DEVELOPING AND EVALUATION OF A WEBSITE ABOUT CHILDREN’S LANGUAGE DEVELOPMENT: PORTAL DOS BEBÊS – DESENVOLVIMENTO DA LINGUAGEM

Elaboração e avaliação de um website sobre o desenvolvimento da linguagem infantil: portal dos bebês – desenvolvimento da linguagem

Aline Martins¹, Elen Caroline Franco¹, Magali de Lourdes Caldana³

ABSTRACT

Purpose: to design and develop a website in the field of speech therapy with a focus on development of babies from 0 to 48 months, and furthermore, to evaluate the quality of the content presented and technological resources used. Methods: in the first phase of the project a survey of data through review of literature about development and acquisition of child language was conducted. Then this content was inserted into the website and rated by 20 parents and / or caregivers. Results: the Portal dos Bebês website – Desenvolvimento da Linguagem was developed with language directed to parents and / or caregivers, and their content was divided into three themes: “Language Development”, “Speech and Language” and “Language and Environment”. With regard to the quality of content and presentation, the website was rated as “excellent” by all participants in the sample. Regarding the review of the vocabulary used and the presentation of content, 70% and 75% respectively, considered the website as “excellent”. Regarding the visual presentation, 85% of participants rated as “excellent”. The type of navigation was rated as “satisfactory” by 50% of participants. As to the extent that parents and / or caregivers think about the site most rated as “excellent” the aid that it gives in the language development child. Conclusion: the Portal dos Bebês website – Desenvolvimento da Linguagem can be accessed by online address http://portaldosbebes.fob.usp.br, and its contents and technological resources were assessed as satisfactory to excellent by parents and / or caregivers participating.

KEYWORDS: Language Development; Child Language; Education, Distance

INTRODUCTION

The ability on language acquisition is a superior ability of human being. Through it, communication becomes possible in order to express ideas, emotion and desire, as well as contribute to the development of other fields such as cognition and contribute to communicative functions¹. From the very beginning we are exposed to favorable development of language stimuli. The first way of child socialization occurs through language and, it is mostly carried out in the family and school environment through verbal instructions during daily activities such as breastfeeding / feeding and bathing². Therefore, even before learning how to speak, children have access to values, beliefs and rules, acquiring knowledge of their culture and their language³.

Considering that, parents and/or caregivers have a major role in the development of language, by assigning meaning and intention to the child communication and mainly by assuming the position of representative of the language.

For the interaction between parents and/or caregivers with the child becomes more effective, it is important to know how to make enriching communication. Thus, it is necessary to inform people about the most complex and important aspects for the development of language, enabling health

¹ Faculdade de Odontologia de Bauru / Universidade de São Paulo – FOB/USP, Bauru, São Paulo, Brasil.
² Fonoaudiologia da FOB/USP – Bauru, SP, Brasil.
Financial disclosure: Tutorial Education Program – MEC/Sesu
Conflict of interest: non-existent
promotion and prevention to the population. It is also important that the teacher knows about the stages of acquisition and regular development of speech and language, and so, they may be able to notice the variations in child development and are aware about the ways of stimulating oral language and communication skills.

It is of great importance to increase access to health information in a way to enable the community to use this knowledge in making decisions. Given this necessity it is possible to make use of distance education technologies, so that through them it may be possible that information reaches parents in places that there is no professional.

The use of technology, combined to the speech therapy knowledge, has been described in other studies, and the results are motivating for further research.

Therefore, the present study had as objective to design and to develop a website in the field of speech therapy with a focus on language development of babies from 0 to 48 months, and furthermore, to evaluate the quality of the content presented and technological resources that it was used.

**METHODS**

The research related to the development of this study was approved by the Research Ethics Committee of our Institution, protocol number 88/2010 and there was parental consent by signing an informed consent.

The study included 20 parents and / or caregivers of 0-48 months –children. As a criteria for inclusion parents and / or caregivers must have taken care of at least one child with age up to 48 month, have internet access and do not have a degree in Speech Pathology.

The development of the study consisted of three steps. Firstly, we performed a comprehensive data collection through literature review on the development of language, communication skills of infants, the importance of stimulation early in life, and the best way to make interaction between parents and baby richer and the different environments of child development. The content collected was organized in texts and topics, using a simple, clear and friendly language so that any population appropriates the knowledge.

In order to facilitate the interpretation of content, illustrative images and video were used. Three children, two girls (5 and 8 months) and a boy (2 years and 6 months) were filmed in everyday activities after the clarification to the adults responsible for the children about the purpose of video related to the study procedures and with their prior consent, by signing the authorization for the use of sounds and images. The recording data was made in a very familiar environment for the child.

Some other aspects that were considered when building the website, relate to the accessibility and usability that are fundamental to digital inclusion, aiming at ease of use. Such assumptions were guaranteed by a designer from the Institution Educational Technology team, as well as by professionals responsible for implementing the website that it was performed by a private company.

After the development of online content it started the second stage of the study in which the researcher contacted parents and / or caregivers of infants 0-48 months by sending them a letter or email explaining the purpose of the study. People contacted to participate in the study received a Term of Free and Informed Consent and after the reading it was given the option to accept or decline their participation by signing the term. Both options allowed access to the contents of the Portal dos Bebês, however, for those who refused to participate it was not given the questionnaire for evaluating the content of the Website.

Participants had access to the entire contents of the Portal dos Bebês, yet the survey was conducted on topics related to Language Developmental, covering the topics “Language Development”, “Speech and Language” and “Language and Environment”. After signing the consent form participants had two weeks to access the website and complete the survey.

The questionnaire evaluated the presentation and quality of content, visual presentation, appropriateness to the public, the importance of the website and the attitudes presented towards the children.

Regarding the first aspect the evaluated items were consistency between the content and the theme, vocabulary and form of presentation of concepts. On the visual quality it was judged the page quality, pictures, videos and type of navigation. Regarding the suitability to the audience, the reviewer judged if it was appropriate or not. Considering the importance of the website it was judged if the material helps in enhancing interaction with the child language development, also if the acquired knowledge can be used in everyday language, and if they would recommend the material to other parents and / or caregivers. Concerning the latter point it was verified if the parents already had these attitudes towards children before.

All aspects were analyzed using a four-item scale, classified as Poor, Average, Satisfactory and Excellent, and to each given concept, the evaluator had the opportunity to justify their response and make suggestions.

Rev. CEFAC. 2015 Jan-Fe;

17(1):159-168
Once collected the surveys, the third step was performed in which the data were treated statistically as it was performed descriptive statistic to tabulate the responses obtained through questionnaires to verify the reported importance by the participants as to the content.

RESULTS

The results will be presented in two parts: development of the content for the website Portal dos Bebês – Language Development (http://portaldosbebes.fob.usp.br) and evaluating the content.

**Part I: Results of the development of the website Portal dos Bebês – Language Development**

The section on language website “Portal dos Bebês – Desenvolvimento da Linguagem” was elaborated from the consultation of an extensive bibliography, no limit date of publication, which was sought in books, journal articles and reports in the Web posted by educational institutions.

The language used was directed to parents and / or caregivers, in other words, easy to understand, not using technical terms in the field of Speech Pathology. The content was divided in the following themes “Language Development”, “Speech and Language” and “Language and Environment” presented in figure 1. This division was made, seeking to facilitate website navigation and for parents and / or caregivers so they could have autonomy to navigate content according to their needs and interests.

![Figure 1 – Items Site](image-url)

**Figure 1 – Items Site**
The first item “Language Development” is composed of two sub items, for the normal development of language acquisition and importance of stimulation and interaction. In subsection one (1) language is described as the ability to understand what it was said and play what we want, which is considered the primary way of socialization and communication. Thus, it is through language that babies begin to understand what they feel, what they see, to form concepts of actions, objects and shapes and develop oral language. Also it is displayed the important factors for a successful development of language and attitudes which parents and / or caregivers must take if the baby has any change in the appropriate course of language development.

The subsection two (2) explains the importance of stimulation and interaction between baby and family and peers (Figure 2).

The “Speech and Language” item is divided into six sub items that address the development of language and conversational skills. These are separated by aged 0 to 6 months, 6 to 12 months, 1 to 2 years 2 to 3 years and 3 to 4 years. Within each subsection it was approached what is expected for each age, communication skills presented, the development of language and tips for parents and / or caregivers to know how to stimulate their child and enhance their development. To facilitate the acquisition of knowledge short videos of children in routine activities were inserted. The last subsection of this context discusses general tips and stimulation is presented in Figure 3.
The last subsection was “Super Protective parents”. Parents have a duty to protect their children, but when that protection becomes excessive, the development of these children can be seriously compromised. Therefore, it was described some attitudes that parents should not take in language and tips to better encourage them, promoting their communicative potential.

Part II: Evaluation of the website Portal dos Bebês – Language Development by parents and / or caregivers

The website “Portal dos Bebês – Desenvolvimento da Linguagem” was rated by 20 parents and / or caregivers of infants from 0-48 months. Of these 20 participants, there were 2 caregivers, 4 fathers and 14 mothers. The age of participants varied from 24-55 years. All of them had completed secondary level at least; six of them had finished graduation and one of them had finished post-graduation.

Regarding to the quality of content and presentation, the website was rated as “excellent” by all participants in the sample, when asked about the consistency between the topic and the subject proposed which is the development of children’s language. Regarding the review of the vocabulary used and the presentation of content, 70% and 75% respectively, considered the website as “excellent”, conforms illustrated in Figure 4.
Figure 4 – Evaluating of presentation and quality of content

Regarding the visual presentation, 85% of participants rated the quality of the pages presented and figures as “excellent”, the type of navigation was rated as “satisfactory” by 50% of participants (Figure 5). This result, as was justified by the evaluators, is due to the difficulty of navigation in sub items from the side menu bar.

Figure 5 – Evaluation of Visual Presentation
Regarding the importance of the site parents and/or caregivers it can be observed in Figure 6 that it was mainly rated as “excellent” the aid that gives to language development of the child and that the proposed strategies and content are important for the use day by day. All parents and/or caregivers of the sample reported in the survey that they would indicate the website to others.

![Diagram showing the importance of the website for parents and/or caregivers](image)

**Figure 6 – Importance of Website for parents and/or caregivers**

When parents and/or caregivers were asked about the importance of the website for the development of language and their attitudes to children, three of them replied that their attitudes towards them were the same as described by the website, but they found the content very important to assist children’s language development. The other 17 parents and/or caregivers reported that they had all described attitudes and that after seeing the website and browsing through its contents, some attitudes towards children have changed or at least attempted to modify, improving the development potential of themselves.

### DISCUSSION

Parents and/or caregivers have a fundamental role of strengthening the skills, giving communicative intent to the actions of children and observing the course of their development. However, parents and/or caregivers may not have sufficient knowledge of language development and the importance of stimulation. So the new capabilities of the child can be a challenge for them, they need to adapt to new requirements and learn how to deal with the acquisitions that appear during this period of development. It was also observed in this study, the parents’ difficulty in adjusting to new expressions of their children, in which 17 parents and/or caregivers do not know how to deal with situations of development of the children and do not have knowledge of the importance of stimulation.

Children have great potential for learning, the early years are essential for the vital processes of development occur in all domains of the functions. At birth, the child’s brain responds to spoken language already, but progressive maturation of interhemispheric functional connectivity is established with the language exposure.

The knowledge of parents and/or caregivers concerning the normal development of language acquisition is fundamental so that they know how to deal and what to expect of children at each stage of development, without requiring beyond or below what the child can provide. Moreover, with the development of this study, it was attempted to provide knowledge for parents and/or caregivers can identify as early as possible so that, if necessary, the intervention process is performed.
It is very important to increase access to health information for the community to use this knowledge when making decisions. For this, the internet has been a valuable tool for dissemination of speech therapy knowledge. As for virtual mentoring programs is crucial that they are a source of information and social support playing an important role in the transmission of information.

According to the Brazilian legislation, distance education is a way of teaching that enables self-learning, with the mediation of systematically organized teaching resources, presented in various media of information, used isolated or combined, and transmitted by various media. In the area of Speech Pathology in 2009, the Federal Board of Speech Pathology regulated the practice of telehealth through Resolution 366.

The use of the Internet makes available information using multimedia features, with access to a wide extent and cost, plus the ability to reach remote locations and include various groups of population. Faced with this it was found that the best way to provide knowledge and guide parents and / or caregivers about child development so that they can take more assertive attitudes towards children was creating the website “Portal dos Bebês – Desenvolvimento da Linguagem”.

A review of this material by users was of great importance for improving the website. Several studies that verify the acceptance of the population had the opposite telehealth user approval. The same result was found in this study, in which all evaluators classified the website as satisfactory and excellent.

The creation of website makes it easier and standardizes the orientations to parents, focusing on health care. The planning and design phase of the website was the one that required longer time, because of the concern of the researchers to develop a material that addresses important content in a clear and objective manner, stimulating reading and navigation of the website interactively.

In this context, it is important to consider that the learning process is influenced by many aspects and that there are differences in how people learn. According to this, people retain more information when these are acquired along with illustrations, pictures and videos. For this reason, researchers took great care on the quality of images and videos, as this study was rated between good and excellent by users.

CONCLUSION

The planning and design of the website required most of the time, as required extensive research for the selection, definition and organization of content.

The process of evaluation by parents and / or caregivers was effective to check out quality to the material and achieve the stated goal of taking information about the children’s language development for parents and / or caregivers.

These guidelines allow prevention of delays in development and enable an early diagnosis of impaired oral communication. Thus, the creation of the website is of great importance, as it combines the basic information about children’s language development, allowing access to guidance when needed. From this study, anyone can have access to such information by address http://portaldosbebes.fob.usp.br, which was reported as satisfactory to excellent by parents and / or caregivers.
RESUMO

Objetivo: criar e desenvolver um website na área de fonoaudiologia com enfoque no desenvolvimento da linguagem de bebês de 0 a 48 meses, além de avaliar a qualidade do conteúdo apresentado e os recursos tecnológicos utilizados. Métodos: na primeira fase do projeto foi realizado um levantamento de dados por meio de revisão de literatura sobre o desenvolvimento e aquisição da linguagem infantil. Em seguida esse conteúdo foi inserido no website e avaliado por 20 pais e/ou cuidadores. Resultado: o website Portal dos Bebês – Desenvolvimento da Linguagem foi desenvolvido com linguagem voltada a pais e/ou cuidadores, e seu conteúdo foi dividido em três temas: “Desenvolvimento da Linguagem”, “Fala e Linguagem” e “Linguagem e o Ambiente”. No que se refere à qualidade do conteúdo e da apresentação, o website foi avaliado como “excelente” por todos os participantes da amostra. Quanto à avaliação sobre o vocabulário utilizado e a forma de apresentação do conteúdo, 70% e 75% respectivamente, consideraram o website como “excelente”. Em relação à apresentação visual, 85% dos participantes classificaram como “excelentes”, já o tipo de navegação foi classificado como “satisfatório” por 50% dos participantes. Quanto à importância que os pais e/ou cuidadores julgam sobre o site a maioria classificou como “excelente” o auxílio que o mesmo dá no desenvolvimento da linguagem da criança. Conclusão: o website Portal dos Bebês – Desenvolvimento da Linguagem pode ser acessado pelo endereço online http://portaldosbebes.fob.usp.br, e seu conteúdo e recursos tecnológicos utilizados foram avaliados como satisfatório a excelente pelos pais e/ou cuidadores participantes.

DESCRITORES: Desenvolvimento da Linguagem; Linguagem Infantil; Educação a Distância

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Received on: January 29, 2014
Accepted on: May 09, 2014

Mailing address:
Elen Caroline Franco
Al. Dr. Octávio Pinheiro Brisolla, 3-21 B,
Santa Tereza
Bauru – SP – Brasil
CEP: 17012-059
E-mail: elen.fono@yahoo.com.br

Rev. CEFAC. 2015 Jan-Fev; 17(1):159-168