research literature only 2 Chapter , specifically Language sense teaching to improve Experimental Study on reading ability of deaf students (2001) [7] , Organization Policy seniors The Deaf school level of Chinese reading teaching "" (2008) [8] research . University researchers are listening to The main force of the written language study of the children , Frontline Teachers in independent research , Collaborate on is relatively less involved , only a small number of front-line teachers can have sufficient time room , The consciousness of energy and inquiry engages in academic research. , first-line teachers and high School Researchers collaborate on a lack of .

Unit source University researchers Front-line teachers University researchers +\_ line Teacher

Number of documents	27	7	2
---------------------	----	---	---

Table 3 The unit source for researchers in the written language of hearing-impaired children ( Chapter

3. Regional Research uneven , East China occupies first . researcher regional indirection reflects local emphasis on this area of research , through the table 4 Know ,Research across regions is unevenly distributed , more than half of the research All in East China , ecnu , ( Nanjing Special Education ) The College of Surgery is the two colleges that lead the research in this area .. next to occupy 25% ratio North China , the language in the region that focuses on hearing impaired children is The Foundation Department of the School of Special Education, Beijing Union University Wu Yu , + 4 Chapter Wu Yu Writing , occupy all documents 11.1% proportions . South China and northeast each have 3 Chapter , Southwest Northwest , 1 Chapter , While there is no related literature study in central area . 16.7% have research the literature belongs to the cross-regional cooperation , 36.1% is the literature of this region within two or more partners complete , 47.2% The literature is that individuals independently complete the ,

3.1 To add and subtract from a topic , wide range of changes . Union diagram 2 knowable , 1996-2015 this A self-proposed topic for the study of written language for children with hearing impairment Show first-ascending and descending trend ,1996-2005 Number of years of literature line up , on 2001-, year peaked , but , year down ( ) 2011-2015 this 5 The year has only 1 Chapter Self topic . Although self-proposed topics are more flexible on the topics , But project projects are more or mostly targeted atquestions for project , Research through learning and practice , continuity and comprehensiveness Stronger The reduction of the self-proposed topic from the side of the,, shows that our research is becoming more systematic than It is ..

3.2 Project Project steady speed increase , Fast Development . about hearing impaired children's book language research project on 2010 years ago in a smooth state,1996- 2010 year 5 2 Chapter . 2001-This 10 Year project the Number of topics has been lower than the self-proposed topic , but near 5 An increase in the speed of the project yearthrough 9 Chapter , the exceeds the Number of custom topics . value of Project projects , directionality and pins is relatively strong for sex , declaring project subject to review ,Project , Open Question , Research basic procedures such as ,, knot , The canonical operation and management of this process is valid The improves the standard level of project research. , These advantages promote , Research on written language for children with hearing impairment will become more and more rich .

## 4. Research Methods

4.1 Research Methods multiple , Quantitative research rich . the table 5 lists the hearing-impaired children

There are mainly experimental methods for the study of child written language , case law , Literature , Quiz , investigate , Action Research Law etc , The most common use of researchers is experimental methods , Total Document, Multi-Factor experiment article , Single factor Experiment 1 article . literature Also the researchers used more research methods , The number of documents reaches Document . investigate , have 3 article using questionnaires ,interview law does not involve and . All documents only "" create locale , to improve the written expression of deaf students Force ( + [9] Research using Action research method Deaf Student A Writing Tutorial Cases Analysis Reports " (a) [ten] Research case law , These two research methods require Long Track feedback , Guidance Validation , the researcher uses less . from the research environment of the footer degree considerations , Quantitative research using experimental methods , controlling variables as much as possible . qualitative studies investigate on site and environment , Try to understand how things are issued in a normal state Show Changes . Analyze all documents , Find researcher Bias Quantitative study , Quantitative Research richer than qualitative research , However, the methodology involved in the study as a

whole has a multiplicity of .

The Central Experimental Method of the psychological journal , validation research mostly . psychology Core Journal 4 Article , has 3 The research method used in the article is experimental method , and and all multifactor experimentation , literature shows only Zhang Ming , Chen Yu about " hearing impaired" Obstruction of speech mechanism of the crowd "" (2003) <sup>[one]</sup> using the literature method to comb predecessors research , Exploring the development of language systems in the human brain ,form and organize . researcher in mining experiment with experimental procedure detail , tendency to validate research , such as : Deaf University student age effect of vocabulary acquisition "" <sup>[a]</sup> In, the researchers divided the experiment into deaf big students ' age effect of vocabulary acquisition in Chinese word naming and picture naming , Deaf Student's vocabulary acquisition age effect in semantic classification of Chinese words , Deaf students in picture age effect of lexical acquisition in semantic classification three experiments to validate the experiment hypothesis . Psychological Research more need experimental method to support experiment hypothesis , make research The intrinsic validity of the is increased , But strictly operational scenarios do not take advantage of the findings promote , Researchers can synthesize other methods , to make research more efficient .

4.2 comparison study , Vertical Contrast lack . comparison study as a thinking method , runs through the entire process of educational research . Whether in the history of the scientific experiment the , is important in theoretical research . This article uses the literature method, , Experimental method, etc. , to avoid repeating the ,Table 5 not to List the number of documents with comparative studies but Analysis % Article to find , only 5 articles using comparative studies , Sun Guoren on " Deaf vs.normal" Comparison of human implicit memory "" <sup>[a]</sup> Use the word thousand-complement method to The implicit memory of the deaf and the normal person is experimentally compared , Wu Yu " sign language" comparison of Chinese grammar one find written for deaf people "" (2006 <sup>[</sup> all The uses the Sign language grammar and the Chinese grammar comparison form , their ratio compared to objects for memory , syntax etc , comparison bodies are more abstract , As a whole about Deaf Children in written comparison studies , None of the comparative studies using portrait comparison The long history of hearing impaired children in written language acquisitionChange , This is one aspect that researchers can consider . .

	Experimental method single FactorMultiple factors	Case law	Literature Law	Test method	Investigation Law		Let's go Research method	Total
					Questionnaire	Interview		
Special education in China	13	1	11	2	3	0	1	32
Psychological Science Journal of Psychology Progress in Psychological Science and education	0	1	0	0	0	0	0	1
Journal of Psychology Progress in Psychological Science and education	0	1	0	0	0	0	0	0
Psychological Science and education	0	1	0	1	0	0	0	2
Psychological development and education	0	0	0	0	0	0	0	0

Total	1	16	12	2	3	0	1	36
-------	---	----	----	---	---	---	---	----

### 5. Research Results

by A summary of the study of Chinese written grammar for deaf students (a) in book Face classification Standard , Here is written language acquisition and book The face applies two aspects , Written language acquisition refers to the formation of a natural language procedure , including cognitive basics of acquisition , learning process research and related Teaching Strategies for , Course design research, and so on ; written language applications include written errors , written vs. sign Language ,Comparison of spoken words , Written language usage dilemma research etc [a] . Union Literature Search , The written language can also be summarized horizontally for written understanding , Written writing , writing reading , The written language evaluates four directions . written comprehension refers to the implicit process of the processing mechanism and speech operation of the internal brain for written materials ; book face reading refers to the knowledge of written materials , converting written content into a human cognitive model Explicit procedure ; Writing refers to literal writing , Composition writing activity ; Writing meter The refers to the mathematical logical operational activity of the written material . collating document , specific inside bulk distribution as table 6.

Research results	Written language acquisition	Use of written language	Total
Number of documents	19	17	36

( a ) Written language acquisition research results .

Table 6 distribution of written language for children with hearing impairment (Chapter )

5.1 attach importance to Cognitive processing mode research , Grammar Acquisition research to be strengthened . listen to The cognitive processing mode for children's written language acquisition is one of the hot topics . , Congratulations (ON) [ ] ( ) After a series of empirical studies , I think , Deaf and healthy people reading processing mode , is only developing hysteresis . Liu Xiaoming on "" hearing-impaired students reading Understanding Monitoring eye Movement Research The error detection paradigm and eye-movement method to explore read monitoring features for hearing-impaired students in the context of access and accessibility , and based on the findings of the,, the corresponding education recommendations ( % . [ written The cognitive processing mode of is valued by the researcher , specific to SpeechOrganizational policies for all aspects of, language loop , and speech mechanism , But one of the books on hearing impaired children The syntax acquisition of the face is very little . , syntax knowledge is generally considered to greatly affect The written language for children with hearing impairment , If a child with hearing impaired grammatical ability has limit , Its reading comprehension will be negatively affected , and indirectly blocking the application of existing words ability to sink knowledge , So syntax acquisition research needs to be enhanced .

5.2 Focus Teaching Method Research , Course Design Research to be upgraded . researcher Most interested in teaching method research , They mainly provide useful suggestions for children with hearing impairment practice, Wu Yu (2006 ( For the promotion of deaf students written language development , ways to study using classroom practices , Sign Language for deaf college students story transliteration training . results found that sign language stories can effectively improve the deaf People's Congress students ' sign Language ability , to effectively improve the ability of deaf people to write languages . [ yellow Red Swallow ( + about "" training and training of written language skills for deaf students "" ] from thinking Development angle , The construction of the written language atmosphere and the

teaching activities of Chinese language to deaf students Read and Express in writing a series of training , training methods . teaching methods Rich , literature reached ten Chapter , But course design is only 4article , This may be relevant to the school's General teaching program , make researchers ignore special Color The significance of course construction , Park This course is good for teaching students in accordance , The study on the curriculum design of the written language for children with hearing impairment in China is to be promoted .

## 6. written language application research results .

6.1 bias Reading and understanding application research , calculation usage study less . written The application study has 6 Introduction to written understanding Content, such as , Liu Qing (20) [1], Wang Jingxin (2006 [a] people Comparison study of children with hearing impairment and positive Common Children's Chinese complement level and language comprehension ability Difference detail This paper introduces the similarities and differences of language comprehension between normal children and hearing impaired children . with a 8 a document introduction written reading content , such as , Song Yongning, Du Xiaobing, Huang Zhaoji (2006 on Deaf paragraph , An experimental study of the marking effect in text reading Research The effect of the mark on a deaf paragraph , text reading , research shows : to segment Drop and text marking can effectively improve deaf students overall letter to paragraphs and texts The understanding and maintenance of the rest [2]; and written calculations have no applied literature . Research content Overall language bias , read in writing , Understanding , writing involves image thinking dimension more , Writing calculation involves logical thinking , researcher in math culture less attention , the language culture Studies in the written language are very few ..

6.2 focus on writing single body , written , colloquial , Sign Language contrast study not To system . Analysis of literature found that researchers focus on the overall relatively single , Research The main body of the research is essentially written , Although there is a contrastive study of written and sign language Trace , for "" the effects of written words and sign language on the semantic classification of deaf students "" (A/ [A] through speech in written and sign language , semantics , irrelevant Three kinds of disturbances ways to investigate the basic level of deaf students Semantic classification ability conditions , Results show Deaf basic level Concept Semantic classification ability is weaker than health listening students , But the overall study is more than more restrictive , Research in this area is not system . comparing written language for children with hearing impairment and Comparison of spoken language , Differences between sign language teaching and written language teaching for hearing-impaired children The investigation is a direction that was previously lacking in research .

## 7. Recommendations and Outlook

7.1 Cooperate research , encouraging front-line workers to participate in . researchers relative standalone , Group Collaboration research lacks the salient features of written language studies for children with hearing impairment , facing research challenges , We can conduct collaborative research , encourage front-line workers to participate in come in . encourage first-line teachers and university researchers to work together ., College Teachers emphasis on theoretical research but lack of practical experience , first- line teachers experienced but few on guidance , The combination of the two can improve the effectiveness of research ; To encourage first-line Medicineworker participation in collaborative research physical defects in children with hearing impaired need rehabilitation physician's participation , Medical knowledge diagnosis and instruction of education knowledge can make the research content more deep , persuasive ; Finally, the combination of special education teachers and general education teachers is encouraged doing research , face Fusion education background , An increasing number of hearing impaired children choose to follow class reading ,facing different learning environment hearing impaired children and ordinary children in written The similarities and differences in the language can inspire more novel research topics . Deaf Children's book face Study special emphasis on medical workers , Special education teacher , General education teacher Participate in the study to ,research is not just a task for college researchers , front-line work The rich experience of the people is to study the valuable knowledge reserves .

7.2 Expand research topics , Deepen the study of written language . Analysis Literature know research content whether it's written or written. , Research tend to have bias for research , paying too much attention to one aspect and ignoring other Research . For example, the discussion of teaching methods ignores course design importance , focus on reading and understanding of written language but ignoring computational application Research investigate , so , Future research on this situation can take multiple perspectives to expand the topic , give attention to the weak aspects of research . Research content that is currently valued , can be more specific , such as the written language study of children with hearing impairment can be subdivided into written reading , writing , written reading can be refined to cognitive reading , rationale Solution reading , Evaluation reading three directions . [2] Research on the depth of the content study The learner constantly promotes itself , Mining Research topics , Evaluation of future educational research More attention to practice validation , depth of content .

Enhance communication , Promoting interdisciplinary cross-regional research forms . hearing-impaired children the subjects and regions of the study of child written language are relatively narrow. , Research work of the researchers move isolation , Interdisciplinary cross-regional cooperation research basic blank , such research results are limited, So in the future we need to promote this across different disciplines Field Cooperative Research form . first , Interdisciplinary studies are mainly involving different disciplines to special The study of the written language of the child to , psychology , Basic Medicine , speech Hearing Recovery disciplines such as can later expand related research , and not just special education Realm . second , Cross-regional studies mainly need to strengthen the gap between researchers in different regions through , with geographical characteristics , differences in educational status can provide researchers with more information on multiple written studies ; Other types of schools in different regions , rule mode , Education idea , Course Textbook , teaching methods , Practice experience is a first line study Resources for to learn from each other . So in this multidisciplinary , Multi-area , multiple types , multilevel time span collaboration can make research more effective and promotional .

7.3 focus on comparative research , Balanced Multivariate research method . Hearing Impaired children's book Facial Research Methods multiple , But each document refers to a single method , researcher Bias Heavy Experiment Research method , comparison study ignored , Compare the scale of the research environment , Quantitative research is richer than qualitative research . Although experimental research has a high intrinsic validity , But the external validity is not high in strict experimental situations ,can promote poor . So researchers can increase their focus on comparative research , especially for children with hearing disabilities The vertical comparison of the language learning . Research can synthesize a variety of research methods to improve the text Chapter quality , equalize qualitative and quantitative research . compared to natural science , teach Education Research has special , Its object is people , We cannot copy natural science Research Paradigm , But many scientific ways of thinking are common. , Example Research to based on evidence , Conclusion both need confirmation , also need falsification . [ So, In addition to experiment beyond , Other research methods should also be taken seriously , Balanced multiple methods Let's research The conclusions and results of the study could withstand enough practice to test the .

## References

1. Feng Junming , Reijanghua . Special Child psychology [M]. Beijing : Peking University out version 2011:205.
2. Zhongning . on the production of news headlines in the context of new media [J]. New smelling research guide , 2015:318-319.
3. Golden Wild , Song Yongning . Deaf Students ' listening and reading performance and cognitive ability An experimental study of the relationship [J]. Psychological Science , 2008 (3): 711-713,702.
4. Zhang Ji Home , Chen Huo , Zhangguang , , and so on . years of vocabulary acquisition for deaf college students Age effect [J ] . Psychology journal : 1421-1433.
5. Liu xiaoming . Eye movement of reading comprehension monitoring for hearing-impaired undergraduates [/J]. China Special Education , 012 (1): 20-24.
6. Sun Guoren . Comparative Study of implicit memory between deaf and normal people [/J]. China Special 33-36 (1): \$
7. Zhang Aifen , Du Xiaobing . Language sense teaching to improve the reading ability of deaf students Check research [J]. China Special Education , 2001 (4): 38-42.

8. Jaya , Song Yongning , Du Xiaobing , , and so on . organization Policy in the School of the Deaf senior application of teaching Chinese reading [J ] . China Special Education , 008 (2): 31-34.
9. Dingping . Create language environment improve deaf students ' written expression ability [J]. China Special Education , 004:61-67.
10. Wu Yu . Deaf Student A Case Analysis report for writing coaching [J]. China Special education , 3:32-35.
11. Zhang Ming , Chen Yu . speech mechanisms for people with hearing disabilities [J]. Psychological Science in show , 2003 (5): 486-493.
12. Zhang Ji Home , Chen Huo , Zhangguang , , and so on . Vocabulary Acquisition age for deaf college students effect [J ] . Psychology journal : 1421-1433.
13. Sun Guoren . Comparative Study of implicit memory between deaf and normal people [J]. China Special Education ,(1): 33-36
14. Wu Yu . A comparative study of sign Language grammar and Chinese grammar a looking for a deaf People's written words [J]. Special Education in China,006 (8): 50-54.
- Ninguan Yuan . A summary of the study of Chinese written grammar for deaf students [J]. China Special Education ,011 (3): 16-19.
15. Congratulations . Progress and dynamics of reading research for deaf people [J]. China Special Education , 5:53-57.
16. Liu xiaoming . Eye movement of reading comprehension monitoring for hearing-impaired undergraduates [J]. Country Special Education ,012 (1): 20-24.
17. Wu Yu . A successful written language training method for deaf college students research [J]. China Special Education , 2006 (2): 31-34.
18. Yellow Red Swallow . developing and training written language skills for deaf students [J]. China Special Education ,004 (4): 28-31.
19. Liu Qing . Deaf Students ' study on the mastery of complex sentences [J]. China Special Education ,011 (8): 53-58.
20. Wang Jingxin . Experiment with understanding and generation of the language of deaf and normal people research [J]. China Special Education , Watts (1): 10-14.
21. Song Yongning , Du Xiaobing , Huang Zhaoji . Deaf paragraph , text reading Mark An experimental study of the effect [J ] . China Special Education , 2006:15-21.
22. Feng Jianwei , Feng Min . written and sign language effects on the semantic classification of deaf students Experimental Research [J]. Special Education in China: 27-31.
23. Zhang Aifen , Du Xiaobing . Language sense teaching to improve the reading ability of deaf students Check research [J]. China Special Education , 2001 (4):
- ? Xiangwen . make Basic education research more vivid [/J]. Shanghai Educational Research , 2015 (1): 1.