THE VISUAL COMMUNICATION IN THE OPTONOMETRIC SCALES[1]

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Communication through vision involves visual apprenticeship that demands ocular integrity, which results in the importance of the evaluation of visual acuity. The scale of images, formed by optotypes, is a method for the verification of visual acuity in kindergarten children. To identify the optotype the child needs to know the image in analysis. Given the importance of visual communication during the process of construction of the scale of images, one presents a bibliographic, analytical study aiming at thinking about the principles for the construction of those tables. One considers the draw inserted as an optotype as a non-verbal symbolic expression of the body and/or of the environment constructed based on the caption of experiences by the individual. One contests the indiscriminate use of images, for one understands that there must be previous knowledge. Despite the subjectivity of the optotypes, the scales continue valid if one adapts images to those of the universe of the children to be examined.

DESCRIPTORS: communication; ocular health; vision tests - methods

LA COMUNICACIÓN VISUAL EN LAS ESCALAS OPTOMÉTRICAS

La comunicación que ocurre a través de la visión abarca el aprendizaje visual que depende de la integridad ocular, por eso es relevante la evaluación de su acuidad. La escala de figuras, formada por optotipos, es un método usado para verificar la acuidad visual en preescolares. Para identificar el opto-tipo, el niño necesita conocer la figura en análisis. Debido a la importancia de la comunicación visual durante el proceso de construcción de las escalas de figuras, se presenta un estudio bibliográfico analítico, cuyo objetivo es el de reflexionar sobre los principios de construcción de estas tablas. El dibujo inserido como opto-tipo se considera una expresión no verbal del cuerpo y/o del ambiente, construido mediante captación de experiencias por el individuo. Se cuestiona el uso indiscriminado de las figuras, pues conforme se entiende debe existir un conocimiento previo de las mismas. A pesar de la subjetividad de los optotipos, las escalas siguen siendo válidas, siempre que se adecuen las figuras o sea aquellas del universo de los niños que serán examinados.

DESCRIPTORES: comunicación; salud ocular; pruebas de visión - metodos

A COMUNICAÇÃO VISUAL NAS ESCALAS OPTOMÉTRICAS

A comunicação que ocorre por meio da visão envolve o aprendizado visual, que depende da integridade ocular; daí a relevância da avaliação da sua acuidade. Um dos métodos para a verificação da acuidade visual em pré-escolares é a escala de figuras, formada por optótipos. Para identificar o optótipo, a criança precisa conhecer a figura em análise. Dada a importância da comunicação visual, durante o processo de construção das escalas de figuras, apresenta-se um estudo bibliográfico analítico, objetivando refletir sobre os princípios de construção dessas tabelas. Considera-se o desenho inserido como optótipo uma expressão simbólica não-verbal do corpo e/ou do ambiente, construído mediante captação de experiências pelo indivíduo. Contesta-se o uso indiscriminado das figuras, pois, conforme se entende, deve haver um conhecimento prévio. Apesar da subjetividade dos optótipos, as escalas continuam válidas, desde que se adequem as figuras àquelas do universo das crianças a serem examinadas.

DESCRITORES: comunicação; saúde ocular; testes visuais - métodos

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INTRODUCTION

At preschool age, one of the methods used to check visual acuity is the scale of images. It is characterized by a white board on which black images of different diameters are displayed, differentiated according to the scale. These are called optotypes and are mostly grouped in ten horizontal lines, equivalent to the coefficients that determine visual acuity.

This acuity is verified by the (decimal) number corresponding to the last line on which the child identified all indicated optotypes. In this process, firstly, the child needs to know the image under analysis.

In the construction of optometric scales, optical principles receive the strongest emphasis, generally without inquiring about how the child perceives the images in this instrument. This can make an examiner who is inexperienced or not trained to deal with these clients obtain false results, due to interferences in communication.

Some studies present difficulties met when applying a test with a scale of images, such as the instrument adapted for the region of Cabury/ Amazonas, which faced different obstacles, ranging from communication with the children (some of them cried or even ran home when the time of their test got near) to the identification of optotype images, as many children mixed up the moon with a canoe and other did not know the Brazilian flag [1]. This demonstrates another aspect in the construction of these tables, that is, the optotypes should not only be culturally adequate, but children should be able to perceive their outlines. Next, they should define the best outlines for identifying these optotypes.

Cultural diversity and its aspects should also be taken into account. Hence, preschool children's recognition of images will probably be related to the environment they live in. Moreover, visual learning changes over time. The format of drawings can differ in line with technological advances and changes related to the object under analysis[2].

In a previous study, the results and the literature review demonstrate that, besides all technical care taken when elaborating optometric scales, in accordance with optic principles, associated with the examiner's competence and experience, difficulties continued to use the scales[3,4,5]. There are strong signs that these difficulties derive from communication barriers in preschool children, who are in the symbolic image construction phase.

We present this analytic and bibliographical study, which addresses the understanding of images, in order to highlight the importance of visual communication during the construction process of optometric scales.

THE UNDERSTANDING OF THE IMAGE

The subject's learning about the object depends on recording instruments, mental structures and specific organic structures for the act of getting to know, available at that time. There exists a visual knowledge construction. Each person's look is involved with earlier experiences, associations, memories. What we see is not the real fact, but what we manage to capture and interpret about what we see, what is significant to us[6].

In this sense, in principle, individuals understand the family context, the relation with people from the neighborhood they come from, the school. As age advances, this knowledge grows and is strongly marked by the social aspect. Learning is said to involve perceptions by the five human senses.

Seeing children's first experience in the learning process occurs through tactile awareness. Besides this knowledge obtained through their hands, other stimuli include smell, hearing and taste. These senses are rapidly intensified and overcome by the iconic level – the ability to see, recognize and understand, in visual terms, environmental and emotional forces[7].

It is a fact that symbolic learning precedes the learning of writing and even words. Children recognize their mother even without knowing her name. Considering that the symbolic is simultaneously manifested through images and words, with an inherent organizing plasticity, possible knowledge forms are objects of verbal as well as visual communication[6].

When transferring these concepts to ophthalmology, specifically in the use of optometric scales to identify visual acuity in preschool children, it is perceived that, in order to be able to identify the image shown in the scale, the child first needs to know it. "It is not difficult to detect the tendency towards visual information in human behavior. We look for visual reinforcement of our knowledge due to many reasons; the most important one is the direct nature of information, the proximity of the actual experience"[7].

We could talk about sensitization before applying the visual acuity test in children, through the exhibition of images inherent to the scale. The importance of this moment is beyond doubt. However, alone, it is insufficient for the easy identification of symbols.

The use of universal figures could be added, which all children have in common, excluding diversity from this relation. Initially, this belief goes against the premises of visual learning and the cultural aspect. "The human visual experience is fundamental in learning for us to understand the environment and react to it; visual information is the oldest register of human history"[7].

The visual stimulation levels contribute to the process of conceiving, creating and refining any visual work. Each of these levels, i.e. representational, abstract and symbolic, possesses specific characteristics that can be isolated and defined, although they are not strictly antagonistic. The final visual information level is the symbolic. The symbol can be anything, ranging from a simplified image to an extremely complex system of attributed meanings, such as language or figures for example[7].

Drawing is considered as a symbolic non-verbal expression of the body and/or the environment, constructed by the individual's acquisition of experiences. "Our own awareness totally depends on our view of the exterior world in such categories. And awareness problems emerge when reconstitution is placed at the side of *internalization*; they also emerge because we are capable of seeing ourselves as if we were objects in the external world. This is part of the nature of language itself; it is impossible to have a symbolic system without this"[8].

In view of these arguments, the indiscriminate use of images is contested, without the adaptation of optotypes to their activity area. As human beings, we receive stimuli every day, but we need a code to understand them. The latter is linked up with each person's reference framework, elaborated on the basis of his/her experiences and values. For the message to have a meaning, it needs to be coded in our knowledge.

Our experience in the Ocular Health Project allowed us to perceive that the available scales and those shown in books were not always effective, because they contained images of unknown formats in the region, such as the case of the bird in a Colombian scale, which is often mixed up with a butterfly[9]. Visual associations are common in these scales. For example, the basic visual information about a bird form, when combined with an olive branch, turns into the easily identifiable symbol of peace. In this case, the public needs some education with a view to a clear message. However, the more abstract the symbol, the clearer its representation should be in order to penetrate into the public's mind[7].

FINAL CONSIDERATIONS

Visual communication occurs before alphabetization, considering that, when looking at a figure or a human gesture, children interpret. The capacity to understand and express themselves about their world precedes teaching of reading and writing. It should be highlighted that, despite the subjectivity of optotypes, the scales of images are still valid, provided that the images are adapted to images present in the universe of the children under analysis. This avoids the massification of visual communication in children's expression. When they talk about their reality and identify objects in the environment, they apprehend and comprehend the world itself, ranging from the closest to the farthest objects, through communication, knowledge acquisition and exchange with the environment.

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