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Terminology Applied in the study of user information when aimed at visually impaired peope

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Abstract. Society comprises unique individuals; this is a human condition. Individuals think differently, act differently, and feel with varying intensities; and all this is because human beings live and make sense of the world in their own unique ways. Despite these differences, some terminologies help in expression and communication. From this perspective, this article aims to present the terminology for visually impaired people in the study of information users, based on the literature of information science and related areas. This is a qualitative study that uses a bibliographic method, associating conceptual aspects relevant to the topic. The study shows that terms and concepts should be defined for users with disabilities, and that user studies should be focused on people's individuality and consider their experiences, needs, and expectations, thus paving the way for a holistic perspective.

Keywords: Inclusion; Information need; User information; Users with disability; Visually impaired people.

[es] Terminología aplicada en el estudio de la información del usuario cuando se dirige a personas con deficiencia visual

Resumen. Cada individuo que compone la sociedad es único; esta es una condición humana. Los individuos piensan y actúan de diferentes maneras, sienten en diferentes intensidades. Y todo esto sucede porque el ser humano vive y aprende del mundo de una manera diferente. Existen terminologías que ayudan en la expresión y la comunicación relacionadas con estas diferencias. Este artículo tiene como objetivo presentar, desde esta perspectiva, a partir de la literatura de la ciencia de la información y de las áreas relacionadas, la terminología en el estudio de los usuarios de la información enfocada en la persona con deficiencia visual. Esta investigación se caracteriza por ser cualitativa y con el método bibliográfico relacionar aspectos conceptuales que fundamentan el estudio. Los resultados muestran la importancia de definir los términos y los conceptos utilizados para el usuario con deficiencia y que los estudios de usuario deben ser dirigidos a la individualidad de las personas, considerando sus experiencias, sus necesidades y sus expectativas, permitiendo una visión holística.

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Palabras clave: Inclusión; Necesidad de información; Usuario con deficiencia; Usuario de la información; Persona con deficiencia visual.

Sumary. 1. Introduction. 2. Users with disability. 3. Visually impaired users. 4. Study of visually impaired people in the context of information users. 5. Conclusions. 6. References.

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1. Introduction

Contemporary society is permeated by discrimination, with prejudice against ethnic origins, race, gender, and people with disabilities, and social, economic, and religious discrimination (Santos, 2012).

Therefore, there is a constant struggle to make the society more inclusive and open to all, encouraging the everyone's participation, appreciating the different human experiences, and recognizing each person's potential (Federação Brasileira de Bancos, 2006). In this sense, one of the most discussed topics by groups that study inclusion is the designation of people with disabilities (Santos, 2012).

The terms used to refer to people having some kind of disability in Brazil have been redefined over the years. Some of the terms attributed to people with disabilities in different periods of history include "disabled," "incapacitated," "handicapped," "deficient," "exceptional," "person living with a disability", "disabled people," and "people with special needs" (Campos; Oliveira, 2009; Chateau et al., 2012; Malheiros, 2013; Santos, 2012). The terms are considered correct in terms of values and concepts in force in each society and era; therefore, these terms were accepted, used, and replaced, at certain moments in history (Chateau et al., 2012: 66). Thus, using fewer stigmatizing terms which are kinder and less emotionally charged, instead of the older ones which have acquired connotations of helplessness and hopelessness, is the path taken to achieve a more precise, scientific, and qualitatively acceptable concept (Chateau et al., 2012).

This work is a part of the research that deals with the interactions between visually impaired people and information in the digital environment. To that end, we present the terminology applied in the study of user information when aimed at visually impaired people, based on the literature of information science and related areas. This is a descriptive and a qualitative study employing a bibliographic method and associating conceptual aspects relevant to the topic.

The bibliographic research was based on scientific papers found in relevant databases: the Annual Review of Information Science and Technology; Biblioteca Digital de Monografias de Graduação e Especialização of the Universidade de Brasília (UnB); Biblioteca Digital de Teses e Dissertações of the Instituto Brasileiro de Informação em Ciência e Tecnologia; British Journal of Visual Impairment; Information Science and Technology Abstracts; Journal of the

Association for Information Science and Technology; Journal of Documentation, Library and Information Science Abstracts; Library Literature & Information Science Full Text; Networked Digital Library of Theses and Dissertations; Portal Brasileiro de Publicações Científicas em Acesso Aberto; UnB Institutional Repository; Scopus; Web of Science; the World's Largest Network of Library Content and Services, among other sources of information which enabled in recovering papers addressing the topics covered in this study. It is worth mentioning that our focus was not to carry out a quantitative survey of the papers, but to expand the discussion on the guiding elements of the mediation process that can increase one's understanding of the topic by analyzing scientifically recognized studies.

2. Users with disability

Currently, the most appropriate nomenclature to designate people having some kind of disability is "people with disabilities." The term was defined after several international debates on the subject. The United Nations, through its General Assembly, established the International Convention on the Rights of Persons with Disabilities (Santos, 2012; Malheiros, 2013).

When reflecting on the terms used to designate people with disabilities, keeping with the current values of the society, it is necessary to understand the meaning of the term "disability," as the theoretical definition of disability has been studied in different subjects, used in various contexts, and for different purposes. In this sense, it is important to think about these definitions in theoretical terms to understand how the different facets of this concept influence the definitions of teaching policies, benefits, and the drafting of laws that affect people's daily lives (Goos, 2015: 31), that is, these definitions, which are typically based on theoretical models, directly affect the lives of the people with disabilities. Therefore, changing the theoretical definition of disability can have great social, economic, and political implications (Mitra, 2006).

Disability can be viewed through the lens of four theoretical models, as demonstrated by Mitra (2006): medical model; social model; and the models proposed by Nagi and the International Classification of Functioning, Disability, and Health (ICF).

The medical (or biomedical) model considers disability as the absence or dysfunction of an organ or system that has been caused by a disease, an injury, or some other health condition and requires medical care in the form of treatment and rehabilitation. This model is strongly normative: people are considered disabled if they are unable to function following a population-based model based on the universally accepted normal (default) biomedical state of the body. Thus, rehabilitation has an important role to play in bringing the person back to (or close to) the normal state. The main concern of the medical model, on a political level, is to provide health care and rehabilitation services. This model has been criticized for different reasons, including its normative force (Mitra, 2006).

The social model opposes the medical model and considers disability as a social construction, which occurs from the segregation and discrimination faced by people with disabilities. In this model, disability is not seen as an attribute of the individual; rather, it is created by the social environment and requires social change. In other words, disability is an imposition on the individual's limitations, unnecessarily isolating and excluding people with disabilities from their whole participation in society. Therefore, the social model stems from social oppression and the oppressed minority. This means that people with disabilities face discrimination and segregation through sensory, attitudinal, cognitive, physical, and economic barriers, and their experiences are considered similar to those belonging to an oppressed minority. They face extraordinarily high rates of unemployment, poverty, and dependence on social programs, school segregation, inadequate housing, and transportation, and are excluded from many public facilities (Mitra, 2006).

The model proposed by Saad Z. Nagi, in turn, addresses concepts of disabilities and impairments using both medical and social concepts, and is considered a mixed approach. Nagi (1991) presents four distinct but interconnected concepts: active pathology; impairment; functional limitation; and disability. The starting point of Nagi's model is pathology. According to the author, active pathology may result from infection, trauma, metabolic imbalance, degenerative disease processes, or any other etiology. Such a condition involves the interruption of or interference with normal body processes, and the body's simultaneous attempts at recovery. An active pathology can lead to an impairment, which is a loss or abnormality of an anatomical, physiological, psychic, or emotional nature. Impairments can be either congenital or caused by a pathology. Thus, according to Nagi, although each pathology involves an impairment, not every impairment leads to a pathology. The concept of functional limitation refers to the limitation of the whole organism to function as expected, differing from the concept of impairment, which concerns a more specific loss. Finally, disability is a social construction, that is, it is a limitation in performing socially defined roles and tasks that are expected of an individual within a sociocultural and physical environment. These roles and tasks are organized into spheres of life activities, such as family or other interpersonal relationships, work, employment, and other economic activities, and education, recreation, and self-care. Not all impairments or functional limitations precipitate as disabilities. Furthermore, similar patterns of disability can result in various types of impairments and functional limitations. Conversely, identical types of impairments and similar functional limitations can result in different patterns of disability. Several other factors contribute to shaping the dimensions and severity of disability. They include: (a) definition of the situation and reactions of the individuals, which sometimes increase the functional limitations; (b) definition of the situation by others, their reactions, and expectations, especially those who are significant in the life of the individual with the disabling condition (e.g., family members, friends and colleagues, employers and co-workers, and organizations and professions that provide services and benefits); and (c) characteristics of the environment and the degree to which they are free from, or subjected to, physical and sociocultural barriers (Nagi, 1991).

Finally, according to Mitra (2006), the fourth theoretical model was proposed by the ICF. In the early 1980s, the World Health Organization (WHO) developed the International Classification of Disabilities, which was later revised and renamed as the ICF, as defined earlier. Conceptually, the ICF represents an integration of the medical field and the social models, aiming to provide a coherent view of different health perspectives, including biological, individual, and social ones. Thus, the ICF model argues that disability results from a health condition that gives rise to impairments, and subsequently to limited activities and restricted participation within contextual factors.

An activity is the performance of a task or action by an individual. Participation is the "life experience" of people in the real context in which they live, and contextual factors refer to the individual’s background, including personal factors, their environment (home, school, and work), services available to them in the community (e.g., transportation, health, social services), and cultural factors (laws and attitudes) (Mitra, 2006).

The historical-cultural approach proposed by Vygotsky and his followers is one of the main sociological approaches used to address this topic. The approach is largely based on the assumption that the learning of people with disabilities is socially and culturally constituted. In this sense, the historical-cultural matrix addresses the concept of "cultural development," which contributes to the understanding of the person which originates in relationships and develops from them. This, defines culture, broadly, as the product of social life and the social activity of human beings (Padilha, 2010). Thus, from the point of view of this approach, development does not occur naturally, but is constructed from living conditions, which are not predefined in a person with disability, nor in the family, or the cultural group, but within social relationships. This way, each person is constituted in a singular, unique way from the meanings, initially attributed by the other, and later internalized by them within their context (Padilha, 2010).

Jaeger and Bowman (2005) present, in addition to the medical and social models, other models based on a materialist and postmodern perspective. From a materialist perspective, the oppression of people with disabilities is rooted in economic terms – neither in the individual nor the attitudes of others. According to this perspective, disabilities are not social constructs, but rather have tangible economic causes, such as vested professional interests, technological change, and economic priorities. In this view, a person with a disability is less valued as a worker by employers, is seen as a constraint by other workers, and is perceived as having greater difficulty in dealing with new and upcoming technology. All these factors contribute to attitudes that serve to marginalize persons with disabilities for economic reasons. This perspective considers the main problem to be the perception around individuals with disabilities as having less economic value than other members of society.

Further, the postmodern approach questions the value of the attempt at creating a theory of disability, on the grounds that human experience is too varied and complex to be accommodated by a single perspective. This means that there are so many individual and personal experiences given factors such as race, gender, and type of disability, that it is impossible to theoretically classify the parameters of experiences faced by persons with disabilities (Jaeger; Bowman, 2005).

Therefore, such theoretical approaches, barring the medical one, call into question the social aspect of and the barriers that people with disabilities encounter in their interactions with different arenas of daily life. In the next section, we will address certain aspects concerning visually impaired people to further clarify some concepts and terms referring to disability.

3. Visually impaired user

Visual impairment, classified as blindness and low vision, is an irreversible condition of permanent loss or reduction of the visual response in both eyes, even after medical treatment, surgery, or the use of lenses (Instituto Benjamin Constant, 2005; Rocha, 2013). A vast number of visual disorders are classified under these two designations (blindness and low vision), affecting people with varying degrees of vision, including people with residual vision. Furthermore, different terms and definitions are being used in different contexts, such as the legislation, medical, rehabilitation, and pedagogical contexts (Rocha, 2013).

The medical definition is supported by two ophthalmological scales that help define groups of visual impairments: visual acuity (visibility at a certain distance) and visual field (the breadth of the area reached by vision; Conde, 2012). To assess a person's visual acuity, a universally accepted method is the Snellen decimal optometric scale, also known as Snellen chart (Zapparoli; Klein; Moreira, 2009). The chart consists of a set of symbols arranged on a white card, with the symbols decreasing in size from the top to the bottom row, in a direct proportion of distance and size based on a decimal scale that varies from 0.1 to 1, in which the evaluated person visualizes each symbol, using one eye at a time, and informs whether they can see each symbol clearly. The number of lines seen by the person indicates the degree of visual impairment, allowing one to reach a diagnosis (Malheiros, 2013).

As explained by Polina and Silva (2013), to read the Snellen chart one must observe the fractional numbers that appear at the end of each row of letters. Taking 20/40 as an example, the first number corresponds to the distance between the chart and the person evaluated, where 20 feet correspond to 6 meters. The second number, 40 feet, corresponds to the row of letters a person with normal vision would see at 40 feet, but someone with uncorrected or optically corrected vision but has low vision can only see at 20 feet or 6 meters. Thus, the 20-foot numerator remains fixed, as it is the distance between the person being evaluated and the chart. Despite the conversion into meters and decimals, ophthalmologists use more often the visual acuity measured in feet and sometimes in decimal, as proposed in the Snellen scale (De Masi, 2002: 23).

Thus, the medical definition considers a person blind when their visual acuity is equal to or less than 20/400 (0.05 in decimal scale), that is, if they can see at 20 feet (6 meters) what a person with normal vision can see at 400 feet (120 meters;

World Health Organization, 2019), or if the widest diameter of the visual field corresponds to an arc no greater than 20 degrees, even though the visual acuity in that narrow field may be superior at 20/400 (Conde, 2012). In this context, a person with low vision has a visual acuity between 20/60 (0.3 on a decimal scale) and 20/400 (0.05 on a decimal scale; World Health Organization, 2019).

According to the WHO classification, groups of visual impairments are divided into mild, moderate, severe visual impairment (group comprising people with low vision), and blindness (include people who have light perception and absence of light perception; World Health Organization, 2019). Depending on the pathology, people with disabilities have impairments related to decreased acuity and/or visual field, adaptation to light and dark, and color perception (Carvalho et al., 1994).

However, as the medical definition does not encompass useful visual potential for performing tasks in its conceptualization, it should not serve as the main guide for the educational approach (Brasil, 2001). Thus, pedagogically, the functional vision of a visually impaired person is what guides an adequate conceptualization for this purpose, with the vision assessment considering visual acuity, visual field, and the efficient use of vision potential (Sá; Campos; Silva, 2007). This way, as stated by Nunes and Lomônaco (2010), 1970 onwards, the diagnosis of visually impaired people, in addition to considering clinical standards, began to assess the person’s forms of perception: if they make sense of the world through touch, smell, and synesthesia among others, the person is considered blind. According to Conde (2012), the Braille system is the main means of reading and writing. If, however, according to Nunes and Lomônaco (2010), the individual has limitations of vision, but still manages to use the residual vision satisfactorily, then they are diagnosed as having low vision. In this case, according to Conde (2012), their learning will take place through visual resources, that include reading enlarged printed types or using powerful optical resources (glasses, specific magnifying lenses, magnifying glasses, among others).

Kulpa (2009) states that visual learning is not only dependent on the eyes, but also on the brain's ability to capture, encode, select, and organize the images perceived by the eyes. The act of seeing is a direct experience, in which images convey information and represent the closest approximation possible to reality. These images are associated with other sensory messages, and stored in memory for recall. Thus, Kulpa (2009) states that the development of visual efficiency requires the maturation of optical factors and the use of brain functions. Sá, Campos and Silva (2007) explain that visual efficiency is measured by the quality and use of visual potential according to the conditions of stimulation and activation of visual functions, implying that emotional factors, and the environmental and contingency conditions of an individual's life directly interfere with the potential use of vision.

Based on this, Raposo and Martínez (2011) demonstrate, based on Vygotsky's sociocultural perspective and his works, that visually impaired people are not only those who lack visual perception, but also are those who employ other senses to understand and engage with their environments. They also emphasize the integrity of individuals and the adequacy of their personality to the different life experiences and the multiple influences received. This means that visually impaired people develop according to their individual characteristics linked to biological aspects, and secondary characteristics arising from the social context.

Similarly, Raposo and Martínez (2011) state, adopting the point of view of González Rey, the founder of the theory of subjectivity with a historical-cultural basis, that visually impaired people are concrete individuals whose disability participate in the constitution of their subjectivity in a particular way, due to the characteristics of their socio-relational systems and their subjective meanings (Raposo; Martínez, 2011: 241).

Thus, both Vygotsky and González Rey emphasize the dynamic constitution of individuals and their personality in the articulation between the individuals and the social context (Raposo; Martínez, 2011: 241).

In this context, Nunes and Lomônaco (2010) demonstrate that the absence of vision is a complex and diverse phenomenon. The causes of the impairment, the moment and form of visual loss (progressive or sudden), and the psychological, familial, and social contexts influence how visually impaired people learn and live with their condition of blindness. Therefore, even though one can think of aspects shared by people with visual impairments, especially regarding the forms of perception, the development of each one is particular, similar to what occurs with every normal person. This justifies the idea that the development of a visually impaired person is much closer to other people with similar characteristics (age, socioeconomic status, cultural influence, among others) than another visually impaired person. However, Nunes and Lomônaco (2010) state that although there exists more than a single path of development for visually impaired people, some conditions can improve and/or enable their learning capacity.

Thus, it is important to know the age and cause of visual loss to better understand the condition of visual impairment and individual experiences (Nunes; Lomônaco, 2010). According to Amiralian (1997), loss of vision before the age of five is called congenital, and can be caused by retinopathy of prematurity: grade III; IV; or V, toxoplasmic chorioretinitis during pregnancy, congenital cataract, congenital glaucoma, optic atrophy due to problems related to childbirth, retinal degenerations, or cortical visual impairment (Brasil, 2001). According to the author, after the age of five and onwards, loss of vision is considered adventitious or acquired. Loss of vision can be progressive, caused by diseases that specifically affect the ocular system, such as glaucoma, cataracts, and peripheral and central dystrophies, or can be associated with other organic problems, such as diabetes, or neurological syndromes that affect the optic nerve, with variable time for vision loss. There are also cases of sudden and traumatic vision loss due to accidents. According to the author, the determination of the age of five years for the diagnosis of acquired visual impairment was based on a study that did not identify visual memory in people who had lost their sight before that age. Amiralian (1997) also states that the earlier the vision loss occurs, the more it influences the development of the individual and, the later it occurs, the more the personality traits prior to the loss of vision influence the development of the individual.

Therefore, before providing any type of information in any resource or support for visually impaired people, it is important to understand their biological or visual characteristics, individual experiences, and sociocultural heritage.

4. Study of visually impaired people in the context of information users

Information science, which aims at studying the general properties of information (nature, genesis, effects) and analyzing its processes of construction, communication, and use (Le Coadic, 2004: 25), has been focused on investigating the existing relationships between a person and information. In information science, the person has been studied as a user of information, being the objective and main focus of studies and professional practice in the field (Costa, 2003: 3). According to Costa (2003: 3), information users are people who establish some kind of relationship with information using the available services and resources in several channels, including libraries, archives and documentation, and information centers.

There are four main aspects of the relationship between users and information: information need, information use, information seeking, and information behavior. The field of study within information science that investigates the ways that individuals perceive, seek, understand, and use information in various life contexts is called information behavior (Case; Given, 2016).

The first systematic research on information behavior dates back at least a century. The 1940s saw the first published reviews of this literature. Most of the investigations focused on the artifacts and venues of information seeking: books, journals, newspapers, radio and television broadcasts, schools, universities, libraries, professional conferences, and the like. What mattered in these early investigations was how formal information systems served the serious (e.g., work, health, or political) information needs of the population studied (Case; Given, 2016). Ferreira (1997a) refers to user-centered investigations as a “traditional approach”.

In the early 1970s, the investigations began to branch out beyond the focus on formal channels and task-oriented needs. The emphasis shifted away from the structured “information system” and toward the person as a finder, creator, interpreter, and user of information (Case; Given, 2016). This approach considers information as something constructed by human beings and acknowledges users as beings who are constantly developing themselves and are free (within the limits of the system) to create from systems and situations, as per their choice. This means that this approach explores how people construct meaning to identify universal dimensions of meaning-making. It mainly investigates the use of information in particular situations, examining the system as it is seen by the users (Dervin; Nilan, 1986). Ferreira (1997a) refers to it as an “alternative approach”. From that period onwards, these investigations came to be called “user studies” which focused on those people who used service or source usually intending to improve institutional services. Gradually these early investigations moved beyond single channels (e.g., books, radio, or libraries), to consider multiple channels from among which an individual made active choices in pursuit of information (Case; Given, 2016). Cunha and Cavalcanti (2008) define user study as the research conducted to investigate the requirements people have in terms of information or whether the users are satisfied and being adequately served by their providers. These studies also include the method of investigation and the aims for which information is used, the factors affecting the use, and how these needs are expressed and known within a thematic area or by those using the products and services of an information unit or system.

According to Araujo (2010), this approach was introduced in Brazil by Ferreira (1996) and became the most important reference framework for the theoretical structuring of user studies. Examples include: Ferreira (1997b), who proposed the design of a user-centered virtual library; Crespo and Caregnato (2003, 2006), who analyzed information search and use models based on concepts related to information seeking behavior; Costa and Ramalho (2010), who described interactive information systems through the interface with information users from the perspective of human-computer interaction and focusing on utility; and Baptista and Cunha (2007), who addressed the historical trajectory of user studies from the 1960s onwards, demonstrating that the qualitative approach became the most used approach in studies from the 1990s onwards corroborating with the time when researchers studying information search behavior realized that research with quantitative methods did not contribute to the identification of individual needs and the implementation of information systems suited to these needs. Thus, Araujo (2010) states that this approach has been reevaluated in recent studies, associating the cognitive aspects of information behavior with the interactive potential of digital information systems.

However, from the late 1990s onwards, as described by Araujo (2012), new studies and perspectives have been developed in the field of user studies, such as the theories of Choo (2003), Godbold (2006), Wilson (2002), Tuominen, Talja, and Savolainen (2005). These studies combined the traditional and the alternative approaches, seeking to overcome the tendencies to consider users as null wholly determined by their socio-demographic profile (as in the traditional approach), or to view them as isolated beings that have unique criteria (entirely individual) for judging information, and who feel and define something as “information need” in their own mind (as in the alternative approach). According to Araujo (2012), several authors sought to overcome this challenge by combining all the knowledge accumulated in previous decades in the field of user studies, and the questions and problems that emerged more recently in theorizing the concept of information in the field of information science.

Therefore, when these studies adopt a new perspective on the subjects, seeking to understand them and their actions while considering their historical and sociocultural context, new research paths emerge. In this sense, Araujo (2012) combined recent advances in the field of user studies and informational behavior with the notion of “social paradigm”—proposed by Capurro and shared by authors such as Hjorland, Frohmann, and Brier—putting forth an “interactionist approach” to the field. According to Araujo (2012: 149), “interaction” seems to emerge as the key concept of the new approach to user studies, capable of integrating the advances made in contemporary user studies and informational behavior with the social paradigm of information science. Thus, Araujo (2012: 149) states that “in an interactionist perspective, users are not totally determined by the context in which they are, nor are they totally isolated or alien to them; they consider that the context exists, but it is neither mechanical nor absolute, being interpreted and altered by the subject”.

In such a way, for the author, the concept of interaction seems to overcome some dichotomies that have historically marked the field: active subject/passive subject; meaning in the message/in the user's mind; and cognitive/emotional/cultural user. Therefore, the interactionist perspective considers the reciprocally referenced dimension of the phenomena and the elements that compose it.

However, Araujo (2012) warns that resolving such issues at the theoretical level is insufficient. After all, a theoretical discussion, new problems, and new concepts should be effectively used and applied in concrete research, thus contributing to a better understanding of the phenomena studied. In this sense, the author uses concrete research examples, evaluating the possibility of conducting research in the same vein, considering the implications in the object definition, use of concepts, data collection, and analysis methods. Thus, the aim of the author is to contribute to the consolidation and advancement in the field of user studies, thus promoting a deep articulation with contemporary trends in information science research.

In this sense, Pettigrew, Fidel, and Bruce (2001) categorize major conceptual developments in the user-centered information behavior literature into three types: cognitive, social, and multifaceted. The cognitive approach covers those that examine the individual as the main driving force behind information behavior (Belkin, 1990). The social approach examines frameworks that focus on the social context (Talja, Tuominen, and Savolainen, 2005). The multifaceted approach deals with those that consider multiple types of context, such as the cognitive, social, and organizational context (Ingwersen and Järvelin, 2005).

Agarwal (2018), in his book, briefly summarizes the field of information behavior research mentioning the studies of system-centered, social, cognitive, affective, and multifaceted approaches and discussing the importance of the context within it. Agarwal (2018) emphasizes that people don’t behave the same way all the time. Every situation is unique, involving different people, different surroundings, and a different series of events. A person's behavior is affected by factors outside their control. That is why context becomes important. Context is a key part of any study of any aspect of information behavior—be it information seeking, information encountering, information avoiding, information use, collaborative information seeking, or mobile information behavior, among others. Each of these will vary according to the actor and his/her social context, the source or system, the workplace or everyday life, and the relationships and interactions between these. Identifying and understanding those factors then becomes a primary imperative in investigating research questions in any of these areas of information behavior.

For Agarwal (2018) context is related to the actor's interaction with information which can include information seeking, information searching, and retrieval, interaction with a person or device, serendipitous finding, collaborative information behavior, information sharing, information use, and information avoiding, among others. Thus, context is the actor engaged in an activity at the point of interaction. That is, "the context of an actor's information behavior consists of elements such as environment, task, actor-source relationship, time, etc. that are relevant to the behavior during interaction and vary based on magnitude, dynamism, patterns, and combinations, and that appear differently to the actor than to others, who make an in-group/out-group differentiation of these elements depending on their individual and shared identities" (Agarwal, 2018: 128).

When dealing with visually impaired users, which is the focus of this work, based on studied approaches in the field of informational behavior research, it is verified the fidelity of considering the context in informational behavior research. This is reinforced by Agarwal (2018), who states that people do not behave in the same way and that each situation is unique. According to Vitorini (2015), visually impaired people make sense of the world and learn similarly to sighted people, but in different ways. That is, disability and its social compensation process create the possibility of establishing various inter-functional nexuses, different from those expected in usual conditions. Blindness, in turn, is revealed in the role that higher psychological functions such as mediated memory, attention, and imagination have in the person's relationship with the sociocultural context and the way these functions are linked to conceptual thinking (Nuernberg, 2008).

Thus, according to Vygotsky (1997), in the teaching and learning process of visually impaired people, development and education should transpire through a social compensation, which focuses on overcoming the limitations generated by the impossibility of directly accessing the visual experience, through the use of language; therefore, Vitorini (2015) states that the relationship of a visually impaired person with their environment is fundamental, as it is where they receive various stimuli and connect with the world around them. The development of a person with disability is greater with an appropriate stimulus. Thus, the greater the knowledge about the environment, the more references that a person has and the greater their understanding of the world, which highlights the contribution of socio-cognitive studies to this field.

Therefore, the contextual perspective is useful in studies that include people with visual impairments, and contributes to the construction of more inclusive informational environments.

5. Conclusions

The challenge of including people with disabilities in different segments of social relations is not new. Social inclusion has several uncertainties, being considered in a discontinuous and unsystematic way by different social actors. Thus, discussing the terminological issue is essential, as several denominations are used when addressing people with disabilities.

In the case of the visually impaired people, the study of users must consider that, for the visually impaired people, the apprehension of the world around him/her must take place through ways of living without seeing, referring in this case to the people who have total loss of sight. It may also refer to people who have low vision, whose apprehension of the world through sight may be hindered.

Thus, their mental organization can focus on other senses to discover the external environment, and be guided by tactile, thermal, olfactory, auditory, and kinesthetic forms. This highlights the importance of studying visually impaired people and understanding the biological or visual characteristics, and the secondary characteristics arising from the social context.

Therefore, this study is user-centered, taking into account visually impaired people, considering the terminology appropriate to the sociocultural context, their relationships, the way and by which means they seek or use information to meet their needs, ensuring that information systems are a support for this purpose.

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