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THE USE OF ASSISTIVE TECHNOLOGIES FOR THE LEARNING DEVELOPMENT OF CHILDREN WITH AUTISM SPECTRUM DISORDER (ASD)

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Abstract: The present work entitled "Special Education: The use of assistive technologies for the development of learning in children with Autistic Spectrum Disorder (ASD)" addresses relevant aspects regarding the importance of inclusion in the educational system. We also address the importance of the participation of education professionals in this scenario, so that citizens can in fact be formed not only in the school context, but especially in society. In this context, the objective is to investigate the potential of assistive technologies as a tool for developing the learning of students with Autistic Spectrum Disorder (ASD) in regular education. Therefore, the methodology used in this work was a bibliographical research, through books and articles by renowned authors that clearly deal with the subject under study.

Keywords: Inclusive education. Assistive technologies. Education.

INTRODUCTION

ASD is a disorder that affects the normal brain development of social and communicative skills. For this reason, children who suffer from this type of problem tend to react to the world in an unusual way, as they have great difficulty communicating both verbally and non-verbally, which results in poor communication and language interpretation due to difficulty in communicating. comprehension and intonation of the voice (DAMASCENO, 2013).

In the meantime, taking into account that assistive technologies consist of instruments capable of significantly helping the psychic, cognitive and social development of children with ASD in the educational environment, since, due to their interdisciplinary nature, they cover resources, methods, techniques, strategies , practices and services capable of providing more autonomy, independence and quality of life to students with disabilities, disabilities or reduced mobility, is an instrument capable of contributing to the satisfactory inclusion of this group of students in regular education (MAZZOTA, 2012).

The theme now discussed has great social relevance, since there are many difficulties encountered by children diagnosed with Autism Spectrum Disorder (ASD) in the school context, especially in public schools, given that such children, due to the their peculiarity, they are treated as 'different' children in the company of the others, which ends up keeping them away from social life and, consequently, leading a life as normal as the others.

Faced with these assumptions, the question is: how can assistive technologies help in the development of learning for students with Autistic Spectrum Disorder (ASD) in regular education?

It is based on the hypothesis that assistive technologies, due to their interdisciplinary nature, which encompasses resources, methods, strategies, and practices capable of providing more autonomy, independence and overall well-being to students with disabilities, disabilities or reduced mobility, can contribute to develop the functional skills of students with ASD and consequently providing greater autonomy for their learning. In addition to assisting in the integration and inclusion of society through strategies and technological methods that become fundamental in the construction of the teaching and learning process in the school environment.

In this context, this work has the general objective of investigating the potential of assistive technologies as a tool for developing the learning of students with Autistic Spectrum Disorder (ASD) in regular education.

It is believed that this work has great academic and social relevance, since it favors new opportunities for inclusion in regular education, in order to meet the needs of individuals who need specialized care while allowing the continuing education of professionals. of the area, as well as the participation of the entire school community, thus contributing to a quality education based on collaboration and respect for the particularities of each individual. Therefore, the methodological route used for this work is conducted through a bibliographical research subsidized by a qualitative approach.

DEVELOPMENT

The term "Autism" comes from the Greek word Autos which means Self/I and Ismo which translates an orientation or state. The noun "autism" indicates, "latu sensu", a condition or state of someone who has a tendency to become alienated from external reality, along with an attitude of permanent concentration on oneself. According to Bosa (2006, p. 11) "autism is a behavioral syndrome with different etiologies, in which the exercise of child development is profoundly distorted".

It is estimated that 10% to 20% of the population of children and adolescents in the world suffer from mental disorders. Of this total, 3% to 4% require intensive treatment. Among the most frequent problems are mental retardation, autism, childhood psychosis and anxiety disorders (MERCADANTE; ROSÁRIO, 2010).

Autism would have as its central problem an intrinsic impairment in the development of reciprocal social interaction and language, and such characteristics vary in the typology and severity with which they manifest (MERCADANTE; ROSÁRIO, 2010).

In general, autism is characteristic of a developmental disorder that commonly appears in the first three years of age and ends up permanently compromising some abilities, such as; changes in behavior, sociability and communication, in addition to delaying the child's social and cognitive development (MERCADANTE; ROSÁRIO, 2010).

However, according to Bonora (2010), there is no way to diagnose autism right after the birth of the baby, nor through tests during the gestational period, since it is not a disease transmitted or inherited by the parents, but a syndrome that is becomes apparent only after a few years of life. To arrive at this conclusion, the term autism has gone through a long path of research and currently, although great advances have been achieved, there is still much to be researched.

In this context, the education of an autistic child requires a differentiated process and, therefore, the teacher's work needs to adapt to the particularities of the student, since the pedagogical programming of these children needs to be based on their needs, and oriented towards the development of their skills and competences, favoring their emotional well-being and personal balance in a harmonious way, and having as their main objective their inclusion or confluence in a world of significant human bonds (GURGEL, 2014).

ASSISTIVE TECHNOLOGIES

The TA is a term used to identify the arsenal of resources and tools that contribute to provide or improve the functional abilities of individuals with special needs and consequently promote the inclusion and autonomy of these subjects. The TA is associated with the idea, almost exclusively, of using equipment or material devices to carry out some activity, so that such tools help the student in carrying out the task at hand, thus contributing to satisfactory learning (MACIEL; BARBATO , 2010).

The definition of Assistive Technology (AT) has been clarified and reformulated

in recent years due to its great dimension and importance, since it helps to guarantee the inclusion of people with special needs. In this perspective, Assistive Technology is a new term that refers to a concept still under development of construction and systematization (MANZINE, 2015).

In Brazil, the expressions 'Assistive Technology', 'Technical Help' and 'Support Technology' are used interchangeably (DAMASCENO, 2013). In accordance with Brazilian legislation, the expression "Technical Help" is used in Decree 3298 of 1999 and Decree 5296 of 2004, which prescribe Laws 10048 of November 8, 2000 and 10098 of December 19, 2000.

The Ministry of Education of Brazil designed the "Technical Help Portal" and it contains several significant materials aimed at the education of students with special needs, in the area of educational material shaped I and II, Alternative Communication and Computer Accessibility Resources .

Assistive Technology has as its main purpose to provide people with special needs with greater autonomy, quality of life and social inclusion, through a work of integration with family, friends and society, in order to favor the expansion of their communication, control of their environment, mobility and ability to develop their learning (DAMASCENO, 2013).

THE NEED FOR SPECIALIZED PREPARATION

Since the launch of the proposal for the National Policy on Special Education (MEC, 1994), which states that everyone has the right to education and, therefore, must be included in the regular education network in order to have a better social life, schools have been trying to adapt their environments in the best possible way to accommodate all students, but the lack of training of tutors is still a major

obstacle. Most educators are not prepared to deal with certain situations, given that some are unable to direct a class, where there are students with different situations.

In the educational policy perspective, the document of National Guidelines for Special Education in Basic Education points out that:

The school trains its teachers, prepares, organizes itself and adapts to provide a quality education for everyone, including students with special educational needs. Inclusion, in this way, does not just mean enrolling all students in the common class, disregarding their particular needs, but it means giving the tutor and the school an adequate structure for their pedagogical action (BRASIL, 2001, p.18).

Despite this conception, in practice, the situation runs in the opposite direction and the inclusive school goes beyond the educational model of social insertion. Of course, the lack of training to implement inclusive education and the lack of infrastructure directly influence educational quality.

The implantation of didactic resources in the technological generation marches in slow steps in front of the inclusion, because the changes are more propagated theoretically than practiced in the school environment. The training of educators is a reality that cannot be ignored, as there are many challenges encountered in their pedagogical practices.

According to Souza and Silva (2011), on teacher training, professional qualification is becoming more urgent every day to work from the perspective of social inclusion. This fact has been gaining ground in various debates on practical and theoretical issues so that teachers are able to meet the expectations of tasks arising from the inclusion process.

The caveat that Mittler (2013 p. 181) makes, highlights that teachers already have the necessary knowledge and sufficient skills

to perform such a task, but "what they often lack is confidence in their own ability".

Given this, it is assumed that teachers during their academic training are unconsciously removed from the special inclusive issue, which ends up transforming into rejection or resistance in continuing education in inclusive education. It should be noted that the lack of knowledge of the differentiated complexity of education participants, namely; teachers, reflect the non-recognition of the problems that affect part of society when excluded from this system (MITTLER, 2013).

Due to the rejection and fear of dealing with these students, teachers do not feel confident to support them and the family. However, it is not enough for the educator to have training, the community must be willing to help and the school must also be committed to overcoming the obstacles imposed on inclusive education, with the aim of moving forward in search of improvements for progress.

In addition, Nunes (2011) points out that, despite helping and enabling new paths, the teacher can also be a blocker, which creates barriers to inclusion. This is because many educators took the continuing education course only because it was proposed by the schools. However, what needs to be clarified is that the teacher must humanize himself and understand the work in special education, dedicating himself to the students and showing the family that all people are capable.

Certainly, the lack of preparation and specialization of the educator affects the way inclusive education will be processed, because:

Inclusion cannot be done, since it is not possible, if you want, to include the tutor as a priority in the process. In this sense, it is understood that inclusion goes beyond the disabled category. Inclusion is a paradigmatic assumption of a new social mentality based on diversity and living with difference. It is necessary, and it is indispensable, to rethink teacher training, in the sense that it is training incarnated in reality, where practice and theory are constantly confronted. Even because it is believed when talking about inclusive education that one is talking about an education that "[...] refers to the reduction of all pressures for inclusion, and of all the devaluations that students suffer, whether based on deficiencies, school performance, religion, ethnicity, gender, class, family structure, lifestyle or society". (MAZZOTA, 2012, p. 337).

According to Bereohff (1991, apud Gurgel, 2014), educating an autistic child is a practice that induces teachers to review and question their conceptions about quality education and professional skill. Therefore, it becomes a challenge for the professional to develop means and strategies capable of favoring the development of these children who are so unknown and, in most cases, even unpredictable.

In this context, some authors clearly address the topic under study, among which the following can be highlighted: The study by Anderson Rubim dos Anjos and Mariângela Lima de Almeida (2010) regarding the continuing education of teachers from an inclusive perspective: an analysis of the program's process making the difference.

The objective of this work was to analyze the importance of continuing education for tutors from an inclusive perspective, establishing objectives and goals that they should have in relation to children with (ASD) and education. The research was carried out in Vila Velha and published in the FACEVV magazine in Jan. / jun. 2010.

In addition to these, the authors Marcos Tomanik Mercadante and Maria Conceição do Rosário, in the book Autismo e Cérebro Social (2010), in which the authors address how

society sees the autistic and how they behave in this regard. The aforementioned book had its 1st edition published by Segmento Farma, in São Paulo in 2010.

In this context, that the challenge proposed to society, based on the principle of guiding educational policies, is part of rethinking the professional training of teachers, in order to create an intense relational dynamic between theory and practice, in which both must be linked to the reality experienced, highlighting all the aspects and characters involved.

CONCLUSION

The objective of this work was to investigate the potential of assistive technologies as a tool for developing the learning of students with Autistic Spectrum Disorder (ASD) in regular education. Based on what was exposed in this work, it was possible to understand that the use of assistive technologies has a great contribution to the autonomy and promotion of quality of life and favoring the social inclusion of students with ASD.

It is understood that inclusive education presupposes equality of opportunity. In the case of education, specifically, equal opportunity for all students, including those with special educational needs, to learn, access knowledge, development, coexistence.

Therefore, it is believed that the use of assistive technologies in education can be very relevant in the development of children with ASD, given that the use of tools can help them to develop their skills with greater autonomy and in a more pleasurable way, thus promoting better results in the teaching and learning process.

In addition, assistive technologies also offer development benefits to the entire school community, that is, everyone is involved in this environment, such as parents, students, managers and the school community, since,

in this scenario, there is an improvement in the interpersonal relationships of students. students with ASD and with pedagogical practices.

The school, alone, will not be able to organize inclusive education, there needs to be a lot of commitment and will from everyone involved with the issue, which involves dedication, commitment and investment in the organization of physical, material and human conditions. This does not mean that the teacher should sit idly by waiting for ideal conditions. On the contrary, he must engage in the fight for a better quality school.

It should be noted that investments are necessary, since through some resources, activities are developed that meet the particularities of the students, thus favoring their development. However, the role of the teacher in this context is of great relevance, hence the need for continued and specific education to satisfactorily serve this group of individuals.

Therefore, it is believed that the future of Inclusive Education in the country depends on a profound review of educational policies, teacher training curricula and the organization of schools, as well as the need to reorganize teaching conditions, since policies educational institutions have pointed out some paths, such as curricular adaptations, however, it does not guarantee the necessary conditions for this in fact, that is, it does not invest the necessary in the organization of the conditions.

In short, for inclusion to actually take place, commitment from both education professionals and public authorities is necessary, since assistive technologies must be inserted in the classroom as a multifunctional resource, and to materialize it depends on the connection of these forces. jointly.

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