Math education and the human right to inclusion: the expectations of the teacher acting with deaf pupils in a public school in the Distrito Federal

Educação matemática e o direito humano à inclusão: as expectativas do docente que atua com alunos com deficiência auditiva em uma escola pública do Distrito Federal

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ABSTRACT
This study presents math teachers and their expectations regarding the school inclusion process, as a human right, for deaf students. It presents mathematical education as knowledge that dialogues with the perspectives of human rights, in particular, with the right to education. It has as participants in the research six mathematics teachers who work in a public high school, located in the Gama Administrative Region, Federal District, Brazil. The qualitative methodology was used with a dialogical instrument of semi-structured interview and discourse analysis. As a result, it was found that many teachers have propositive expectations regarding the inclusion of the deaf learner, although much of the emphasis is on the acquisition of Brazilian Sign Language rather than methodologies and teaching processes suitable for this audience. As for their training to promote inclusion, there was a negative expectation, since four of the teachers said that they were not prepared. However, all have demonstrated in their narratives the importance of teaching mathematics and inclusion as a right to education, as well as a human right for all.

Keywords: mathematics teachers, inclusion of deaf, human rights.

RESUMO
Este estudo apresenta docentes de Matemática e suas expectativas diante ao processo de inclusão escolar, como um direito humano, para discentes surdos. Apresenta a educação matemática como um conhecimento que dialoga com as
perspectivas dos direitos humanos, em específico, com o direito à educação. Tem como participantes da pesquisa seis professores de Matemática que atuam em uma escola pública de Ensino Médio, situada na Região Administrativa do Gama, Distrito Federal, Brasil. Utilizou-se a metodologia qualitativa com instrumento dialógico de entrevista semiestruturada e análise do discurso. Como resultados, verificou-se que muitos professores têm expectativas propositivas quanto à inclusão do educando com surdez, apesar de grande parte dar mais ênfase na aquisição da Língua Brasileira de Sinais ao invés de metodologias e processos de ensino adequado a esse público. Já em relação a sua capacitação para promover a inclusão, observou-se uma expectativa negativa, pois quatro dos docentes afirmaram não estarem preparados. Contudo, todos demonstraram em suas narrativas a importância do ensino de Matemática e a inclusão como um direito à educação, bem como um direito humano para todos.

Palavras-chave: professores de matemática, inclusão de surdo, direitos humanos.

1 INTRODUCTION

According to the State Department of Education of the Federal District (SEEDF), it is necessary that, in its staff, the teacher acts:

[...] de forma eficiente e eficaz, oferecendo educação de qualidade a toda população do Distrito Federal, articulando ações que se consubstanciem na formação de um cidadão ético, crítico, com valores humanísticos e na construção de saberes voltados para o conhecimento técnico-científico, ecológico, cultural, artístico, entre outros (DISTrito Federal, 2019, p. 17).

The choice of this theme was a way of recording, albeit simple, the opinion of the high school math teacher who participates in inclusion within the public education network of the Federal District. Motivated by personal experience as an educator, faced with the problem of the life of our deaf students from elementary school to high school. In this context, the general objective of this study is to understand the expectations and perceptions of teachers, who work with deaf students in mathematics education, about inclusion. To this end, it is emphasized the importance of knowing what they think about what the prerequisites would be, the difficulties encountered, the concepts about inclusion and the development of it in the classroom, as well as, in a matter of learning, for
the teacher, if there is cognitive impairment of a student with or without a disability (deafness).

In the first part, we are dealing with some educational issues that involve the math teacher and his/her training. Already in the second part, a brief approach is made on the characteristics of the student with special auditory educational needs, with the intention of presenting the type of student in which the math teacher is being the mediator in order to make him an active subject of his learning. It is important to validate that, in this work, the concept of inclusion is addressed based on the Salamanca Declaration (BRAZIL, 1994a) and on some authors that stand out in the inclusive scenario, besides considering the normatives of the *National Guidelines for Special Education in Basic Education* (BRAZIL, 2001).

It is analyzed within the Special Education modality, physical, political and educational aspects that form an inclusive school for the hearing impaired. According to Luchesi (2003), Special Education was born from a movement of universalization and democratization of teaching and its purpose is to guarantee the schooling of children whose particularities prevent them from enjoying the regular processes of teaching and the dynamic need to update the demands of the advances of capitalist society.

In this sense, reflect on the meanings about inclusion for the High School Mathematics teacher who is inserted in this context in the public education network, specifically in an inclusive High School, and how such concepts are being reflected in classroom practice, in which inclusion takes a predominant role, seem sustainable and justifies the relevance of the present work.

For the present study, the qualitative methodology was chosen for understanding that care and sensitivity with the participants should be a constant when and after their realization, seeking to understand reports, based on the experiences of the subjects involved. It is descriptive, as it involves the problematization of the reality of certain individuals and arouses their subjectivities. This approach was adopted because it is a criticism of quantitative and positivist research, which takes for itself the "power of foresight" and a false
neutrality when presenting its results, as safer ways to foster public policies (D'AMBRÓSIO, 2004). Thus, the instruments used during their applicability become significant elements because they constitute the relationships established between the researcher and the participants.

The data was collected through a semi-structured interview, composed of a script containing seven descriptive questions. In this research, it is conceived that the interview is a process of social interaction, which puts face to face the subjects involved and the phenomena that one wants to understand. The field research is a high school located in the Administrative Region of Gama (RA II), Distrito Federal, Brazil. This school was chosen due to its locality, the specific public that serves students with special auditory educational needs of various levels, and, for being the secondary school sequential. Six teachers participated in the study, one teacher working in the Resource Room, and the rest distributed in first, second and third year high school classes in the two shifts of the school.

The data were analyzed in an interpretative way as to the responses. In view of the assumptions of the theoretical references and objectives addressed in the body of this research, it is sought to highlight how teachers perceive the process of inclusion and all its nuances.

2 THE MATH TEACHER AND THE INCLUSIVE SCHOOL

The "imposed" way that inclusion reached schools has become an obstacle that has aggravated the problem of the almost non-existence of continuing education projects that "empower high school teachers" to act with the new educational demand. According to some researchers, teaching is one of the professions that causes most emotional wear and tear. This work that could be a source of personal and professional fulfillment becomes painful, frustrating and all the new situations that could serve as a springboard becomes a feared and therefore avoided threat, and in this case the threat is the transformation that inclusion requires.

The need for change by a truly inclusive school calls the math teacher to be one of the main privileged partners in becoming a builder of innovations. It is
he who in his daily practice carries out actions that will or have already involved methodological studies. In this respect, expectations on the part of these professionals permeate various fields: political, pedagogical, values, identity and training. In this study, we will approach relating the identity and training of these professionals, considering that it is impossible to speak in quality for an inclusive school, without speaking of the training, identity and the expectations that surround these topics for the educator.

In the past, based on the rationalist, positivist and reductionist view of teacher training, it was believed that when graduation ended the mathematics teaching professional would be able to work in his area. However, with the emergence of new realities, mainly for the teacher, it is observed that the formation should be permanent and integrated with the reality of his school. Such training, besides contributing to the methodological and pedagogical aspect, assists in the administration of the mathematics teacher in relation to their expectations. Helps the teacher work with the different realities he finds in his work environment.

Continuous learning is essential and focuses on two pillars: the person himself, as an agent, and the school as a place of permanent professional growth (NOVA ESCOLA MAGAZINE, 2002). This time, continuous training takes place in a collective manner and depends on experience and reflection as a continuous tool of analysis. This reflection should be valued when we speak of teacher agent and his expectations with regard to inclusion.

Inclusion implies a change in our current educational paradigm. This educational system guided by the formalism of rationality, by curricular grades, type of service and bureaucracy does not interact with the needs that arise with the increasingly complex networks of relationship, generated by the speed of communication and information (MANTOAN, 2006). The teacher, as a mediator, is the lever of the process and becomes the agent responsible for widening or minimizing the difference between the deaf pupil and this school that democratizes itself by opening itself up to new social groups, but not to new knowledge, is not an easy task.
Considering the limits within which the professor of Mathematics is inserted, whether by his historical or mystical "profile" in which he is imbrided within this exhausted educational process that urges changes, one of the relevant themes is that of the expectations of this teacher, in the face of the construction of his identity and professional training.

Lacerda (1998) questions what it is to be a teacher and how his identity is constructed. That author explains the difficulty of constructing the identity of a teacher who is committed to a critical pedagogical project and inserted in a social context with the specificities of Brazilian society. In his study, he verified that the identity of the professor was not a theme explored until the 1980s, much less the identity of the professor than it was to measure mathematical concepts.

Analyzing decades of studies, Lacerda (1998) verified that the productions and research in education referring to the training of teachers in the period 1960-1989 aimed only at the type of institution that has been forming this professional and what training he receives or should have received. That author alerts that, only from 1990 onwards, the identity of the professor becomes the theme of research.

Based on this assumption, questioning the "fantasy" of the math teacher in relation to inclusive school, in most cases, is to verify a functional vision of teaching, where the reductionist training that he receives is passed on, although masked by current inclusive theoretical discourses. According to Mantoan (2006), everything that threatens to break the practical work scheme that teachers have learned to apply in their classrooms is initially rejected. In fact, some math teachers are unsure, fearful about educational innovations like inclusion. This touches upon the professional identity and the place "supposedly" won by these teachers, in a given structure or educational system, which allowed them the option to teach pupils in the "regular" mode and come across receiving pupils, who in their conceptions should belong to the special teaching modality. To this end, it is essential to regard the right to education and school inclusion as human rights. With a movement of complementarity and constitution that unites them in
one unit the "right to education in human rights is not dissociated from the recognition of the right to education" (ZENAIDE, 2008, p.125).

Regardless of the heterogeneity of his class, a teacher who engenders and participates in the walk of knowledge "with" his students, manages to better understand the difficulties and possibilities of each and provokes the construction of knowledge with greater adequacy, where the different meanings that students expose to a given object of study and their representations expand and relate (MANTOAN, 2006). They reveal a genuine construction of ideas that integrates the contributions of each one. Teaching comes to have a broader sense, where confronting meanings is to guarantee freedom and diversity of opinions of students, is to perceive all complexity of human social relations, where:

In fact, one of the changes and innovations that are imposed on the current math teacher in the classroom is to deal with the differences in skills and abilities as well as school performance in the same class of regular teaching. The inclusive classroom runs counter to the known and lived exclusionary spirit in our society in its intrasolual relations.

Living with differences, in the sense of human construction, implies ruptures. There are no changes if there is no shift of relationship sense and values by virtue of a new vision. This is not a naive view of what it means to be a qualified math teacher for inclusive teaching, but a misconception of what continuing education is.

The identity of the math teacher in the construction processes of school inclusion is directly linked to the way in which this professional was exposed to the conception of initial and continuing training, being accustomed to learning in a fragmented, rationalistic and essentially instructional way. The aim is to prepare these pupils for teaching, or rather to train them to apply pedagogical work
schemes, the famous "ready-made recipes". Such an identity, thus conceived, leads to training as being more of an extension course, of specialization, for the purpose of a certificate that attests to the capacity to be an inclusive mathematics teacher.

It is known that it is paramount:

[…] continuar investindo maciçamente na direção de formação, deve-se estar atento ao modo pelo quais os professores aprendem, para se profissionalizar e para aperfeiçoar seus conhecimentos pedagógicos e também a como reagem às novidades, aos novos possíveis educacionais (MANTOAN, 2006, p. 54).

In the face of so many ruptures, the question of the identity of the math teacher is crucial and one of the most difficult. She refers to personal settings as well as, her expectations regarding her role in the educational process, her professional competence in the face of the pedagogical work developed and her semiotic mediations with this student.

In a Vigotskian view, the moment of inclusive education conceives the school as an open system, and the teacher as a co-author and unbalanced of particular and personal processes of learning from the historical, cultural and social relationships built in this process with the subject student (VIGOTSKI, 2019). The math teacher goes on to visualize more the "how" the student got to the result than simply, checking "which" is the right answer. Affective processes and cognitive processes are now seen as a unit that forms the conscience of the teacher and the student. This gaze is invisibilised during its formation. Rooted in the rigors of precision and the false idea of those who learn mathematics are wiser than the other, if any, that the world could be explained mathematically.

Mathematics teachers are affected in one way or another by the surprises and challenges present in the current school. Training gives priority to mathematical relationships rather than social relations. There's a reality shock. The answers to the teacher’s expectations can no longer be solved with algorithms or formulas. It is necessary to understand that cognition and affection are processes that go hand in hand. Their possible and unique responses can be structured by cooperation, intellectual and social autonomy, and by the active
learning that provide conditions that provide global development to all educators who commit to the process of educational improvement of the inclusive school they want to form.

Vygotsky’s theory of human development may be a possibility for advances in social interaction in the relationship between teacher and student, since it states that all knowledge is constructed socially in the context of social relations (VIGOTSKI, 2019). The teacher becomes a driver in learning, by understanding his role as an educator, who seeks to offer deaf students problem situations that are within his possibilities. It does not keep testing what the student already knows, but provides moments of new learning, from their mediation to reach new developments. It values a dialectical relationship between the subjects, their consciences and the environment in which they are inserted. This theory is based on the development of the individual as a result of a historical, cultural and social process emphasizing the role of language and technical instruments with the environment in which it lives. From the social interactions in the relations that the subject establishes with the world, it creates the possibility of learning, which will contribute to its development. For example, if a deaf child does not live with another who masters Brazilian Sign Language (LIBRAS), he will not learn by himself (BRAZIL, 2002a). Therefore, the "other" is important to mediate this learning. This "other" can be a person, a joke, a game, among others. In this process, culture appears with the objective of historicizing the problems that are arising in order to understand them within their contexts. The culture that all those involved bring is relevant, because it is the formation of their own identity. Thus, it is important to understand the political and social conditions that are attributed to the person of the mathematics teacher and to value the knowledge of his experience in this very recent process such as inclusion.

The negative expectations of the math teacher can be appeased when decisions involving the students included are made in conjunction with teachers from other sciences. Teamwork and interdisciplinary work become important, as they disadvantage, to some extent, resistance to change and all become responsible for the success of inclusive school learning.
With this hue, the idea of what is proposed to be mathematics education, according to Fiorentini and Lorenzato (2009) has contributed significantly to this new context, for being recognized as an area of theoretical research, as an area of praxis that coadunates art, science and social practice. For this, according to those authors, we use investigative and analytical methods of the social sciences and humanities. Mathematical education is concerned with the narratives of "how" the professional constructs meanings, perceives his professional performance, among others, besides studying his conceptions as an educator.

Research shows the need to direct the desires of the Mathematics teacher in the face of educational changes to their ability to reflect on their practice and to guide it according to the reality that acts, that is, directed to the differences and diversities of the students (ARAÚJO; BORBA, 2004; D'AMBRÓSIO, 2004). In this sense, Freire (1996, p. 43) states: "[...] it is thinking critically of today's or yesterday's practice that one can improve the next practice". Such a statement does not imply abandoning the use of technique in the teaching practice of Mathematics where the rigor and construction of concepts are closely linked to the teaching of this science, but there will be circumstances in which the teacher of Mathematics will be in conflicting situations and he will not be guided only by predetermined technical criteria as in Pure Mathematics, that is, his identity will be more useful to have discernment at that given moment.

Within an inclusive school the math teacher is more "exposed" to conflicting situations as regards the level of inclusive process that the school finds itself, in this context, have to:

As situações conflitantes que os profissionais são obrigados a enfrentar (e resolver) apresentam características únicas exigindo, portanto, soluções únicas: o profissional competente possui capacidade de auto desenvolvimento reflexivo [...] A lógica de racionalidade técnica opõe-se sempre ao desenvolvimento de uma práxi reflexiva (NÓVOA, 1997, p. 27).

Starting from this reflective praxis, the inclusive math teacher can launch more than a series of planned strategies, which permeate his identity, full of creativity, to solve problems in the day-to-day. When this identity has
combinations of science, technique and art, they present a dynamic that makes it possible, in the light of their expectations, to act in unstable contexts like that of the classroom. The process is essentially metacognitive, where the teacher dialogs with the inclusive reality that speaks to him, in permanent reflection, perceiving the effects of his performance in the learning of his deaf students.

The expectations of the mathematics teacher permeate his identity, which, in turn, integrates his training, and which is also supplemented by his appreciation. The real appreciation of the educator needs to have three focuses, which are: 1) Good initial training; 2) Good continued training; and, 3) Good working conditions, wages and career.

It is not uncommon, in the speeches, to observe that some professionals who hold the institutions responsible for their formation responsible for the dichotomy between the information received and its applicability in the classroom. The training will only be complete when these teachers are self-produced. Shon (apud NOVOA, 1997) adds that teachers have to come out as producers of their own profession. In this context, inclusive school is more challenging. It demands from the mathematics teacher a dedication and commitment that, whatever utopia may seem, goes beyond the boundaries of wage valuation and culminates in the valuing of the human being as an educator or educator.

3 DEAF STUDENT: KNOWING TO ACT

Talking about the teaching of mathematics to students with hearing impairments leads to several questions. Among them to understand, firstly, what is conceptualized as "disabled", the views on "disabled" throughout the historical process, to have notions about the legislation in Brazil and how education for this public arose.

The starting point for us to try to conceptualize the group of people with disabilities is to look for the usual concept found in dictionaries, which may give the basic idea, the core of the word "disability", so that we can arrive at a broader concept, however, without the alleged reductionist vision that envisions putting such subjects in boxes and labeling them.
According to Ferreira (1986), the phrase "deficient", is termed as foul, flawed, needy, incomplete and imperfect. In the understanding of OLIVEIRA ([1976]) deficient is an adjective that has deficiency; flawed; imperfect and incomplete. For Figueredo (1949), a "deficient" article is also an adjective in which there is a deficiency or an imperfection. In the Houaiss Dictionary of the Portuguese Language, the presentation for the term deficient is also what has some deficient, missing, which is not sufficient from the quantitative point of view, is deficient and incomplete. It can be considered as one who always suffers or has some kind of disability (HOUAISS; VILLAR; FRANCO, 2001). In any of these conceptualizations, the idea most commonly used is lack, shortage and failure.

When comparing these definitions, the idea of failure would be present in the definition of what comes to be the person with a disability. This term is common, referring to every segment regardless of the disability characteristic or sequel type presented. People who have a sensory, motor, or mental disability or failure were classified as disabled, and now people with disabilities are used, because the old term "bearable" means something that could be removed as desired, as well as a scholarship or object, and was not perceived as a human condition. Thus, blind, deaf, paraplegic, paralyzed brain, mute, among others, are organized in areas of physical, mental, or sensory disability. Another definition used is "people with special needs" (FIGUEIREDO, 1949, p. 47), adopted within a technical area, with pathology, referring to the sufferers of diabetes, of the Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS), of hemophiliacs etc.

However, this has not always been the case. It was a lot worse. In one of his papers, Gonçalves (1962, pp. 219-229), he mentioned several national and foreign classifications referring to groups with disabilities, including: "limited capacity individuals", "minorados", "impeded", "disabled", "exceptional", "minusvalidus", "disabled person", "handicapped person", "unusual person", "special person", "disabled", besides being disabled.

Reading these classifications, one can observe a very varied interpretation of the concept/imaginary about these people. Some expressions or words
highlight disability: others, plus the idea of "disabled", others, even remotely, do not point out the problem, the disability itself, softening the sense too much, that is, a false cordiality, practically a euphemism. Of these expressions, "exceptional" was employed in dictates from 1969 until 1978, presenting an idea directed towards mental deficiency; and "disabled", adopted from 1978 until the Federal Constitution (CF) of 1988 (BRAZIL, 1988), being more direct, because it refers to the disability of the individual.

In this human construction of the conceptual use of the word or expression, the nomenclature came to be "person with a disability", in Brazil, being incorporated by the Magna Carta, because it believed that it characterized that the person presents a disability, but the disability is not the person. This expression seeks to emphasize the concept of the person, diminishing the disadvantage and prejudices generated by an approach that, until a short time ago, reduced the person to his disability, besides characterizing a whole group of individuals. A misleading terminology that refers as if possible to carry "disability" as if carrying a work permit or an accessory and to leave when so desired.

Friar Betto, in search of a more adequate terminology, suggests the idea of "PODE" (Special Rights Bearer) (SASSAKI, 1997 apud ALVES; VIGENTIM, 2013). With this attempt to guarantee the right, the very people we are talking about did not agree. They said that they didn't want any more or special rights as the idea goes. He wanted equal rights like others (SASSAKI, 2002, 2003).

With the access and participation of people with disabilities, from the 1990s to the beginning of the Third Millennium, there are important events, among which, in 2006, the Convention on the Rights of Persons with Disabilities (2006), organized by the United Nations (UN), where Brazil, as a signatory, ratifies the same via Decree No. 6949, of August 25, 2009 (BRAZIL, 2009), reverberating the term "person with disabilities".

This transformation was only possible due to the participation of people with disabilities from various parts of the world. In Brazil, one can highlight the so-called "encounter" in Recife, Pernambuco, in 2000, where the participants who have this attribute could talk as they want to be recognized. They based
themselves on arguments such as: not hiding or camouflaging disability; not accepting the consolation of the false idea that everyone has disability; showing with dignity the reality of disability; and, valuing the differences and needs arising from disability (SASSAKI, 2002, 2003).

It can never be forgotten that disability has never been and never will be the opposite of efficiency. When it comes to the subject mentioned here, the opposite of efficiency is inefficiency. A thought is directed that there is an efficiency, which does not need to be compared with those with whom or not with a disability. It's an infertile dialog. All human beings have some imperfection.

The perception of lack does not lie in the person, but in his relations with society, by the absence of conditions of accessibility being in the world. This is the criterion that explains who is or is not disabled. According to Tunis and Piantino (2013), when using the term in comment, what is meant is that a certain person has a fault, a shortage. It is argued that when we label a person as disabled, we need to know exactly what we mean. Stating that a person who sees nothing is visually impaired, for example, would mean hiding his real problem, because he does not see to a lesser degree than most people; he simply does not see anything; he is blind. The visually impaired, then yes, are all those who wear glasses, since their visual acuity is less than that defined as normal. The same reasoning, therefore, applies to the deaf and the hearing-impaired, proper, and to people who have other defects (TUNES; PIANTINO, 2013). We should therefore be vigilant when we refer to a person as disabled.

Thus, from these reflections, what defines the person with disabilities, is not the lack of a limb, nor the vision or reduced hearing. What characterizes people with disabilities, in a socio-anthropological posture, is the difficulty of relating, of including themselves in society due to the conditions offered to them. Therefore, in addition to the degree of difficulty of relating, of including oneself in society, what will define who is or is not a person with a disability is the subject himself. For this, it is necessary to take a look at this concept as a social condition (SASSAKI, 2002, 2003). However, we cannot dichotomize the medical view with a socioanthropological perspective on deafness, as a struggle between good and
evil. That would only be ideological radicalisms that could significantly affect the lives of people who are deaf in the way of being and being in the world.

According to Article 4, inc. II, of Decree No. 3.298 of 20 December 1999, *in verbis*:

Art. 4º É considerada pessoa portadora de deficiência a que se enquadra nas seguintes categorias:

II - Deficiência auditiva - perda bilateral, parcial ou total, de quarenta e um decibéis (dB) ou mais, aferida por audiograma nas frequências de 500Hz, 1.000Hz, 2.000Hz e 3.000Hz; (Redação dada pelo Decreto nº 5.296, de 2004);

[...] (BRASIL, 1999).

In the same saying, in its Article 3, inc. I, we have, *in verbis*:

Art. 3º Para os efeitos deste Decreto, considera-se:

I - Deficiência – toda perda ou anormalidade de uma estrutura ou função psicológica, fisiológica ou anatômica que gere incapacidade para o desempenho de atividade, dentro do padrão considerado normal para o ser humano;

[...] (BRASIL, 1999).

In view of such a definition, it can be inferred that the Law at issue presents a naturalistic view of development (TUNES, 2002). He is looking for evidence that a dysfunction or anomaly in the biological apparatus of the organism automatically brings about a disturbance in the process of normal intellectual development of the human being.

For Luchesi (2003), this conception leads to the idealization of an abstract, universal man, and presupposes an equality between all beings, which during the 1970s acquired meaning due to being founded on naturalistic assumptions. According to such a definition, individuals with particularities that escape from socially established standards present a deviation in the pattern and will therefore show difficulty in their social integration process (LUCHESI, 2003).

From this perspective, biological reality will determine man's relationship with the world. The "defect" is seen as a barrier to the natural processes of intellectual development. Starting from this idea, hearing loss classifies itself as a "defect" within the standards of normality established by scientific knowledge,
being treated, from this, as a pathology. The individual who listens is treated as healthy, and the deaf as the sick.

Seen as an insurmountable social barrier, biological dysfunction triggers the exclusion of the person with hearing loss whose activities hinder hypotheses, even validate the exclusion, in principle, while awaiting scientific and medicinal findings that interfered biologically on this "defect". However, waiting for this increases the strength of these obstacles, because exclusion itself makes new difficulties arise for intellectual development in a progressive way. Then, from this, we make a deficiency arise (TUNES, 2003).

It is well known that great care must be taken when defining a person or social group without the participation of the speaker. If, on the one hand, the "defect" has already been considered by some scientific theories as a product of chance, a kind of error of nature, going so far as to be considered aberration (TUNES, 2003), on the other hand, a theory arises, which preaches that intellectual development is culturally conditioned and has influences on the society that is inserted (VIGOTSKI, 2019). With this new look, the scholars, in their work and research, sought to show the different forms of intellectual development that a dysfunction in the biological apparatus of the person creates. They are the so-called paths of rodeos, which are constituted from the opportunities of social interactions offered in the mediations of social relations with each other. This gives rise to different possibilities for their intellectual development.

Aceitar as diferenças biológicas como desafio, contudo, não é a opção mais simples, mais fácil, tampouco a garantia de sucesso. Um desafio somente se apresenta como tal se for difícil, complexo e implica a possibilidade de sucesso ou de fracasso (TUNES, 2003, p. 10).

In this comparison of types of vision, we do not mean that one is better than the other, since we cannot say that one of the two visions is the only one scientifically more correct. It thus shows that from these conceptions rehabilitative
and educational measures are created, which culminate in the need for a Special Education.

Special Education was born of a movement of universalization and democratization of teaching and aims to guarantee the schooling of children whose particularities prevent them from enjoying the regular processes of teaching and the dynamic need to update the demands of the advances of capitalist society (LUCHESI, 2003).

There are several philosophical, legislative and politico-educational strands that govern the foundation of Special Education. From a philosophical point of view, Special Education is based on the Universal Declaration of Human Rights, the Convention on the Rights of the Child and the United Nations Declarations (Salamanca Declaration) (BRAZIL, 1995). This time, Special Education, although they have, in general, the same objectives as common education, uses special methodologies, alternatives for differentiated attention, specialized human resources, and therefore needs foundations, which help its specific guidelines about the bearers of special educational needs, with a view to providing them conditions that favor their inclusion in society.

Seeking to achieve a more suitable methodology, the ideal pedagogy, the training of teachers both in Mathematics and in other areas of knowledge for teaching in diversity, was a prerequisite for the development of the bearers of special educational needs auditory. For this reason, the legislation required the specialization of the Special Education teacher (BRAZIL, 1995). In the meantime, Luchesi (2003) realizes that the special school has transformed itself into the social institution more qualified to educate the deaf. The teacher should have the knowledge of phonology - phonemes, their characteristics, carry out breathing exercises, among others - such theme is addressed within the conceptions and norms that configure Higher Education, and competence of the Chamber of Higher Education (CES) of the National Council of Education (CNE) of the Ministry of Education (MEC), in charge of the National Guidelines for Teacher Training that we will address in this work later.
From the legal point of view, Special Education is based on the CF of 1988, in its art. 208, inc. III, *in verbis*:

Art. 208. O dever do Estado com a educação será efetivado mediante a garantia de:

[...]:

III – atendimento educacional especializado aos portadores de deficiência, preferencialmente, na rede regular de ensino;

[...] (BRASIL, 1988).

From this, Special Education is understood as the modality of school education offered preferentially in the regular education network for educating with special educational needs, among them, the students with special educational needs auditory.

From the point of view of educational policy, it is based on the Decennial Plan of Education for All, whose commitment, taken by Brazil, includes topics considered indispensable for the recovery of National Basic Education, highlighting, among them: the professionalization of teaching; the quality of fundamental education; the autonomy of school; equity in the application of resources; and, the engagement of the most representative social segments in the promotion, evaluation and dissemination of the efforts of universalization and improvement of the quality of teaching (BRASIL, 1993).

From the point of view of pedagogical action, it is based on the National Special Education Policy, which emphasizes: "[...] education must be, by principle, liberal, democratic and not doctrinaire". (BRAZIL, 1994).

Within this rationale, the learner is, above all, worthy of respect and the right to better education. The main concern of education in this way must be the integral development of man and his preparation for an active life in society, based on the balance between individual interests, and the "rules" of living together in social groups.

To validate the real existence of this type of school, we must go back to know its audience and the profile of the student who wants to graduate. In this sense it is worth highlighting ideas such as: "[...] who forms and re-forms when forming and who is formed forms and forms to its trainer" (FREIRE, 1996, p. 23).
Going back on the conceptualization of this public, which will be attended in inclusive high schools, as well as the different approaches that have been set out here, we find ourselves facing a lack of a conceptualization. There is no exact concept of what a person with a disability is, because its conception is mutant like the society that classifies it or is inserted. Everything will depend on this individual's inclusion relationship. However, "hearing loss can be considered a disease, since it is not part of a human being idealized according to the naturalistic conceptions of scientists and scholars of the present time" (LUCHESI, 2003, pp. 15-16); or, according to Decree No. 3.298/1999 (BRAZIL, 1999), it can be considered an incapacity, according to its hearing level.

Observing the scientific knowledge produced in the medical area and the devices of Interministerial Order No. 186, of March 10, 1978, the Special Education for the bearers of special hearing needs, analyzes the degree and type of hearing loss, concomitantly, with the age at which it occurred, to determine the type of care these students will receive (BRAZIL, 1995).

In addition to the degree of deviation mentioned in Article 4, inc. II of Decree No. 3.298/1999, hearing impairment is also classified by age (pre-lingual - congenital or acquired before the development of speech - and post-lingual - acquired after the development of speech), location (conductive and neurosensorial) and etiology (hereditary or acquired). However, according to Luchesi (2003, p. 16), there are more attributions of classifications, which are extremely important to be observed, such as: "the family environment, the form of communication used and schooling received". According to the author, there is a mistaken methodology that recommends that from the acquisition of speech the student will automatically be included, because, supposedly, his "dysfunction" reached the normal standards. Therefore, it will be included, as it is no longer considered the "different".

It can be inferred, then, that this normal and abstract individual who is idealized in every Special Education will only succeed in acquiring the school contents through the development of the oral language. Is it true? This is a good discussion, because it certainly opens up new assumptions, but they are not part
of the aim of this work. But, the ideals behind these methodologies, right or wrong, are the goals of including learners with special auditory educational needs. This leads us to think about "doing" inclusion and integration where the expectations of the math teacher are intricate with the physical, biological and cognitive characteristics of the student, in which he is mediator, a question that we will address in the next item.

4 THE FACULTY TRIAD OF MATHEMATICS-STUDENT-INCLUSION

The math teacher permeates the Special Education already intricate with the own prejudices surrounding the study of Mathematics. Adding together with particular issues involving the teaching-learning of deaf students, there is a need to develop pedagogical methodologies and guidelines that can create mechanisms for meaningful learning.

Há um consenso quanto à importância e utilidade da matemática na vida dos cidadãos e contraditoriamente, há quase uma unanimidade em afirmar que mesmo sendo necessário, aprender matemática não é uma tarefa das mais fáceis e agradáveis (SANTOS, 2008, p. 28).

It is necessary that during his academic training, with the aim of inclusion being a movement without return, have access to the disciplines that put him in contact with the guidelines, laws, parameters and pedagogical guidelines aimed at Special Teaching, mainly because he has chosen Mathematics as his area of knowledge, because, according to Santos (2008), Mathematics is a human construction due to the relationship of man with nature and life in society. Students with special educational needs are arriving in higher numbers at high school, and some math teachers are waiting for public policies that, in turn, will arrive late, enabling them after their academic training. This is not because he is a bad professional, but because his old profile was built. Reality is a challenge, which now requires a professional with autonomous development who seeks to relate his image to the research-action movement. The math teacher needs to be trained in two ways - theory and practice, from the inside out and the outside in
parallel, seeking the dual balance between mathematical concepts and pedagogical guidelines for teaching practice in the classroom with students with special auditory educational needs.

Until the 1960s, as in most countries, Brazil followed the dominant orientation, considering as the best alternative for teaching deaf students: attending separately, since their linguistic problems differentiate them from the children who listened, including, the teaching of Mathematics.

The fight for recognition of the rights of citizens with hearing impairments is long and is contained in several interventions and intercurrences. This issue was for a long time treated as a problem only of the individual, and not as a relevant and responsible issue of society and its institutions. What we find today in the normative instruments is the result of the grit and persistence of people with disabilities, together with their family members, teachers, professionals from various areas and popular organizations who became aware throughout the process.

Violations and/or infringements of the right to education are undoubtedly real obstacles to the genuine exercise of citizenship. Education is the door to enjoy and demand directly or indirectly other rights. In this motto, education for deaf students should provide for their specific needs to be taken into account. To this end, it is essential to experience a process of dialogical interaction, with teachers who assume the role of mediators of this process and organize constant mediation spaces (GIL, 2002).

Among the international normative instruments that have contributed to the approach of disability in Brazil and that have guided policies, programs and actions in the area of disability, it is worth noting: the Universal Declaration of Human Rights (1948); the Declaration of the Rights of the Impeded, of 1975; the Brazilian Constitution of 1988; the United Nations Program of Action, of 1982; the International Labor Standards on professional readaptation, published in 1984, by the International Labor Organization (ILO); the Declaration of Cartagena das Índias on integral policies for persons with disabilities in the Ibero-American region, 1992; the Managua Declaration for a New Model of Policy Development
for Children and Young People with Disabilities and their Families, 1993; the First International Conference of Ministers responsible for the care of persons with disabilities, 1992; the Uniform Standards on Equal Opportunities for Persons with Disabilities, adopted by the United Nations General Assembly in 1993; the Salamanca Declaration; and the 1994 Plan of Actions on Special Educational Needs (GIL, 20) 2). In this context, it is worth pointing out, according to the Salamanca Declaration:

3. O princípio que orienta esta Estrutura é o de que escolas deveriam acomodar todas as crianças independentemente de suas condições físicas, intelectuais, sociais, emocionais, linguísticas ou outras. Aquelas deveriam incluir crianças deficientes e superdotadas, crianças de rua e que trabalham, crianças de origem remota ou de população nômade, crianças pertencentes a minorias linguísticas, étnicas ou culturais, e crianças de outros grupos desavantajados ou marginalizados [...]. (BRASIL, 1994a, p. 03).

Therefore, starting from the Salamanca Declaration (BRAZIL, 1994a), the Decennial Plan of Education for All (1993) and the National Special Education Policy (1994b), the inclusion of deaf students in the regular education system is understood as a process resulting from the historical transformation of Special Education, based on human rights. It is a tendency that has been accentuating in recent years, in Brazil and in other countries, which seeks a position on the part of the Mathematics teacher who values metacognitive and affective aspects by involving him in courses, projects and meetings, where his experiences are valued, as well as his expectations, besides, of course, all the theoretical and practical knowledge he built in his academic training.

In this bias, the current goal of education for students with hearing impairment has come to focus, also, the academic and linguistic aspect. According to the Grants for the Organization and Operation of Special Education Services: area of the hearing impairment:

I. A educação dos surdos deve desenvolver-se, preferencialmente, na rede regular de ensino;
II. O conteúdo programático a ser desenvolvido é o mesmo do ensino regular;
III. A orientação educacional permite o acesso, pelo aluno, a duas línguas: a língua de sinais Brasileira e a língua Portuguesa;

IV. A realidade é parte do aprendizado de Língua Portuguesa, em sua modalidade oral, própria, principalmente, para o caso de alunos que iniciaram sua educação na faixa etária de zero a seis anos;

V. A aprendizagem da modalidade oral e principalmente da modalidade escrita do português constitui tarefa cotidiana dos professores da classe especial, da sala de recursos e de classe comum do ensino regular.

VI. A sala de recursos: “Locus” de atendimento especializado onde se oferece a complementação e enriquecimento curricular, utilizando equipamentos e materiais específicos;

VII. Professor de apoio é o profissional responsável pela inclusão do aluno DA/surdo nas Escolas Inclusivas, atualmente junto à comunidade escolar e oferecendo apoio pedagógico aos professores regentes em classes com alunos DAs;

VIII. O professor Intérprete Educacional: intérprete em Língua Brasileira de Sinais e mediador do processo ensino aprendizagem do aluno DA na classe bilíngue;

IX. Professor do Ensino da Língua Brasileira de Sinais: usuário nativo da Libras (surdo) que possibilite ao aluno DA/surdo o aprendizado de Libras e sua vivência pedagógica;

X. Professor Itinerante: profissional especializado que promove a inclusão do aluno DA/surdo na comunidade escolar da sua Regional de Ensino, articulando junto à Regional da área, as salas de recursos, as instituições educacionais, os profissionais e a respectiva GRE, contribuindo pedagógica e administrativamente nas questões referentes a: coleta de dados sobre o atendimento, encaminhamento de alunos, entrega de material, repasse de informações, preenchimento de alunos, entrega de material, repasse de informações, preenchimento de fichas, sensibilização e orientação aos professores do ensino regular, participando de diagnósticos quando solicitados a fim de encaminhar o aluno ao atendimento adequado. Como a ação do professor itinerante ocorre em diversas instituições educacionais, este deverá entregar ao final de cada mês um relatório de visitas à direção da escola onde está lotado e uma cópia à gerência da área (DISTRITO FEDERAL, 2011).

This structure tries to create subsidies for the effective action of the math teacher concomitantly with other education professionals in search of strategies and methodologies that guarantee the right of learning on the part of this student.

It is known that to build relationships of an inclusive and cooperative nature among students, and between students and teachers, diversity must be accepted
as an integral part of human nature and the collective work among educators as a means of facilitation.

This time, Mantoan (2006, p. 16) warns that the inclusion process brings about “a change of educational perspective, since it is not limited to helping only students who present difficulties in school, but support to all: teachers, students, administrative staff, so that they achieve success in the general educational current”.

The math teacher, being a mediator who besides mathematical knowledge, has an objective and subjective affinity with the organizational structure that involves special teaching and promotes an affective relationship with his student, postulates a relationship of significant knowledge for both parties.

5 CONCLUSIONS

Inclusion is a process that is demanding a more reflective and less passive stance from the math teacher. It instigates new academic research to look for answers in the face of the challenges that involve the education of the deaf and the teaching of mathematics.

To this end, the math teacher needs to be prepared beyond diversity. It is essential to have a formation that sees human differences as an integral part and that constitutes the whole of humanity. Diversity has always been present at school. Inclusion, on the other hand, was shaped by achievements that aim for something greater: the human dignity of people who were historically excluded.

The math educator will have to look at his student under another focus, understanding and basing himself on the theories that prove their effectiveness. However, the guiding element for the school success of the deaf student will be the acceptance by the math teacher of his or her own identity, it is this that will provide the integration of his or her training and practice in his or her daily know-how in the classroom.

According to the reports of the mathematics teachers participating in the present research, the theoretical concept about inclusion is known, including the
Salamanca Declaration. However, they disagree as it has been mandatory in school, because outside of school, society is based on competition, not cooperative relationships. Some contradiction can be perceived when they say that all students with or without deafness must have the same pedagogical proposition and equal treatments. The difference, here presents itself as something negative and is not taken into account, to avoid a supposed inferiorization.

Nevertheless, mathematics teachers declare beliefs that students have cognitive difficulties in disciplines involving interpretation and logical reasoning (mathematics, for example). Sometimes, according to them, they have a good mark in "language disciplines" due to complementary works.

During the math classes at this institution, students are accompanied by the professional teacher educational interpreter in LIBRAS. Teachers recognize this presence as very important for deaf students to have access to language.

Students have access to the Resource Room, where the attendance is open, that is, without fixed hours for each student, the only requirement being the time opposite to that of the classroom. The teacher responsible for the teaching of Mathematics in this Resource Room shows that flexible hours work beyond Mathematics, issues such as autonomy and responsibility in these students.

All teachers have experience with inclusive school, with deaf students ranging from seven months to ten years of experience with this audience. However, in relation to their capacity to promote inclusion, there is a negative expectation, because four of the teachers say they are not prepared.

A certain cohesion is analyzed in relation to the identity of the teacher who participates in inclusion. The "desire/willingness to educate and enjoy teaching" were attributes that teachers said should be part of the identity of those who want to promote inclusion. With reference, also, about this identity, those who work with deaf students, understand the relevance and the need to be constantly in continuous education. However, they all cited only continuing education in LIBRAS, reducing the complex issue of teaching-learning for students to language issues only.
Faced with so many challenges that inclusion itself exhibits, it is possible to seek to overcome them with significant investments, in order to improve the educational responses of schools for all students, identifying and removing barriers to learning, as well as encouraging the continued training of the math teacher.

The questioning about how their education is, correlated with their practice, provokes productive tensions, which, in the end, end up producing actions that aim at overcoming their challenges in the classroom. They also end up defining their "pedagogical methodologies" without creating a "recipe" for all students.

Mathematical education helps the math teacher to get to know the educational methodologies, among them, the various practices analyzed from the sociocultural perspective. And, also, to know the development of your student in its multiple aspects: affective, cognitive and social, as well as to reflect critically on its role before its students and society.

Historically, deaf people were considered incapable of learning. Now, math teachers are showing that it's possible through inclusion, even with a lot of difficulty. This is social transformation. As one discovers and evaluates the action, the capacity arises to find alternatives and to overcome the problems that involve inclusion, the math teacher and the deaf student.

Finally, respecting the perceptions and expectations of the professionals is the most elementary way to begin true inclusion, in such a way that, by initiating it with alterity, you can see through the lenses of these the understanding of how this process is happening. To live the right to education as a form of confrontation, to promote equality of opportunity respecting differences, is only possible if it is lived collectively.
REFERENCES


FIGUEIREDO, Cândido de. Dicionário da Língua Portuguesa. 14. ed. actualizada segundo as regras do Acordo ortográfico luso-brasileiro de 1945 e em perfeita harmonia com o vocabulário resumido de 1947 da Academia das


TUNES, Elizabeth. Incluir quem, por que e para quê? a dimensão ética da inclusão. XII Encontro Regional de Psicopedagogia, Goiânia/GO, 2002.


