

# Creativity and Education: Interactive Teaching Practices with a Gifted Student

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## Abstract

There is increasing recognition of the need to encourage students of diverse educational levels to develop independent and creative reasoning. Teachers are therefore fundamental mediators in the planning of teaching strategies intended to develop these competencies. Taking these assumptions as a reference, a study<sup>1</sup> was developed with the aim of investigating the interactive dynamics used in a Brazilian school to work with a high ability/gifted student, as well as to identify how this student's relations with other subjects at school (colleagues, teachers, deputy head teacher (*pedagoga*)) are established. The qualitative research method was used, collecting data based on semi-structured interviews, focusing on a case study. The study involved one gifted student, his parents, six teachers and one deputy head teacher (*pedagoga*). The study showed that despite getting on well with his teachers, he has difficulty in making friends with students of his age. With regard to his involvement at school, he performs mental calculations easily and expresses himself mathematically in a creative manner, proposing differentiated ways of solving problems in the classroom. Nevertheless, the study confirmed that some teachers still have difficulty in working with gifted students. On the other hand, despite the difficulties, some teachers have made efforts to develop teaching practices based on social interaction, enabling the sharing of knowledge and skills among students, in addition to encouraging students to seek meaning in what they study. These practices are similar to the quest for meanings that Vygotsky (1997, 2004, 2008, 2009) emphasizes. The conclusion is reached that encouraging and developing creative activities are fundamental elements for performance and the incorporation of meanings with regard to contents taught at school.

## Keywords

Creativity, Giftedness, Teaching Practices

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## 1. Introduction

Education issues continue to be widely discussed at the national and international level. One of the main contemporary discussions can be considered to be related to the importance of developing creativity among students. There is increasing recognition of the need to encourage students of diverse educational levels to develop independent and creative reasoning (Alencar, 2001). As such, researchers see teachers as fundamental mediators in the planning of teaching strategies intended to develop these competencies (Alencar, 1986; Alencar & Fleith, 2001; Virgolim, 1998; Freeman & Guenther, 2000; Maia-Pinto & Fleith, 2002; Taucei & Stoltz, 2013; Taucei, Stoltz, & Gabardo, 2013a; Piske, Stoltz, & Machado, 2014).

Notwithstanding, and in agreement with Alencar (2001), it can be seen that the Brazilian education system has diverse weaknesses in its proposals for education. One of these is the failure to foster the development of creative skills in its students. In keeping with this finding, Maia-Pinto & Fleith (2002) highlight that many of the teaching practices used in schools still cling to traditional models emphasizing the passive absorption of the contents taught. As such, in addition to not encouraging students' creative potential, the teaching system favours the passive and often "uninterested" posture that some students have at some time while they are at school. As a consequence lack of motivation, increased social alienation and high rates of dropping out of school may occur, principally among young adults and adolescents.

The rate of school truancy in Brazil, according to Education Ministry data (Brasil, 2010a), is gradually reducing: in 2007 it was 13.2% and in 2010 it had fallen to 10.3%. However, these rates are high. An example of this is the significant number of students who drop out of high school. According to the Summary of Social Indicators compiled by the Brazilian Institute of Geography and Statistics (IBGE) (Brasil, 2010b), one in ten young people aged 15 - 17 who should have been studying at high school had dropped out. In 2012 the dropout rate in this age group reached 24.3% (Brasil, 2013). This situation can become more widespread and complex when students are part of the group of people who have signs of high abilities/giftedness.

Freeman & Guenther (2000) highlight that often students whose ability is higher than the average of the group in a regular classroom, whether in terms of intelligence, creativity or a specific talent, may have difficulty in adapting to the rest of the class and will also probably have few opportunities to develop their full potential. According to researchers, one of the first problems faced by gifted students in relation to the other students in a regular classroom is having to wait for them, because generally gifted students learn more quickly than their colleagues. The time spent waiting for the rest of the group can cause annoyance and boredom, resulting in them losing interest in school.

Considering this context, this article seeks to discuss factors relating to creativity, interactive and creative teaching practices developed in the classroom with a student diagnosed as having high abilities/giftedness in the area of logic and mathematics, as well as to identify how this student's relations with other subjects at school (colleagues, teachers, deputy head teacher (*pedagoga*)) are established.

## 2. Giftedness and Creativity

According to Renzulli (2004), as long ago as the late 1960s and early 1970s, the literature on gifted and talented people already indicated that various situations were "glaring" in relation to the need for teaching institutions to offer differentiated activities to high potential students, thus providing opportunities for greater cognitive growth and self-fulfilment for these students in the classroom. This need consists of providing development and enhancement to gifted students in a given area of performance and/or minimizing difficulties that may arise, as well as favouring the development of individuals who could possibly contribute to solving society's problems, becoming producers of knowledge and art, and not just consumers of information that already exists (Renzulli, 2004; Taucei, 2015).

One of the many factors that mobilized Renzulli (1978, 1984) in delineating what would become his theory on giftedness was his observation of a large number of cases of individuals with highly creative and unusual achievements, who would not be identified or included in specialized programmes for gifted people if they only continued to be considered on the basis of their scores in cognitive ability tests. In Renzulli's view, in addition to academic giftedness, which is the type most easily measured by psychometric tests, there is also creative/ productive giftedness, which covers aspects of individual activity and involvement in efforts to encourage the development of creative and unusual ideas (Renzulli, 2004). The theory of giftedness developed by Renzulli is the Three-Ring Conception involving three fundamental elements: above average ability, creativity and task com-

mitment (Renzulli, 1978, 1984, 2004; Renzulli & Reis, 1997).

When discussing creativity, some researchers (Sternberg & Lubart, 1996; Runco, 1997; Csikszentmihalyi, 1999, 2000; Lubart & Mouchiroud, 2003; Sternberg, 2006, 2008), define it in a broad manner as being a process of producing something singular and valuable. All of them agree that a creative person makes unusual productions and inventions, brilliant discoveries, works of art and so forth. Creative activity, however, cannot be seen only as a product of a rapid manifestation of a brilliant idea. It is much more than this. Creativity is reflected in dedication, discipline, conscious effort and motivation to study a given area of knowledge at length. From Renzulli's (2004) creative/productive perspective, the confluence of intelligence, knowledge, styles of thinking, personality, motivation and environment form creative behaviour. Sternberg & Grigorenko (2003), besides the Investment Theory, highlight that: "[...] an alternative integrative theory of creativity suggests that many individual and environmental factors converge in order for creativity to occur" (Sternberg & Lubart, 1991 as cited by Sternberg & Grigorenko, 2003: p. 403).

Vygotsky (2008, 2012), one of the creators of the Cultural-Historical Theory, was one of the first modern psychologists for whom culture becomes part of each person's nature. At the time the Theory was produced it already expressed the notion that a subject's creative activity is that which creates something new. For Vygotsky, creative imagination works in a very peculiar manner whereby it does not matter if what is created is an object in the outer world or if it is something built by the mind or by feelings. Creativity is not a rare phenomenon, nor is it natural to an individual. Rather it is a process present in everyday reality which is developed through experiences and mediation between people and their environment. In Vygotsky (1996, 2009), the potential of creative activity to generate and transform enables individuals to plan, design and build their own conditions of existence. In agreement with the researchers referred to above, Bahia & Nogueira (2005) stress that current notions and theories about creativity take on diverse original meanings. They state that creativity can be considered to be a multidimensional process, whereby the context in which it occurs must also be taken into consideration.

### 3. Method

The method used to conduct this research, including its focus on the case study, was based on qualitative research principles and methods (Flick, 2009). Qualitative research uses the natural environment as its direct source of data collection; this type of study can propose questions and hypotheses before, during or after data collection and analysis. The process takes place in a dynamic way, with continuous movement between the facts and their interpretation in the quest to understand a social phenomenon; emphasis is not on measuring the variables involved in the phenomenon, but is rather on understanding it (Sampieri, 2006; Taucei, 2015). A basic principle of qualitative research undertaken in the form of a case study is that in order to achieve a more complete understanding of the subject studied, the context in which the subject is situated, the behaviour and the interactions of the people involved need to be taken into consideration. As such, given that our study had interactive relationships as its main focus, it was developed in line with the theoretical and methodological principles of the Cultural-Historical perspective, based on the contributions of Vygotsky (2004, 2010). These contributed to the preparation of the questions used in the semi-structured interviews, both with the student on whom this study is based and also with the other people with whom he interacts. Apart from the student's home, the interviews were also conducted in two state schools: one in which the student studies and another where he receives specialized attention in a resources room for students with special education needs characteristic of giftedness.

A survey was made of state schools in Curitiba, Paraná, Brazil offering specialized support in a resources room for high ability/gifted students. Once the survey had been completed, permission was asked of the department in charge to begin an empirical study of those schools. One of the criteria for students' participation in the study was the existence of documents assessing their giftedness. The interviews began once permission had been received and the participants had signed the Free Informed Consent Form. In addition to the interviews, which were recorded and later transcribed, observation and document analysis were also carried out. The documents analyzed were the Assessment Reports (Talent and Giftedness) and the Educational and Psychological Assessment Reportson the gifted student.

The focus of the questions used in the semi-structured interview was to identify students' characteristics, the teaching practices used by the school for working with special students, as well as to identify how these students' relations with other subjects at school (colleagues, teachers, deputy head teacher (*pedagoga*)) are established. Specifically for the production of this article, the data collected was organized considering both these objectives

and also themes relating to creativity which appeared during the interviews.

The following people took part in this study: a fourteen-year-old high ability/gifted adolescent attending the 8<sup>th</sup> year of Elementary Education; his parents, who are qualified to high school level; and seven state school teachers who are the student's teachers and are aged between 29 and 45. One of the interviewees is a deputy head teacher (*pedagoga*) and has postgraduate specialization in Psychopedagogy; two are teachers at the resources room for high ability/gifted students, one has a degree in History and the other has a degree in Pedagogy; both are specialized in Special Education. Four teachers work with regular education and their subjects are Geography, Mathematics, History, Portuguese and English (the latter two subjects are taught by the same teacher). Only the Geography teacher is specialized.

Immersion in the context of the study occurred, initially, with the intention of gathering general data and, later, in order to find a student whose family would authorize his/her participation in the study. A public school was selected which is considered to be a reference in the city of Curitiba in terms of the quality of its teaching. Initial general data collection was performed with the participation of two teachers who work in the school's resources room. The first interview was conducted with the teacher who has a History degree and is specialized in Special Education. The second person to be interviewed was the teacher who has a degree in Pedagogy and is also specialized in Special Education. According to the teachers, being specialized in Special Education is one of the criteria used by the Paraná Education Department for teachers to work in the specialized pedagogical support service.

The specialized support service is offered by the public education system during the period of the day in which the student in question does not have lessons. The specialized support is provided in the resources room for high ability/gifted students and offers, respectively, additional and/or more in-depth approaches to some academic contents and activities which are not part of the regular teaching curriculum. Activities for gifted students in the resources rooms are developed individually and/or in groups and are aimed to meet the students' areas of interest, skills, learning styles and specific needs.

Once the general data had been collected in the resources room, we asked one of the teachers to indicate a student whose family would authorize their participation in the case study. Two weeks later the teacher provided the telephone number of the mother of one of the students and she agreed to schedule the interviews with the family. The data collection process took around two months, depending on the participants' availability. Interviews were scheduled via the student's mother with the teachers at the school where he studies. The interviews with the participants were conducted individually and in an open and dynamic manner, with the aim of providing them with total freedom to give an account of issues they considered to be most significant. Semi-structured interviews are developed based on a basic framework but which is not administered rigidly, thus enabling researchers to make adaptations if the need be (Lücke & André, 1986; Taucei, 2015). Analysis of the data collected from the participants and our observations enabled their accounts to be categorized. Both the study and the analysis were based on descriptive-relational analysis as per Vygotsky, which perceives the individual as being socially, culturally and historically built by dialectic relationships (Vygotsky, 2004, 2008, 2010).

In order to ensure their anonymity in the following Results and Discussion section, the interviewees are referred to according to their position at the schools and/or relationship to the student: deputy head teacher (*pedagoga*), resource room teachers, teacher (and respective subject taught), father, mother. The fictitious name "Marcelo" was used to refer to the high ability/gifted student mentioned above.

#### 4. Identification of the Gifted Student

Marcelo lives with his family in a municipality (Colombo) in the metropolitan region of the city of Curitiba/Paraná, Brazil. His family is comprised of four people: Marcelo, his father, his mother and his younger sister. Among the main points revealed by analyzing the data obtained through the study is that in general (and also according to his parents), Marcelo is a likeable young person who gets on well with his family and readily takes part in the household's activities. His family is lower middle class, his father works with goods haulage. Despite having scarce financial resources, his parents do all they can to provide educational and cultural opportunities for their children, as they believe that through education and cultural experiences, they will be able to live a new reality. This reasoning recalls the ideas of Vygotsky (2008) about the importance of education, learning at school and social and cultural experiences. In his view these factors work as mediators that enable socially available knowledge to be internalized, thus broadening human possibilities of development.

Marcelo's parents state that their son has always been very intelligent, but appeared to be rather different to other children of the same age. According to his mother, right from early childhood she noticed that he had a high level of curiosity and an acute sense of perception regarding the details of objects and/or subjects of interest to him. Given the possible precociousness of their son, his parents decided to provide him with a variety of sources of stimulation, such as: jigsaw puzzles, memory games, dominoes, chess and so on, capable of satisfying his interests. According to his mother, Marcelo studies a great deal the subjects that interest him, he likes to study, invent and test his electronic experiments. In the interview his mother said that at times she is rather concerned about her son because he has "few friends", i.e. he prefers to spend the greater part of the day in his laboratory producing and testing his inventions, rather than playing with other adolescents of the same age; and that at times her son appears rather fed up and dissatisfied when he realizes he has difficulties in making friends with young people of his age. Marcelo says: "the majority of the students in my class ignore me; and it seems they don't understand simple things I try to talk about with them".

With regard to difficulties in socializing that some gifted students face, including Marcelo, the studies conducted by [Hollingworth \(1942\)](#), even though they took place quite some time ago, continue to be relevant in helping us to understand some of the difficulties gifted individuals have in adjusting. Hollingworth found that some students who had a very high Intelligence Quotient (IQ) of around 180 had significant difficulty in forming friendships with people of their own age since, in his view, the group of people of a similar age does not share the same interests, thus making interaction between peers difficult. In the analysis it was possible to observe these characteristics in Marcelo through his statements:

"No, I have very few friends, in the afternoon I have few more, when I attended school in the morning I didn't have any friends. In the classroom I ask the teachers questions about the subjects, but with my colleagues I... I don't say anything, you know? When they invite me to talk with them, I talk; but even the style of music I like is different to what they like, because I like Raul Seixas and I like Beethoven as well, which is something no one else is going to like. I like that music because it can be played by an orchestra. They think: 'he likes Beethoven so he's not part of our group'. They say, 'that boy who likes Beethoven', and sometimes they say: 'we're not speaking to you Einstein', I think it's because there's a reading project at school and we can borrow books from school and the book I liked was a biography of Einstein" (Marcelo).

However, despite our observing that the student has only a small circle of friends and has difficulty in forming friendships with people of his own age, differently to what his mother states, he says it does not bother him. According to Marcelo, what he most likes to do is stay at home studying, about dinosaurs for instance, and working on his electronic experiments. From what his parents said and what he himself said, we observed that Marcelo has uncommon ideas, as in this example:

What I most like to do is stay in my laboratory studying about dinosaurs and doing experiments with electricity and electronics. [...] I've already had the idea of making a car that runs on air, the front of the car would be higher than usual because when the car accelerated using a battery it would capture the air which in turn would be stored in the battery; it could be done with water as well, but I haven't thought about how to do that yet. [...] I no longer have the drawings of my house of the future because I threw them away a long time ago, I was 8 when I drew them. I see things and observe them, I've read about algae, they filter a lot of impurities, they "eat" a lot of rubbish because they're a filter, but the problem with leaving algae inside a pipe is that they turn the water green, the water's pure but everything's green around it and it needs to be cleared to be fit to drink. Oh yes, I put a light that's switched on by a voice, the sound wave gives off a sound, and the house recognizes that sound and transmits a signal to switch on the light as if it were a computer; I'd already had this idea, then I saw that they [scientists/engineers] had invented it, but I had the idea first. I also thought about bricks made out of recyclable material, because I thought of the earth and I remembered the houses of the indigenous people, and I thought to myself you could take that clay out of the ground, fill bottles with it, turn it into bricks and make a house for yourself, you can dry the clay and make a house; as for electrics, I thought of something simple like in addition to using sunlight you could capture the sunlight and save it for night-time because at night there's no sunlight (Marcelo).

According to [Vygotsky \(2009\)](#), imagination is the basis of all creative activity, it manifests itself in all fields of cultural life, making possible artistic, scientific and technical creation. Creation does not appear out of nowhere, rather it requires historical construction and the participation of children in culture. A child's imagination

is not simply a memory of what it has experienced, but rather a creative re-elaboration of impressions it has experienced. From the point of view of the researcher, creativity is a process that is built from elements of reality and which are present in the experiences lived by the individual; those experiences are re-elaborated into new combinations and resignifications, culminating in creative productions.

## 5. Reflections on the Brazilian Education System

As mentioned above, the 8<sup>th</sup> year elementary school student attends a state school in the municipality of Colombo, where he lives with his family. As this school does neither has a resources room for gifted students nor education professionals specialized in this area, he also attends another state school in the city of Curitiba in order for his special educational needs to be met in a resources room for gifted students. This happens twice a week during the extracurricular period.

According to the teachers specialized in Special Education who work with Marcelo, the resources room in question caters for a great variety of areas according to the students' personal interest, for example: Text/Theatre Production workshop; Literature workshop; a Large Group dealing with issues relating to "interpersonal and intrapersonal intelligence" (Gardner, 1983, 1993, 1994; Gardner, Kornhaber, & Wake, 1998); Aeromodelling work-shop; Role Playing Game I and II, among others. According to the teachers, however, although Marcelo expressed the wish to take part in the Robotics workshop, he ended up taking his second option and is taking part in the Aeromodelling workshop. This is because at the moment the resources room does not have a volunteer mentor for Robotics.

After having heard what the teachers said, observed the physical space and the materials used, as well as having heard what Marcelo and his family said, it can be seen that despite there being resource rooms for high ability/gifted students, in some cases these facilities are lacking in terms of what can be considered necessary in the quest for quality education; as well as lacking what many of these individuals wish for in order to make progress with their personal development, whether this is because of lack of specific materials to work with, or the small number of teachers specialized in meeting the real needs of these students. With regard to some of these difficulties, Piske & Stoltz (2013), Taucei & Stoltz (2013) and Taucei, Stoltz & Gabardo (2012, 2013b) emphasize that the Brazilian education system still has limitations in order for its students to be able to carry out their activities with quality and freedom of expression.

Taking a similar stance, Alencar (2001) stresses that several reasons could be indicated to justify the importance of providing better conditions for the expression of gifted students' high potential, as well as students in regular classrooms, thus making available conditions for the development of creative talents at all levels of teaching. Despite the perception of various researchers in this area regarding the need to strengthen specialized facilities for these special students, Delou (2012) highlights that on the contrary this is not happening:

"Brazil has made little progress in offering education facilities for gifted students. The actions that do occur are always characterized by discontinuity (Alencar & Fleith, 2001; Delou, 2001). Every time Special Education has been reviewed, the option has been taken to continue to include gifted students within the area of Special Education, this being due much more to political persuasion by specialists showing the waste of academic talents owing to low education standards, rather than knowledge as to the efficaciousness of this type of facility" (Delou, 2001 as cited by Delou, 2012: p. 132).

Based on the literature consulted, significant problems can be seen to exist which hamper the quality of teaching in the Brazilian education system, such as, for example: political issues, insufficient investment and lack of specialized professionals (Alencar, 2001; Delou, 2012; Piske & Stoltz, 2013; Taucei & Stoltz, 2013). When the empirical study was conducted, we noted that the professionals interviewed who work in the resources room for high ability/gifted students, most of whom are specialized in Special Education, are extremely committed and involved with their work aimed at their students' development. On the other hand, despite the regular education teachers demonstrating involvement with their teaching work, they admit they have some difficulties in coping with gifted students. This leads us to observe that the most relevant and decisive resource for these educational spaces are human resources.

## 6. Teaching Practices and High Creative Potential at School

According to the deputy head teacher (*pedagoga*) at the school where Marcelo studies, he has attended that

school since the 5<sup>th</sup> year, but it was only in the 8<sup>th</sup> year that he was assessed and confirmed as being high ability/gifted. Despite Marcelo not having an assessment report proving his high potential, some teachers thought he seemed to be different to the other students of the same age in his class and perceived that he had high cognitive potential: sharp logical reasoning, considerable skill and creativity in articulating information coming from varied contents and disciplines, involvement in activities and a significant wish to always be learning more, standing out above all in Mathematics, Sciences and assignments, as emphasized by some of the teachers interviewed:

“We noticed that he had a strong interest in the areas I told you about [Mathematics, Sciences and assignments/experiments], whenever he had to present assignments at the Sciences Fair, he always did much more than the teacher had asked (deputy head teacher” (*pedagoga*).

“[...] when I’m teaching general history, he [Marcelo] relates on his own and very quickly the general/worldwide contexts with the specific Brazilian context; in the same way he is able to make associations between one period in history and another” (History teacher).

“[...] Marcelo is very curious and intelligent, he is able to make rapid associations between contents and always contributes with differentiated and innovative ideas in the classroom”(Geography teacher).

“He has strong logical reasoning, memorizes things immediately, is able to express himself mathematically in a creative manner, he often does exercises orally and with various proposals for solving problems; for example, in the classroom I explain the contents in a given way [...] he watches, analyzes and always finds other ways of solving the same problem, this happens all the time”(Mathematics teacher).

A large number of Marcelo’s characteristics mentioned by the teachers at his school can be seen to be similar to those highlighted by [Renzulli \(1978, 1984, 2004, 2014\)](#) in his conception of giftedness, i.e. Marcelo’s skills in specific areas are above average, principally in the area of logic and mathematics, creativity and significant involvement with activities that interest him. For Renzulli, the congruence of these factors defines the concept of giftedness, although we agree with this author that these characteristics are part of but do not limit the identification of a gifted person, since just like any other human being high ability/gifted individuals can have very different characteristics.

Despite Marcelo’s high potential, various teachers stated in the interviews that he has difficulties in his interpersonal relationship with his colleagues (confirming his parents’ perception), showing himself to be extremely critical with regard to some adolescents who study with him. Marcelo has an introspective profile and even when teachers propose activities in pairs or in groups, he wants to do them on his own, and does them well when this is allowed. Generally, however, the teachers do not allow exceptions, since according to the deputy head teacher (*pedagoga*) the proposed teaching method is precisely that of promoting interaction between peers so as to enable experiences to be shared. This is in agreement with Vygotsky (2005), who believes that when educational practices are intended to prepare students socially and individually, and are linked to each other through a dialectic relationship, the sharing of experiences between students takes on fundamental importance.

Nevertheless, despite the majority of the teachers stating that Marcelo has difficulty in interacting with other students of the same age, they were unanimous in affirming that he is very obliging, participative, respectful and well-mannered. It can be inferred that these traits of his personality are probably due to the ways his family has educated him and that this is certainly reflected in his life in society.

With regard to the issue of how the teachers’ teaching practices are developed in order to work with high ability/gifted students, according to the school’s deputy head teacher (*pedagoga*), teachers are advised to work, whenever possible, using interactive teaching practices with students working together in pairs or groups, so that knowledge is shared between them. Here are the answers of some of the teachers given during the semi-structured interviews:

“I always try to work in a creative manner with my students, in order to attain the objective of them learning. [...] I always work exploring and prioritizing the viewpoint and the reality of my students, for example: I use graphs, tables, scale calculations, maps etc. to get the contents over” (Geography teacher).

“[...] When I’m teaching population density, first of all we look at the population density of the homes of the students” (Geography teacher).

“In my work I place value on each student’s potential. Even when evaluating them, I take into consideration not only what they’ve written, but also calculations they make orally” (Mathematics teacher).

“[...] as far as possible I try to use some interactive teaching practices as advised by our deputy head teacher (*pedagoga*): such as working in pairs and in groups; i.e., they share knowledge, one student answers and the other writes the answer down. I try to encourage the children to find the meaning of what they are reading and writing”(Portuguese teacher).

These teaching practices are similar to the meaning-making processes that Vygotsky (1994, 1997, 2008) emphasizes. Stoltz (2010), inspired by Vygotsky, states that: “[...] Meaning is built and shared culturally and it is in meaning that thought and word unite and give origin to verbal thinking. It is through meaning that we have generalization and the possibility of transformation. Meaning is the fundamental part of the word” (Stoltz, 2010: p. 176).

When analyzing the answers given by the teachers during the interviews, three of the four regular education teachers stated that, in general, they have difficulties in working with high ability/gifted students and that they do not feel fully prepared, since during their degree courses they did not have specific training to cope with students with such a unique profile. Despite this, specifically with regard to Marcelo they did not mention this problem, and this perhaps is due to having taught him for four years and knowing him well. Notwithstanding, what they said confirms what has been found previously in relation to some teachers still having difficulty in working with gifted students (Taucei, Stoltz, & Gabardo, 2012, 2013a, 2013b).

It is fundamental to emphasize that the reflections and analysis contained in this article are based on the work and the services provided in one specific school, as per data mentioned previously. At that school we found a set of favourable and desirable factors which have contributed to the success of its work. The study conducted indicates a possible relationship between the results of this work and the inclusive/creative practices developed there, as well as the profile of the professionals who work at the school, especially the head teacher and the deputy head teacher (*pedagoga*) responsible for coordinating teaching activities. In addition to having a degree in pedagogy, the head teacher has postgraduate specialization in psychopedagogy and this undoubtedly has contributed to: the conception of education and special education it offers for gifted students; the competence and skill in performing her roles of management and guiding the work of her teaching team. In turn, the deputy head teacher (*pedagoga*), in addition to her integration with the head teacher, is also competent and skilled in the performance of her duties. Taking research/interviews carried out in the area of Giftedness as a reference, it can be inferred that the practices adopted at this school, and the results found, cannot necessarily be extrapolated to other Brazilian schools. Another aspect to be considered is that Marcelo has attended this school for four years and is well known by all the teachers.

## 7. Conclusion

The semi-structured interviews with the study participants, the field observations and the examination of the available literature on this theme provided input for analysis. The data collected through the semi-structured interviews suggest that Marcelo (case study) has high cognitive potential: sharp logical reasoning, considerable skill and creativity in articulating information coming from varied contents and disciplines, involvement in activities and a significant wish to always be learning more, standing out above all in Mathematics, Sciences and assignments, experiments and creative inventions. Thus it can be seen that in addition to having academic high abilities/giftedness, Marcelo also has indicators of production/creation, these being characteristics presented and highlighted in Renzulli’s Three-Ring Conception (Renzulli, 1978, 1984).

Marcelo’s relationship with his family appears to be quite harmonious: his parents are content with the way he thinks and acts and seek to provide him with an enabling environment, offering the maximum they can with regard to cultural and educational opportunities. Individuals can transmit and dominate the products of culture through social interaction, whether this takes place in the heart of the family and/or in other social and cultural relationships (Vygotsky, 2008). It was also possible to note that Marcelo had strong motivation, commitment and involvement with his school, always proposing differentiated ways of solving problems in the classroom, thereby contributing to the enrichment of the lessons with pertinent discussions. Nevertheless, the study showed that despite getting on well with the teachers, Marcelo has difficulty in making friendships with other students of the same age who study with him.

With regard to the teaching practices undertaken at the school, it can be seen that despite the structural difficulties and some teachers lacking specialization, the deputy head teacher (*pedagoga*) has been encouraging a working method involving interactive and creative teaching practices, placing value on what the students pro-

duce. However, some teachers expressed having difficulty in working with students with signs of giftedness. In addition to contextual factors, lack of specialized training and the complexity of the profile of these students contribute to increasing the degree of difficulty of this task. With regard to the resources rooms for gifted students, the teachers are extremely committed to and involved with their work. Notwithstanding, there is a need for the state and federal governments to invest more in enhancing these facilities.

Despite the theme of creativity not having been the main focus of this study, it was possible to perceive several times during the semi-structured interviews that the participants referred to this theme, above all when answering questions about students' potential, highlighting as well that the teaching practices used sought to favour creativity and to value student productivity. One of the main findings of the study was therefore that encouraging and developing creative activities are fundamental elements for the development of meanings in relation to the academic contents studied.

We conclude that initial teacher training, continuing teacher training and the conception of human beings that a teacher has as part of their cultural background, have an impact on the identification of gifted students and their teaching practices. It is fundamental that education professionals perceive the need to treat and educate each student as being unique, considering their individual interests, abilities, learning styles and forms of expression. In view of what has been presented here, we hope that this study can contribute to reflection on and adoption of procedures that nurture creativity in classrooms. In short, there are many issues to be investigated, discussed and enlightened when assuming the true integration of teaching practices that promote creativity, in both gifted students and ordinary students as well. It is therefore essential that further studies be conducted in order to scale up discussions and contribute to greater knowledge about Giftedness and Creativity. This would enable innovative teaching practices to be implanted in Brazilian schools.

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