Strategies of Physical Education Teachers to Promote the Participation of Students with Hearing Impairment in Classrooms[1]

Estratégias de Professores de Educação Física para Promover a Participação de Alunos com Deficiência Auditiva nas Aulas[2]

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ABSTRACT: This study aimed to analyze the successful strategies used by Physical Education teachers to promote the participation of students with hearing impairment in the same activities as the other students of the classes. Three Physical Education teachers of Elementary School (1st to 5th grade) and the respective classes in which there was a student with hearing impairment participated in the study. Four footages were conducted in each class, resulting in a total of 12 recorded classes. The analysis of the filming was based on the Microgenetic Analysis indicated to study the processes of change, detail-oriented and cutting-edge interactive episodes. From the filming, five types of successful strategies were identified: 1) Prior Strategies; 2) Aid Strategies through a Peer Tutor; 3) Strategies for the Teaching of the Activity; 4) Strategies Arising from Student Response or Action; and 5) Strategies for Communication. We concluded that, for creating favorable conditions in the participation of students with hearing impairment in Physical Education classes, strategies were necessary for different aspects of the same class. Successful strategies were actions that had a teaching purpose, reached the student's functionality and respected the characteristics, the needs and the potentialities of this student.

KEYWORDS: Special Education. Hearing Impairment. School Inclusion. Physical Education. Strategies.

RESUMO: *Este estudo objetivou analisar as estratégias de sucesso utilizadas por professores de Educação Física para promover a participação de alunos com deficiência auditiva nas mesmas atividades que os demais alunos da turma. Três professores de Educação Física do Ensino Fundamental (1° ao 5° ano) e as suas respectivas turmas em que havia um aluno com deficiência auditiva participaram do estudo. Quatro filmagens foram realizadas em cada turma, totalizando 12 aulas registradas. A análise dos filmes baseou-se na Análise Microgenética, indicada para estudar processos de mudança, orientada aos detalhes e ao recorte de episódios interativos. A partir das filmagens, cinco tipos de estratégias de sucesso foram identificadas: 1) Estratégias Prévias; 2) Estratégias de Auxílio por meio de Colega Tutor; 3) Estratégias para o Ensino da Atividade; 4) Estratégias que Decorrem da Resposta ou da Ação do Aluno; e 5) Estratégias para a Comunicação. Conclui-se que, para criar condições favoráveis à participação de alunos com deficiência auditiva em aulas de Educação Física, foram necessárias estratégias direcionadas a diferentes aspectos de uma mesma aula. As estratégias de sucesso foram ações que tinham uma finalidade voltada ao ensino, atingiram a funcionalidade do aluno e respeitaram as características, as necessidades e as potencialidades desse aluno.*

PALAVRAS-CHAVE: *Educação Especial. Deficiência Auditiva. Inclusão Escolar. Educação Física. Estratégias.*

1 Introduction

School inclusion, as defined by the National Policy on Special Education in the Perspective of Inclusive Education, has three principles: '[...] access, *participation* and *learning* of students with disabilities, global developmental disorders and high skills/gifting in regular

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schools' (Política Nacional de Educação Especial na Perspectiva da Educação Inclusiva, 2008, p. 8, emphasis added). *Participation* is the principle advocated, in a consensual way, by different authors, of what it is objectified with the school inclusion, more precisely the participation in the same class and in the same activity of the students with typical development (Lei no. 13.146, 2015; Mendes, 2006; Odom, 2000). Thus, in this paper, the concept of school inclusion will contemplate the idea of creating conditions for students with and without disabilities to participate in the same activities, taking as background the regular classes of Physical Education.

However, participation alone does not guarantee inclusion. It is necessary to step into the second concept of the scene pointed out in the definition of school inclusion which is *learning*. Certainly, learning only takes place through teaching, that is, through the mediation of a more competent classmate or other mediator that can be the teacher. The concept of mediation was originally developed by Vygotsky (1984). The teacher will bring with him/her a *background*, which is historical and cultural, and when it comes to the teaching of students with disabilities, this accumulated knowledge will be present in the conceptions and representations on disability of the Physical Education teacher (PET).

The conception of Physical Education teachers (PETs) about the difficulties to include the student with disabilities may vary depending on the type of disability. Fiorini (2011), in her study, identified that the student with hearing impairment (HI) was conceived as the easiest to work with, when compared to the other types of disability. In another study, Fiorini and Manzini (2016) identified that the conception of 81.53% of the participants in the research was that the strategies should not be the same for students with or without disabilities. This data is interesting because it denotes a cultural bias.

Based on these two conceptions, the strategies used by the PET to promote the participation of students with HI[5], in the same activities as the other students in the class, will be the object of study. Consequently, as it is a teaching process, the interrelation between teaching and learning will be present.

In this manuscript, teaching strategy is defined as any action of the teacher at the time of teaching or evaluation, being flexible, liable to be modified in case non-functionality for the student is found, taking into account the characteristics of the disability, the student's potentialities and the purpose of the activity (Manzini, 2010). Actions that reach functionality for teaching can therefore be considered successful strategies. Thus, it is understood that the actions of PETs which promote the *participation* and *learning* of students with HI in the same activities as the other students in the class are successful strategies.

1.1 Teaching strategies and microgenetic approach

The aim of teaching strategies is the learning of some behavior. Learning something means a change and can mean a leap in development. The relationship between development, teaching and learning was a warm discussion presented by Vygotsky, Luria and Leontiev (2003)

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[5] For this text, hearing impairment was conceived according to the literature of the area: '[...] bilateral, partial or total hearing loss, of forty-one decibels (dB) or more, measured by audiogram at the frequencies of 500Hz, 1,000Hz, 2,000Hz and 3,000Hz' (Decreto no. 5.296, 2004, p. 2).

when discussing the relationship between these concepts and how the different theories at the time explained this phenomenon. To some, theories, development, or maturation, should precede teaching. To others, teaching would be accumulation of knowledge; and knowledge and development would be synonymous. In order to dissociate themselves from this theory, the authors clearly advocated that good teaching would be teaching that anticipated development.

In this way, it is conceptualized that teaching strategy is an action of the teacher in relation to the student, the focus being teaching. In the processes of mediation, and incorporating the theory of the Zone of Proximal Development[6] as a parameter, the teacher could help the student do today, with his/her help, what he/she, the student, would do by him/herself tomorrow.

It can be seen that in this teaching process, tips or clues are essential as Vygotsky et al. (2003) admitted. These tips, clues or instigations constitute, in the present study, teacher's actions within a context, which may resemble the definition of teaching strategy conceptualized here. This whole context of learning is social, because the physical space, the pedagogical resources, in spite of being concrete, were constructed by man through the accumulation of knowledge.

The teacher's actions for teaching, therefore, the strategies, are not only conducted by the act itself, but they are in interaction with the physical-social environment and with the reactions of the student in relation to the teacher. In Physical Education class, the teacher observes, talks with his/her student about how he/she should behave, observes this behavior and, consequently, the student reacts psychomotorly to the teacher's speech. All this can be translated as a dialogical, observational and interactive situation, which occurs in relatively short periods of time.

Studying this phenomenon requires an approach that focuses on the process and not the product. This is exactly the reason for the theoretical choice of the Microgenetic Approach. The Microgenetic Approach was used more than 50 years ago by Werner and was also developed by Vygotsky (Flynn, Pine, & Lewis, 2006). Over the years, the method has been gaining adherents and new interpretations have been attributed to it, in cognitive, interactional and discourse (narrative) development strands.

Regardless of the theoretical guidelines that the authors follow, there are three basic principles of the method: 1) the observations are made in the period in which it is known that the change will occur; 2) the density of observations is high compared to the speed of change; 3) the observations are analyzed intensively to establish the process that originated it (Flynn et al., 2006).

In addition to these principles, it is necessary to film the event so that the analysis is attentive and the actions are described in detail, to detect the relatively subtle changes in the relations between the teacher and the student. This registration allows the rescue of the phenomenon in movement and the analysis of the situation for several times (Meira, 1994; Peters & Zanella, 2002).

Thus, due to the fact that the teaching strategy is a procedural action, which occurs in the processes of interaction between teacher and student, whose mediation takes place through

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[6] In spite of several discussions on this terminology and its translation, in this text Vygotsky et al. nomenclature (2003) will be used.

language, through demonstration, through indication of how the student should behave in the face of the presented situation, this approach is recommended.

It should be noted that, in this approach, the higher psychological processes of the teacher[7]cannot be analyzed separately, that is, his/her *background*, his/her education or the knowledge accumulated over the years, his/her conceptions about teaching, his/her representations about who the student with a disability is; therefore, how these components were historically and socially constructed in his/her teaching career.

1.2 TEACHING STRATEGIES IN LITERATURE

National and international studies contemplate strategies that PETs could use in regular classes when there is a student with HI in the class. The notes deal with four types of strategy: 1) to make adaptations; 2) to instruct the activity; 3) to communicate with the student with HI; and 4) use the peer tutor. With regard to *making adaptations*, the PET may modify the rule of an activity (Lieberman & Cowart, 1996) and add some visual information to the auditory signals (Craft & Lieberman, 2004; Munster, 2011).

With regard to strategies to *instruct the activity*, the following possibilities were suggested: a) to provide physical assistance, that is, to guide the student's movement (Lieberman & Cowart, 1996); b) to combine verbal information with physical assistance or demonstration; c) to observe the student's response, after the explanation, to check understanding (Craft & Lieberman, 2004; Lieberman & Houston-Wilson, 2009; Munster, 2011); d) to repeat the instruction in different ways (Lieberman & Cowart, 1996); e) conquer the attention of the student with HI before beginning the instruction (Schultz, Lieberman, Ellis, & Hilgenbrinck, 2013); and f) to demonstrate the activity for the student with HI so he/she observes and may understand what is taught (Craft & Lieberman, 2004; Munster, 2011; Schultz et al., 2013).

The strategies recommended to the PET to *communicate* with the student with HI were: a) to speak face to face to the student in order to stimulate lip reading; b) to use facial expressions and gestures concomitantly; c) to position him/herself so that the student with HI can maintain visual contact; d) to create signals that are easy to recognize and see to communicate at a distance (Auxter, Pyfer, Zittel, Roth, & Huettig, 2010; Munster, 2011).

Another recommendation of the literature to the PET is to use the peer tutor's strategy: to have a volunteer student from the same class who helps the student with HI to receive instructions and perform activities. With the presence of the peer tutor, the conditions for giving attention to the student with HI and the time spent participating in an activity would be better (Auxter et al., 2010; Schultz et al., 2013).

From the presented scenario, there is a central question that refers, precisely, to the actions that PETs have performed daily in their classes: Have these actions achieved functional results in the sense that the students with HI participate and learn from the same activities as those of students without disabilities?

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[7] The student's higher psychological processes are also present, but they will not be the subject of analysis in this text.

Using this approach, it is necessary to ask: *What are the strategies of PETs, in the regular classes in which there is a student with HI, in order to create opportunities for participation of this student with the students without disabilities? What actions have PETs adopted in their classes to include students with HI enrolled in Regular Education?*

2 OBJECTIVES

To analyze the successful strategies used by Physical Education teachers to promote the participation of students with hearing impairment in the same activities as those of the other students of the class[8].

3 METHOD

This research is part of a larger research, complementing it. Nineteen municipal schools, from the 1st to the 5th grade of Elementary School, from a city in the hinterland of the State of São Paulo, Brazil, where students with disabilities or with autism spectrum disorder (ASD) were enrolled and who had a PET, were visited by the researcher.

Of the 16 PETs, eight were selected for the larger research with the following criteria: 1) to report that he/she was able to create conditions for the students with disabilities or ASD to participate in class activities; 2) to accept, voluntarily, to participate in the research; 3) to teach in a regular class in which all the students had the authorization of a parent or guardian for the purposes of filming. Of these eight PETs, three had students with HI in their classrooms.

These three teachers were the participants of the research and denominated as PET1, PET2 and PET3; and students with HI named as C., J. and G. Three dyads of participants were formed, as described in Table 1.

DYAD OF PARTICIPANTS	CHARACTERISTICS OF THE PHYSICAL EDUCATION TEACHER	CHARACTERISTICS OF THE STUDENT WITH HEARING IMPAIRMENT
PET1 – C.	• Gender: male. • 30 years old. • From 4 to 6 years of experience as a teacher in regular schools and with students with disabilities.	• Gender: female. • Enrolled in the 4th grade. • Total bilateral hearing loss. • Has a cochlear implant and wears a Modulated Frequency System receiver.
PET2 – J.	• Gender: male. • 43 years old. • From 4 to 6 years of experience as a teacher in regular schools and with students with disabilities.	• Gender: female. • Enrolled in the 4th grade. • Total bilateral hearing loss. • Communicates through gestures and facial expressions, as she does not wear any sound amplification apparatus.
PET3 – G.	• Gender: female. • 30 years old. • From 4 to 6 years of experience as a teacher in regular schools and with students with disabilities.	• Gender: male. • Enrolled in the 1st grade. • Partial bilateral hearing loss. • Wears an individual sound amplification apparatus.

Table 1. Characteristics of the three dyads of participants
Source: Elaborated by the authors.

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[8] The approval of the Ethics Committee of the Faculty of Philosophy and Sciences of the Paulista State University, Campus of Marília, was obtained, with Opinion No. 1.054.257.

3.1 Procedures for data collection

Four Physical Education classes, from each dyad of participants, were recorded through filming, with a total of 12 classes[9]. This number of recordings was based on the criteria indicated in the literature to close the data collection: for the existence of a tendency to repeat the information, which occurred from the third filming of each class (Bezerra, 2010; Fiorini & Nabeiro, 2013).

The classes were filmed in full, with a duration of 50 minutes, and the focus was the PET and the student with HI. A camcorder was placed on a tripod, diagonally across the court, and the rotation and zoom functions were conducted by the researcher. The positioning of the camcorder was defined after a pilot study.

3.2 Procedure for the analysis and data processing

In order to analyze the footages, four steps were developed, elaborated from the guidelines contained in studies of the area of Physical Education and which also performed Microgenetic Analysis, such as the studies of Peters and Zanella (2002) and Bezerra (2010):

1. To watch the 12 footages in full and make notes that refer to the strategies of success of PETs to promote the participation of students with HI in the same activities as the other students.

2. To develop an index of meaningful events, that is, a list containing all types of strategies identified, regardless of which teacher had implemented them. To that end, the strategies identified were separated and regrouped, first, by similarity in type and, later, within each type, in terms of purpose.

3. To watch the footages again and, from the index of significant events, select the interactive episodes that exemplify the strategies identified. When two or three PETs established the same strategy, each teacher's episode was selected.

4. Transcribe, literally, all episodes selected, with attention to the actions and interactions of the three dyads of participants.

After the analysis, all identified successful strategies were described, always using a verb in the infinitive as a starting point, in order to indicate an action (Manzini, 2010).

Then, the information was returned to all PETs. This step, besides being a way of disseminating the knowledge produced in the study, was also a way of evaluating the successful strategies identified and each of the descriptions elaborated, since it was judged that the PETs themselves would have the clarity to argue: whether they understood the type, the purpose and the description; whether the nomenclature used was adequate; whether the description of each strategy reflected an action aimed at school inclusion; and if there was any need for adjustment. All suggestions from PETs were incorporated into the text of the results and discussion.

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[9] The three PETs signed the Free and Informed Consent Form, and for all the students, from the three regular classes, the Visual/Audio Image Release Form of each of the schools was used, in addition to specific Free and Informed Consent Form of the research.

4 Results and discussion

From the index of significant events, different strategies were identified, namely: 1) Prior Strategies; 2) Aid Strategies through a Peer Tutor; 3) Strategies for the Teaching of the Activity; 4) Strategies Arising from the Response or Action of the Student with HI; and 5) Strategies for Communication.

The results will be discussed based on eight interactive episodes, from which it will be possible to analyze how the different strategies originated and developed in order to promote the participation of the student with HI in the same activity as the other students of the class.

In each episode, the strategies will be italicized, and the participants' speeches will be inserted between quotation marks.

Episode 1

The context of this episode refers to the class of student C. In a class situation, PET1 and the student with HI interacted:

> PET1: *He is standing in front of C. and, in this position, he begins the explanation of the activity*: 'Well, we are going to play catch and run. It's to warm up a little bit'. After this explanation, PET1 speaks directly to C., asking her: - '*Are you listening, C.?*'. He looks toward C. as he speaks. C.: She signals with the head moving up and down that she is listening.
> PET1: *Still positioned in front of C., he confirms if she is listening by asking her again: 'Are you? Anything you need raise your hand'.*

The PET used two strategies, both called Prior Strategies, which comprise the PET action before the moment of teaching an activity, being crucial, so that both the teaching and the accomplishment of the activity can happen in favorable conditions, with the participation of the student with HI. Particularly in this episode, the Prior Strategy used by the PET had the intention of being positioned to explain the activity. The action was *to position himself facing the student with HI*.

It may be observed that the PET had knowledge about how to act in relation to the student with HI: he positioned himself in front of her so that during a conversation or explanation she could focus the PET on her visual field. The positioning of the PET is highlighted by researchers as essential when having a student with HI in the class, more precisely the positioning in relation to the student (Auxter et al., 2010; Craft & Lieberman, 2004). In order to ensure that student C. was able to receive visual information coming from the instruction, the PET, in advance, positioned himself in front of her.

The second strategy was to use the Frequency Modulation System (FM) through the action of *confirming that the student with HI was receiving the verbal information through the FM System*. Through the action of the PET, it is possible to perceive that the intention was to guarantee the student's access to the verbal explanations throughout the class. Again, the PET demonstrated how to act: how the equipment was used by the classroom teacher, before the Physical Education class, when receiving it to use in his class, the PET had to previously test it.

Craft and Lieberman (2004) suggest that one of the ways to increase the level of success of students with HI is to consider using an audible accessory or a modulated frequency system. The successful action of the PET was to previously verify the correct functioning of the system. Thus, the PET ensured that his verbal explanations throughout the activity could be heard by the student.

EPISODE 2

In a class situation of student C., PET3 finalized one activity and positioned the students to explain the next activity. In this context, the following interactions were developed:

> PET3: *She walks to the center circle of the court, raises both arms and starts clapping her hands to call the students to where she is. Concomitantly to the clapping, she calls the students saying: - 'Hey, you can return here, you can sit'.*
> The students run towards PET3 and sit side by side in a circle.
> PET1: With the students gathered, the activity begins: 'Well, we're going to perform an exercise to work on strength and aim. So I'm going to split you guys in groups and then I'll explain it straight away, okay?'. After explaining it, she calls the students by name and with the hand indicates to which part of the court they should go.
> C: He looks at PET3 as she distributes the students.
> PET1: *After having already distributed some students, she walks to C., stands facing her and says, 'C., back there'. She raises her iright arm to shoulder height and, with her right index finger, points to the line the student is supposed to go to.*
> C.: She gets up, walks to the line indicated by PET3 and stands third in the line behind two other students.

The detailed dynamics allows to identify that the PET established another two Prior Strategies. The first one was aimed at positioning the class. It is noted that the action of the PET was *to gather the students to explain the activity, positioning them side by side, forming a circle*. The latent intention was for the student with HI to focus on peers and the PET in their field of vision. The PET's action also included circle formation, a provision that allowed the student with HI to maintain visual contact with the PET and other students, hence for this reason queuing is not indicated at the time of explanation, as it would be made difficult to see the demonstration (Craft & Lieberman, 2004; Schultz et al., 2013).

The other Prior Strategy, exemplified in this episode, had the purpose of positioning, specifically, the student with HI for the accomplishment of the activity. The action of the PET was *to position one or two students in front of the student with HI in queuing activities*, with the intention that she had a model of how to carry out the activity. There is no consensus in literature about how students should be distributed, but there are possibilities such as row, column, circle, and small groups (Lieberman & Houston-Wilson, 2009). This action was labeled as successful because the PET had positioned two other students in front of the student with HI, which was beneficial mainly for the first time the student performed the activity. As Iñesta (1974) clarifies, the model is based on imitation, which is a procedure to encourage the acquisition of a new behavior. It is about recognizing that the model can be a facilitator of the teaching-learning process.

Episode 3

The context of this episode was the class of the student J. All students were sitting next to each other, forming a semicircle. Under these conditions, the formation of an interactive process was observed, in which the PET used new strategies:

> J.: She is hand in hand with R., a classmate who accompanies J. in the classroom and Physical Education activities.
> PET2: He starts the explanation of the activity by saying: 'Let's start with two catchers, whoever has the ball tries to strike, and whoever gets struck joins with the person who struck and is going to be hand in hand, there will be two balls in the game. To be able to strike, the chain must be united'. *After explaining, he calls the peer tutor and says: 'R., escort J. in the activity'.*
> R.: Answers yes.
> PET2: *He walks up to J., faces her, and individually explains the activity through gestures and body movements, holding a ball with his right hand and simulating a throw; and then places the ball on the shoulder of the peer tutor to demonstrate that the ball should touch the other students.*
> J.: She looks at the PET, moves her head up and down once, and looks at the ball, confirming that she understood.

The events of this episode allowed to identify that the PET used two strategies: one of Aid through a Peer Tutor and the other one for Teaching the Activity.

The Aid Strategy through a Peer Tutor comprises the PET's action in selecting and instructing a student with no disability to accompany and assist the student with HI from the explanation to the performance of the activity. The action of the PET, originating in the presented episode, was *to select a peer tutor who had affinity with the student with HI*. The underlying intention, in this action of the PET, was that the student with HI had help to carry out the activity.

Two characteristics of this action deserve to be emphasized. The first concerns the criterion for selecting the peer tutor, based on the affinity and availability of the student without disability. The second characteristic addresses the interactional aspect inherent to the strategy, since, when proposing that the student with HI and the peer tutor participate jointly in the activity, the interaction was stimulated. However, why is adopting this strategy interesting? According to the literature, for three reasons: 1) allows individualized instruction; 2) improves the attention given to the student with HI; and 3) provides more time to participate in the activity (Auxter et al., 2010; Lieberman & Houston-Wilson, 2009).

Also in this interactive episode, there is an example of the strategy denominated Strategy for the Teaching of the Activity, which covers the actions chosen by the PET to explain the activity, re-explain, provide physical assistance, select and use a pedagogical resource, and provide feedback according to the needs and potentialities of the student with HI, so that she could participate in the same activities as the other students. The Strategy for the Teaching of the Activity, exemplified in this episode, had the purpose of explaining the activity. The action of the PET was *to verbally explain the activity to all students and then explain individually to the student with HI through gestures and body movements*.

This way of instruction indicates that the PET knew the needs of the student with HI and, therefore, the intention of this action was to explain the activity using the most functional form of communication of the student, which was through gestures and movements.

The action was composed of two phases. Firstly, the PET provided a general explanation for all students through verbal information. Secondly, and in an individualized way for the student with HI, the PET complemented the initial explanation using the most functional form of communication for the student, which was through gestures and body movements. As explained by Bezerra (2010), the use of accessible and understandable language is a basic rule for instruction.

Episode 4

The context of this episode was the class of the student J. The volleyball net was affixed and extended dividing the court in half. The students performed the 'volleyball serve'. In view of these conditions, actions involving the PET and the student with HI were made possible to be followed:

> PET2: He watches J. who will perform the serve
> J.: She serves below and the ball goes off the court. She bows her head, showing she is upset and unmotivated because she was not able to get the ball over the net.
> PET2: *He walks up to J. and, in order to assist her in performing the movement, holds her right hand and leads it to the lever movement - necessary for the serve underneath - twice.*
> J. She performs the serve, but the ball goes very high and does not exceed the net. She serves again and the ball goes off the court, without exceeding the net. Once again she bows her head in frustration as she did not succeed in the movement.
> PET2: *Next to J., he holds the ball and demonstrates once again the movement of the serve underneath.*
> J.: She repeats the movement shown, but without the ball.

Especially in this episode, there was another Strategy for the Teaching of the Activity, with the intention of demonstrating the activity. The action of the PET was *to present a model of the movement to be performed, individually for the student with HI, through physical instigation and demonstration.*

The way the PET explained the activity was not enough for the student with HI to achieve the movement. Due to the difficulty the student encountered, and because of the frustration caused, the first step was for the PET to offer an instigating stimulus, which forces the response to be issued (Iñesta, 1974).

The student with HI had not yet had a successful experience in that activity, which could demotivate her in not trying anymore. After this phase, and with the most enthusiastic student, the PET changed his action again and, to make the student more active in the activity, used only the demonstration.

Episode 5

The scene of this episode was an activity developed in the class of the student C. The students were distributed in two parallel rows and they were to pass the ball to each other, and

to finish the determined route by reaching a cone. New actions and interactions between the PET and the student with HI were identified:

> PET1: He authorizes the beginning of the activity making the OK sign with the thumb of the right hand and says: 'You may begin, go'.
> C.: She receives the ball from the front classmate, who has already performed the activity, and coupled to the pupil of the other row, they perform the proposed activity without letting the ball fall.
> PET1: He observes C. performing the activity.
> C.: At the end of itinerary, she delivers the ball to the next student and walks towards the end of the row.
> PET1: As soon as C. completed the activity, he says to her: *'Very good'. In addition to the compliment, he claps three times, celebrating.*
> C: She looks at the PET and smiles shyly.

From this episode, it will be possible to discuss another Strategy for the Teaching of the Activity, which had the purpose of reinforcing a behavior of the student with HI. Uniquely in this episode, the action of the PET was *to provide feedback, through praise and gestures*. The hidden intention of this strategy was to motivate the student with HI after the successful completion of the activity.

Folsom-Meek and Aiello (2007) and Lieberman and Houston-Wilson (2009) defined feedback as an essential component of learning, and it should be offered after the student completes the task. In the case of this episode, the PET offered feedback as soon as the student with HI and her partner completed the activity, both verbally, by compliment, and visual, by clapping, and thus a form of motivation.

EPISODE 6

The context of this episode comprised the class of the student C. The students were distributed in three rows: one on the right side of the court, one in the center, and one on the left side. In the direction of each row there was a black and yellow cone to demarcate how far students should walk and then try to hit a bowling pin. On that occasion, an interactive process was formed between the PET and the student with HI:

> C.: She receives the ball from the front student, holds it with both hands, walks to the black and yellow cone, throws the ball with both hands and drops the plastic pin.
> PET1: He observes C. performing the activity.
> C.: She picks up the ball and, with the right hand, raises the plastic pin and leaves it in the same place, but it was not the point determined by the PET.
> Some students in the row tell her that the pin was not in the correct place.
> C.: She puts the pin forward, but it is not yet in the place determined. She leaves the pin where it is and walks towards the row.
> PET1: *Watching what happened, he walks up to C. and helps her correct the position of the pin saying: 'It is here, C.'. He raises his arm to shoulder height and points to where she should put the pin.*
> C.: She looks at the location indicated by the PET, picks up the pin and places it on the spot that the PET pointed at.

The Strategy for the Teaching of the Activity, expressed in this episode, also refers to feedback, but with the function of modifying the behavior of the student with HI. The action of the PET was *to provide corrective feedback, through tip and body movements*. However, why would the PET have used this strategy? Due to the number of classes recorded, the density of the observations and the approach used for the analysis of the filming, it was possible to identify that the intention was to assist the student with HI in improving a movement related to the activity.

Corrective feedback is nothing more than to provide the student with information about how he or she performed the task, so that next time he/she can accomplish it more efficiently (Folsom-Meek & Aiello, 2007; Lieberman & Cowart, 1996). From the verbal, visual and corrective feedback provided by the PET, the student was able to self-assess and perform the movement of placing the pin in a determined place, as appropriately as possible.

EPISODE 7

The context of this episode refers to the class of the student C. The activity was 'catch and run'. The student who is caught sits down and, in order to be 'saved', two other students need to give their hands to him/her, forming a trio. In this situation, the actions of the PET and the student with HI revealed the interrelationships developed:

PET1: He walks around the court watching students.

C.: She sat next to a student, who was sitting, as both had been caught.

Two boys approach C. and her classmate sitting next to her and form a trio with her classmate.

C.: She stays alone, without the pair, and remains sitting.

A student approaches C. and holds her hand.

PET1: When he realizes that C. is not actively participating in the activity, he guides a student close to her, saying, *'There, there, there'*.

The student continues running and does not follow the orientation.

PET1: When he locates another student running close to C. *'There, F.'. In addition, he points at the direction of C. and her pair, directing another student to form a trio with them.*

The student follows the orientation, holds C.'s hand, forms a trio and runs across the court.

Through this episode, it was possible to identify another type of strategy. It is the Strategies Arising from Student Response or Action, which includes actions of the PET that are, in fact, reactions to a specific action of the student with HI, which demands a different strategy, which is not a prior strategy, it is for teaching and for communication.

In the episode described, the intention of the PET was to avoid the exclusion of the student with HI, through the action of verbally *orienting the students of the class to form a group, also with the student with HI.*

This action modified the way the student with HI participated in the activity, since, until then, the experiences she had had not been pleasant. It was observed that the PET persevered in finding a way for the student with HI to actively participate in the activity - forming a trio with classmates - and, as recommended by Kowalski (2007), the way found was to offer tips to students without disabilities.

Episode 8

This episode was derived from an activity of the class of student C. The PET interrupted the class so that the students could drink water. The description of the episode allowed the identification of interactional aspects common to the relationship between the PET and the student with HI:

> PET2: He calls the students to start explaining the activity: *'Blue line'. Then, he looks at J. and gestures with his right hand as if he scratched the line on the ground, then, he calls her gesturing with his right hand.*
>
> J.: She looks at the PET and points to the water bottle.
>
> PET2: He waits for the students.
>
> J.: After drinking water, she walks to the blue line and sits next to the peer tutor who was already there.
>
> PET2: He starts the explanation by saying: 'Let's play a game of attention, you have to obey the command of the teacher, so I will always say the word of command. *In J.'s case, J. cannot hear, so I'll just signal for her to imitate me, but you do according to what I ask'.*
>
> J.: She keeps looking at the PET.
>
> PET2: He walks to J. and, through gestures and movements, explains the activity. Initially, *he points his forefinger to his own chest and raises his right arm, points to J., and again raises his right arm.*
>
> J.: She makes the movement of raising the right arm.

In this episode, two strategies are exemplified: Strategy Arising from Student Response or Action, and Strategy for Communication.

The Strategy Arising from Student Response or Action had the purpose of adapting the rule. Above all, in this episode, the action of the PET was *to adapt the activity rule, so that, for the hearing, the command was verbal, and, for the student with HI, the command was through gestures and body movements*. The fact that the PET performed an adaptation revealed that the intention was to leave the activity less restrictive for the student with HI.

The activity selected by the PET involved the use of verbal commands for students to perform a movement. In order for the student with HI to be able to participate in the activity, the rule had to be adapted. The adaptation proposed by the PET did not make the activity easier for the student with HID, but it allowed the activity to be carried out in a less restrictive way (Lieberman & Cowart, 1996).

The Strategy for Communication, expressed through this episode, is defined as the actions of the PET to communicate with the student with HI. The intention was to use non-verbal communication, through the action of *establishing communication with the student with HI through gestures and facial expressions*. Manzini and Deliberato (2004, p. 3) explain that '[...] the first idea of communication is that it occurs through words and speech [...], but communication between people is much more comprehensive than can be expressed through speech'. To the authors, '[...] verbal communication can be complemented by facial expression and gestures' (Manzini & Deliberato, 2004, p. 3). It is about transmitting visual information to the student with HI (Auxter et al., 2010; Munster, 2011). In this sense, the PET was expressive, since he explored the most functional form of communication for the student, that was the gestures and the facial expressions.

5 Conclusions

It was concluded that the successful strategies used by the PE teachers to promote the participation of students with HI, in the same activities as the other students in the class, presented three components: 1) it was an action of the PET that had a *purpose* aimed at teaching. It was not 'just strategy', but there was an intention, as 'strategy alone' is not enough to offer any conditions to the student; 2) it reached the functionality of the student with HI in relation to the participation in the activity; and 3) it respected the *characteristics*, *needs* and *potentialities* of the student with HI.

From these findings, the definition of strategy proposed by Manzini (2010) can be redefined: an action of the teacher, which has an underlying intention, aimed at the student, for the purpose of teaching, which is flexible and subject to change according to the behavior in the process of interaction during teaching. Therefore, it is not a static action of the teacher, but procedural due to the interaction with the student.

Most of the successful strategies used by the PETs were a simple action and consistent with the recommendations or suggestions already described by scholars in the area. In the research results, it can be concluded that these actions were within a context of interaction between teacher and student, and could not be a procedure to be used without the teacher's understanding of what occurred at the time of teaching, within the social situation that involved the teacher-student relationship.

As the actions of the PETs were modified through interaction with students, it was also concluded that there was no linearity among the types of strategies, with the exception of the Prior Strategies, which always preceded a Strategy for Teaching the Activity.

Thus, the Aid Strategies through a Peer Tutor, which Arise from the Response or Action of the Student with HI and, for Communication, were not conditioned to another, nor to a specific moment in the class.

It is thus established that, in certain classroom situations, it was necessary for the PET to use the same strategy, repeatedly, to achieve a specific objective. In other cases, the teachers used two or more strategies to achieve another goal in relation to the student. This way, the strategies are not exclusive, on the contrary, they can be combined within a continuum that is governed by the process of interaction, verbal or nonverbal, between the student and the teacher.

Although the literature describes similar strategies to those found in this study, it was possible, through the Microgenetic Analysis, to identify the origin and the process of development of the strategies used by the PET at the moment of teaching aimed at the participation of students with HI in the same activity as the other students in the class.

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