

COLLABORATIVE WRITING: THE ENGLISH LANGUAGE LEARNERS' GAZE ON ART

PRODUÇÃO ESCRITA COLABORATIVA:
O OLHAR DE APRENDIZES DA LÍNGUA INGLESA SOBRE A ARTE

ESCRITURA COLABORATIVA:
LA MIRADA DE LOS ESTUDIANTES DEL IDIOMA INGLÉS EN EL ARTE

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ABSTRACT: Art is one of the main wonders of human production. It involves, amuses, seduces, surprises and frightens us: It makes us think. In the scholar context, it helps students to deepen their understanding and criticism of humanity and in the process of construction of individual and cultural identity. This study, a classroom research, describes the observation of lexical-grammatical patterns of a learners' corpus built collaboratively based on concept maps. The investigation was conducted in a Federal Institute with technical high school students and the analysis with the assistance of *Iramuteq*, emphasizing: the collaborative writing production, the thematic built from the concordance lines of the node Art and the assumptions used in the textual construction. The lexical choices demonstrate linguistic, aesthetic and symbolic values that emphasize the emotional, affective and social side of Art as a key area for humanity.

KEYWORDS: Art. Collaborative writing. English language. Learners' *corpus*. Lexical analysis.

RESUMO: A Arte é uma das principais maravilhas da produção humana. Ela nos envolve, diverte, seduz, surpreende, amedronta e nos faz pensar. No contexto escolar, auxilia os alunos a aprofundarem sua compreensão e criticidade sobre a humanidade e no processo de construção da identidade individual e cultural (POUGY, 2012). Esta pesquisa de sala de aula descreve os padrões léxico-gramaticais de um corpus escrito de aprendizes construído de forma colaborativa com base em mapas conceituais sobre Arte. A investigação foi realizada em salas de aula de um Instituto Federal com alunos do ensino médio técnico e as análises com o auxílio do *Iramuteq* com foco: na produção colaborativa, na temática construída a partir das linhas de concordância do nódo Arte e nas pressuposições usadas na construção textual. Os resultados demonstram valores linguísticos, estéticos e simbólicos que enfatizam o lado emocional, afetivo e social da Arte como uma área essencial para a humanidade.

PALAVRAS-CHAVE: Arte. escrita colaborativa. Língua inglesa. *Corpus* de aprendizes. Análise lexical.

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RESUMEN: El Arte es una de las principales maravillas de la producción humana. Nos rodea, divierte, seduce, sorprende, asusta y nos hace pensar. En el contexto escolar, ayuda a los estudiantes a profundizar su comprensión y la criticidad de la humanidad y en el proceso de construcción de la identidad individual y cultural (POUGY, 2012). Esta investigación en el aula, describe los patrones léxico-gramaticales de un corpus escrito de aprendices construido en colaboración basados en mapas conceptuales del Arte. La investigación se llevó a cabo en las aulas de un Instituto Federal con los estudiantes de la escuela secundaria técnica y análisis con la ayuda de *Iramuteq* enfocado en: la producción colaborativa, temática de las líneas de concordancia del nódulo Arte y presuposiciones utilizadas en construcción textual. Los resultados demuestran los valores lingüísticos, estéticos y simbólicos que destacan en el lado emocional, afectivo y social del arte como un área esencial para la humanidad.

PALABRAS CLAVE: Arte. Escritura colaborativa. Idioma Inglés. *Corpus* de aprendices. Análisis léxico.

1 INTRODUCTION

Art is the expression of a social organization, of society in its entirety, in its beliefs and in its ideas about itself. It can tell us as much as texts from its time, sometimes even more! (Georges DUBY).

Art is a human activity used to express feelings, emotions and culture. Through it, the human being, over the years, depicted his existence, his view of the world, himself, his own abilities, facts and issues which he has always been compelled to learn and feel. According to Coli (1981), Art encompasses the manifestations of human activity, which we have always been fascinated by. It influences the way we see, feel and think about things. In schools, teaching art throughout history was anchored according to the conceptions of mankind on the art making, based on the free expression and development of creativity, as a form of relaxation and entertainment, as an expression of feelings, such as technical skills and according to different artistic manifestations (IAVELBERG, 2003).

Currently, in the school context it is discussed “[...] as knowledge to be built, as language to be experienced, tried and enjoyed as an expression to be externalized and reflected” (FREITAS, 2005, p. 1). In this sense, teaching with emphasis on Art should enhance the artistic appreciation and production, focusing on critical thinking development and planned actions to the students’ realities in local and global contexts. In other words, the Art conceived as a knowledge field. The Brazilian National Curriculum Parameters (BNCPs) highlight the importance of Art education and its link to other subjects. According to the document,

[...] Art education should foster the development of artistic thought, which features a special way of giving meaning to people’s experiences: through it, the student extends the sensitivity, perception, reflection and imagination. [...] Art learning involves knowing, enjoying and reflecting on the nature shapes and colors and on individual collective artistic productions of different cultures and times” (BRASIL, 1997, p. 15).

The BNCPs (BRASIL, 1997) propose that the teachers develop activities that consider the students as a whole being, made up of emotion and reason, affectivity and cognition, intuition and rationality. Within this draft, the lessons focused on art should promote interactions so that students, as cultural beings, can build symbolic systems from various cultural events and foster new ways of thinking and knowledge (FERREIRA, 2001, p. 32). The classroom can be an environment in which teachers and students can not only discuss their own views of art and the styles they appreciate, but also go further and work on the affective or aesthetics dimension of Art. The school, in this context, should favor the development of an aware learner, a critical and artistic producer, who is able to tell improvisation from creativity (FREITAS, 2005, p. 6). According to the author, creativity should be encouraged in order to promote troubleshooting, even when the problems are not very clear, “[...] but that materializes in the colors and shapes of a painter and also the formulas of a scientist.”

In English language classrooms, usually Art theme is addressed through activities that integrate both the oral and written

¹ My Translation from French: *l’art est l’expression d’une organisation sociale, de la société dans son ensemble, de ses croyances, de l’image qu’elle se fait d’elle-même et du monde. Dit autant que les textes de l’époque, parfois même plus* (DUBY, 2002, p. 299).

comprehension and production skills and exercises; students usually learn the colors and existing artistic expressions. What is proposed in this paper is to extend that to aspects related to Art History and Art Appreciation, covering the main movements, techniques and styles, elements of artworks, ideas, lines, textures and color theory. Moreover, to discuss art as a method of critical literacy, so that students can learn to position themselves in the world as people. Besides, it can also help students during the construction of their individual, social and cultural identities as a means of socio-cultural empowerment, showing them the importance of artistic movements to give rise to certain social groups. Furthermore, that these discussions lead students to social changes if they wish.

In this study², the objective is to uncover the social representations³ of students about art through collaborative writing production and analysis of lexical choices. The tool used for the analysis of the nodule *Art is Iramuteq*. These analyses enable understanding of the dominant representations of content that make up the students' system of beliefs and knowledge about the construct at the time of textual production.

This article is organized as follows: section 1 discusses the theoretical foundation with emphasis on concept maps and collaborative writing; section 2, expatiates about the methodological scope of the research, which describes the research context, the instrumentation, data collection procedures and analysis tools with emphasis on *AntConc* and *Iramuteq*; whereas meanwhile, section 3 presents the data analysis that describes the conditions of production and analysis of the corpus; and finally, section 4 which presents the final considerations of the article.

2 'THEORETICAL BACKGROUND

This classroom research was developed with the purpose of promoting critical literacy through activities that integrate the comprehension and production, both oral and written skills, in a multidisciplinary way. The study is based in the perspective of English language learning integrated content⁴ with the use of concept maps and collaborative writing production that will be presented in the following sections.

2.1 CONCEPT MAPS

Cognitive Psychology has developed for decades studies to understand how to represent knowledge about the world and how the cognitive processes, knowledge-based, are operated (RODRIGO; CORREA, 2004). In this perspective, in school contexts the processes of concept mapping and learning are integrated and researched under a holistic perspective. They are based on the activation of students' background knowledge and on the expansion of reasoning and knowledge mediated by interaction during the proposed activities in the classroom, which in this study is done through the construction of concept maps, discussions in pairs and production of texts written collaboratively in English language⁵. During the exercises, students are active participants, who make decisions and choices oriented by a network of knowledge, personalized thoughts and beliefs, guided by practice within different

² This text is an excerpt of the research Collaborative Writing on English Language Teaching and Learning, registered and sponsored by Directorate of Innovation, Research and Extension from IFMG - Ouro Preto Campus. The authorship of this article is from the project coordinator who had the support of the scholarship students of technical high school who assisted her in organizing and compiling the data: David Simon Marques e Máisa Martins de Sá Fonseca.

³ Social representations in this study are belief systems, values, ideas and practices that establish an order that enables people to orient themselves in their social and material world. Social Representations make communication possible between the members of a community by providing them with a code for naming and classifying unambiguously the values of various aspects of their world and of their individual and social history (MOSCOVICI, 2003, p. 21). Studies on the Social Representations fall within the field of Social Psychology and aims at studying the construction of meaning in order to "be in the world" which occurs in the development of the individual throughout life, in the influence of speeches and in the transformation of the environment we live over time through group interactions (SPINK; GIMENES, 1994). Social Representations come to the ordinary world and everyday life in which we inhabit and discuss with our friends and colleagues and circulate in the media we read and look (MOSCOVICI, 2003, p. 8). They constitute our realities and serve as a means to create social networks. Moreover, they have dynamic character and are designed as a characteristic form of knowledge conceptualized as a phenomenon (MOSCOVICI, 2003, p. 10).

⁴ English language learning integrated to content: a research field in Applied Linguistics which interests by the investigation of the use of an additional language in order to teach other curricular contents (SMIT; DAFOUZ, 2012, p. 1).

⁵ Collaborative Writing understood as co-authorship (STORCH, 2005).

usage context of foreign language and can record them in writing, symbols or in pictures. In this way, we can better understand the learning processes through the investigation of thoughts, knowledge and beliefs of students. In other words, map “[...] the unobservable dimension of mental life of these students” (BORG, 2009, p. 163). Concept maps are diagrams that indicate relationships between concepts which are included in a hierarchical structure of propositions. According to Novak (1982), concepts represent regularities perceived in events, objects or in records, assigned by a label that can be a word or a symbol as shown in Figure 1:

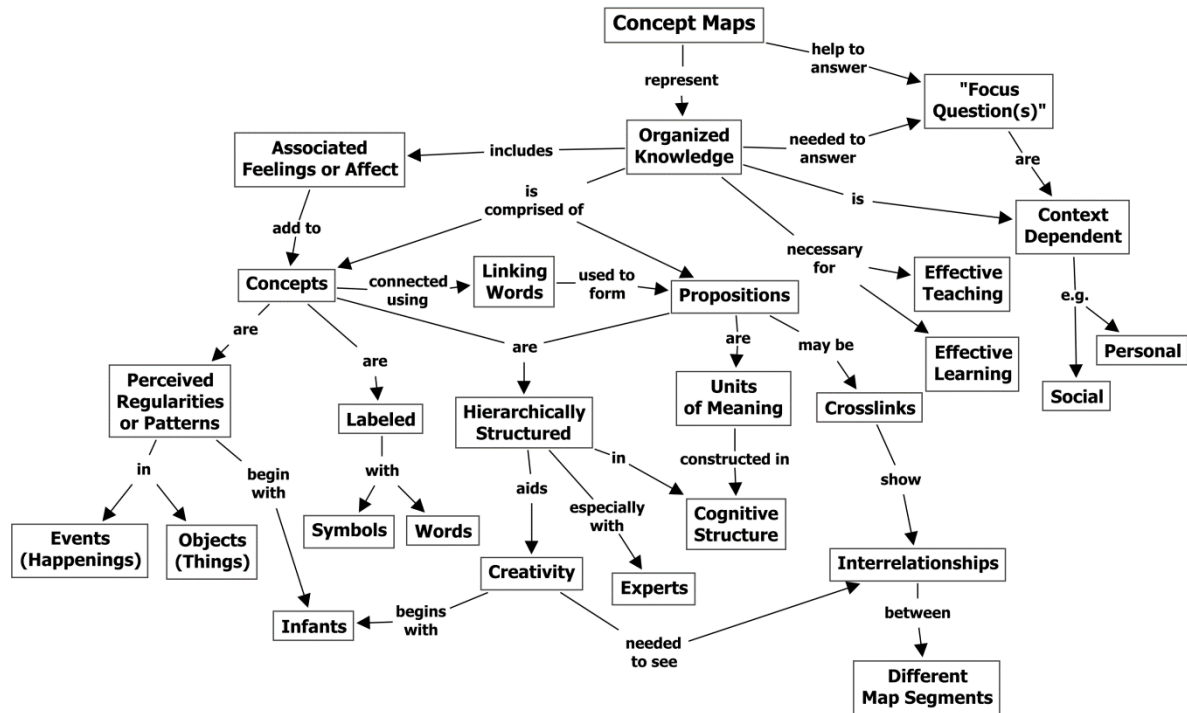


Figure 1: Concept Map example
Source: Novak e Cañas (2008)

Moreira and Masini (1982) explain that in the maps the concepts are usually in boxes, and the propositions are built from the connections of these concepts to linking words, forming a semantic unit. In this research, concept maps are used to activate, and organize the students' prior knowledge, in addition to enhance the written production in English. Therefore, the perception of students on Art and the images created by them in the concept maps can be used to illustrate, define and mark the social representations that are established by this group, which also constitutes cognitive models by which this construct is interpreted by the group (JODELET, 2001; PALMER, 1996).

Based on these arguments, the units and semantic networks formed with nodes and the linking words are scenes of the real world that serve as the scaffolding point for mapping and conceptual expansion. To build and to map the Art theme in this study is more than to access the information from students' semantic memory (RODRIGO; CORREA, 2004). In addition to this goal, maps can be both learning and assessment resources as well as tools that aid in the perception, understanding and reconstruction of concepts and in critical literacy.

2.2 COLLABORATIVE WRITING

The use of pair and group work activities, especially in additional language classes, has been supported by strong theoretical and pedagogical bases (STORCH, 2005, p. 153). From a theoretical point of view, the use of these interaction patterns is related to the view of social constructivism as a means of learning (VYGOTSKY, 1978). According to Vygotsky, human development is naturally linked to group activities. According to him, the cognitive development of a less experienced person results in social interactions with more skillful members in society. The most skilled member provides the right level of assistance, making the novice one reach

his or her maximum potential of development. This assistance is known in the literature as *scaffolding*. Studies have shown that *scaffolding* can also occur between people in pairs or groups and thus, in the classroom, students should be encouraged to participate in activities that promote collaborative interaction and knowledge building (STORCH, 2005). The oral and written collaborative dialogue of the students mediates the construction of linguistic knowledge during the joint accomplishment of a communicative task and contributes to the learning of the additional language and to the development of interlanguage and metalanguage, in other words, *linguaging* (SWAIN, 2010).

From the pedagogical point of view, the activities in pairs and groups are supported by the Communicative Approach (Richards; Rodgers, 1986). Oral collaborative activities encourage co-operation (not competition); give students more time to use the target language, promote autonomy, self-directed learning, and decrease participants' anxiety when interacting (MCDONOUGH, 2004, p.208). Concerning written production, collaborative or co-authoring activities lead students to be more open to contributing to decision-making in the writing process, especially at the time of producing the text itself, that is, in all aspects of production: Content, structure and language (DAIUTE, 1986).

Collaboration in this study is advocated throughout the writing process and means that learners are co-authors, who must gather and share the responsibilities of producing text such as: to defend their own ideas in discussions during writing, to be attentive not only to aspects of grammatical accuracy and vocabulary, but also to the discursive ones (STORCH, 2005). Studies which conduct the writing process with co-authoring, as mentioned above, state that it promotes a sense of cooperation, reflective thoughts; they can encourage the exchange of knowledge about the language and about the process and this exchange is coined by Donato (1988) as *collective scaffolding* (STORCH, 2005, p.153). The author states that regardless of the strategies used by pairs or groups to do their jobs, collaborative writing encourages students to collaborate in generating ideas, in the opportunity to give and receive feedback, an opportunity that students who write individually do not have very often. Perhaps because of this, the texts seem more complex than the others. Students do not usually see some of their mistakes even after reviewing it, so groups have a positive point in this regard. Another point presented by Ohta (2001) is that as individuals, people are different and have different knowledge and difficulties, and when working in pairs or groups, they help one another by providing each other with different skills, experiences and resources to the text production.

However, Storch (2005) presents disadvantages of collaborative writing production. Some students focus more on the outcome than on the writing process, others do not interact with their partners and take on the work individually. These problems are related to the way students view collaborative activity, generally as a preparation for future individual activities, not attributing the due value to them. The challenge, according to the author, is to respond to students' preferences, including individual activities, and, at the same time, develop students' flexibility, and prepare them for writing collaboratively too.

In this investigation, *Iramuteq* is used to analyze a written corpus of English language learners in order to present and discuss the group's representations on Art. The study deals with written collaborative production and provides a brief reflection on the correlation between the content exhibited by them, based on lexical choices, and the formation of social representations of Art in Modern Society.

3 METHODS

This classroom research was developed at a Federal Institute in the State of Minas Gerais, Brazil, with 3 first-year English-language classes in the secondary technical education of Metallurgy, Mining and Buildings (basic level of English Language). Data were collected through the production of argumentative texts written in pairs or trios based on individual concept maps. There were 102 students with an average of 15 years who were already familiar with each other and who had the opportunity to choose their partners for the collaborative writing.

Analyses were done with the help of the software and concordancers *Iramuteq* and *AntConc*. According to Camargo and Justus (2013, p. 1), the *Iramuteq* software (*Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires*) is free, with open source and allows to make statistical analyses on textual corpus, individuals and words. It anchors itself in the R interface and

in the Python language. The image below is the reproduction of the opening of the *Iramuteq* software.



Figura 2: *Iramuteq* Interface

Fonte: Ratinaud (2008)

Just like other concordancers used by Corpus Linguistics, *Iramuteq* allows the investigation of specificities from the defined segmentation of the text, transforming initial context units into elementary context units (CAMARGO; JUSTUS, 2013). According to the authors, the software identifies the number of words, the average frequency and the number of *hapax* (words with one frequency); it researches vocabulary and reduces words based on their roots (lemmatization); it creates dictionary of reduced forms, and finally, it identifies active and supplementary types.

Iramuteq also performs contrast analysis of variable modalities, Descending Hierarchical Classification (DHC) according to the method described by Reinert (1990, 1998), analysis of similarity of words presented in the text and the construction of dendograms and word clouds with semantic similarity. In this case, the text segments are classified according to their respective vocabularies, and the clusters are divided according to the frequency of the reduced forms, in other words, in semantic fields (CAMARGO; JUSTUS, 2013). This analysis aims at obtaining classes of text segments that, at the same time, present vocabulary similar to one another, and vocabulary different from the text segments of other classes (CAMARGO, 2005). From these matrix analyses, the software organizes data analysis, illustrates the relationships between classes, performs calculations, and provides results that allow a detailed overview of each class, mainly by its characteristic vocabulary (lexicon) and by its words with an asterisk (variables).

In addition, according to Camargo and Justus (2013), the program presents the factorial matching analysis made from DHC. Based on the chosen classes, the program calculates and provides the most characteristic text segments of each class (corpus in color) allowing the contextualization of each ones' typical vocabulary. The authors state that, at the software level, each class is composed of several segments of text according to the distribution of vocabulary (forms) of these text segments.

The *AntConc* 3.2.1 Program was created and developed by Laurence Anthony of Waseda University (Japan). It is a concordancer that allows you to list the occurrences of a particular word or phrase within contexts, either in separate or single files, and to make a statistical calculation of occurrences in the corpus. It also performs other functions such as listing words in a text or corpus and extracting keywords and their collocates. Moreover, it is possible to extract lexical bundles presented in concordance lines. *AntConc* is a free software for Windows, Mac OS X and Linux systems. The image below is the reproduction of the *AntConc* Interface.



Figure 3: *AntConc* Interface

Source: From the authors when they opened the learners' corpus from this study

The choice of the softwares is supported by the fact that one complements the analysis of the other. *AntConc* works with all forms of words and phrases, generates frequency lists, lexical bundles and shows contextualized concordance lines, which enables content analysis (BARDIN, 1977). *Iramuteq* uses calculations on the co-occurrences of words in segments of texts constructed from the corpus to list and presents the most frequent reduced forms through lists, graphs, dendograms and word clouds. The combined analysis makes it possible to understand the relation "between linguistic context and collective representation", that is, collective ways of thinking about a certain subject (REINERT, 1990, p. 32).

4 DATA ANALYSIS

For this paper, only a part the research data will be presented, specially the one that emphasizes the students' lexical choices used to express themselves in relation to the Art construct. The analyses cover the production conditions of the corpus, the analysis of the context units using *Iramuteq* and *AntConc*, and finally, the content analyses and interpretations of the students' representations about Art.

4.1 THE CORPUS: PRODUCTION CONDITIONS

The study was developed in a bimester along with curricular activities. The students from the first level of English were requested to write their previous ideas about Art in modern society individually on a sheet of paper and the choice of the theme was related to the unit of the textbook. Then, in the same classroom, they received guidance from the teacher on the structure and the way of constructing concept maps. They built their concept maps individually based on their lists⁶.

During the two-month period the students did all the activities of oral and written comprehension and production of the book with emphasis on the Art movements, techniques of production and artistic appreciation, the elements that make up the works of Art, such as implicit ideas, lines, textures and color theory. At the end of the bimester students were instructed to plan and write a text in pairs about the role of Art in modern society based on their individual concept maps. All the work was handwritten during the classes. The conceptual map below, presented in figure 4, shows an example of the representations constructed by two students from Mining course:

⁶ The concept maps were drawn manually in the classroom. Subsequently, they were typed on the IHMC Cmaps Tools by the PIBIC Jr. students keeping all the hierarchic structure and details of the students' maps.

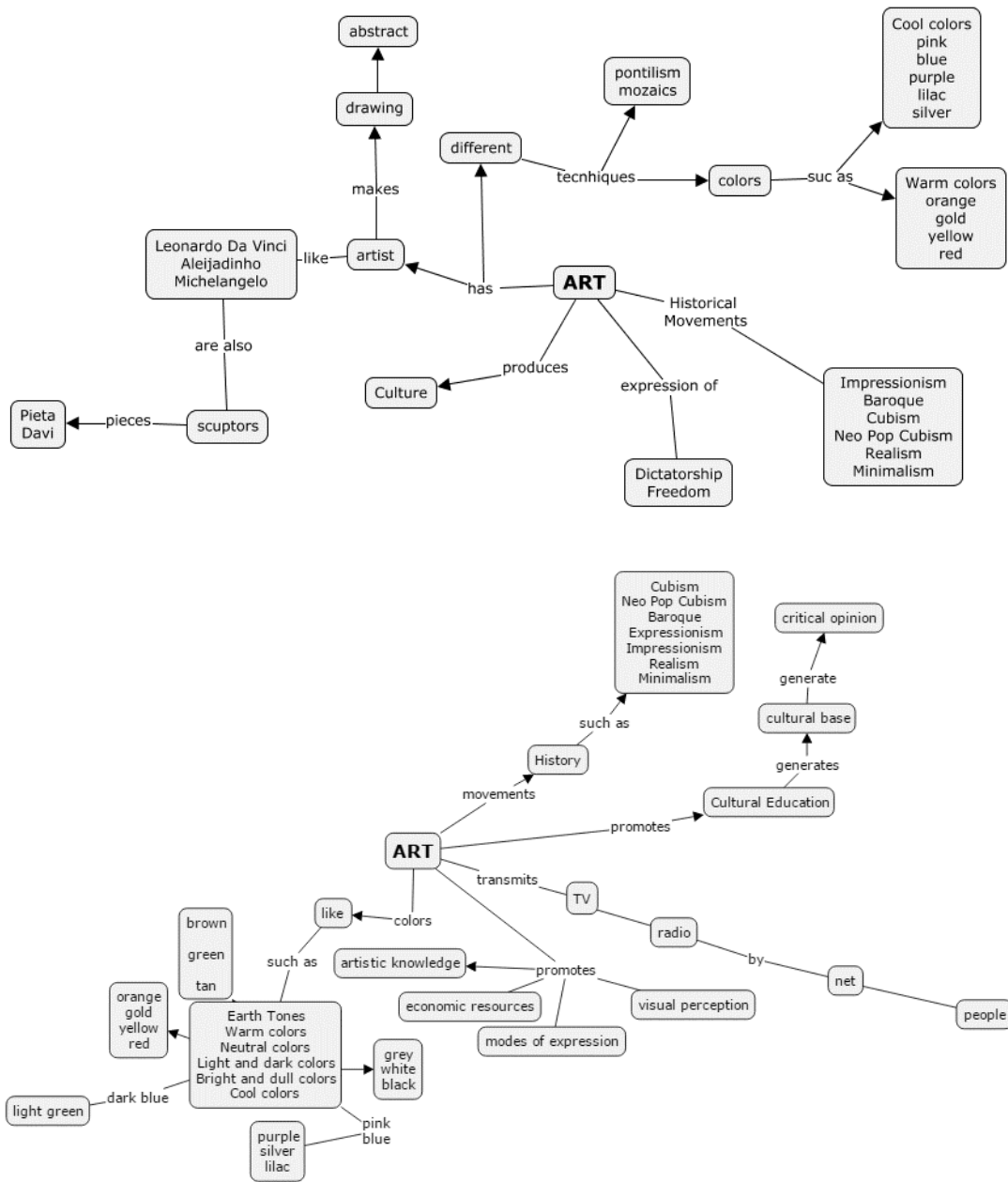


Figure 4: Individual Concept Maps: base for writing production
Source: Concept Maps 046 – Learners’ corpus from Secondary Technical School

In the first concept map we have observed that the student centralized the concept of Art and the sub-concepts were placed around the node in parallel. Art is related to the historical aspects, to the technical making and to the diversity of the artistic areas. The second student built a more hierarchical map in which the concept of Art is related to aspects mentioned earlier, and also as a way to foster education, culture, and critical thinking.

The text below from the authorship of the same Mining students, shows the process that they have experienced throughout the classes and portrays their conceptions of Art in an organized argumentative text:

**** *n_046 *sex_22 *ins_1 *cur_MIN

Art is a form that human beings use to *express their emotion*. It develops the *imagination* of several people and promotes *cultural education*. Art can be represented in several *ways*, especially in music, sculpture, painting, film,

dance, among others. Many people say *they have no interest in art and movements connected to it, but what they do not realize is that art is not limited, to paintings or sculptures*; it also may be represented by more *popular* forms such as the music, film and dance. Along the year we have learned a lot about Art. The *artists* express their feelings, and we often lay no sense, how we *thought* about several artistic works, it is always good to *acquire knowledge*, culture and today we are able to *appreciate* artistic works. We have learned several main artistic *styles*, such as the Baroque, that style that is a game of light overlapped in dark where worship excessive ornamentation. These knowledge are glimmer of *conflict in that man existent stood*; Already in cubism the use of geometric shapes, simple pictures in minimalism, we have observed that in impressionism does not have a *clear definition of forms*, where is generally depicted nature. No expressionism shocked and some picture have portrayed terror. *The art is a form of men himself to develop and to know himself.*

The students' lexical choices demonstrate a conception of Art as a means of social transformation, in other words, as a tool of educational promotion and cultural asset. Students discuss the distance of people from Art and show that Art is not just erudition, recognizing popular movements in the artistic field. In addition, they make the decision to show in their texts what they have learned in relation to the Art movements and their influence on the man's self-awareness under his most important questions. From the two textual genres, it is possible to observe that there was an expansion of the students' reasoning, since there are characteristics of the two maps in the text that started from ideas about art to discuss important questions such as Art that feeds man in his inner quest for self-knowledge, Art that brings the expression of diverse feelings and emotions, as well as a means for reflection and learning.

4.2 THE CORPUS

This section will present the analysis of all the texts produced in pairs by the participants. The corpus of this study was organized with 50 texts written by 47 pairs and 2 trios with an average of 147 words each⁷. In Oliveira *et al.* (2012), beginner-level students worked individually to discuss and write argumentative texts about eating disorders and took the same time to write texts with an average of 112 words. When comparing the data of 2012, it is observed that students working in pairs produced grammatically more precise texts, linguistically more complex and with a clearer focus. However, although they are in pairs, it is noticed that the planning and discussion phase, when compared to the total time in the accomplishment of the task, was very brief. In addition, students were instructed to review the text before handing it over. This stage was also brief and was not carried out by all pairs.

For the *AntConc* software recognition, the texts were typed and saved in separate files and for *Iramuteq* recognition, the corpus was typed, organized into a single file and saved in *.txt*, following the guidelines regarding the variables: number of students, gender (1 male and 2 females), year of instruction (1 first year) and course (MIN Mining, MET Metallurgy and EDI Buildings⁸), as shown in the example below of a Building's class:

**** *n_001 *sex_21 *ins_1 *cur_ED1

Sides of Art. Art makes you understand about yourself, you certainly realize who you are. Art is important in human life because when you understand the art, you start to understand what happens around you. Art can make you feel happy because when you make art you express your feelings. Art reduces the tensions of reality because it shows the other side of the world. Some pieces of art in the world show the soul of artists, it shows the real feelings and most importantly: shows who we are. Art isn't "whatever" painting paper; art is everything concrete and has a lot of expressions. In order to feel art, first you need to understand it. Consequently, you change your eyes to the word, change your way to think and you start to understand the world that you live. But why some people don't have art inside your hearts and mind? The answer is simple, they don't know how art is important to human life. Without art, the world would be incomplete. We wouldn't have music, paintings, colors, so everything would be sad and dark. Art could be considered a good feel like happiness or peace. We need art in life, that's why art is important to human life.

For the corpus macrostructure's monitoring, the composition of the corpus was analyzed, the titles presented in the writings and a

⁷ In the classroom, the participants took approximately 1 hour and 20 minutes to write the texts.

⁸ EDI Edification or Building.

list of the most frequent words was generated. All the texts that compose the corpus were written in the English language and some of them under creative titles such as:

Art;

Graffiti;

The art of graffiti;

The world is Art;

Sides of Art;

Art in Society;

Life is Art;

How Art can change lives;

The importance of Art for the development of human beings;

Art and social issues, etc.

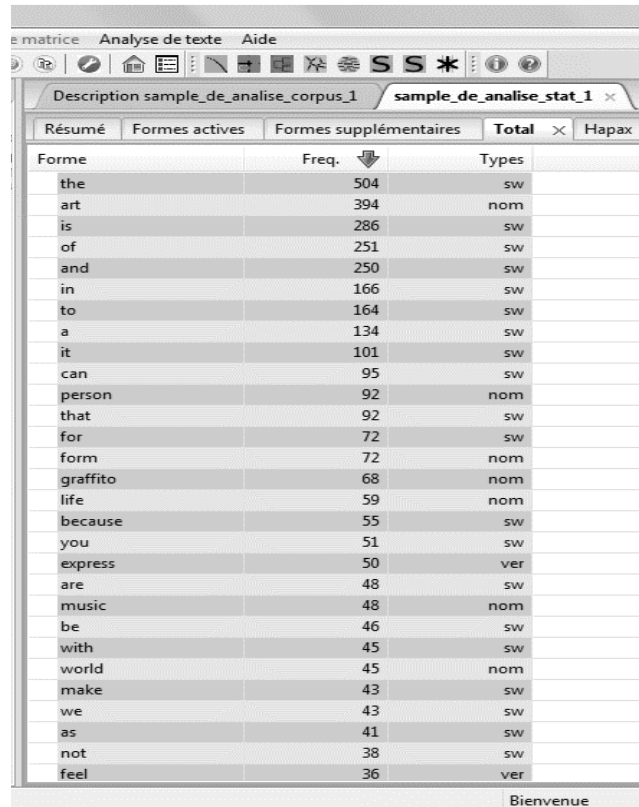
The written productions were organized in paragraphs and reported the previous knowledge of the individual concept maps and points discussed in the language classes, that is to say, all the knowledge they learned during the period in which the issue was approached in the classroom and what they wanted to introduce. Most of the texts include the definition of Art, the types of artistic manifestations and their importance in society.

4. 2.1 The Corpus: Initial Context Unit (ICU)

The initial context is the unit from which the *Iramuteq* program undertook the first fragmentation, in this case, the corpus composed of fifty texts. The corpus presented a total of 7383 words, 1187 types; 556 Hapax (words that appear only once), being 7.53% of the occurrences, 46.84% of the forms and the average of occurrences by texts of 147, 66.

4. 2.2 The Corpus: Elementary Context Unit (ECU)

The elementary context unit (ECU) is organized and classified by *Iramuteq* from semantic homogeneity. According to Reinert (1998), during the classification, there is a process of lemmatization, that is, there is the replacement of a few words for a reduced form (words that share the same radical but have different gender and number are computed only once, for instance). The program successively groups ECUs within a same initial context unit (ICU) until the number of different words analyzed is exhausted. On the issue, Nascimento and Menandro (2006) explain that the program goes through four stages to analyse the ECUs. The procedures of the first stage concern the next steps: first, a list of words in alphabetical order, considering the whole vocabulary used, is sorted; from this list derived a dictionary of the corpus' reduced forms. And at last, a list of the most frequent reduced words from the learners' corpus about Art is created, as shows the image below:

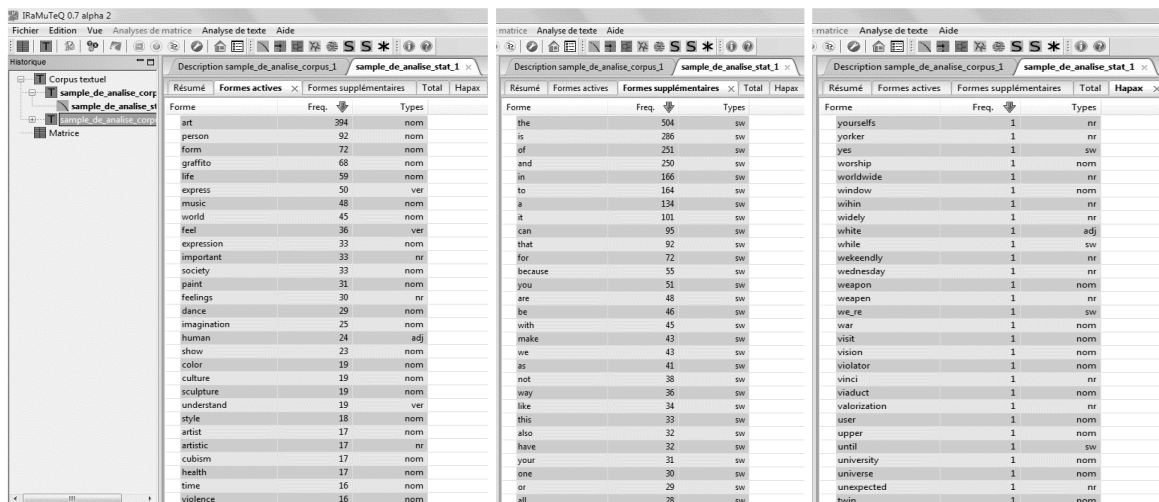


Forme	Freq.	Types
the	504	sw
art	394	nom
is	286	sw
of	251	sw
and	250	sw
in	166	sw
to	164	sw
a	134	sw
it	101	sw
can	95	sw
person	92	nom
that	92	sw
for	72	sw
form	72	nom
graffito	68	nom
life	59	nom
because	55	sw
you	51	sw
express	50	ver
are	48	sw
music	48	nom
be	46	sw
with	45	sw
world	45	nom
make	43	sw
we	43	sw
as	41	sw
not	38	sw
feel	36	ver

Figure 5: List of the most frequent reduced forms

Source: List generated by the author

Figure 6 below shows how *Iramuteq* sorted content words (active forms), grammatical words (supplemental forms), and *Hapaxes* into different lists. The most frequent lexical words were *Art(s)* (394), *people* (126), *person* (92), *form* (72), *graffiti* (68), *life* (59), *express* (50), *music* (45), *way* (36), *feel* (36) and *society* (33). The content of the corpus presents students' positions regarding Art and its function in modern society. The lexical choices show that the students related Art to people, to life and to the world as a way of expressing feelings. In addition, music and graphite are very recurrent due to the age of the authors and to the popular artistic manifestations.



Forme	Freq.	Types
art	394	nom
person	92	nom
form	72	nom
graffito	68	nom
life	59	nom
express	50	ver
music	48	nom
world	45	nom
feel	36	ver
expression	33	nom
important	33	nr
society	33	nom
paint	31	nom
feelings	30	nr
dance	29	nom
imagination	25	nom
human	24	adj
show	23	nom
color	19	nom
culture	19	nom
sculpture	19	nom
understand	19	ver
style	18	nom
artist	17	nom
artistic	17	nr
cubism	17	nom
health	17	nom
time	16	nom
violence	16	nom

Forme	Freq.	Types
the	504	sw
because	55	sw
you	51	sw
are	48	sw
be	46	sw
with	45	sw
make	43	sw
we	43	sw
have	32	sw
your	31	sw
one	30	sw
or	29	sw
all	28	sw

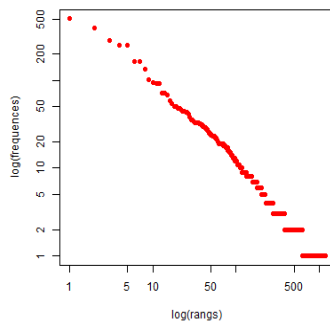
Forme	Freq.	Types
yourselfs	1	nr
yorker	1	nr
yes	1	sw
worship	1	nom
worldwide	1	nr
window	1	nom
within	1	nr
widely	1	nr
white	1	adj
while	1	sw
weekendly	1	nr
wednesday	1	nr
weapon	1	nom
weapen	1	nr
we_re	1	sw
war	1	nom
visit	1	nom
vision	1	nom
violator	1	nom
vinci	1	nr
viaduct	1	nom
valorization	1	nr
user	1	nom
upper	1	nom
until	1	sw
university	1	nom
universe	1	nom
unexpected	1	nr
twin	1	nom

Figure 6: List of active, supplemental and *hapax* types

Source: Lists generated by the author

In the second stage, Nascimento and Menandro (2006) state that the program selects the reduced forms with frequency equal or superior to 04 and sets the ECUs from the punctuation. In this phase, it performs the calculation of three intersections: the Descending Hierarchical Classification - DHC which comprises all ECUs in relation to all reduced forms; CU size 1 relative to the selected reduced forms; And the CU size 2 relative to the selected reduced forms. In the graph below, generated from the learners' corpus, it is possible to observe the clustering logarithms on the abscissa axis and the frequencies of the forms on the ordinate axis, as well as the list of active types (column / form) with their effective (column nb) and their grammatical categories (column type). It shows the behavior of word frequencies in the corpus and illustrates the X rang frequency distribution.

Graphic 1: Diagram of Zipf



Source: Lists generated by the author

Iramuteq has grouped the learners' corpus into 218 text segments (ECUs), and through a top-down classification, split the corpus on Art into two sub-corpora formed out of different matrices for each of the crosses: class 1 and classes 2, 3 and 4, according to Figure 6.

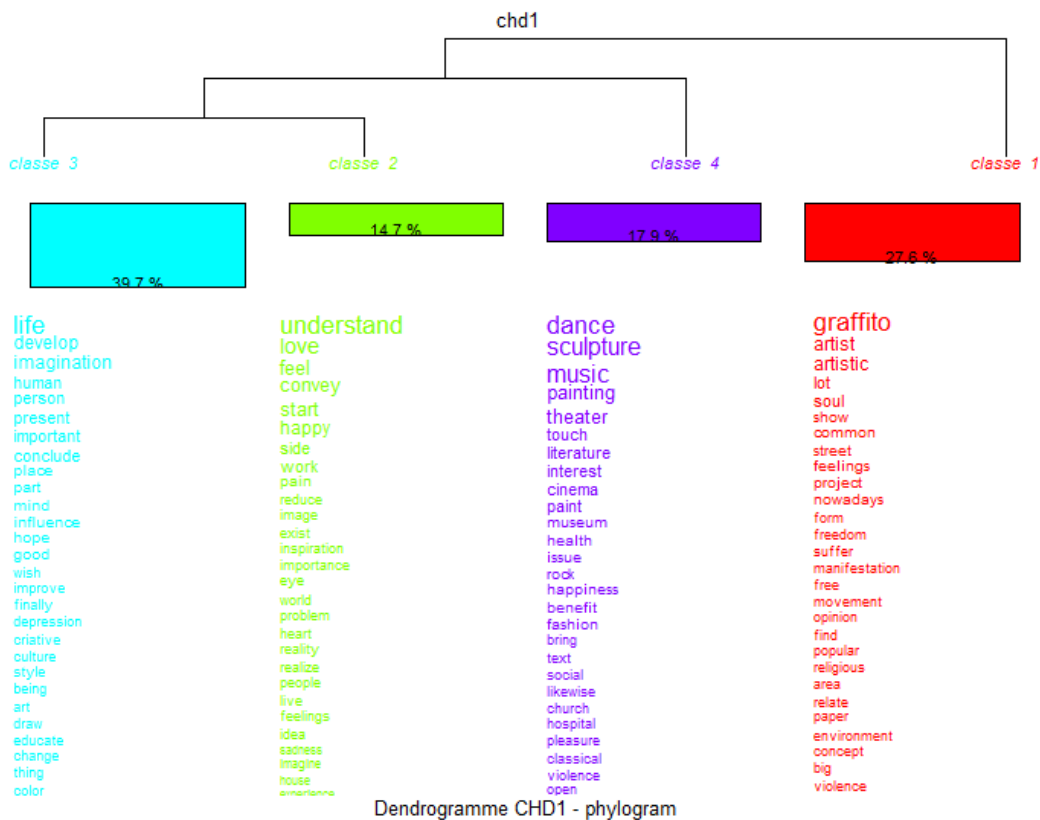


Figure 7: Dendrogram of the most frequent words from the corpus

Source: Extracted by the author with *Iramuteq*

The first subcorpus, comprising class 1, is the total set of contextual units in the matrix of initial indicators and presents the central points debated by the students regarding Art and semantic similarity in relation to the other classes. In the dendogram of figure 6, it is possible to observe that the two blocks, formed respectively by classes 1 and 4 and by classes 2 and 3, are independent. This means that class 1 is more related to or has a better proximity to class 4 and little or no relation to classes 2 and 3. Classes 1 and 4 present the following most frequent lexical items:

Class 1:

graffiti, artist, lot, soul, show, common, street, feelings, Project, nowadays, form, freedom, suffer, manifestation, free, movement, opinion, find, popular, religious, area, relate, paper, environment, concept, big, violence

Class 4:

Dance, sculpture, music, painting, theater, touch, literature, interest, cinema, paint, museum, health, issue, rock, happiness, benefit, fashion, bring, text, social, likewise, church, hospital, pleasure, classical, violence, open

The words generated by *Iramuteq*, which show the relationship of classes 1 and 4, are mostly nouns and reveal the students' conceptions of Art, the manifestations they consider as artistic and the role of Art in society. The items make reference to the Art as a way to express the diversity of feelings, pointing out that the artistic manifestations benefit health, promote social changes and reduce the violence. This development and benefits are associated to some forms of Art such as *graffiti, dance, sculpture, music, painting, literature* and *fashion*. In addition, they are related to the places where works are exhibited, *on the street, in the cinema, in the theater, in museums* and *churches*.

The second subdivision of this class into two separate ones splits the resulting classes so that each one contains different vocabularies and do not include overlapping words (REINERT, 1998). The procedure is repeated until no new classes could be found. Classes 2 and 3 relate to class 4 and present the following most frequent lexical items:

Class 2:

Understand, love, feel, convey, start, happy, side, work, pain, reduce, image, exist, inspiration, importance, eye, world, problem, heart, reality, realize, people, live, feelings, idea, sadness, imagine, house, everywhere.

Class 3:

Life, develop, imagination, human, person, present, important, conclude, place, part, mind, influence, hope, good, wish, improve, finally, depression, creative, culture, style, being, art, draw, educate, change, thing, color.

The link between the two classes highlights the same points found by Subtil *et al.* (2012), that is, the action sought with Art through the use of verbs: *to understand, to love, to feel, to express, to develop, to influence, to educate*, etc.; its goals and actions: *to represent happiness, pain, sadness, ideas, culture*, etc.; and finally, the pieces of Art that concretizes these practices: *the colors and styles*, etc.

Nascimento and Menandro (2006) state that *Iramuteq* also presents Factorial Correspondence Analysis (FCA), that allows verifying the relations between the classes in a graphic plane, which, in turn, allows the general visualization articulated of the words groupings presented in the authors' discourse. In the learners' corpus, the closer the elements arranged in the plane, the more they speak of the same things, for example, in the red quadrant that represents class 1, the *graffiti* nouns which is the most frequent and therefore larger one, is more related to the words *manifestation, common, many, free, freedom, suffer, soul* and *protect*. The referred noun is distant from the words *form* and *expression*, meaning that they were less related in the texts though in the same class.

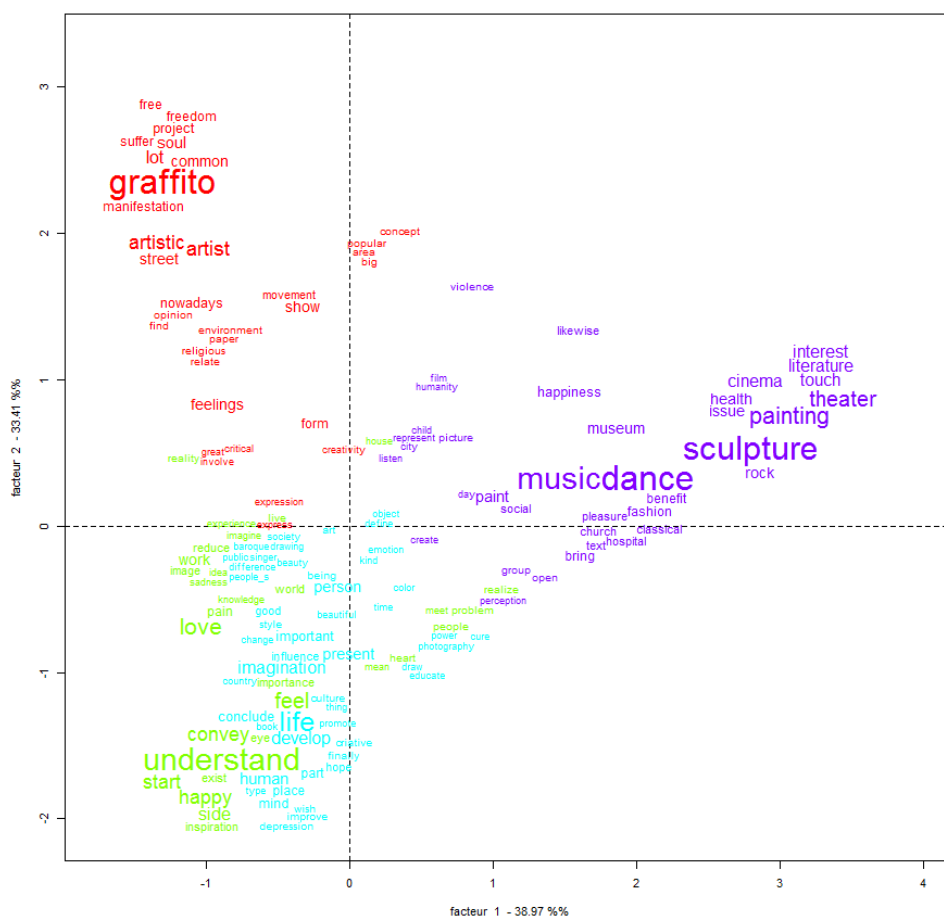


Figure 8: Correspondence Factor Analysis (CFA)

Source: Extracted by the author with *Iramuteq*

Another possible analysis made automatically by *Iramuteq*, is the one of the semantic similarity between the words and their display in tree format. It is based on Graph Theory⁹ and shows the co-occurrences and connections between the words of the corpus. The Art node is centralized and the words closest to the node are the *Hapax*, in smaller size due to their frequency.

⁹ A graph is a representation of a set of nodes connected by edges that together form a network (RECUERO, 2004, p. 3). The Graph Theory was developed by mathematician Leonhard Euler and is currently used in various areas of knowledge to understand which properties of the various types of graphs and the process of its construction. According to Recuero (2004), graph theory helps in understanding social structures, by "[...] discard[ing] the Cartesianism of part analysis, seeking the analysis of the whole, stating that it has properties that go beyond the mere sum of its parts" (RECUERO, 2004, p. 4).

these bundles appear at the beginning of the texts when the students define and explain the Art node and occur in two different patterns: characterization pattern and identification pattern (BIBER et al., 1999). In the corpus, 111 occurrences of these lexical bundles were identified. The table below shows some examples of concordance lines, which were grouped according to students' conceptions of Art, based on the Art's goals and objective, according to Javelberg (2003, p. 28-36):

Art definitions: "Art is..."	
Free expression	<i>art is our life, because everything is kind of it...</i> <i>Art is the manner that the artists find to express their creativity...</i>
Criativity	<i>art is everything that we can see or imagine like the ...</i> <i>Nowadays the art is used to improve the imagination...</i>
History	<i>The world is art. The art is present in the world since ancient times and has...</i> <i>Since the beginning of mankind, the art is present in people's lives...</i>
Moment of relaxation	<i>Art is a word that can express a lot of feelings...</i> <i>art is everything that you can appreciate....</i> <i>Art is everything that we can see, feel and touch ...</i>
Expression of feelings	<i>Art is form of human being to express their emotions...</i> <i>You feel good though visit one gallery of art. Art is very important for us...</i> <i>Art is a way to rest mind off the work...</i> <i>Above all art is all bring happiness for the people...</i> <i>Art is Life. Art is all than express emotion and define culture...</i>
Technical know-how	<i>Art is used for medical treatment too...</i> <i>Art is technical aspect features: colors and geometrical disposition and mixture various styles, like cubism, neo-pop cubism, baroque, expressionism, impressionism, realism and minimalism...</i>
Diversity of artistic areas	<i>Art is music, drafts, pictures, sculptures and panels...</i> <i>Art is music, sculpture, paintings, cinema, dance...</i> <i>like Baroque and cubism. Anyway, art is present on our lives..</i> <i>dancer, actor, actress, singer, photographer, painter, produce art, and that art is culture....</i> <i>show, dance and music..</i> <i>Art is: expositions, music, decoration, cinema, feeling,</i> <i>Art is not only paintings, sculpture, but also music, sports, dancing...</i> <i>The religious art is a good form of art ...</i> <i>the sounds; light; colors...</i>

By the students' definitions, we observe conceptions of artistic knowledge based on aesthetic fundamentals, such as beauty, symbols and a several ways to set forth Art. The students were moved by and interested in the subject. Most of them transcend the common sense concept of Art and approach a broader view that considers Art as a way of knowing, capable of causing experiences, of influencing the individual and transforming his relationship with the environment in which he lives (FREITAS, 2005).

From the concepts presented by the students, it is possible to highlight social representations of Art as a fruition of beauty, as a pretext and as an artistic knowledge (SUBTIL, et al., 2012). In the corpus, the representation of Art as the fruition of beauty is

phrase, or undefined noun phrase, as is usually the case of the characterization pattern (BIBER et al., 1999, p. 146). This pattern expresses the identity between subject and predicative.

observed through the contribution of feelings and the exercise of sensitivity as a means to change. The opposite of beauty of the artistic and the non-artistic, is demonstrated as a means for self-understanding, as an exercise of appreciation, and as a way to broaden horizons:

Art makes you understand about yourself. You certainly realize who you are. Art is important for human life because when you understand art, you start to understand what happens around you.

Art is also a way to introduce culture, a country transcribes what is best to be seen and appreciated.

A lot of artist use the art not only to show beauty, feelings as something like this, Pablo Picasso for example used his artistic talent in the painting "Guernica" to represent the suffering, the horrors and pain of the people in the middle of the second great war.

Consequently you change your eyes to the world, change your way to think and you start to understand the world that you live. But why some people don't have art inside your hearts and mind? The answer is simple, they don't know how art is important to human life.

Art is the pretext or the way for development, for socialization and for learning. For most students, Art inspires, educates and brings cognitive development:

The art makes people's life happier, it also makes the most educated people and it is important to disseminate culture and to express what the artist is really thinking.

Art is important in human life because it makes us happier and cultural; it serves to educate people in everyday life.

In schools, art must be present as a form of inspiration for students, also teaching the styles of painting, for example, Baroque and cubism.

Finally, Art is presented by students as artistic knowledge related to society and experienced in daily life, with potential for criticism of social totality. The potential of social criticism is conveyed mainly by texts that argue that graffiti is a form of Art which suffers from prejudice because it comes from less favored social classes.

Graffiti is best form of art, not vandalism. People sometimes have a certain prejudice against the graffiti because it was born in the periphery and in most of cases, sometimes represented by people from lower social classes.

Imagine how many people can save with art? Save from death, misery...

There is no better kind of art, because it is linked to the personality of who did it, therefore the identity of a social group.

With the criticisms it is possible to spread great ideas.

5 CONCLUSION

Regarding the theme discussed in most of the texts produced by the students, we can state that the knowledge constructed from the Art nodule, supports Freitas (2005), who sees Art as a field of knowledge with its own specificities, goals and contents. Students' lexical choices demonstrate linguistic, aesthetic, and symbolic values that mostly emphasize the emotional, affective, and social side of the Arts as an essential area for humanity.

The use of concept maps for the development of written production enables learning through discourse (declarative knowledge)

and through reasoning (procedural knowledge). This learning involves the construction and manipulation of mental models (JOHNSON-LAIRD, 1983), which students produced when they had to make lexical choices and inferences in the constructions of lists, propositions, and texts composed of meaning and argument. In order to introduce the concept map as a technique for textual production, one can see not only the enrichment of academic knowledge, but also the development of skills such as: organizing and connecting ideas, reasoning, criticizing, learning to read and interpret, as well as to write in English from the perspective of process, therefore advancing in interlanguage. Concept maps have become important in order to, not only plan learning steps, but also to arrange writing planning resources, since it allows the clear and orderly display of these plans, enabling continuous reflection and a reconstruction of the text, as well as a review of contents and concepts.

Pondering on the relevance of the concept maps in the teaching-learning process, it is possible to observe some of its uses and cognitive abilities that can be explored. With regard to its use as an evaluation tool, it can help to identify difficulties and accomplishments concerning to the topic studied and, at the same time, provide feedback. Besides, it also contributes to the reflection on the topics covered and to make the evaluation a moment of learning. In this way, there is the promotion of a formative evaluation, in which the entire learning process is evaluated instead of only its final product. In addition, map usage stimulates cognition, since the students learn how to learn on their own, self-regulating their cognitive process.

Concerning collaborative writing production, the results of this study corroborate Storch (2005), since the interaction in pairs for the collaborative production favored the development of the students' grammatical and vocabulary skills. The study has implications for the teaching of additional languages, since the work of written production in pairs and groups focuses on the process, motivates students to participate, and assists in the development of skills such as: organization, rearrangement of their ideas, logical reasoning, etc. In addition, it promotes critical literacy, since it involves decision-making on the main theme, the use of strategies to make lexical choices and inferences in meaningful textual constructions, argument and appeal to social issues. However, some negative factors have been observed in the process, as for example, most students have been already accustomed to writing as an individual activity, or to the fact that some students are shy and do not feel comfortable discussing textual construction. In addition, some more proficient students have focused the activity on themselves because they understood that writing is an individual activity.

The softwares *Iramuteq* and *AntConc* were rigorous and allowed the use of different resources for the textual analysis. They have contributed to the understanding of the social representations of the students' groups on the topic of Art and for the area of Corpus Linguistics, since they ease the processing of large volumes or number of texts. This study is a small sample of *Iramuteq*'s potential, which enables the lexical analysis in a larger corpus while upholding the usage context of the items. This study can be replicated in comparison to the reference corpus allowing the integration of the quantitative and qualitative analyses, bringing objectivity to the interpretations given to the content of the texts.

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