# Letramento Crítico: uma ferramenta-e-resultado transcurricular na atividade de ensino-aprendizagem

## (Critical literacy: a cross-curricular tool-and-result in the teaching-learning activity)

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**Resumo:** *Este artigo discute a importância do letramento crítico como uma ferramenta-e-resultado transcurricular no ensino da atividade de leitura. Baseado na Teoria da Atividade Sócio-Histórico-Cultural (Vygotsky, 1934; Leontiev, 1977), apresenta um programa intervencionista de formação contínua de professores cujo foco é o ensino-aprendizagem de diferentes disciplinas mediadas por gêneros diferentes (Bakhtin, 1953). As tarefas criadas pelos professores, realmente pautadas simultaneamente por compreensão crítica e por compromisso com conteúdos das áreas considerados de forma não segmentada, são analisadas e parecem apontar para uma visão de letramento como instrumento-e-resultado para a possível ação transformadora dos alunos.*

**Palavras-chave:** *Letramento crítico, transcurricular, ferramente-e-resultado, atividade de ensino-aprendizagem.*

**Abstract:** *This paper discusses the importance of critical literacy as cross curricular tool-and-result in the teaching learning activity. Based on the Socio-Cultural-Historical Activity Theory (Vygotsky, 1934; Leontiev, 1977), it discusses a teacher continuous education intervention program aimed at the teaching-learning of different subject areas mediated by different genres (Bakhtin, 1953). Teachers' tasks, which really simultaneously develop critical understanding and an engagement with area contents in a non-segmented format, are analyzed and seem to indicate a view of literacy as tool-and-result in students' transformational actions.*

**Key-words:** *Critical literacy, cross-curricular, tool-and-result, teaching-learning activity*

## INTRODUCTION

This paper discusses the importance of critical literacy as cross curricular tool-and-result[1] in the teaching learning activity. Based on the Socio-Cultural-Historical Activity Theory (Vygotsky, 1934; Leontiev, 1977), it discusses a teacher continuous education intervention program aimed at the teaching-learning of different subject areas mediated by different genres (Bakhtin, 1953). It considers the mediational concept pertaining to the socio-cultural-historical activity theory (Vygostky, 1934/2002, 1930/2002, 1987 and Leontiev, 1977) as essential to constructing object-motivated activities, that is, activities in which subjects of a community engage in order to fulfill a collective need as a result of labor division, rules and use of artifacts (Leontiev, 1977). This research was initially supported by the interest demonstrated by participants in the international and national results obtained by Brazilian students in the PISA [2] tests[3]:

- PISA 2000 – 32nd position among 32 countries

- PISA 2003 – 37th position among 41 countries

- PISA 2006 – 48th position among 56 countries

Although these large scale tests could be criticized in their many aspects, their results, together with the research group concern to transform the *status quo* of the educational conditions of public school in São Paulo, have motivated an Extramural program, Programa Ação Cidadã [4], developed by researchers from LAEL– PUC-SP[5]. This Program is embedded within the Applied Linguistics perspective of studying human problems which are permeated by language in order to find ways to help all the participants (including the researchers) overcome problems identified in their work/ educational/research environments (Moita Lopes, 1998, Celani, 1998, Pennycook, 2004, Cavalcanti, 2005, Bygate, 2005, Rojo, forthcoming,

1. Tool-and-result is seen as a tool which is specifically designed to create what one ultimately wishes to produce (Newman and Holzman, 1993/2002). This concept will be better explained below.
2. PISA – Program for International Student Assessment
3. data collected at INEP – National Institute for Studies and Educational Research - http://www. inep.gov.br/
4. – Citizen Action Program
5. Linguística Aplicada e Estudos da Linguagem, Pontifícia Universidade Católica de São Paulo.

Liberali forthcoming; Magalhães, forthcoming; Magalhães et al, 2006; Lessa et al, 2006).

The paper presents the context of the Program, the methodological approach for data collection and analysis, the theoretical background for this study, as well as the data analysis and interpretation results.

## 1. Context of the program and the methodological approach for data collection and analysis

This paper discusses a teacher continuous education project - *Leitura nas diferentes areas* [6] - part of Programa Ação Cidadã[7] - run by PUC-SP, a Brazilian University in São Paulo - aimed at the teaching-learning of different subject areas mediated by different genres (Bakhtin, 1953). Specifically, it describes, analyzes and interprets tasks developed by teachers of different areas. Essentially, Leitura nas Diferentes Áreas is a collaborative project in education, taking as a starting point the reading problems presented by Brazilian students, particularly the poor score of that community in the exams as described by the teachers, coordinators, directors and supervisors. However, its main objective is to work towards critical literacy of social genres (Bakhtin, 1953) in different subject areas, based on the fact that, although we had a very strong approach to literacy development since Freire's work in Brazil, real transformation of kids' and teenagers' reading possibilities have had very little development.

The project also aims to develop Teacher Support Teams (Daniels and Parrila, 2004) to work autonomously with reading in different subject areas. The Teacher Support Team  is understood here as a group of teachers from a single school that takes responsibility for a certain topic to be collaboratively worked with other colleagues from their own institutions. This group becomes responsible for the actions that lead to the transformation of their own practices and those of their colleagues.  We understand that the Teacher Support Team  leads to socialization and responsibilization of all involved in the Creative Chain of Activities (Liberali, 2006). Both

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6.  *Reading in Different Areas*

7.  the Acting as Citizens Program

concepts – Teacher Support Teams  and Creative Chain – are key to the understanding of Leitura nas Diferentes Áreas.

In Leitura nas Diferentes Áreas, the Teacher Support Teams  comprises three or four teachers from each of the 34 schools that belong to the Program. The Teacher Support Teams, who are supported by the researchers from the university and the supervisors from the State Secretariat of Education (SSE), autonomously discuss and work critical literacy in different areas and ways to critically and transformatively act in their communities. In order to do this, teachers of math, science, languages, social studies, chemistry, and physics discuss how to critically read different genres in their own subject areas. They also discuss teaching-learning approaches to discursively engage in social practices through reading, and develop tasks to work with their students. In the case of the project described here, the emphasis was on comic strips, informative magazine texts, such as "Did you know that?" and pedagogical short narratives, such as the ones used in typical math problems.

Leitura nas Diferentes Áreas develops a number of activities in a Creative Chain: workshops with researchers and Teacher Support Teams; meetings with Teacher Support Teams  and school staff, mainly teachers; classes involving these teachers and their students; and the projects developed by students in their communities. We consider each of these activities instances of the Creative Chain under consideration for this paper. Although one can still find instances of reproduction combined with attempts at creativity, the aim of Programa Ação Cidadã is the creative production of new cultural outcomes; that is, critical literacy.

As stated before, Programa Ação Cidadã is developed through Creative Chains of Activities which imply joint efforts in an activity, producing meanings which will be shared afterwards with other new partners through the senses (Vygotsky, 1934) that they bring to a new activity. Therefore, new meanings are produced carrying some aspects created in the first activity. Similarly, some of the partners from the second activity, when engaged in a third activity, follow the same path. It presupposes that features of the whole can emerge in the production of new creative outcomes and the cognitive re-organization of its creators.

In this paper, the focus is on tasks developed to teach History, Science and Mathematics. The tasks were, initially, designed by Teacher Support

Teams in workshops carried out by the researchers; they were later presented to and discussed with peer teachers in a pedagogical meeting; and finally, used in class with their students. In each workshop the teachers worked with a different genre and, in this paper, we are focusing on the photocopied versions of tasks designed by two Teacher Support Teams to work with comic strips, consumption bills and informative magazine texts. The study was conducted within the Vygotskian theoretical-methodological research perspective in which "the method is simultaneously pre-requisite and product, the tool and the result of the study" (1930/1978). The analysis of lexical choices in the different genres and tasks concentrates on how language was integrated with the subject areas in focus as a tool in the construction of the scientific concepts of those very areas.

## 2. The theoretical background for this study

In this paper, activity is conceived as "a non-additive unit of the corporeal, material life of the material subject. (…) On the psychological plane, it is a unit of life, mediated by mental reflection, by an *image,* whose real function is to orientate the subject in the objective world;" and as *"concrete, specific activities* satisfies a definite need of the subject, is oriented towards the object of this need, disappears as a result of its satisfaction and is reproduced perhaps in different conditions and in relation to a changed object" (Leontiev, 1977: 3 and 7). In other words, activities are thought of as combined actions developed by a group of subjects in order to fulfill a collective need for which a desired object was imagined. In order to do that, subjects of a community are distributed in various actions in which they become responsible for the accomplishment of defined aims, through certain explicit or implicit rules for the use of tools (Engeström, 1991).

Furthermore, the object is understood as a historical phenomenon. In their ideal and real forms, objects act as the leading force of activities (Lektorsky, 1984). *"The ideal object as a product of ideal activity is valuable not in itself, not in its "corporeal", objectified nature, but only as related to another object, as a representative of reality. In other words, practice changes reality, while ideal activity is the reflection of reality"* (Lektorsky, 2003). That is, the object is expressed both in its raw form and in its ideal form. As seen from the subjects perspective, the object is part of their immediate reality and the conditions presented for its fulfillment. If one is engaged in the activity

of cooking, one can see the hen as the raw object which will be part of the collected object which may fulfill the need of the community. However, having the hen is not enough to achieve this aim. The imagined object as the desired object essential for the generation of a motive to be accomplished is mandatory. In the example of cooking, it is the idea of the roasted chicken, for instance, which leads subjects into action and not only that of the hen.

In other to transform the raw object into its desired one, tools are created and transformed during the development of the activity itself and carry with them a particular culture; that is, the historical remnants from that development. So, the use of tools is a means for the accumulation and transmission of social knowledge (Bannon, 2003). Tools can be either seen as tools-for-result or tools–and-result (Newman & Holzman, 1993/2002). The first one is identified and recognized as usable for a certain end; while the second is specifically designed to create what we ultimately wish to produce; it is defined in and by the process of the production of its objects.

In teaching learning activities, many are the tools used for the achievement of a desired object. However, it is evident that most of them have not led to the desired object. In Leitura em Diferentes Áreas, genres are thought of as possible tools in a cross curricular perspective.

The Teacher-designed tasks analyzed seem to indicate a view of language as a tool-and-result, which integrates tool and object since the students have a chance to learn the contents of the different school subjects through the texts they read. At the same time, they learn to read these genres critically.

In the project, different genres are discussed with the teachers in order to make them understand how language utterances are used in real life contexts in order to achieve some goals. Genres are discussed as a set of rules defined by members of a specific social group as capable of realizing a specific social objective (Bakhtin, 1953). As stated by Liberali and Fuga (2009), Leitura nas Diferentes Áreas uses the concept of genres presented by Bakhtin, because it might generate *"ways of visualizing and understanding some aspects of the world"* (Bakhtin, 1953/2000: 350) at school. In a way, this concept may allow for the view of learning as concerned with social life and language itself.

The work was also embodied in the studies of Dolz, Pasquier and Bronckart (1993) about genres, which states that for participating in social life, some language capacities are necessary. These language capacities are

seen as a means for the students to understand and produce discursive genres in a determined situation of interaction, inserted in a social domain of communication (Dolz and Schneuwly, 1998). They include action capacities, discourse capacities and the discourse-linguistic capacities, through which students can critically relate to different processes of meaning making.

Therefore, language capacities activate (a) the capacity to understand and produce a specific genre in a specific situation, referring to its context and reference (action capacity); (b) the capacity to use different text organizations or discursive models (discursive capacities); (c) the capacity to use psycholinguistic operations and linguistic units (discourse-linguistic capacities).

The language as a tool in the teaching-learning of different subject areas can be seen in different aspects: the oral interaction between students and teacher, the books adopted, the texts, the exercises and the different texts from different subject areas chosen to be read. The focus of the work discussed here is the reading tasks designed by teachers to deal with their subject areas. In these tasks, teachers deal with knowledge from their fields of work (mathematics, history, geography, science, among others) and use the reading of different genres as a transversal tool (Lessa and Liberali, 2006) to promote the learning of content that can be used in the constitution of students as critical agents inside their communities. We see it as transversal once it mainly originates and is worked with in the language subject area but becomes a tool that unites and transform the teaching of many different area subjects. In this sense, the language capacities worked with in all these areas are learned as objects and become tools for the learning of many other different contents which can be viewed from the perspective of critical literacy.

Critical literacy is here understood as a process of engaging in the social production of meaning (Cook-Gumperz, 1991) which creates a transdisciplinary and transversal perspective against fragmentation, linearity and alienation (Kleiman and Moraes, 2001). In this sense, it is not understood as a simple process of decoding and recoding (Cook-Gumperz, 1991). In the project, critical literacy, as stated by Freire (1990: 1), is the basis for citizenship.

> *I have always insisted that literacy, thought of in terms of reading words, must necessarily, be preceded by the " reading" or deciphering" of the world around us. Learning to read and write is tantamount to "re-reading" the world of our experience- the interaction between man and the surrounding world.*

In this perspective, literacy is a move from passive to active participation and to critical attitudes, behavior and assumptions about dominant groups. It is an endless inquiring exercise in critical reflection that forms one's own concepts, explanations and understandings about reality. It integrates reflection, action and dialogue in order to develop strategies, knowledge and understanding to pronounce one's own words instead reproducing those of others.

It is important to highlight that on Freirian literacy, students become subjects rather than objects of the world and 'being in the world' does not mean adapting to it, but transforming it and taking risks. This is an imperative argument for the project since there are some common sense notions about reading which permeate practices at school (Kleiman and Moraes, 2001) and that prevent transformation of practices. For instance, reading is still viewed as a waste of time (view mainly presented by soap operas: characters who read are escaping from the real world). It is seen as positive **only** when one has access to the greatest literary pieces. Another common sense assumption is that only language teachers should be worried about reading practices.

Kleiman and Moraes (2001) also add that, in our context, middle class students are taught to read in order to better defend their ideas, to position themselves in relation to relevant problems, to know about their cultural heritage. On the other hand, deprived students generally learn it so as to follow instructions and orders, to fill out forms, and to understand rules.

In this research, the reading practices with deprived students become tools in the teaching-learning activities. These activities have as a starting point the  needs detected in the communities, that is, the bad results in reading practices and exams and the non-critical participation in the community life, expressed by their acceptance of ready made solutions and passive positions in relation to everyday conflicts. Based on these needs, proposals are developed to work with content areas in close relation to difficult situations of the community. As an example, two kids were burned inside their houses while their parents were at work. These kids were locked inside and because of the electrical gadgets that were not safely created, their house caught fire and no one could release them. All the community was shocked but did not take any action in relation to it even though this is a common situation in many different homes in the community.

So the school assumed the need to develop a project in which they would problematize the situation and find ways for dealing with it while working with content areas and using reading tasks.

So taking as a starting point, the raw/real object, the area contents of different areas and aiming at the critical use and analysis of these concepts in the real world, teachers have planned and given their classes, joining daily and scientific concepts through critical reading. That is, they search for texts that discuss and/or present the contents and may give rise to a debate about the needs of the community. They may also trigger some interest or reflection on students to get involved with the context area form a non-encapsulated way. Teachers and students attempt to visualize ways (ideal images) to critically deal with these contents in the reflection and proposal of actions for dealing with their daily lives.

Therefore, through the tasks they design and use in class, the initial tool-and-result achievement may be viewed as the critical reading of different genres to understand different school subjects and to promote community events for more scientific awareness and action towards the everyday problems they face. Figure 1 shows how this process occurs.
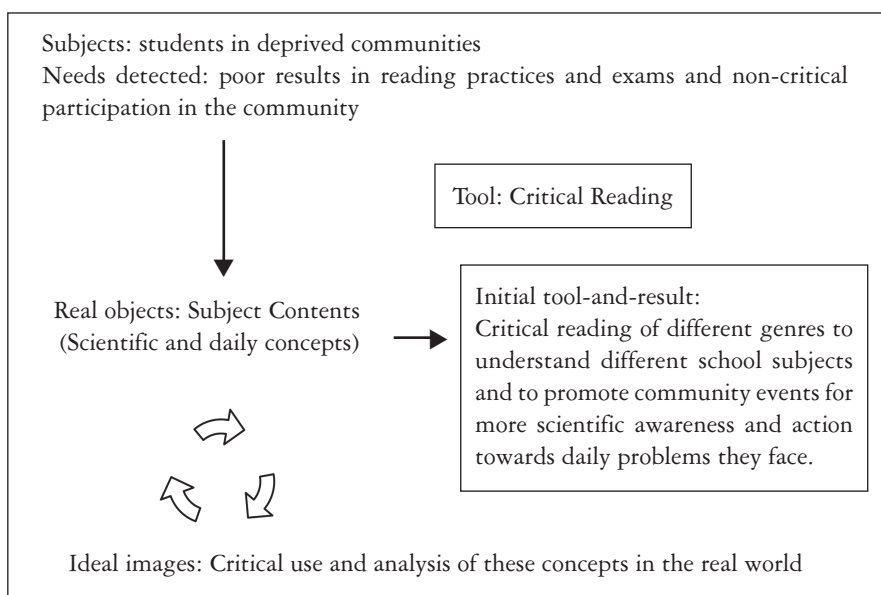
Subjects: students in deprived communities
Needs detected: poor results in reading practices and exams and non-critical participation in the community

Tool: Critical Reading

Real objects: Subject Contents (Scientific and daily concepts)

Initial tool-and-result:
Critical reading of different genres to understand different school subjects and to promote community events for more scientific awareness and action towards daily problems they face.

Ideal images: Critical use and analysis of these concepts in the real world

**Figure 1: Ideal object in the network of activities of Leitura nas Diferentes Áreas for the learning and teaching contexts of public schools (adapted from LIBERALI, 2009).**

To summarize the discussion so far, in the teaching-learning activity, the reading of specific genres becomes an instrument in the development both of the area contents required by the school curriculum and of a critical stance and proposal for dealing with everyday life. So critically reading is transformed into a form of learning to participate in society with more informed choices available for acting. The genres turn into means for acessing and amplifying ways of learning and acting in the world. And reading becomes the cross-curricular tool in the teaching-learning activity.

## 3. THE RESULTS OF DATA ANALYSIS AND INTERPRETATION

In this section we discuss three units developed by Teacher Support Teams : history, mathematics, science units. Each unit was created as a result of the group analysis of their students' community needs and their area curriculum. The work developed was based on the genres these teachers were studying with the researchers of Leitura em Diferentes Áreas and which they would be responsible to share with their colleagues in their schools.

### *Mathematics Unit*

The unit prepared for the Math Class was developed by Gerson, a math teacher from a  Teacher Support Teams [8].  Gerson worked at a very poor community where many different problems were part of everyday reality. In addition to being a teacher in the school, he also lived nearby and had a great personal interest in the results of the projects developed. Using as a starting point a unit on comic strips which aims at discussing energy production and water preservation, each teacher developed tasks according to their own areas. Having in mind the problems with water supply in his community, Gerson had the general objective of *building up knowledge in maths  through reading water bills*. The area content and concrete object was *units of volume*. The teacher justified his choice for the work with water bills by stating that it would be a *different and diverse way of reading, which would be more attractive and which is part of students' live*s. In a way, working

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8.  The TST are called as Clementina, Gerson, Marcos and Monaliza. Only the first names were used to meet the requirements of the university ethics committee.

with water bills could become a real concrete object in articulation with the images of future uses of water in order to fulfill their daily needs.

His choice of topic shows the connection between the area content and students` interest and need. It reinforces the idea that critical reading must engage students in a process of reading the world and not simply decoding ideas from a text. So not only learning a genre and using it to introduce a topic in math would be enough. It was necessary to depart form a need of the community and use a genre to trigger reflection and means for dealing with it. The water bill was an essential choice in this type of reflection.

The Math task was grounded on the students own knowledge of the world – the concrete object: *Is water important for you? Do you need it? Do you often use water in your house? In what situations? Who supplies the water that reaches your house? Do you receive a monthly water bill? Why do you have to pay for the water you use? Justify your answer.* The context of the school is a very poor community where many do not have plumbing or basic water treatment/sewerage. Besides, the stream nearby, which, for some, is the main source of water, is heavily polluted. In this context, the questions posed are extremely important to consider because they elicit the informed interaction between subjects and the surrounding world since it deals with a real need of the whole community.

The fact that students would have to research about this theme and work with everyday concepts implies the importance of their participation in the construction of knowledge. They are not seen as recipients of contexts that they have to memorize and display but as people who live in a world where concepts are alive and make part of their lives. So this knowledge experienced in daily life is recovered as a means to start the process of critical reflection.

The second kind of task proposed aimed at finding specific information in the text by carefully reading it: *Where is the amount of water used in your house registered in the bill? Using the photocopied bill, find this information.* These questions provided the ground to move from daily concepts to scientific concepts in the area of mathematics: units of volumes, as one can see from the following question*: What word does the letter "m" stand for? a) measure; b) meter; c) more, d) less[9]. What about "m³"? What measurement unit does it*

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9. Less is Portuguese is spelt with M - Menos.

*stand for?* The subsequent tasks focused on the development of scientific concepts of volume and geometrical spatial figures, always connected to water consumption.

The introduction of scientific concepts through a concrete everyday material such as the water bill provides students with an understand that school curriculum can transform their lives in an informed way. Once they see that concepts are not just schools demand to move in their academic lives but that these knowledge may lead to critical viewing their means of participating in society they may become partners in the teaching-learning activity.

To conclude the unit, students were asked to perform the following task: *based on what we have discussed, build up a geometrical spatial figure, with dimensions capable of storing the amount of water that represents your monthly consumption.* Such question triggered critical reflection and the development of students' concepts, explanations and understandings about their reality, concerning water consumption. The task integrated reflection, action and dialogue in order to understand and create new future possibilities by dealing with critical literacy as a tool-and-result.

## Science Unit

The unit prepared for the Science Class was developed by Science teachers[10] who belonged to Teacher Support Teams from different schools and who got together to prepare a task which had as its general aim *to develop knowledge of different subject areas through the reading of comic strips*. These teachers were all residents in the same community where they taught and just like Gerson had interest in the development of their community. Their conditions of teaching were hard and isolation was a difficult feature of their practices. They also found it difficult to work with reading for they reported having problems with it themselves. This led the group to choose comic strips and selected one from a very famous Brazilian cartoonist, Mauricio de Sousa, which dealt with cloning and made some connections with the well-known film *Jurassic Park* in the scientists' attempt to clone dinosaurs

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10. The group was composed by Tânia Cristina, Denny, Ernesto, Ana Maria, Rosalina. Only the first names were used to meet the requirements of the university ethics committee.

from a mosquito found in amber. As for specific objectives, the teachers concentrated on working on cloning, fossils, the evolution of species and the geological eras, which were topics related to the year curriculum.

Although the focus was mainly on Science, the teachers tried to make links with other subject areas as follows: *Science and biology - evolution of species, fossils, cloning, reproduction, geological eras, biotechnologies and ethics; Geography - vegetation, animals, climate, geological eras, formation of rocks and fossils; History - pre-history, early beginnings of humanity, technology and ethics; Portuguese - narrative text, punctuation, onomatopoeia (insect sounds), direct speech (1st person - "Professor Bagulho! Look what I found!") and chronological order.* The tasks were organized to use the genre – comic strip –   as tool-and-result in the teaching of Science. The work with different area contents shows attempt to overcome boundaries and integrate different sources of study in order to deal with specific interests of a group.

In the task entitled *The wonders of Knowledge*, teachers carried out a discussion about having been bitten by a mosquito as a starting point to establish connections  between daily  and scientific concepts (Vygotsky, 1934): *You certainly have already observed a great variety of insects. Try to remember: Have you ever been bitten by a mosquito?.* Similarly to what was done with water bills, here teachers also plan to depart from students understanding of their surroundings. Although they did not specify which needs of the everyday life of the community they wanted to discuss, the topics that were brought to discussion are part of the issues critically dealt with in the areas and in everyday discussions. However, different form what was done with the bills, here the interest is to develop students critical evaluation of themes such as cloning.'

Besides, the teachers aimed at creating a collaborative and interactive environment by asking students to talk to their classmates about the problems of mosquito bites, which directly connects to situations common to that community reality and that specific year (problems with dengue were innumerous in that year). This type of interaction creates an opportunity for the development of critical collaboration in the construction of meaning while creating conflict which will creatively expand the knowledge (Vygotsky, 1930) about  their daily reality: *How many classmates have already been bitten by mosquitoes? How many are allergic to mosquito bites? Do these bites cause any type of disease? Which ones?* The students have an opportunity

not only of evaluating their conditions of living as a whole but also of understanding and discussing with classmates about similar situations and problems in a possibly more informed way.

Not only did teachers provide opportunities for interaction using the comic strip content , which was an important strategy to introduce the students into the world of science, but they also discussed the genre of the text itself as in the following questions: *What is the aim of comic strips? ( ) fun ( ) investigation ( ) information ( ) entertainment ( ) motivation for reading.* In the questions presented, students were not only supposed to present their points of view but also to give support to them: *How can you support your answer?.* It was essential for students to see comic strips as an entertainment genre and not necessarily an information one. Comic strips may deal with fantasy, as in the text in which men and dinosaurs lived together. Readers must be alert to that in order not to think of them as reliable and as a sound resource of information. The critical reading and understanding of the genre could provide students with perspectives for how to absorb information from different sources and how to critically try to understand their limitations and possibilities. By developing an understanding of the real aim of this genre and creating possibilities to critically address it, readers can consider comic strips as tools that are created and can be transformed during the development of the reading activity.

By using the plot of the comic strip, teachers provided opportunity for discussion about the context they were supposed to introduce and the question of the eras from a historical critical perspective: *What evidences show you that the beginning of the story takes place in pre-history? Did dinosaurs and men live together in the same era?* Besides, they also did that by using the linguistic and extra linguistic analysis of the text, focusing on the discourse capacities necessary for understanding this genre: *In order to answer this question, observe the written text and the images in the story.*

By doing that, teachers created an opportunity to make students aware of specific resources provided by the context of production and the discourse linguistic characteristics expressed in comic strips. The language capacity was the basis for understanding, analysing and criticizing information presented. Besides, students were supposed to support the answers, which demands a reflection as to how they got to such position in relation to what they read.

Furthermore, the task used quotations from the story to expand on students understanding of the Science items they were supposed to teach: *The scientists say: " We can remove the genetic code of dinosaurs and , by means of modern science, create hundreds of animals like these!". Through what scientific procedure can we "create" genetically equal beings?*

In order to reflect upon the topic, teachers used the analysis of linguistic devices that help not only to understand the story, but also to see how the topic *cloning* can be an important source of debate: *Find in the text a line that expresses admiration. (…)Why is "Science Wonders" the title of the story? What is the meaning of the word cloning? What benefits can the so-called modern science bring to mankind?* In this sense, students are called to take a position in relation to a controversial topic of life that interests not only scientist, but the whole society, and they have a chance to present their points of view.

The task emphasizes students' possibilities for creatively using their newly acquired knowledge in a context of language production that deviates from the common question-and-answer type of task prepared to check students' knowledge development. Through this creative use of the content studied, the pupils may engage in a more challenging activity which can provide a chance for critical, creative development of the object – the content of the subject area, through the use of a very special tool – the language, in this case,  the genre *comic strip*. In other words, the knowledge is defined in and by the process of its object production.

## *History Unit*

The unit prepared for the History Class was developed by two Teacher Support Teams [11] to *raise  students' critical awareness in relation to means of communication* and to  *discuss the possible existence of "absolute truths".* Just like the teachers in previous groups, these were also members in the community. They also had a strong position in relation to political issues and the concerns of their community. This topic was chosen as a result of the discussion by the group of teachers about the rigid and dogmatic stances

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11.  Group one was composed by Ana Cristina, Rosalina, Andréia, Marcos, Elizete, Maria, Selmo, Rosalva, Amarides. Group two was composed by Alceu, Reginaldo, Valentina, Vana, Irani, Márcia, Edno, Vilma, Stela, Luiz, João, Valquírea. Only the first names were used to meet the requirements of the university ethics committee.

they had observed in their communities in relation to different aspects of life. The text selected to be used in the unit is an informative magazine text, entitled " *Ethics of Slavery*"[12], which discussed and questioned the ethical parameters of slave owners. As for specific objectives of the unit, the ideal object envisaged by the teacher as the aim was *questioning the concept of slavery in the XIX century and its reflection in the Brazilian society*. The group also intended to do a *historical analysis of that time and of the ethical discourse.* The positions related to different ethic groups and the relationship between students from these different groups would be problematized as a result of the tasks developed.

The History scientific concepts or the concrete objects they worked on were *slavery and XIX century culture in colonial Brazil*. Transdiciplinary scientific concepts were: *Philosophy: ethics, citizenship and freedom; Science: health, life expectancy, physical punishment; Arts: image reading and reproduction; and Geography: location of places.* The didactic procedures included *textual analysis, image reading, study of the XIX century and analysis of different sources and documents of this period*, which were the tools used as a means created and transformed during the development of the activity itself.

Some of the tasks comprised part of the steps developed by the Teacher Support Teams  with the researchers in the Creative Chain of Leitura nas Diferentes Áreas Activities, i.e., (a) the action capacity (*analysis of the action situation*) and (b) the discursive capacities (*analysis of textual organization*). The *study of the XIX century* incorporated a *discussion of ethical codes* and the *design of a code of ethics for the school*. To discuss the action capacities, questions about the magazine created a chance for students to learn the importance of choosing reliable sources, always checking where the information had been gathered from. In this sense, questions were provided to make students aware of the possible positions or bias of the text under study: *In which magazine was this text published? Is it a well-known magazine? Do you know this magazine? Are the pieces of information from this text reliable? How do you know? What is the target reader of this magazine? Do you usually read it? Why?* These types of questions were used as tools which valued students' previous and daily knowledge while establishing grounds for a critical understanding of the issue.

12. *Ética da Escravidão.*  source:  Revista Nossa História. P.88. Ano 2002/ nº 18. Abril / 2005.

By addressing the type of sources used, teachers triggered an important reflection about how to critically relate to texts in general. Contrary to a position of passively accepting all types of information provided, students learn to evaluate resources and check their bias. In a way they are learning to view the world with more informed perspectives on the value of their own positions and knowledge as basis for the understanding, analysis and reflection about information. Critical reading becomes a means to evaluate information as well.

Besides, the text discussion included the comprehension of the following issues: *According to the text, what is the behavior of the slave owners? And who designed the Code of Ethics? And what were its aims?* We can infer from such questions that they were trying to connect the slave owners to the code as a way of validating their practices. This issue questioned students immediate assumption about slavery and posed the discussion on a more profound ground, which involves understand not only slavery as a system of production but as a source of values which may still be part of the actions taken by the community today.

To discuss the *design of a code of ethics for the school*, teachers first provoked a reflection on the views of ethics as a socially constructed value. *According to the observations of the way slaves were treated, reported in the text, was there ethics in their relationship with their owners? Justify your answers.* Another question on the same issue was: *is it possible to talk about ethics as far as slavery is concerned?* The questions did not represent a simple recovery information in the text, they involve analysis of this information and reflection on the basis of one' own view of the world.

In order to enable students to "read the world" through reading the words, in a Freirian perspective, students had opportunity to rethink their school activities and procedures by creating a code of ethics for the school. By dealing with reading as a tool-and-result, students had a possibilty to move from a passive to an active participation and to take up a position of subjects both when evaluating information presented to them and when creating their own Code of Ethics. In this sense, critical literacy was worked with as a cross-curricular means for the accumulation and transmission of social knowledge.

## 4. CONCLUSIONS

The teacher-designed tasks seem to create a possibility for the development of object integrated with tool. Both the area content and the genre are discussed with students - which may transform the teaching-learning activity into a non encapsulated activity, that is, it goes beyond the boundaries of the schools. Students may have a chance to learn the contents of the different school subjects through the texts they read and, at the same time, they learn to read the selected genres critically. The discussions and results reported by the teachers and researchers of the project in relation to this work have suggested the importance of language being studied by teachers of all subject areas in order to turn their classrooms into a more critical and creative place.

By working with critical reading as a tool in their classes, the Teacher support Teams and their school colleagues reported having achieved a more concrete and effective connection with students' interests. Students became more involved and engaged with activities in which they had to bring their real life experiences to connect to the scientific contents in order to think and devise means of acting in a more informed and critical way.

So far in our research project, results suggest that the development of shared meanings throughout the creative chain of activities leads to a more critical and collaborative way of participating in society for all those involved. Reading the world from the perspective of developing language capacities to act critically in society seems to imply a more pedagogical-political attitude to all involved. Besides, it leads to a more responsive and responsible way of seeing oneself in the world.

To conclude, the analyses showed that the use of critical literacy as a tool to work with real objects (History, Science and Mathematics daily and scientific concepts) transformed the reading activity of the different genres into a tool-and-result one. Such type of tool lead to a scientific awareness that was rooted in the issues students dealt with in the real world, that is, activated the process of learning of the scientific concepts within a critical view of the world and that is a really revolutionary activity. Instead of learning the scientific concepts in a traditional and more segmented way, students learned them in relation to their concrete lives and, therefore, had a positive impact on their level of critical literacy.

Such approach can provide an innovative perspective since it establishes a cross-curricular view of education, creating a chance to move from the divided – though unshared – knowledge reproduction school model to a shared, undivided type of production, of truly non-encapsulated knowledge (Engeström, 1991).

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