Physiotherapy students at school: The challenges and potentialities of a collaborative action with elementary school children

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ABSTRACT

This article aimed to discuss the perceptions of students about training activities in the Physical Therapy course, as well as to analyze their ability to propose school activities that improve children's performance. The participants are 15 students of the Physical Therapy course at the Federal University of Santa Maria (UFSM) who, during the second semester of 2016, attended the discipline called Physical Therapy in Child Health, which aims to propose psychomotor activities that improve the performance of students. The practical work was developed in two Municipal Elementary Schools, with 19 children who attended these schools, located in the municipality of São João do Polêsine, central region of Rio Grande do Sul. The methodology of the work has a qualitative character, where the analysis is based on the principles of the narrative interview of Richardson (2011); Clandinin and Connely (2011); Jovchelovitch and Bauer (2004); Josso (2004). It was concluded that, in the perception of the students, the work developed is relevant in the professional training of physical therapists, mainly because they observed that it has generated positive impacts in the school community as well as in the academic community.

Keywords: Learning disorders, Attention, Stimulation.

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INTRODUCTION

The beginning of the school trajectory is fundamental for the development and construction of the child's identity and learning processes, considering that it is at this stage that values and beliefs are built in a significant way. From this perspective, it is the responsibility of the school and the teachers to develop activities that enable this construction, based on the development of the student's psychomotor skills to enhance feeling, thinking and acting.

On the other hand, it is observed that not all teachers are properly prepared for this task. It is in this bias that the contributions of specialized professionals, such as the physiotherapist, who studies and holds knowledge about neural and motor development, and can work in the field of child health, are inserted. When the knowledge of neuroscience and education is combined, it is to be expected that specific actions of psychomotricity can prevent learning disorders in school-age children. It is noteworthy that in the academic training of physical therapists, these aspects are incipient in view of the restricted literature on the subject.

Studies developed by Piaget (1976; 2003); Vygotsky (2003; 2005); Bee (1997); Mahoney and Almeida (2004); Berger (2003), Papalia and Olds (2000), among others, show the importance of child stimulation for the development of motor skills, with repercussions on school learning. Studies that show the importance of involving university students in research and extension work are also not new and there is a wide range of authors who write about this topic: Almeida and Soares (2003); Santos and Almeida (2001); Teixeira (2008); Benites and Boer (2015).

Santos (2000) points out that in an extremely competitive world, the university needs to be concerned with students, promoting their integral development in order to achieve the level of excellence that society demands. Almeida, Soares and Ferreira (2002) add that the establishment of an appropriate academic and social environment for the integration and development of the student will not be enough if it is not perceived by the student as a propitious context and as an opportunity to experience it actively. Your integration will be greater, as you perceive congruence between your expectations and what the university provides to achieve the intended objectives. However, only knowledge about the factors that involve this interaction can provide subsidies for the implementation of preventive and development actions. These arguments reinforce the understanding of the authors of this study regarding the need to integrate Physical Therapy students in extracurricular activities.

The National Curriculum Guidelines (DCNs) for the Physiotherapy course indicate that specific practical activities should be developed gradually from the beginning of the course, and should have increasing complexity. This document also determines that the contents of the course should include the study of man and his social relations, of the health-disease process in its multiple determinations, contemplating the integration of psychosocial, cultural, philosophical,

anthropological and epidemiological aspects guided by ethical principles. (BRAZIL, 2002).

In this study, we analyzed the perceptions of students regarding training activities in the Physical Therapy course that train the future professional in Child Health, in their curricular discipline, Physical Therapy in Child Health, whose objective in the Pedagogical Project of the Course, is to relate psychomotricity to cognitive acquisition and formal learning of children from 0 to 6 years old. proposing activities that optimize this objective. (UFSM, 2016)

METHODOLOGY

The research has a qualitative approach and is narrative in nature. The qualitative approach is anchored in Minayo (2013) who, according to this author, this type of research works with the universe of meanings, motives, aspirations, beliefs, values and attitudes, which corresponds to a deeper space of relationships, processes and phenomena that cannot be reduced to the operationalization of variables.

The participants were 15 students, 5 men and 10 women, with an average age of 20 years, students of the 5th semester of the Physical Therapy course at the Federal University of Santa Maria (UFSM) who, in the second semester of 2016, attended the discipline Physical Therapy in Child Health. The intervention was carried out in 19 children of 4th and 5th grade, from two elementary schools, located in the municipality of São João do Polêsine, central region of Rio Grande do Sul.

The *corpus* of analysis composes 5 narratives written by the students about the intervention carried out in the aforementioned schools. These narratives were selected according to criteria of significance, i.e., texts that best contemplated the content also manifested by other participants. In the denomination of the narratives, a pseudonym was assigned to the academics, and in the other references the participants are identified by A (academic) followed by a number.

Richardson (2011) considers the narrative as an unstructured interview in which the person exposes important points of the topic in focus. The researcher's role during this process is to guide and stimulate. Jovchelovitch and Bauer (2004) explain that, in narratives, people remember what happened, narrate their experiences in a sequence of facts, find possible explanations for it, and build a chain of events of a personal and social nature.

Nóvoa and Finger (1988) explain that a professional is constructed throughout his or her trajectory in such a way that learning is often related to teaching. With each new student, client or person served, new possibilities of getting to know the other and oneself arise.

Josso (2004) understands that narratives favor a set of learnings that go far beyond a process of self-knowledge, so that the writing of a narrative corresponds to a process of knowledge of the subject's formation throughout life. To highlight what is at stake in this writing are the two main axes that will organize the reconstitution of a set of reflections built from the observations made in favor

of a body of lived experiences.

The narratives, even if generated within subjectivity, are social models of the genre, valued by the narrator, points out Josso (2004). Thus, the challenge of writing the narrative raises questions about the writing of experiences and about the writer's positioning. According to the author, there are three axes that make it possible to explain the nature of these questions: (I) writing as an art of evocation; (II) writing as a construction of meaning; (III) writing as research. It is noteworthy that, in this study, the emphasis was on writing as research. There is, therefore, a reflection to be made on the choices of the episodes presented by the narrator according to the importance attributed to them in the training process.

Narrative research as a way of understanding personal and social experience is explained by Clandinin and Connely (2011). For these authors, the construction of narrative research should contemplate temporality, people, action, certainty and context, aspects that were observed in the description and analysis of the narratives. A brief explanation of certainty by the authors is that, in narrative thinking, interpretations of events can have a provisional meaning, usually expressed with a type of uncertainty, about the meaning of a given fact.

RESULTS AND DISCUSSIONS

The narratives presented in this text describe the perceptions of Physical Therapy students in relation to the application of Vitor da Fonseca's protocol (Psychomotor Battery – BPM) in a group of 19 children and the meanings attributed by them to the experience of dealing with formal education. In the course of the narratives, it is possible to identify common points regarding the events, challenges, obstacles and their possibilities of overcoming in view of the socio-environmental, historical and cultural context in which the work was developed.

NARRATIVE 1- WESLEY'S DISCOVERIES AND ADJUSTMENTS (A1)

This narrative is presented in three fragments of text. In the first fragment, A1 expresses satisfaction with his first experience in working with children and recognizes the importance of stimulation for the student's learning.

> During the time I lived at the school [...] I can say that I witnessed a new reality of work, because until now, I had not had contact with children, as a student of Physiotherapy at UFSM, so I consider the new experience very gratifying. I was able to notice that working with children involves many aspects related to motivation, playfulness and conversation. I also showed that patience and stimulation are very important factors with regard to the learning of students in the age group in which we work (A1).

In addition to the satisfactory appreciation of the work developed, A1 manifests its integration in the university context of UFSM. The analysis that is made here is that the way in which this

experience is lived depends both on the support of the university and on the individual characteristics of each student. Consequently, students may have different experiences concomitantly with the requirements of the course they attend, what the university can effectively offer, and personal characteristics (TEIXEIRA et al., 2008). In the specific case of A1, there seems to be agreement between feelings and thoughts in relation to the university and the course. It is understood that professional identity is built throughout the life trajectory of each person, but it begins, to a large extent, in university education, in the context of the undergraduate course, to the extent that the student is confronted with theories and practices. The practice allows us to recognize the importance of having studied certain authors in order to achieve effectiveness in the work, personal fulfillment and satisfaction of the public served.

In the following excerpt, A1 refers to the work developed at school, emphasizing aspects of motor skills in relation to children's cognitive activities.

> As for the psychomotor factors evaluated, I noticed that in the group studied, the activities that involved broad motor skills, as in the case of the assembled circuits, drew much more attention in relation to the cognitive activities, which often ended up generating a certain dispersion during the tasks that involved a little more concentration. With regard to the work developed, we tried our best to apply circuits and mixed activities so that in addition to the child feeling stimulated by activities of his liking, he worked on this combined with the mental side, so that his learning was as fun as possible (A1).

Several authors understand that an activity proposed in the form of games motivates children more because it is a pleasurable way to perform activities that involve cognition and concentration (FERNANDES, 2014).

Throughout the third fragment of the narrative, A1 highlights the relevance of playful activities in student learning, in this case, mathematical learning.

> I believe that if there is a work in which stimulation is the keyword, the tendency is that the student only grows with regard to his cognitive activities, because he demonstrates that he takes seriously any and all types of play that challenge him to seek new solutions and new means of solving problems. Therefore, it seems to be very valid to present the knowledge to him in a lighter and more interesting way. Speaking of the evaluative aspect, I believe that the collection of results with regard to mathematical activities is still very subjective due to the short contact time between us and the children. However, I affirm that with the progress of the activities, the children became more and more relaxed and, above all, competitive among themselves, which demonstrates that in the course of the work, the students took what was proposed to them more and more seriously (A1).

In this fragment, it is observed that A1 identifies psychomotor stimulation as a primary factor for the child's learning, as well as its subjective character. It also identifies the process of development and growth of students during the activities. These observations are in agreement with what Papalia and Olds (2000) say about motor skills. The authors understand that the basis for global and fine motor skills is established in the first years of schooling, and it is during this period that

children considerably increase their motor repertoire and acquire the models of movement coordination essential for later skills.

NARRATIVE 2- IMPORTANCE OF PSYCHOMOTRICITY IN JULIA'S UNDERSTANDING (A2)

> The so-called "traditional pedagogy" is based on a dualistic view of the human being, which divides it into two distinct parts: body and mind. With the study of psychomotricity and the experience acquired during the semester, it was possible to notice that this concept is wrong. Considering the individual as a whole is of great importance to the learning process. It was observed that the teaching of mathematics associated with the use of games and games is effective, making it more attractive and closer to the child's reality. It was noticeable that with each class, the children became more participative, and this work may have been the beginning of a change in their perspective in relation to mathematics (A2).

A2's statement "The so-called 'traditional pedagogy' is based on a dualistic view of the human being, which divides it into two distinct parts: 'body and mind'", finds theoretical support in the arguments of Kolinyak Filho (2010), when he states that the traditional school has separated the work in the classroom, which involves the mind and motor activities in physical education, performed outside the classroom, in larger spaces, intended for physical exercise to control and discipline the body. In this conception, the author argues, the body is a mere support for the mind, which represents the essence of the human being. However, psychomotricity studies show that the handling of these concepts, body and mind, used as distinct parts, is misguided. Considering the individual as a whole, as a unit, is a *sine qua non* condition for the effective learning process.

The dimension of the game, expressed in the proposition of A2: "It was observed that the teaching of mathematics associated with the use of games and games is effective, making it more attractive and closer to the child's reality", among other authors, can be explained by Vygotsky (2003); Boer and Oliveira (2014). Vygotsky (2003) understands that for children, the game has an important meaning when it corresponds to their age, their interests and, especially, when it includes elements that lead to the development of habits and skills. The author explains that in games with rules, children organize higher forms of behavior that are usually linked to problem solving, conjecture, wit, and creativity. Rosa (2008) states that the balance between the ludic function and the educational function becomes the objective of the game. The educational function of the game gives the student the opportunity to learn by playing and, for the teacher, the game is a didactic resource that he uses at different times. In the classroom context, learning with the game can involve the production of knowledge and this makes the environment rich in meanings, especially for the student. Boer and Rodrigues (2014) understand that pedagogical games, in addition to being learning resources, are also instruments for teaching and evaluating school content. The authors consider that playful education is important for the intellectual and moral development and sense of solidarity of the child, as well as for the development of motor skills and the acquisition of new knowledge.

> Finally, the semester had great relevance as a personal experience. In the evaluations, it was possible to put into practice Vítor da Fonseca's tests, previously seen in the classroom, and thus understand them more deeply. In each class, we were challenged to create and carry out activities, which stimulated our creativity and personal relationships, as well as the creation of bonds with the children. This was an experience that can be taken to academic and professional life, providing a basis for future care and providing a broader view of the individual, understanding how psychomotor factors influence development (A2).

This fragment of A2's narrative can be based on the Piagetian thought of cognitive development, considering that the children were in the age group of 9 to 12 years, therefore, in the concrete operative stage (PIAGET, 2003; LA TAILLE, 1992; RIES, 2001). The concrete operative stage comprises the age group from 7 to 11 years, in this period the child can solve problems logically in the present, but is not yet able to think in abstract terms. This period is based on real experience and the child's reversible internalized action, which is not observed in the preoperative stage (PIAGET, 2003; LA TAILLE, 1992; RIES, 2001). According to these same authors, in the operative stage, egocentrism decreases and the notion of conservation of the object's properties occurs: quantity, length, number, weight, density, area and volume. The child associates these interconnected concepts with the notions of time, speed and space, but always being observed and having tangible materials. The child is already able to make relationships between two or more objects, but following a sequence of facts to arrive at the total. At this stage, it is expected that the child will be able to combine, order, and transform objects and actions mentally.

NARRATIVE 3- CHALLENGES AND POSSIBILITIES FOR ROBERTA (A3)

> After all the evaluations that were made, it was clear that students are more interested in mathematics when they are stimulated in a different way than usual, the difficulties become easier to be solved when this "world" of the classroom becomes wider. Of course, it's a lot more fun to solve an addition account while kicking a ball on goal, than it is to solve it in class, sitting in class and often dispersing. I could see in the students I evaluated throughout this semester that their ability to interpret, the way they interact with their classmates were being modified, they began to pay more attention to what was being asked and began to show more interest in learning. It was very important to be able to see how much we can combine the two areas, health and education, which seemed to be so different, but which come together perfectly, thus being able to help children in their performance. Listening to the children's reports saying that they really enjoyed the activities and that they served not only for fun, but for each one's learning, this made it worth every second we spent together (A3).

A possible interpretation of what was observed by A3 in relation to the evolution of children can be explained by Erickson's (1998) theory of psychosocial development. Considering the age of the children who participated in the study, they are in the fourth stage of psychosocial development, a phase that is linked to constructivity *versus* inferiority. According to the author, at this stage, there is a positive resolution of the previous stages and corresponds to the period in which the child is being taught to read and write and attending school, which provides interaction with people who are not

their relatives, which will require greater sociability, teamwork, cooperativeness and other necessary skills.

In A3's statement, "hearing the children's report saying that they really liked the activities and that they served not only for fun, but for each one's learning, this made it worth every second we spent together" reinforces Erikson's (1998) idea that a child needs confidence to feel capable. autonomy and initiative. For this, the child requires an environment that allows socialization, teamwork and cooperativeness. Also, according to Erickson (1998), if the child has difficulties, the group itself may criticize him, starting to experience inferiority instead of constructivity. In that case, you may experience feelings that lead to cognitive blocks. However, according to the testimonies of the Physical Therapy students and not only from A3, these aspects were not identified, on the contrary, the intervention was carried out in a friendly and trusting environment, thus contributing to the social and cognitive development of the children.

NARRATIVE 4- EVELISE'S LEARNINGS AND DREAMS (A4)

> During the course I learned a lot from the students, I learned to be patient, to know how to listen to the little ones, to interpret their difficulties and gestures, to identify and analyze between the lines to be able to work around and try to improve certain situations that I was not used to. I liked the discipline because it took me out of my comfort zone, the students were very agitated and very smart, which forced us to be creative and dynamic with them. I learned that mathematical stimulation is essential for learning, not only mathematics, but also for the development of concentration, spatial-temporal notion, motor skills, among other aspects. I would very much like these children to continue to receive support and assistance, as the difference between the first and the last visit was remarkable. The students were more concentrated, more willing and receptive to carry out the activities, they were enjoying learning, which is extremely important in the construction of the human being. I am grateful for the opportunity to be able to participate in this educational circle in a city in the countryside, because this way we can identify social, cultural and educational differences (A4).

The statement of A4, "I learned that stimulus is essential for learning, not only mathematics, but also for the development of concentration, spatial-temporal notion, motor skills, among other aspects, can also be explained by Piaget's cognitivist theory.

Piaget (2003) understands that human phenomena are biological in their roots, social in their ends, and mental in their means. For this author, the changes that occur in the human being are due to cognitive functioning, it is related to the evolution of mental structures and how children adapt to their environment. Piaget (1976; 2003) explains that cognition develops in stages, which occur in due time, but depend on the correct stimulation that is given to the child. Thus, according to Piaget's theory, it can be understood that the learning process happens from the inside out and the more the child develops, the more he learns (PULASKI, 1986; RIES, 2001; LA TAILLE, 1992).

A4 also reinforces the feeling of satisfaction with the work developed "in a city in the countryside". This is in accordance with the appreciation of most academics and refers to one of the

functions of the university, which is to provide services to the community, articulating teaching, research and extension activities as part of the human work carried out by the university, in its institutional and social role. The university-school integration is, therefore, a methodological alternative to mediate intervention projects with interdisciplinary pedagogical practice in the field of education and health.

NARRATIVE 5 – MÁRCIO'S INTERVENTION (A5)

This narrative is analysed in three interrelated and complementary fragments. In the first fragment, A5 refers to the application of mathematics exercises to children.

> From the beginning, we seek to develop exercises related to mathematical and logical reasoning, concentration, attention, decision-making, creativity, among others. Through these exercises, we aim to identify these factors and develop them. Often, trying to guide the students was not an easy task, especially in activities that did not involve broad motor skills, however, all the proposed activities were carried out successfully. It can be said, with certainty, that some students presented greater difficulty for some activities performed, such as activities that involved logical and mathematical reasoning. I think that even if for a short period, the stimuli we offered to these children were beneficial (A5).

In the narrative "Often, trying to guide the students was not an easy task, especially in activities that did not involve broad motor skills, however, all the proposed activities were carried out successfully", it shows the challenges of the work developed with the children. For physiotherapy students, entering a classroom and coordinating teaching activities is something innovative and at the same time educational because it is a formative moment, of knowing the limits and characteristics of childhood. These aspects can also be identified in the following excerpt:

> Being able to experience the importance of different ways to stimulate an individual's learning, at the beginning of their training, was something that had not been provided to us until then. Knowing some tests, games, games and exercises aimed at psychomotor development was extremely significant. Identifying difficulties that the literature proposes to occur in a given age group if they materialize in practice was equally important and surprising (A5).

The activities developed in the school are related to the contents worked in the discipline Physiotherapy in Child Health. This type of work was offered for the first time and generated favorable impacts on academics, as already mentioned in this text. In this proposition, "Identifying difficulties that the literature proposes to occur in a certain age group, if they materialize in practice was equally important and surprising", A5 observes, in practice, theoretical information emphasized by the specific literature of the course.

In the following excerpt, A5 reaffirms a positive appreciation of the work developed and highlights the importance for the academic training of physical therapists.

> For a short time, we were able to interact with the students of the La Salle School and

> developed and mediated activities that proved to be important in their learning. I believe that all this experience was very valid and being receptive to new proposals and information is fundamental for the highest quality of our training as academics (A5).

Demo (2011) argues that those who teach should also do research and those who research should also teach. In this conception, the work reported here is coherent with teaching and research practices, showing that there is no rupture between them, even if research does not always have an immediate and direct application in society.

FINAL THOUGHTS

The objective of this study was to analyze the perceptions of students regarding training activities in the Physical Therapy course that enable future professionals in Child Health to propose school activities that improve student performance.

A general conclusion regarding the participation of Physical Therapy students in teaching activities confirms the need to relate theory to practice and the need to associate research with teaching. For the students, the experience allows the individual to have greater security regarding the choice of course and the opportunity to fulfill their aptitudes, interests and expectations in relation to the profession. In practical terms, the way in which this experience was experienced by the students had a positive impact on the school community, reinforcing the university-school integration.

The data collected in this study also corroborate a research carried out by Igue; Bariani and Milanesi (2008) in which a significant part of the students interviewed stated that they had begun to be interested in the course, to the extent that a broader knowledge of the field of activity and the type of work they could develop became clear. That is, to the extent that they knew and experienced certain practices of the course, they felt capable of continuing to explore it. The authors add that knowing the reality experienced by the students is a way that makes it possible to identify the patterns of experiences, consistent or not, to their success.

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