Egocentric Speech in the Works of Vygotsky and Piaget: Educational Implications and Representations by Teachers

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Abstract

This paper presents an applied qualitative and quantitative study and seeks to understand egocentric speech according to Vygotsky and Piaget and, through a literature review, the educational implications of Vygotsky and Piaget's ideas. Additionally, the representations of these ideas by fifteen teachers of basic education are investigated. It is important to understand egocentric speech in Vygotsky and Piaget. Despite the differences in how they conceive its nature, functions and implications, for both, egocentric speech is intrinsically linked to and facilitates our understanding of child development. Regarding the representation of teachers who criticized children who used egocentric language, when teachers established any negative consequences of such language, they attributed it to the affective and moral aspects as well as to cognition. However, their approach was more practically oriented than those found in the psychological theories addressed. Therefore, this study aids in understanding the limits and scope of teacher-training courses.

Keywords: Egocentric Speech; Educational implications; Representations by Teachers; Genetic Psychology; Cultural-Historical Psychology

1. Introduction

The researcher was present during the probationary period (2010-2012) of a Center for Early Childhood Education in a municipality in the state of São Paulo, Brazil. This center served children from months old (Nursery) to five years old (Pre-kindergarten II). Because the municipality was in a transitional period with respect to the implementation of the nine-year elementary education program and certain working parents had no one to care for their children, the center also served a number of children who were six years of age (the first grade of elementary education). During a period of research at the center, the researcher, who was working 25 hours per week, observed that the children talked to themselves, particularly when they were resting. In addition, these children spoke at a considerable volume. The children were *reprehended* for interfering with their classmates. However, after all, what should one do in this situation? Reprehend the child or not?

Could this type of reprimand "harm" their development? If so, how? On which theory could the researcher base her future practice as a teacher, or as an intern? How should she position herself?

In fact, egocentric speech is a commonly observed phenomenon, particularly during early childhood education. However, the topic is rarely addressed among teachers in the school setting or during teacher training. Therefore, this paper aims to study aspects of egocentric speech in the work of Vygotsky and Piaget, who pioneered the study of egocentric speech and are the primary authors on the subject. Specific attention will be paid to their considerations of the psychogenesis and interrelations of thought and language and the educational implications of egocentric language. In addition, this paper reviews the ideas of other theorists with respect to this topic. The present study also aims to investigate the educational implications of reprehending such speech in the child and the representations of teachers in this regard. Moreover, it seeks to understand and enhance our understanding of human development and, above all, child development, while fostering a debate between two different schools of thought: the genetic epistemology and psychology of Jean Piaget (1896-1980) and the cultural-historical psychology of Lev S. Vygotsky (1896-1934). This approach is necessary and intended to be constructive. However, it is hoped that this study may fill in the gaps in training courses and contribute to the development of a pedagogical practice grounded on a solid theoretical foundation. The focus is not only teachers but also all those who are involved in the educational process. The aim is to improve education, particularly early child education.

At the Conference of Psychology in 1929, Vygotsky (1896-1934), in collaboration with Luria, presented a critique of the Piagetian idea of egocentric speech. Vygotsky based his critique on findings from Piaget himself. The critique can be divided into three parts. The first part refers to Piaget's overemphasis of the similarities between egocentrism and autism. The second part involves the disagreement between Vygotsky and Piaget regarding intellectual egocentrism. The third part refers to Piaget's insufficient emphasis on the functional aspect of egocentric speech. Regarding the third part, there are in fact important differences between Piaget and Vygotsky with respect to the nature and functions of egocentric speech. These differences derive from the way in which the two researchers consider the psychogenesis and interrelations of thought and language. Therefore, this study intends to briefly explain the most important difference between these different positions and then examine and discuss the educational implications of reprehending egocentric speech in children according to Piaget and Vygotsky. However, this study does not aim to establish which theory is a more plausible explanation of egocentric speech.

The language plays a key role in the development of thought, acting as a tool because, according to Vygotsky (1934/2001, 1984), language provides through generalization and abstraction the concepts and forms used to organize experiences that mediate between the subject and the object of knowledge. However, the use of language supposes an internalization process. During this process, so-called "inner speech" gradually develops. Such speech differs from normal (external) speech because it is a dialogue with oneself that assists the individual in his or her higher psychological operations. Given that for Vygotsky the developmental path of thought and language proceeds from the interpsychic to the intrapsychic, the child starts by using socialized speech as a means of social communication and contact. Then, the child uses internalized speech, which serves as an instrument of thought. Next, egocentric speech enters this process as a transitional element between the external and inner speech. This phenomenon is external. However, it does not play a communicative role. Instead, it fulfills a personal function, which accompanies the activity of the child and is linked to the needs of thought in planning sequences and in problem solving.

The educational implications that are based on these assumptions are that the nature and function of egocentric speech must be acknowledged by parents and teachers and should not be reprehended because it is a healthy, adaptive manifestation that is aimed at solving problems and overcoming obstacles. If it is reprehended, the cognitive performance of children could be inhibited and impaired.

Regarding the relationship between thought and language, from the Piagetian perspective, Piaget (1964/2006) and Piaget and Inhelder (1966/2006) recognizes the role of language in the enrichment of cognitive instruments because it is a system already developed socially. Nevertheless, he makes clear that the progress of representational thought results from the semiotic function in general. In Piaget's theory, language also plays an important role in social exchanges that succeed and favor socialization but do not precede it, which indicates a path that leads from the individual to the social. In this context, egocentric speech is considered to be a transition between the non-verbal individual mental states and socialized speech. Therefore, the coefficient of egocentric speech decreases with social exchange and socialization.

Unlike for Vygotsky (1934/2001, 1984), for Piaget (1923/1999, 1945/1990), egocentric speech does not have a direct cognitive usefulness because its nature is more related to the manifestation of the child's social egocentrism. Therefore, this type of speech is observed by Piaget in games and other ludic activities, which are accompanied particularly by deforming assimilation. Thus, the educational implications are invisible and not directly related to intellectual dimensions. However, egocentric speech can reveal relevant aspects regarding the socialization states of children and their interactions and moral development, which should be taken into consideration by educators.

Regarding the relationship between egocentric thought and egocentric speech, Piaget (1966) acknowledges that both are distinct phenomena and that intellectual egocentricity transcends the social aspect. Thus, egocentric thinking is not restricted to egocentric speech, which, in turn, is related to social egocentrism. However, this phenomenon cannot be disregarded as unimportant to the recognition of the child's logic. Additionally, Piaget (1966) argues that there is no way to recognize intellectual egocentrism in the field of interpersonal relations and the intellectual egocentrism that is expressed in language. By disregarding egocentric thinking in children, Vygotsky does not acknowledge this phenomenon and its impact on the child's psychological – cognitive and moral – development or the phenomenon's educational dimensions. Therefore, Piaget's criticism (1966) of Vygotsky focuses on his optimism regarding the adaptive processes, while disregarding the relationship between intellectual egocentrism and systematic error. This relationship results from egocentrism, and that represents one of the largest obstacles to the coordination of perspectives, decentration and cooperation in children.

In addition to the educational and pedagogical consequences of these theoretical differences between Piaget and Vygotsky, a number of more recent studies on the topic were analyzed. These studies present an expanded understanding of egocentric speech and contributed importantly to recognizing the educational implications of egocentric speech.

According to Rodríguez (2009), there is an increasing interest in the West in the cultural-historical theory developed by Vygotsky, Leontiev and Luria and its important contributions to the fields of psychology and education. Particularly in the context of the work of these three researchers – specifically, the role of egocentric speech in the mediation of individual actions – the theory has been considered a relevant topic of research.

Aguiar (1998) notes the possibility of observing and understanding the inner language through egocentric language because of the functional, structural and genetic similarities of the two languages. Andrada (2006) alerts us to the descriptive nature of egocentric speech and its planning function, which expands its role as a problem-solving tool. Quast (2009a, 2009b) presents possibilities for analyzing egocentric speech that transcend the observable and enable us to envisage the dialogue. Previously, egocentric speech was considered monological. The different contexts and interlocutors who, although not physically present, were psychologically present. Therefore, the external representation of internal dialogues, that can and should be recognized, is assigned to egocentric speech.

Although certain authors do not explicitly describe the implications of the censorship or interruption of egocentric speech, one can infer possible consequences of such acts by the value they assign language in the child development process and of the functions assigned to egocentric speech. Regarding the former, Andresen (2005) considers language to be the primary means (the crucial role) of fantasy and its functions, particularly during role-play, and of the creation of meaning and fictitious plots and, thus, play in general. Pinho (2009), Pinho and Lima (2010) and Cavaton (2010) represent within the second position. According to these researchers, the occurrence of private speech in the presence of others favors the construction of not only individual knowledge but also collective knowledge. Such speech performs the organizing and regulatory function of thought/language in the child's activity. It enables the child to be directed towards the other as if there were a request for agreement from the social other. Thus, the use of private speech appears in the search for understanding a task, in maintaining focus, in the organization of reasoning and as a mutual self-regulatory strategy, that is, as a means to organize, test and control verbal behavior and to expand cognitive spaces. In addition, private speech has an affective discharge function. It minimizes anxiety and supports the continuation of the task.

Regarding the educational implications emphasized by studies on egocentric speech, the research of Azulay (1995), Berk (2007) and Quast (2009a) stands out. This research represents an important effort in this direction and describes not only the implications but also the interventions related to the subject. Generally, these studies indicate that one should not reprehend a child's monologues. Such behavior is a healthy means to overcome obstacles and acquire new skills.

In addition, these studies emphasize the functionality that the body acquires not only in locomotion and emotional expression but also in the thinking process. Thus, according to these authors, one should not interrupt the child who is playing, talking or gesturing with toy or to oneself. Such behavior reveals a moment of thinking, i.e., the generation of a decision-making process, which is a constituent and essential element of cognitive development.

In the analysis, the goal was to examine the representations of the teachers regarding egocentric speech in children. Additionally, the study addresses the similarities of such ideas with Piaget and Vygotsky's theories and the educational implications of reprehending such language in children in terms of these theories. However, it was assumed that the representations of the teachers would be substantially more commonsensical than the theories of Piaget and Vygotsky on egocentric speech. In addition, if a consequence were established for the act of reprehending the child's egocentric speech, that consequence would relate only to cognition in distinction from the moral field.

2. Material and Methods

Therefore, this paper is a component of an applied study. Its approach is characterized as qualitative and quantitative because although it uses quantitative data (considering the frequency of categories and percentages), the analysis of such data focuses on a qualitative dimension.

The study sought to enter the conceptual world of educators to understand how they interpreted egocentric speech, which they frequently encounter in their professional lives. As a resource for field investigation, the social representations theory was employed. This theory has occupied an important position in the scientific realm and is commonly used as a theoretical and methodological framework for the interpretation of social phenomena.

According to Jodelet (2001), representations are created to interpret and adapt to the world. The representations are created in a shared way. Thus, they are social and important in everyday life: "They guide us in the way of naming and jointly defining the different aspects of daily reality, in order to interpret these issues, make decisions and eventually position ourselves in a defensive way when facing them" (Jodelet, 2001, p. 17). Representations are forms of socially produced and shared knowledge. They favor the construction of realities that are shared by social groups, whose function is to make interpretations and stance-taking possible and to guide action. Jodelet (2001) explains that social representations are a type of common-sense knowledge, which differs from scientific knowledge. However, such knowledge is considered to be an authentic object of study because of its relevance in society and because its clarification results in the understanding of cognitive and interactive processes. When studying social representations, one must consider that the representation is always of something (an object) by someone (a subject) and that the characteristics of both object and subject manifest themselves. There is a relationship of substitution and interpretation in the act of representation that results from the subject's construction and expression activity. This activity results in the consideration of the subject from different viewpoints, which must be integrated: epistemic (cognitive processes), psychological (intrapsychic processes, such as projections, identifications, motivations), social and collective (belonging, participation, groups, ideologies). A representation is a form of knowledge that differs from other forms of knowledge. This knowledge must be regarded as practical because it refers to the experience that produces it and can be used for acting on the world.

To investigate one of this study's objectives, fieldwork was performed. The fieldwork consisted of a survey administered to thirteen teachers, a director and education coordinator and an educational supervisor. All of the participants had received initial training in pedagogy and teaching and were employed in early childhood or the first two years of elementary education in public schools of a city in the state of São Paulo, Brazil. The number of subjects (fifteen teachers in total) was based on Delval's (2002) recommendations for studies using interviews and qualitative analysis. Additionally, homogeneity was considered, whereby the diversity was not controlled with respect to elements outside the selected group but according to internal differences related to the object of study. According to Guerra (2010, p. 46), "if the study has a statute of analysis, many interviews will not be needed for the 'sample' to reach a saturation point by homogenization". The sample selection was made according to convenience, i.e., based on the location of schools and the access of the researcher to teachers who satisfied the previously described criteria related to training and activity in elementary education. In this way, the study sought to identify the representations of egocentric speech by teachers to subsequently verify the proximity of these representations to Piaget and Vygotsky's theories on egocentric speech.

According to Jodelet (2001), when studying the contents of representation as a structured field, i.e., as previously established representations, one first seeks to define the constituents (information, values, concepts, among others) of the representations. The analysis is completed by the principle of coherence that structures the fields of representation (sociocultural organizers, attitudes, normative models or cognitive schemes). The fields are collected through questionnaires, interviews or surveys. Thus, a semi-structured interview was used to collect data.

The testimonies of the participants were examined using the content analysis technique, which was defined by Bardin (2010). According to this technique, the material was not categorized *a priori* but as it emerged from the content of the representations of the participants (Franco, 2008). Based on the identified categories, the frequencies and percentages of the responses were calculated. These calculations had as parameters the total number of participants (fifteen teachers) in relation to the number of those who presented the relevant category, i.e., a category's specific frequency. Because in most cases a participant's statements fit more than one category, the total percentage of categories that emerged from a single question exceeded 100%.

In addition, prior to the start of the data collection, this study was approved by the Research Ethics Committee of the institution at which the study was performed.

3. Results and Discussion

In addition to the reading and analysis of the research by Piaget and Vygotsky that addresses egocentric speech, recent research by other authors on egocentric speech was examined. The goal was to enter the conceptual world of educators to understand how they understand egocentric speech and its manifestation in the interactions of children and to determine the educational implications of reprehending such language.

Fifteen teachers participated in the survey. The age of the participants ranged from 25 to 55 years. Four participants (26.6%) were between 25 and 35 years old, five (33.3%) between 26 and 45 years old and six (40%) between 46 and 55 years old. Most participants (13 participants, 86.6%) had undergraduate degrees in pedagogy, three participants (20%) reported having completed higher educational degrees, and eight participants attended some type of graduate program (53.3%). One participant (6.6%) had completed a Master's degree in Education and was a PhD student in the same area. Eight (53.3%) participants attended courses leading to the Specific Qualification for Teaching Secondary School. However, only two of them (13.3%) had completed this training. Regarding the period of employment in education, nearly half of the participants (seven respondents, 46.6%) reported working in this area for over 20 years. The employment period of the other participants ranged from less than five to 20 years.

The educators were asked to state an opinion on the term *egocentric speech*. The responses were separated into 11 categories. The average number of categories per participant was 2.06. Of the 15 participants, six (40%) believed egocentric speech referred to a child talking to him- or herself while playing or performing an activity (Category 1) or a verbal claim by the child of something for him- or herself (Category 2). For three participants (20%), egocentric speech was "speech linked to the term egocentric" (Category 5). In Category 6, with a frequency equal to two statements (13.3%), egocentric speech was related to selfishness. In Category 7, with the same frequency, a child's egocentric speech was considered to be an instrument and expression of thought with the functions of planning and organizing action. There was only one reference (6.6%) related to Category 8 (unable to explain to the other, not speaking to the other) and to Category 9 (egocentric speech with a regulatory function in role play as a mediator and the expression of internalized content in the relationship with others that denotes and extends the abstraction ability of the child while playing). Category 10 (a person who speaks of everything to him- or herself alone) and Category 11 (does not recognize the other when talking to him or her) also included only one reference each.

Regarding Category 2 (when there is a claim by the child of something for him- or herself), this reference of the educators addresses the occasions in which the purpose of expressing oneself orally only serves one's own needs (e.g., according to Participant 7, "it is like this, it is a speech in the imperative") or other forms of expressing desires (e.g., according to Participant 11, crying and tantrums).

When asked if they recognized the manifestation of egocentric speech during the school routine, there was an average of 1.26 categories per participant. Four participants (26.5%) failed to illustrate or describe everyday school situations in which egocentric speech occurred (Category 1).

Of the fifteen participants, three (20%) related egocentric speech to situations in which the child speaks when playing alone (Category 2) (e.g., according to Participant 1, either when he or she is alone or, according to Participant 11, when playing with other children) and when writing (Category 3). However, regarding writing, the participants refer to egocentric speech not as an instrument but a "symptom", although they consider the context to be relevant to this phenomenon. Two statements (13.3%) related egocentric speech to speech and other forms of expression in situations of dispute (Category 4) and when the child "wonders" alone, while remaining in his or her own world (Category 5). With the same frequency (13.3%), two other participants identified egocentric speech as language that is present in symbolic play (Category 7) as is used by children and adults (Category 6). The only two participants who used Category 5 (when the child "wonders" alone, while remaining in his or her own world) had no training in pedagogy. This category includes representations of egocentric speech as something pathological to a degree necessitating a referral to a specialist when this phenomenon occurs.

The results showed, first, the difficulty of the teachers in recognizing egocentric speech in everyday school life. It was primarily identified during playing time and when the child was alone, when it appeared as if the child was speaking to him- or herself and about him- or herself (monologue and explicit egocentric speech) or during disputes (implicit egocentric speech). Please note that "explicit egocentric speech" is understood here as an instrument for oneself. More precisely, it is language not intended for speaking to the other, even in the presence of the other. That is, when one ends up talking to oneself ("talking alone"), one talks to oneself as if the other was internalized, i.e., talking with a necessary orientation toward the other without necessarily the presence of the other. The child may be in dialog with those contexts, those situations, those activities or even those individuals who are not necessarily physically present but are mentally present. The term "explicit egocentric speech" is used because it is the first form of egocentric speech identified by Piaget (as "monologue") and Vygotsky. That is, this form of egocentric speech is the most "explicit" in their theories. In contrast, "implicit egocentric speech" corresponds to language use in which the subject intends to talk to the other (communicate) but does not consider the perspective of the interlocutor. Thus, the subject ends up talking "alone" or without being understood (i.e., ends up talking to him- or herself in the sense of not considering the viewpoint of others). Because this form of egocentric speech was little considered or not at all (as in Vygotsky's theory), it was perceived as *implicit* in the sense of *subjective* to the theory, particularly Piaget's theory.

Other manifestations of egocentric speech were also reported, e.g., in writing activities, in symbolic play, between adults and between children. However, such reports were brief and without substantial explanation (except for one participant, who demonstrated the recognition of such language in its different functions, modes of manifestation and destination).

Thus, although the occurrence of egocentric speech during writing activities (Category 3) was recognized by the teachers, there was no evidence that they understood the role that such speech could play when employed by the child during this activity. Cavaton (2010) draws attention to this type of language during writing and observes that children spelled a phoneme/grapheme in order to decipher the letter that should be used in the word or text that they were writing. According to Cavaton, this procedure reveals that when the child seeks to write or copy a word, the child talks to him- or herself in order to understand this mechanism in the phoneme/grapheme relation. The question is whether the teachers are aware of the importance of this process for the child's performance and learning.

Smolka (1993) reveals the importance and complexity of the elements that involve the manifestation of egocentric speech in text production. That is, the child's vocalization throughout the activity has the characteristics of egocentric speech in that the child speaks out loud for him- or herself or no listener in particular. Such vocalization emphasizes that the child performs the activity around other individuals (e.g., a teacher, a researcher and children). Theoretically, the presence of the other can be a significant factor in the occurrence of this type of speech. In such speech, this structure is extended and does not exhibit the abbreviated or elliptical features that would suggest atrophy, according to Piaget, or internalization, as proposed by Vygotsky. Under these circumstances, the expanded character of egocentric speech displays segmentations and repetitions.

By considering the child's vocalization during the production of text to be egocentric speech and not simply spelling or syllabification, Smolka (1993) establishes a dialogical perspective in the analysis in which the sound emission appears as a social manifestation that consists of the statements of the others.

In certain situations, the child begins to write the words and needs to pronounce them differently, that is, as objects of his or her attention and awareness. Thus, several attributes are assigned to speech: communicative, regulatory and constitutive attributes as well as objectivation and reflection.

A overlapping of voices is heard, both in talking to oneself and in trying to say something through writing. This overlapping denotes various ways of apprehending the discourse of others. The child plays many roles: reader, writer, author and interlocutor. Additionally, during this process, the characteristics of egocentric speech and writing suffer reversals. Speech that is directed toward oneself becomes extended and repeated, and writing becomes abbreviated and condensed. The data invite the response that the functions (e.g., planning, monitoring, drafting), the structures (e.g., extended or abbreviated) and the direction (toward oneself or the other) that are recognizable in the discursive dynamics are not prerogatives of one form or another of language.

However, several authors (Smolka, 1993; Ferreira, 2000; Pinho, 2009; Pinho & Lima, 2010; Quast, 2009a, 2009b) who align themselves with a more dialogical reading and challenge the dichotomous reference to external and internal processes have examined the possible social nature of egocentric speech. In this study, only three teachers noted egocentric speech in situations of interactions between children (Categories 6 and 7). This outcome suggests that such language remains far from being considered part of communication. Even considering more elementary communication possibilities, such as the collective monologue proposed by Piaget (1923/1999) or, as Cavaton (2010) notes, that the egocentric speech can be directed to the social other (either the teacher or peers) and trigger generating behaviors aimed at building knowledge in intersubjectivity, one realizes that these dimensions are not included in the discourse of the teachers. In addition, although certain authors (Pinho, 2009; Quast, 2009a) emphasize that there is an increased manifestation of egocentric speech when children are in interaction situations, particularly without the regulatory presence of the adult, this aspect was not reported by the teachers.

In the representations by the educators, there is a recognition that egocentric speech is also used by adults (Category 6). However, this use appears more in a Piagetian sense as primarily a manifestation of social egocentrism (even if this distinction is not clear to the educators) than in the Vygotskian sense of the result of internalization, i.e., that inner speech serves individual adaptation. According to Vygotsky (1934/2001), what approximates the inner language of the adult to the child's egocentric language, which is primarily present in the preschool period, are its functional aspects. Both are languages that are directed toward oneself, which distances them from language used communicatively (social language), and both are structural and display a tendency toward abbreviation. The proximity between the child's egocentric speech and the adult's inner speech signals the transformation of the former into the latter throughout the development of the individual (ontogeny), which is expressed during the schooling period by the decline in the coefficient of egocentric speech. That is, different from Piaget's interpretation, the intellectual function of egocentric speech reveals that it is not the "[...] a reflection of the child's egocentric thinking, but rather shows that under certain circumstances egocentric speech is becoming an agent of realistic thinking" (Vigostky, 1934/2001, p. 59). It is necessary to remember that this function of egocentric speech was acknowledged by Piaget without ignoring, however, the child's egocentrism (Piaget & Inhelder, 1966/2006).

Additionally, one must consider that there are scholars (Ferreira, 2000; Pinho, 2009; Quast, 2009a) who are focused on the study of egocentric speech in adults, particularly in the context of foreign language. Despite having as a reference the basic Vygostskian precepts, they also rely on other theorists, particularly Bakhtin (1929/1986), to describe the difficulty of distinguishing private from social statements. Using the term "private speech", these authors emphasize the importance of the properties of cognitive and emotional regulation of this type of language as well as its communication features, which relate to important implications and tools for teaching and learning a foreign language. This view of egocentric speech differs significantly from the representations of the teachers. When addressing egocentric speech in adults, they focused exclusively on the function of emotional relief and the social manifestation of egocentrism.

Regarding the consequences of reprehending the egocentric speech, approximately 26.6% of the participants (four) stated that there is no need to reprehend. According to 20% of the participants (three), if there is a reprehension, its motives should be justified. For the remaining three participants, reprehending could cause major conflicts, aggression in the child's behavior or trauma (an affective implication). Additionally, there were statements that related reprehending to cognitive implications, such as "*it would be clipping the child's imagination*" (Participant 10) or "*you're breaking that thought of the child*" (Participant 12).

Some participants believed that there were no implications: "*No, no... It could not have implications. Because the child would not understand, he or she would not understand. So, it will not have any implications. [...] No trauma.*" (Participant 15, 42 years old)

Moreover, although Participant 15 had used the first view (in which there would be no need to reprehend), she associated the teacher's attitude with this view. She awarded even greater emphasis on "teaching" and the need "to set an example". Here, she was approximating herself to cultural-historical psychology, in which role of the teacher (the mediator) is essential for the acquisition of knowledge by the child. Such a view can reinforce, even implicitly, the issue of the child's egocentric speech as a personal tool in the decentration of the child, this time from the perspective of genetic psychology.

This attitude requires a reference to the study by Cavaton (2010), which can be considered to be original because it reiterates the role of organization, the regulation of thought and egocentric speech in the child's activity. In addition, the study emphasized the possibility that this type of language is directed toward the social other, as if somehow there was a request for his or her agreement, which lends prominence to the eliciting function of communicative speech and the construction of knowledge in the inter-psychological relationship.

Only one educator (6.6%) stated that there could be two implications if the teacher did not recognize (even as a result of misunderstanding) that egocentric speech enriches the child's imagination and thinking and "disturbed" the child while playing. The first implication is that by interrupting the playing activity or simply leaving the child while saying "are you silly?" or "what do you mean?", the child could stop the activity or end up impoverishing it (cognitive). The second implication, which results from the former, would be that the child would not invite the teacher to play anymore (affective).

In addition to the educational and pedagogical consequences of the theoretical differences between Vygotsky and Piaget reviewed in this study, the more recent analyzed studies enabled the expansion of our understanding of egocentric speech and contributes importantly to the educational implications of this understanding. Thus, although the teachers identified cognitive, social (moral) and affective implications, they did not recognize the wealth of implications identified in the literature review because they do not fully understand the functions of egocentric speech as well as its genesis and structure (whether from the perspective of Piaget, Vygotsky or another researcher).

From the perspective of the teacher or researcher, private speech not only facilitates the identification of the difficulties faced by students and the focus of their attention but also provides "access" to transformative or (re)elaborative processes that could not be realized without the aid of such speech (Ferreira, 2000; Pinho, 2009; Pinho & Lima, 2010; Quast, 2009a, 2009b). Ultimately, egocentric speech provides clues regarding the intense work performed in the attempt to appropriate knowledge. These clues facilitate a better understanding of the process of knowledge creation, indicate actions that must be redirected and enable the recognition of important moments of intervention, while contributing to the development of children. In addition, understanding such speech would help us understand how learners react to pedagogical efforts and why they react in certain ways and not others.

For some educators, the persistence of egocentric speech would be pathological and require the child's referral to a specialist. However, for scholars such as Ferreira (2000), Pinho (2009), Quast (2009a) and Cavaton (2010), it is precisely the non-occurrence of private speech that could indicate educational gaps or the failure of the activities or tasks performed in the classroom (either because they had become automated or because they did not provide a consistent level of challenge and therefore result in self-regulation problems). The lack of private speech could also indicate that the assigned tasks are so difficult that the learner cannot perform them without the aid of another person. Thus, the emergence (or not) of egocentric speech can provide the teacher with clues that can be used to verify whether activities or proposed tasks are consistent with the level of the students. According to these studies, another factor that could inhibit egocentric speech would be a high level of regimentation by the teacher.

Furthermore, these studies on egocentric speech indicate the importance and possibilities of listening to the child during the process of knowledge construction in interaction. Instead of interrupting, the teacher should realize that these moments are fundamental for the development of the student's intelligence.

In view of the previously mentioned researchers, the educator would therefore be responsible for being aware of this phenomenon because not perceiving or ignoring this wealth of inner activity would result in a disastrous stimulus to hyperactivity and poor concentration as well as contribute to creating difficulties for the literacy process, which should begin in the near future.

The initial question remains whether reprehending the child in the midst of egocentric speech could harm to the child's development. Based on the linguistic research of Lier-De Vitto (1994, 1997) and the role played by monologues (and considering that the study of egocentric language originates in the study of monologues), one of the most significant implications is that the censorship of such monologues could have consequences for the dialogical and discursive determination of language in the constitution of the individual.

Thus, the importance of considering and valuing the needs and communicative intentions of the child as well as the child's active role in the joint construction of knowledge is evident. This insight helps us reflect on the development of school practices in early childhood education.

5. Conclusions

Thus, based on the literature review, researchers unanimously support the relevance of egocentric speech to understanding key aspects of child development. Primarily as a result of the epistemological question that differentiates Vygotsky's and Piaget's theories, it is evident that in general, reprehending the egocentric speech of children would have cognitive and affective implications. According to Vygotsky, these implications occur because despite not playing the role of communication, egocentric speech plays a prominent role in affectivity and fulfills a personal function as an agent of thinking. Thus, the egocentric language that accompanies a child's activity is linked to the child's need for planning, sequencing and problem solving. Conceivably, the subject as postulated in cultural-historical psychology is a product of the development of physical and mental cognitive and affective processes, which are internal (constituted in the subject's history) and external (related to the social situations of development in which the subject is involved). Within the dialectical interplay of various genetic plans (phylogeny, sociogenesis, ontogeny and microgenesis), the constitution of each individual subject occurs. In this sense, the immersion of human subjects in social practices and relationships defines more complex emotions that are more subjected to self-regulatory processes conducted by the intellect. The cognitive and affective processes, which are the modes of thinking and feeling, are replete with social concepts, relationships and practices, which constitute them as historical and cultural phenomena. Based on the educational implications that underlie these assumptions, egocentric language must be recognized in its nature and function by parents and teachers and should not be reprehended because it is considered a healthy and adaptive manifestation that is focused on problem solving and overcoming obstacles. Reprehension could inhibit or impair the child's cognitive and affective performance.

Conversely, for Piaget, there are more explicit factors that affect the coefficient of egocentrism rather than the consequences that result from reprehending the egocentric speech of the child because this type of language is not a determining factor for cognitive development. That is, according to Piaget (1964/2006), verbal expression does not explain the development of intelligence. It is only a reflection of thought and a necessary but insufficient factor for the cognitive development of the individual. Egocentric speech – as verbal expression only – does not create representation and is not directly responsible for the formation of thought. However, it is already socially prepared as a whole and contains a set of cognitive tools that can be applied to thinking. This view explains, for example, that as a child becomes increasingly social, egocentric language can disappear – and not the contrary – as the child becomes increasingly explicit and understandable to others. Relationships of unilateral respect and mutual respect, the community of interests that the child shares with his or her companions and adult intervention are examples of such factors, all of which are associated with the moral realm. Furthermore, according to this view, one can recognize in Piagetian theory traces of the cognitive or intellectual implications caused by reprehending egocentric speech because affectivity represents the "fuel" of a subject's behaviors throughout the educational process. Thus, such implications would relate to the educational practices that result from the epistemological conceptions of teachers because these practices involve the decision to reprehend a child for using his or her egocentric speech. Above all, all the issues of active and authority-based education are involved here because all of the relationships of unilateral and mutual respect with respect to adult intervention are present (see the preceding examples of factors that affect the coefficient of egocentrism as related to the moral realm).

This surmise agrees with Piaget's theory, when, for example, he recognizes that there is great variation in the measurement of egocentric speech according to environment and situation (Piaget, 1966).

Thus, it is important to recognize egocentric speech according to Piaget and Vygotsky. Although there are differences in how these researchers conceive of the nature, functions and implications of such speech, for both it is an phenomenon that is intrinsically linked to child development and that enables its understanding.

Based on Vygotsky's discussions of egocentric speech and inner language and the educational implications of reprehending such language in the child, there are an increasing number of studies that seek to revise the understanding of private speech. These studies focus in particular on the work of the Bakhtin Circle. Most of these studies conceive of the speech directed toward the subject him- or herself as dialogical, while seeking to suppress the internal/external, social/private dichotomy.

In seeking to answer the questions that motivated this study, we return to the concepts attributed to egocentric speech and the implications of reprehending such language in the child, which we examined using data collected based on open questions. Generally, the idea of egocentric speech in Vygotsky's sense appeared in a highly tentative manner in the representations of the teachers. Many of the teachers noted the manifestation of egocentric speech in playing situations or activities. However, only in three responses was egocentric speech considered in its role of monitoring the child's performance and as a means of genuine thinking, as advocated by Vygotsky (2001, p. 54): "it begins to play the role of planning the solution for a task that arises in the behavior". Additionally, Vygotsky (1934/2001) acknowledges that egocentric speech does not always play this intellectual function and that it can occur suddenly because he conceived such speech to mark a transitional stage in the development from inner to external language. Nevertheless, it was evident that the majority of the teachers did not recognize egocentric speech as an instrument of thought in the manner in which it is described by Vygotsky. Therefore, there were few representations that covered the quality of egocentric speech as a (cognitive) regulator of the child's behavior. Moreover, only one statement related such speech to the regulation of internal processes in symbolic play   Through the literature review, it was possible to analyze the importance of egocentric speech and its implications for development and education. Additionally, there are studies that facilitate a discussion on different aspects of egocentric speech. At the center of this discussion are two major theorists (Piaget and Vygotsky) and others, such as Bakhtin. Using the multidimensional aspect of the social representations theory (Jodelet, 2001), it was possible to focus the results of this study according to different aspects of egocentric speech as a phenomenon of representation. Therefore, after entering the conceptual world of the interviewed teachers, the analysis of the interviews confirmed the initial hypothesis: except for a few exceptions, most of the teachers' representations were subjectively closer to common-sense views than to the concepts found in the relevant psychological theories. However, regarding the implications of reprehending a child's use of egocentric speech, surprisingly, when the teachers could perceive consequences, the consequences were more related to the affective aspect (which had not been intended) than to the moral and cognitive fields. Nevertheless, the data in general expose the weakness of formal and institutional learning, particularly teacher-training courses, in the construction of investigated knowledge. In addition, the data reveal a need to rethink the emphasis that has been place on such learning in undergraduate courses and the academic realm as well as its practical application.

It remains necessary to ask why the results of the fieldwork have revealed so strikingly the gap between the understanding of egocentric speech by those who encounter it in everyday school life and the academic studies and discussions in this regard. In sum, it is important to recognize and understand the aspects of egocentric speech addressed in the work of Vygotsky and Piaget. For both scholars, egocentric speech is intrinsically linked to the development of the child, which can become closer to its knowledge. Above all, this study has enabled us to infer the limits and the scope of teacher-training courses with respect to egocentric speech.

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