



# Developing a Bilingual “Persian Cued Speech” Website for Parents and Professionals of Children with Hearing Impairment

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## Abstract

**Background:** The use of the internet as a source of information gathering, self-help and support is becoming increasingly recognized. Parents and professionals of children with hearing impairment have been shown to seek information about different communication approaches online. Cued Speech is a very new approach to Persian speaking pupils. Our aim was to develop a useful website to give related information about Persian Cued Speech to parents and professionals of children with hearing impairment.

**Methods:** All Cued Speech websites from different countries that fell within the first ten pages of Google and Yahoo search-engines were assessed. Main subjects and links were studied. All related information was gathered from the websites, textbooks, articles etc.

**Results:** Using a framework that combined several criteria for health-information websites, we developed the Persian Cued Speech website for three distinct audiences (parents, professionals and children).

**Conclusion:** An accurate, complete, accessible and readable resource about Persian Cued Speech for parents and professionals is available now.

**Keywords:** Website, Cued speech, Hearing impaired, Parents

## Introduction

Percentage of The World Wide Web usage is increasing more and more. Although it was first used only by researches, now is used by everyone to deliver time-sensitive information. Many rehabilitation disciplines and many families of disabled people use it to obtain their necessary information regarding a disability. The recent growths in the number of websites, which are specifically designed for parents, suggest that this group is more and more using internet to seek information regarding their children. In fact, Internet does offer an important source of advice and informational support for groups such as new mothers (1). Parents with newly diagnosed hearing impaired children should make critical and important decisions about their child's communica-

tion system and education at a time when they are emotionally vulnerable (2). The ability to obtain accurate information online so privately, simply and freely provides opportunity to make good decisions for them. There are few informational resources regarding communication approaches for parents and educators of hearing impaired children. Without enough information, there would be no precise and accurate decision making. Persian Cued Speech (PCS) is a very new approach to Persian speaking pupils. Having access to exact information about such issues are vitally important because, without it, deaf children are not able to benefit from these approaches and their potentially positive effects on

them, simply because their parents and educators do not know it.

Cued Speech (CS) is a tool to make spoken languages visible. A phonemically based system removes the guesswork from speech reading and makes any spoken language accessible through vision alone (3).

Literacy is the original and primary goal of CS. It was developed to enable hearing parents to communicate with their deaf children in their native spoken language. The use of this system allows deaf individuals to acquire spoken language in a natural and efficient manner (4). Families of deaf children have been cueing in the United States and many other countries for more than 30 years. CS has been adapted to more than 61 languages and dialects (3). International research demonstrates that deaf children brought up with CS achieve reading scores equivalent to hearing children (5, 6). Consistent exposure to spoken language through cues results in language skills, speech reading ability and literacy levels comparable to those of hearing peers (7). CS is very compatible with the use of hearing and can help to develop auditory awareness, discrimination, and comprehension. The foundation provided by cues integrates well with cochlear implant use too (5). CS is very easy to learn. It takes about 20 hours to learn the basics of CS, after which one should be able to cue any word in his/her language and have an understanding of the theory and uses of CS (3, 6). In 2009, PCS has been developed from the original CS as a doctoral dissertation in Tehran University (8). In spite of its short age of development many Iranian educators have become interested in its use (9, 10). The purpose of this study is to examine current CS websites (CSW) and design a Persian CS Website (PCSW).

The main aim of this study was to develop an informational website on PCS for parents, care givers and educators of hearing impaired children.

## **Materials & Methods**

### *Information Gathering about CS*

We searched all the CS Websites in the ten first pages of Yahoo and Google search engine and all the articles with the topic of CS from 1968-

2012, also all the available information about PCS was used and relevant information were gathered.

### *Analysis of current CS sites*

We searched all the first ten pages of Yahoo and Google search engine with the keyword of Cued Speech. The repeated websites, advertisements, the pages, which were consisted of articles, and non informational pages were excluded. CSWs were remained. Then we analyzed the content and the structure of the websites to see what are their main menus, contents and structures to use them as a model for our website.

### *Web site design*

We used the criteria, which were mentioned as the most important criteria for Iranian website designers, before (11). They suggest that designed websites should be accurate, reliable, available, and simple to use. They should also have appropriate web structure, content, density and interaction with their users (11, 12). With the CSWs designs in our mind we tried to design a PCSW which would have most of these features in it.

## **Results**

The purpose of this study was to examine current CSW and design a Persian CSW. The findings presented here are not meant to show what is being done exactly in other websites; we just reviewed them to get some help to design our website.

### *Analysis of the contents and structure of the CS Websites*

We found twenty websites as our model websites. The websites and the analysis of the contents of the websites are shown in Table 1.

### *Persian Cued Speech website*

Using a framework that combined several criteria for health-information websites, we developed the Persian CSW with the three distinct audiences (parents, professionals and children) in mind. The main contents of our website (URL) as other CSWs were: CS definition, CS videos and pictures,

News, CS history, and CS researches. The main topics on the top of website are some of most frequent questions and interests of all the audiences and can be seen very easily. This moving menus are: 1) Guidelines for Parents 2) PCS Workshops 3) Are CS and Sign Language same thing? 4)

What is the Difference between PCS and Baghche-ban ( a very common mode of communication which is used in Iranian Deaf community as a complement for sign language .It is somehow a finger spelling method and yet many mistake it with CS) 5) On Cue Journal.

**Table 1:** The website samples and their main contents

Websites(URL )/Main contents	CS videos, pictures	CS News	CS history	CS researches	CS definition
CS bookstore ( <a href="http://www.cuedspeech.com">www.cuedspeech.com</a> )	+	+	+	+	+
National CS Association( <a href="http://www.cuedspeech.org">www.cuedspeech.org</a> )	+	+	+	+	+
CS in France ( <a href="http://www.alpc.assco.fr">www.alpc.assco.fr</a> )	+	+	+	+	+
CS in Poland( <a href="http://www.glusi.pl">www.glusi.pl</a> )	+		+	+	+
CS in Spain ( <a href="http://www.uma.es/moc">http://www.uma.es/moc</a> )	+	+	+	+	+
CS in England ( <a href="http://www.cuedspeech.co.uk">www.cuedspeech.co.uk</a> )	+	+	+	+	+
CS in Belgium ( <a href="http://www.lpcbelgique.be">http://www.lpcbelgique.be</a> )	+	+	+	+	+
Cs in Brazil&Portugal( <a href="http://www.dailycues.com/PFC/index.html">www.dailycues.com/PFC/index.html</a> )	+		+	+	+
CS in Switzerland ( <a href="http://www.alpc.ch">www.alpc.ch</a> )		+	+	+	+
CS in Maine( <a href="http://cuedspeechmaine.org">http://cuedspeechmaine.org</a> )	+	+	+	+	+
Minnesota CS( <a href="http://cuedspeechminnesota.org">http://cuedspeechminnesota.org</a> )		+	+	+	+
CS in North Virginia( <a href="http://nvcsa.org">http://nvcsa.org</a> )	+	+	+	+	
CS in South Africa( <a href="http://www.cuedspeech.co.za">www.cuedspeech.co.za</a> )	+	+	+	+	+
CS in Colorado( <a href="http://cuedspeechcolorado.org">http://cuedspeechcolorado.org</a> )		+	+	+	+
Online CS training( <a href="http://learntocue.co.uk">http://learntocue.co.uk</a> )	+	+	+	+	+
CS in Maryland( <a href="http://www.marylandcues.org">www.marylandcues.org</a> )	+	+	+	+	+
CS in New England( <a href="http://www.ne-cs.org">www.ne-cs.org</a> )	+	+	+	+	+
CS in Canterbury( <a href="http://www.cwespta.org">http://www.cwespta.org</a> )	+	+			
Cs in Llyods Foundation( <a href="http://www.lloydstsbfoundations.org.uk">www.lloydstsbfoundations.org.uk</a> )		+		+	+
CS in Rappahannock( <a href="http://cuedspeech.communitypoint.org">http://cuedspeech.communitypoint.org</a> )	+		+	+	

The Middle Menu consists of three categories: parents, professionals and children. Each category has many articles, which are written for that group of our audiences. Main articles in the Web page are: What is CS?, Persian CS, ,CS in Down Syndrome , Frank Mother –Child Program and Deaf children are like Butterflies(a poem). The parents and Professionals categories are more specific but the children category is more general and consists of notes about hearing loss, hearing aids ...written in a simple, childish manner, which are colorful and full of pictures.

The Moving Menu down the Website are: Useful sites,,CS Charts,CS Training, Contact Us and Picture & Video Gallery. Main Menu in the Left Side of Web Page are: Main Page, CS Training, What is CS?,, CS & Speech ,Language Development CS & Lip-reading, Speech-reading, CS & Reading Skills, ,Frequently Asked Questions about CS, Is CS a Sign Language?, ,CS Associations around the world

For Parents, For Professionals, , For Children, , CS Researches, CS News, CS History, Books & Brochures about Persian CS ,Useful Websites, Persian CS Charts, CS videos, Ask from us, Pic-

ture Gallery, Our Mission, About us and Contact with us.

We have also main moving menus below the web page, which are full of interesting subjects, and several menus in the left side of the web page in which the audience can find articles about CS and can make contact with us. Our mission and vision are included in the left menu, which informs users of the purpose and focus of the website.

The PCSW is a bilingual Persian/English website. We develop the main web pages in Persian language because main target group are Persian speaking user inside and outside of our country but we also add an English version to our website so that other users all around the world could have access to PCS and can be in contact with us.

## Discussion

Our main purpose was to make some useful informative website for Persian speaking families of deaf children, the deaf educators and rehabilitation professionals working with deaf children. So using a framework that combined several criteria for health-information websites, we developed the PCSW.

The content of the information written in an informational website should be accurate and supported by evidences (12, 13). We used documented contents, which were extracted from published articles and textbooks, and the results we found in CS studies in our country (8). In comparison with other CSWs, PCS is a very immense informational website, which has almost one hundred pages of documents presented for each group of our users (parents, professional and children).

The websites for parents should be educational only. They should be simple, practical, and not have just a theoretical framework like books (14). The educational parts of the website are full of pictures. We used videos too. It is written with a very simple language and all the parts are very practical. We refer our users to useful links wherever we had limited resources.

PCSW has both the features of a research-based and educational, informational websites which offers literatures regarding CS and the updated news about workshops and seminars. Therefore, it is a very use-

ful website for families and professionals.

In Google search, our website is the first to sixth search results when someone searches "Cued Speech" in Persian language. In the first year of its development, it had more than 45000 visitors, which is a very high rate for a new designed website.

The layout of the website is referred to as the design. For the graphic design we used other CSWs models and many guiding papers (2). As MacCulloch et al. mentioned, age-appropriate graphics (such as photos, font styles and colours...) should be incorporated. Specifically, they expressed that "graphics should be heavily integrated with the text descriptions and represent the tastes and preferences of the site users" (15). We did so in PCSW.

One of the other exciting features of our website is the colorful CS charts, which are downloadable. We did not find such CS charts in other sites. We also have videos about CS both in Persian and English language.

The PCSW is bilingual (Persian/English). So that both Persian speaking or non-Persian speaking ones can use it. We can also communicate through our website with other CS associations and centers all around the world and share information with them. All non-Persian-speaking people around the world can have access to our website and be aware of our activities. We did not see any other bilingual CSW in our search findings, an accurate, complete, accessible and readable resource about Persian CS for parents and professionals is available now. After designing our website, we sent letters to all other CSWs, informed them that our website is ready to use, and asked them if they have any comments.

After developing our website, we contacted with all other CSWs all around the world (who had helped us before with their permission to use their contents and pictures) and let them know that our website is ready to use. They sent us many good feedbacks and the main CS bookstore website ([www.cued-speech.com](http://www.cued-speech.com)) added our website to its links and wrote a very good complementary about it.

It is obvious that the demand for informative websites will increase over time. So homepage developers will need to understand this changing dynamic and adopt their website material provision accordingly and insure online information is meaningful,

relevant and accessible for users to assist them in making informed decisions about their situations (2).

## Conclusion

An accurate, complete, accessible and readable resource about PCS for parents and professionals is available now.

## Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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