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The language classroom: chaos or complexity?

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To my students and fellow teachers, without whom my life would be rather gray and dull.

To my family, friends and beloved wife who have tirelessly supported me.

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Abstract

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The main purpose of this monograph is to share some reflection on a classroom investigation conducted by a group of 9th graders from a public school in Duque de Caxias and me, as their English language teacher. This investigative piece of research aims at better understanding the group behavior and the complex dynamics of the language classroom. Exploratory Practice offered the framework for the study while Chaos Complexity Science was the source of the metaphors used to analyze its outcome.

Keywords: Exploratory Practice, Chaos Complexity Science, complex systems, sensitivity to initial conditions, dynamism, unpredictability, self-organization.

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“Não está em nenhum mapa; os lugares verdadeiros nunca estão. E, na educação, os ‘lugares verdadeiros’, cuja busca nos leva sempre para diante e para o alto, estão em nossa capacidade de criá-los dentro de nós mesmos e de, especialmente, fazer com que eles façam sentido para nossos alunos.”

Maria Cecília Camargo Magalhães¹

¹ MAGALHÃES refere-se às palavras de MELVILLE em seu livro *Moby Dick*: “It’s not down in any map; true places never are.”

1. Introduction

Teaching large classes is quite a challenge that Brazilian public school teachers have to face on a daily basis. Besides the most common characteristics of large classes with which most of us are familiar, such as its heterogeneity and complexity, classroom dynamics seems to be the most challenging one. Depending on our teaching perspective, this might turn out to be a problem and end up affecting, negatively, the teacher-student relationship in our classes.

Being able to deal with the complexity and unpredictability we find in our classes seems to be requirement contemporary teachers should meet. It seems, however, that when teachers and students work together to better understand what appears to be hindering the group's progress, learning goes beyond the content of the lessons and becomes much more enriching. This may become a never-ending fulfilling experience that will eventually lead to unpredictable situations which we teachers somehow should be prepared (or not) to face.

Allwright (2006, p.9)² has provided a few principles for teachers and students to act on, while engaged in activities which aim at investigating classroom dynamism. He claims that this kind of investigative piece of research conducted by both teachers and their students should ultimately cater for mutual development and the improvement of their relationship.

Allwright also points out that one of the reasons why teachers sometimes get so frustrated at their practice is that some of them still believe that they must be fully responsible for their students' learning process. However, as Allwright (2006, p.3)³ puts it: "Learning is, I believe, an essentially idiosyncratic process which can be fostered or frustrated, but which cannot ultimately be controlled in the way that teaching techniques require for their success."

Larsen-Freeman (1997)⁴ also understands that the learning process is quite a complex phenomenon over which teachers have no absolute control. She illustrates that by saying:

² ALLWRIGHT, D. *Challenges for the Teacher Educator: prioritizing the human quality of life in the language classroom*. 2006. p.9. CLAFPL, Florianopolis.

³ *Id; Ibid*; p.3.

⁴ SOWER, C. An attitude of inquiry: An interview with Diane Larsen-Freeman. *The Language Teacher*. 1997. 21 (7), 27-28, 37. Available at: <http://www.jalt-publications.org/tlt/files/97/jul/inquiry.html> . Accessed on February 14th, 2007.

“ [...] students can encounter ‘-ing,-ing,-ing,’ over and over again; the teacher can go on about it, the students can read about it and do exercises supplying it, and still the students don’t use it. They say ‘ I am study,’ for instance. Then one day they might hear it one more time and the penny drops and they’re able to use the ‘-ing’ accurately, meaningfully, and appropriately.”

(LARSEN-FREEMAN, 1997)

Larsen-Freeman (1997, p.142)⁵ claims that she has found in chaos complexity science (hereafter CCS) a wide range of metaphors which can be used to discuss teaching and learning. She states that it is her hope that studying the dynamics of complex nonlinear systems will discourage reductionist explanations towards learning, which Allwright calls an essentially *idiosyncratic* process.

It seems that both Allwright and Larsen-Freeman agree that teaching techniques cannot essentially determine how learning will operate in the learners’ minds. In this same light, this paper is an attempt to investigate and reflect upon the complexity of life (and learning) in the language classroom using both the Exploratory Practice (EP) framework and the metaphors provided by CCS.

In order to facilitate the reading, this paper is arranged in the following order: firstly, the two concurrent theories which underlie the writing of this paper are further explained. Secondly, the study which motivated the investigation conducted in this paper is described in detail. Thirdly, the participants and the research method used are introduced to the reader. Finally, the analysis and the discussion on the findings of the study are presented.

⁵ LARSEN-FREEMAN, D. *Chaos/complexity Science and Second Language Acquisition*. Oxford:1997. p.142.

2. Background information

2.1 Exploratory Practice

It seems to be common ground knowledge that teachers constantly face issues which go beyond the scope of their teaching practice. Sometimes the feeling of not being able to cope with problems which arise not only inside but also outside the classrooms tend to make them believe that their role as teachers is constantly under threat.

Most public school teachers who work in impoverished communities understand that being familiar with their students' local culture is of vital importance to learn how to create rapport and a common channel of communication with them. However, as in every relationship, teachers and students are likely to face stormy periods which might interfere in the quality of their lives inside the classroom. Once teachers feel they have lost control over their students (sic), attempts will be made to establish *order* again. This, in turn, might lead to a tiring routine causing frustration and burnout.

Allwright has extensively been debated this complex issue for the last few years. He and other exploratory practitioners have given us some valuable insights into what might cause burnout amongst teachers. Allwright claims that, in order to avoid burnout, teachers should prioritize the quality of life inside the classroom. Involving everyone who is part of the school community in this task is one of the principles of what Allwright calls *Exploratory Practice* (EP hereafter), a form of classroom research conducted by both teachers and their students.

“ In relation to language education, *Exploratory Practice* is language teachers and learners developing their own understandings of life as language learners and teachers while getting on with their learning and teaching, with a view to enhancing the quality of the life they lead together, and thereby the quality of the education and the learning in that setting.”

(ALLWRIGHT, 2006)⁶

⁶ ALLWRIGHT, D. *Challenges for the Teacher Educator: prioritizing the human quality of life in the language classroom*. CLAFPL: 2006. p9.

EP proposes six principles and two suggestions. Allwright (2006)⁷ explains that EP is not a new method for language teaching but it has a major methodological proposal, particularly in the form of the second suggestion. He says that it may turn out to have enormous practical implications.

Principle 1: Put 'quality of life' first.
 Principle 2: Work primarily to understand life, in the language classroom.
 Principle 3: Involve everybody.
 Principle 4: Work to bring people together.
 Principle 5: Work also for mutual development.
 Principle 6: Make the work continuous.
 Suggestion 1: Minimize the extra effort of all sorts for all concerned.
 Suggestion 2: Integrate the 'work for understanding' into the existing working life of the classroom.

Figure 1: Exploratory Practice in 6 principles and 2 suggestions.

The activities developed to fit the EP philosophy are usually based on questions/puzzles which students and/or teachers bring to the classroom. They are called *Potentially Exploratory Pedagogic Activities* (PEPAs). Teachers and students think of a task which can cover the existing syllabus of the course as well as provide them with opportunities to ponder over and discuss what has been puzzling the group. Below is an example of the EP framework⁸:

Teacher Puzzle	PEPA (Potentially Exploratory Pedagogic Activity)	Skills/ Language area (Lexis)	What is being investigated
Why do my students only feel like doing something if it is going to be graded?	Reading activity.	Development of reading skills and vocabulary acquisition.	My students' opinions about classroom activities and the reasons for doing them.

Figure 2: Working for understanding.⁹

⁷ *Id; Ibid*; p9.

⁸ This is part of a poster on display at an Exploratory Practice event held at SENAC, 2006. It was made by a teacher whose name is Maria Geralda.

⁹ The text in this table was originally written in Portuguese and translated by us.

As could be seen above, the activity developed was based on the teacher's question (Why do my students only feel like doing something if it is going to be graded?), which triggered the group's investigation. In this example, the teacher aimed at investigating her students' opinions through a very common activity with which most of her students were familiar. In order to minimize any extra effort, she incorporated it into the existing lesson plan.

It is important to mention here that although the teacher planned and prepared the activity based on what had been puzzling her, EP offered an opportunity for them to talk about it with the class. She and her students became agents of the process of trying to understand what had been preventing them from improving their relationship as well as the learning process in class.

2.2 Chaos Complexity Science

The investigative piece of research presented in this paper is based on another fairly new and broader perspective to examine the language classroom. Through the lens of Chaos Complexity Science, the outcome of the work done within the EP framework was analyzed and interpreted.

CCS looks into the irregular side of nature, the discontinuous and erratic side (GLEICK, 1997)¹⁰; and, although it is based on mathematical theory, its approaches to investigate nonlinear complex systems commonly found in nature have attracted the interest of a few linguists such as Diane Larsen-Freeman. She claims to have found in CCS a fertile source of metaphors to describe language phenomena:

“(...) But more striking than the accessibility was the fact that I kept encountering themes that reminded me of issues in language acquisition that I had been wrestling with for some time. As I read more, I began to realize that behavior of systems that are studied in chaos/complexity science provide, at the very least, metaphors for us in applied linguistics.”¹¹

(LARSEN-FREEMAN,1997)

¹⁰ GLEICK, J. *Chaos: Making a new science*. New York:1987. p.3.

¹¹ SOWER, C. An attitude of inquiry: An interview with Diane Larsen-Freeman. *The Language Teacher*. 1997. 21 (7), 27-28, 37. Available at: <http://www.jalt-publications.org/tlt/files/97/jul/inquiry.html> . Accessed on February 14th, 2007.

Larsen-Freeman argues that second language acquisition is a dynamic process and that the attempts which have been made in Applied Linguistics to describe it are too categorical and static. She has now been using the concept of *linear* and *nonlinear* systems found in nature to address complex issues in language learning. The idea of *linearity* is pretty much based on positivist views still found in some teaching contexts; while, *nonlinearity* seems to be the true nature of learning. The linguist explains that in a *linear* system an effect is proportionate to its cause. On the other hand, effect and cause do not respect the same proportional relationship in a nonlinear system. For instance, a slight change in one part of a *nonlinear* system might cause a tremendous response. However, a huge change in the same system might have little impact on it (GLEICK, 1987)¹².

A *nonlinear* system in nature, such as the weather, is rather unpredictable and it has its own peculiar way of (re)organizing itself. The transaction of its parts, which at first glance might resemble a chaotic behavior, turns out to be a naturally organized one.

It is said that the first chaos theorists in the 1970s wanted to find a way through this apparent disorder of complex systems in nature. Therefore, they abandoned the reductionist trend in science, which is the analysis of systems in terms of their constituent parts (quarks, chromosomes, or neurons), and adopted a more holistic approach. In other words, they searched for the outcome of the interactions of such random and complex systems in an attempt to better speculate on the nature of their intrinsic behavior.

“[...] chaos complexity theory (C/CT) considers the synthesis of emergent wholes from studying the interactions of the individual components. Outcomes arise that cannot be anticipated from an examination of the parts independently. Neither is it the case that there is a central executive responsible for managing the discrete parts. Rather, the agents/ elements act, react to, and interact with their environment (i.e. the other actors/elements and any features of their environment) without any reference to global goals – they are undertaking purely local transactions. The net result of these local transactions is a pattern that emerges at a global level.”

(LARSEN-FREEMAN, 2002)¹³

Larsen-Freeman also draws our attention to the fact that the findings which have been announced by CCS seem to be equally applicable to all forms of systems (inorganic, organic, biological, psychological, or social); however, significant

¹² GLEICK, J. *Chaos: Making a new science*. New York:1987.

¹³ LARSEN-FREEMAN, D. *Language acquisition and language use from a chaos/complexity theory perspective*. New York:2002. p38.

differences can be noticed among them. *Inorganic* systems, for instance, are presumably not intentional or semiotic, whereas psychological and social ones such as the classroom might become an intriguing source of research.

The characteristics of complex nonlinear systems bear some resemblance to classrooms and group behavior. As Larsen-Freeman has pointed out CCS appears to be a growing alternative to study the complexity involved in learning a language as well as the dynamic and complex nature of classrooms, seen here a social system.

This paper shows that some inherent characteristics of complex systems such as their sensitivity to initial conditions, dynamism, unpredictability and facility for self-organization helped us with our investigation into classroom life.

3. The motivation for the study

Teachers of English, especially those who work in the Brazilian public sector, have constantly expressed their frustration of putting indefatigable amount of energy into their practice and getting very little response from their students. This statement has been repeatedly heard in both regional and national teacher conferences.

Large classes is a major issue for educators from all over the country teaching in the public sector. However, teachers of English are believed to be the ones who are most frustrated, because learning outcomes can barely be perceived in their classes. Feelings of disappointment are believed to stem from principles and beliefs which most of us bring from previous teaching experience in private language schools, where the predominant ideas towards teaching and learning are quite positivist. At private language schools, for instance, teachers ought to learn about the current pedagogy, which is regularly imported from English-speaking countries, and make use of it in their daily practice (HOLLIDAY, 1994)¹⁴.

According to the Cambridge Teaching Knowledge Test (TKT), teachers are expected to behave in different ways at different stages of the lesson (SPRATT; PULVERNESS; WILLIAMS, 2005, p145.)¹⁵. The authors list some of the roles teachers often play:

¹⁴ HOLLIDAY, A. *Appropriate methodology and social context*. Cambridge:1994.

¹⁵ SPRATT, M.; PULVERNESS, A.; WILLIAMS, M. *The Teaching Knowledge Test Course*. Cambridge: 2005. p145.

Role	The teacher:
1. Planner	prepares and thinks through the lesson in detail before teaching it so that it has variety and there are appropriate activities for the different learners in the class.
2. Informer	gives the learners detailed information about the language or about an activity.
3. Manager	organizes the learning space, makes sure everything in the classroom is running smoothly and sets up rules and routines (i.e things which are done regularly) for behavior.
4. Monitor	goes around the class during individual, pair and group work activities, checking learning.
5. Involver	makes sure all the learners are taking part in the activities.
6. Parent / Friend	comforts learners when they are upset or unhappy.
7. Diagnostician	is able to recognize the cause of learners' difficulties.
8. Resource	can be used by the learners for help and advice.

The roles listed above are the ones teachers working for the private sector are expected to take up. Therefore, when shifting from the private to the public sector many of us are likely to face a dilemma: why does it seem to be so difficult to teach the four basic skills (listening, speaking, reading and writing) in a public school? Some of us still believe that the same teaching techniques that we use successfully in small-sized private language classes will help our public school students in overcrowded classes pick up the English language.

Nevertheless, we should bear in mind that the teaching of the four basic skills is not our **primary** goal in public schools. The *Parâmetros Curriculares Nacionais*¹⁶ (Língua Estrangeira) which give us the directions on the Teaching of English in Brazil state that:

“Deve-se considerar também o fato de que as condições na sala de aula da maioria das escolas brasileiras (carga horária reduzida, classes superlotadas, pouco domínio das habilidades orais por parte da maioria dos professores, material didático reduzido a giz e livro didático etc.) podem inviabilizar o ensino das quatro habilidades comunicativas. Assim, o foco na leitura pode ser justificado pela função social das línguas estrangeiras no país e também pelos objetivos realizáveis tendo em vista as condições existentes. Isso não quer dizer, contudo, que dependendo dessas condições, os objetivos não possam incluir outras habilidades, tais como compreensão oral e produção oral e escrita. Importa, sobretudo, formular e implementar objetivos justificáveis socialmente, realizáveis nas condições existentes na escola, e que garantam o engajamento discursivo por meio de uma língua estrangeira. Portanto, o foco na leitura não é interpretado aqui como alternativa mais fácil e nem deve comprometer decisões futuras de se envolver outras habilidades comunicativas. Pode-se antever que, com o barateamento dos meios eletrônicos de comunicação, mais escolas venham ter acesso a novas tecnologias, possibilitando o desenvolvimento de outras habilidades comunicativas. Vale acrescentar que a análise do quadro atual do ensino de Língua Estrangeira no Brasil indica que a maioria das propostas para o ensino dessa disciplina reflete o interesse pelo o ensino da leitura.”

(Parâmetros Curriculares Nacionais – Língua estrangeira, 1998)

Despite the above call for reasonable goals to be worked on, it seems that some public school teachers of English still insist on adopting the role of *manager* thinking that they can be in charge of everything which happens in their large-sized classes. It is believed that having complete control over students' behavior is a way of fostering effective learning. Moreover, what appears to be a common belief amongst teachers is that *order* is synonymous with *learning*. In private language schools, this potential feeling of *order* might be felt in some classes, especially when teaching small groups of students. On the other hand, when teaching overcrowded classes in public schools this so-called feeling of power may get out of hand. Some questions are put forward to encourage some reflection:

¹⁶ MEC/SEF. *Parâmetros Curriculares Nacionais – Língua Estrangeira*. Brazil: 1998. p21. Available at: <http://portal.mec.gov.br/seb/index.php?option=content&task=view&id=557>. Accessed on: February 20th, 2007.

- Is it possible to expect a large group of students (sometimes more than 40 students) to behave homogeneously?
- Is there homogeneity in human behavior?
- Is it really feasible to have any sort of control over what happens in the classroom in terms of learning?

Large classes are not only a Brazilian reality. Countries such as India, Ghana, South Africa and Zambia, to name a few, have also been facing the challenges of teaching large groups of students. BBC (British Broadcasting Corporation) World Service radio program *Teachers in Action* with contributions from teachers and educators from the countries previously mentioned have listed some of them¹⁷:

1. It is difficult to keep good discipline going in a large class.
2. You have to provide for more children of different ages and different abilities, wanting to learn different things at different speeds and in different ways.
3. You cannot easily give each child the individual attention they need.
4. You may not have enough books or teaching and learning aids.

Figure 3: Challenges in teaching large classes.

Being totally in charge of the teaching and learning process appears to be too much to expect from the teacher in class. This misleading belief usually results in frustration amongst educators. Besides, blaming teachers for their students' lack of success in the learning process seems to be a powerful political *maneuver* in the Brazilian context. Our politicians' rhetoric seems to aim at turning society against public school teachers. As a result, these professionals are blamed for our current wanting educational system. Anyhow, addressing this touchy issue is not the objective of this paper whatsoever.

“Why does it seem to be so difficult to work as if we were a team?”, an eighth grade student of mine wondered. In other words, she was puzzled by the fact that her class did not appear to be able to work collaboratively for their own benefit. Most of

¹⁷ BBC/British Council .Teaching English: Methodology – *Teaching Large Classes*. Available at: www.teachingenglish.org.uk/think/methodology/large_classes.shtml. Accessed on: December 20th, 2006.

her classmates, according to her, did not even know why they went to school. Her question triggered the writing of this investigative piece of research. And since I am also part of the group, for being the teacher, I believe she had included me on this *team*.

Aren't we (teachers, students, directors, parents etc.) all responsible for our education? Shouldn't we all work together to improve the quality of education in our schools? Shouldn't we all take responsibility for our own learning?

Paulo Freire (2001)¹⁸ was one of the first Brazilian educators to promote the view of the learner as the subject rather than the *object* of the learning process. In this light, within the EP framework, a group of eighth-grade students and I embarked on a journey of collaborative work towards the understanding of our classroom life and, consequently, of our own attitudes to our roles inside it. *Exploratory teachers* also believe in students as agents rather than passive learners:

“Not only do we believe that learners are unique and that they learn and develop autonomy more successfully when they do it their way, in an environment of mutual support, but we also believe that they are capable of taking their learning seriously, making their own decisions and of becoming agents of their own learning and teaching process.”¹⁹

(MILLER, et al)

After the day on which that student puzzled over the fact that we did not know how to work in group, we have become involved in a continuous enterprise for mutual development. Highly controlled classes gave room to questioning and unpredictability. The unpredictability of classroom life made me turn to CCS and its studies about complex systems.

¹⁸ FREIRE, P. *Pedagogia da Autonomia*. Brazil:2001. p.134.

¹⁹ MILLER, et al.; *Prática Exploratória: Questões e Desafios*. Article on Exploratory Practice. Departamento de Letras. Pontifícia Universidade Católica, do Rio de Janeiro. p.3. It was originally written in Portuguese and translated by us.

4. The participants

The participants in this study were a group of eighth-grade students whose ages ranged from 13 to 17. This group consisted of 41 students, who was mainly made up of male students. For the sake of a more accurate description of the group, it may be relevant to mention that we have a special student whose name is Bruna. She has CP (cerebral palsy) and uses a laptop-like device with a word processor which allows her to take notes of the lessons. Her special needs, however, do not seem to prevent her from fully integrating into the group.

The majority of students in class do not have a computer at home, and very few of them are familiar with the Internet. Most of them have very little knowledge of the English language and have no contact with it in their everyday lives.

As for the material, the secretariat of education of the municipality does not provided English course books. Much of the material available in the school where I work is prepared by the teachers. In this eighth-grade class, for instance, only four students have bilingual dictionaries (Portuguese-English/English- Portuguese). Therefore, we usually share the dictionaries with the rest of the class during all sorts of activities. Unfortunately, there are no other bilingual dictionaries in the school library.

The students and I meet every Wednesday from 3 to 4:40 pm. My first impression of the group was not a positive one. Some of them were very noisy and did not show any respect for me. It was very hard for me to make myself heard in that chaotic environment, let alone *teach* them something. On the second day of our school year, they were invited to participate in this investigation. I told them that everyone would benefit from it owing to the fact that, from that day on, we would work within a framework which aims at teacher and student mutual development and the understanding of behavior in the classroom.

As for the school, it is situated in the third district of Duque de Caxias, Imbariê. It is located in a very impoverished neighborhood where violence is a reality that its residents have to face daily. Every school in Duque de Caxias is funded and maintained by its local government.

Duque de Caxias is one of the suburban municipalities which has most contributed towards the country Gross Domestic Product due to the intense participation of the petrochemical sector in that area²⁰:

“Duque de Caxias ocupa o segundo lugar no ranking de arrecadação de ICMS (imposto sobre operações relativas à circulação de mercadorias e sobre prestações de serviços de transporte interestadual, intermunicipal e de comunicação) do Estado, perdendo somente para a capital, de acordo com pesquisa da Fundação CIDE (Centro de Informações e Dados do Rio de Janeiro). De acordo com dados do IBGE (Instituto Brasileiro de Geografia e Estatística), o município de Duque de Caxias possui o sexto maior PIB (Produto Interno Bruto) entre 1999 – 2002 no ranking nacional e o segundo maior do Estado do Rio de Janeiro. A prefeitura prevê para 2005 um orçamento de R\$ 587 milhões. Os dados não representam benefícios para a população até agora.”

(DUARTE, 2005)

Nevertheless, it appears that little money is invested in the schools. In the school where I work there is only one TV set, a DVD player and a computer laboratory with only a few computers working properly. Just two of these computers have access to the Internet.

Two teachers of English work at this school. The other teacher and I started teaching there in 2006. We are both still getting familiar with the local culture and social reality of our students. Although the other teacher is not the regular teacher of the group being investigated, I invited her to participate in some of the activities in which my students and I were engaged. She was free to contribute with any ideas and/or suggestions she had. The students were also motivated to consult her whenever they had doubts.

Both the director and the co-director of the school were aware of the investigative study that I was conducting with my students. It was also explained to them that it would not interfere in the course syllabus.

²⁰ DUARTE, L. Secretaria de Comunicação e Eventos. Site da Prefeitura do Município de Duque de Caxias, Rio de Janeiro. Available at: <http://www.duquedecaxias.rj.gov.br/web/cgi/cgilua.exe/sys/start.htm>. Accessed on: February 14th, 2007.

5. Research method

The investigation conducted in the classroom did not aim at solving a problem or improving my students' behavior. In fact, it aimed at analyzing how the students performed the tasks they themselves decided to do. The interactive patterns, their reaction(s) to the activities as well as the strategies applied to do them were a few of the main elements which were paramount in the study.

It might be relevant to state here that neither the heterogeneity of the group nor the size of the class were seen as problems to be solved. These two most salient characteristics of this class were understood as important factors, which were taken into account before carrying out the research. In reality, how they affect the group behavior is also of great importance to this study.

Therefore, rather than making a precipitate decision on conducting an action research (usually full of misconceived ideas) to change the group behavior, we decided to investigate it. Next, the students and I discussed potential attitudes which could enhance the teaching and learning process in our classroom, and consequently the quality of life in it. Allwright (1999, p.2) ²¹ explains that it is sometimes not desirable to interfere in a situation just for the sake of having a piece of research done:

“Contemplating a situation in order to understand it better, and then perhaps doing something more concrete to further enhance that understanding, may well, but not necessarily, lead to the conclusion that change is indeed desirable, and that it is worth putting the understanding one has reached to good use in the elaboration of a possible solution to a problem that has now been properly identified. It will not necessarily lead to any such conclusion because it must remain a logical, and professional, possibility, that an understanding reached through contemplation and action for understanding will instead lead to the conclusion that taking action for change would not be warranted.”

The question: **Why does it seem to be so difficult to work in group – as if we were a team?** seemed to be highly suitable for the purpose of this investigative piece of research.

In order to work within the EP framework, however, my students and I had to think of activities that could be integrated into our course syllabus. In the context of EP,

²¹ ALLWRIGHT, D. *Processes of Language Teacher Education .Three major processes of teacher development and the appropriate design criteria for developing and using them.* University of Minnesota: 1999. p2.

these activities are called PEPAs. The first activity proposed was reminiscent of a very common and traditional practice to which most of us teachers are accustomed. My students wanted me to give them a grammar point so that they could study it and explain it as if they were playing the role of the teacher. In fact, I suggested that we swapped roles in the classroom bearing in mind that it would be fun and also an opportunity for them to experience what it is like to be in control (sic) of the learning situation.

According to our syllabus, the *Simple Present Tense* was the first grammar topic to be taught this year. The other teacher and I planned and prepared handouts using some course books we had on hand. The concept was explained in Portuguese, but the sentences illustrating the use of this verb tense were written in English and their corresponding translation was displayed next to them²².

After receiving the handouts, the students themselves got organized to *explain* the topic. It may be relevant to state here that they were not told what to do nor even how they would get organized to perform the task. Nevertheless, we talked about some terminologies they were not acquainted with such as: verbs (principal and auxiliary verbs), nouns, third person (singular), to name a few.

Since we meet once a week, my students were given nearly a week to read the handout and study its content. On the following day of class they presented and taught the topic. They created their own sentences illustrating the use of the simple present tense and focused on both its form and meaning²³. Below are some of the sentences they created:

Valdeir plays the guitar well.
I study Geography on Fridays.
I work in [sic] Mondays.

Figure 4: Some students' examples.

At the end of the class, the students and I decided that we would have a different kind of task based on the same grammar point for the next class. This time, however, it would be a more controlled one. We agreed to divide the class into 4 groups of 8 students and 1 group of 9. Also, there were some rules that they had to follow. The

²² See appendix no. 1.

²³ See appendix no. 2.

students themselves decided on how to form the groups. Their task now was to pick out a member of each group and write three sentences about his/her daily routine. The sentences could be either negative or affirmative ones. They were told that they would probably need to look up verbs and other vocabulary items in order to create the sentences. It was also made clear that I would only help them if they had considerable difficulty in finding any piece of information.

Since there were a few dictionaries in class, we decided that only one member in each group could go from one group to another (to ask for information or use a classmate's dictionary) or to the other room to ask the other English teacher for help. As part of the rules, they could only ask for information in English using two different sets of phrases: *How do you say _____ in English?* and *What's the meaning of _____?*

In the following class, each group was asked to write the sentences they came up with on a poster board. Some of the students drew on it to illustrate the activity in their sentences. Others preferred not to. Using poster boards to display the results of activities teachers and students have been involved in is a common practice among exploratory teachers in the Rio EP group²⁴, as it helps teachers and students to reflect upon and discuss the ideas shown on them.

At the end of the second class, the posters created by the students were shown to the whole class. Therefore, everybody got the chance to read about their classmates' daily activities, and also enhance their vocabulary knowledge of the language. Some students wanted to read the sentences, so I helped them with the pronunciation of some words.

In our third class, I used a few of the posters that the students had created to revise how to form negative and interrogative sentences using the Simple Present tense. That was the first grammar point they needed to study for their midterm examination.

Twenty minutes to the end of the class, some students suggested that we sit together forming a big circle and discuss the activities we did for the last few days. Some students talked about what they learned from what they did, and made comments about how the group behaved during the classes.

Although the main focus of this research seems to be on the outcome of the activities performed by the students, it may be relevant to reiterate that I was not a mere

²⁴ Some of these posters can be seen at the following address:
<http://www.flickr.com/photos/54867045@N00/>

observer. To the contrary, I also participated in the activities. However, I did not play the role of the traditional teacher who is used to dictating rules. The students and I worked collaboratively. What may not be explicit during the report of this classroom investigation is that I was paying close attention to how the group behaved and the features which could match up with those of complex *nonlinear* systems found in nature. Thus, I took notes of everything which caught my attention during the investigation.

The interpretation of the events as well as the comments the students made during the talk we had about the activities they were engaged in are presented in the next section of this paper.

6. Findings of the study

The findings of the study were divided into four subheadings. Each one of them is a common characteristic of a complex system found in nature. These characteristics were the most noticeable ones during the investigation into the behavior patterns of students working within the EP framework. Both the interpretation of the events and the students' comments and ideas can be found under each category.

6.1 Sensitivity to initial conditions (commonly known as the butterfly effect)

“For want of a nail, the shoe was lost;
For want of a shoe, the horse was lost;
For want of a horse, the rider was lost;
For want of a rider, the battle was lost;
For want of a battle, the kingdom was lost!
In science as in life, it is well known that a chain of events can have a point of crisis that could magnify small changes. But chaos meant that such points were everywhere. They were pervasive.”

(GLEICK, 1987)²⁵

²⁵ GLEICK, J. *Chaos: Making a new science*. New York:1987. p.23.

When first introduced to the principles and beliefs of the EP, no positive feedback could be perceived from my students. Therefore, this feeling of potential failure made me think that the majority of students in class would probably not get interested in participating in this study. On the day they were supposed to explain the grammar point, just a few students went up to the board and wrote sentences to illustrate it. However, at the end of the class, some other students suggested another kind of activity in which they did not have to stand up and talk to the class. They thought that the first activity prevented shy students from participating. Also, they realized that the most talkative and ill-mannered students were also very shy.

Anyhow, two factors caught my attention. The first was the fact that I would never have thought that some students would be willing to adapt a task so as to engage the other classmates. The second one was to notice that those who participated had studied the worksheet and probably looked up some words in the dictionary previously. That was quite curious because their unwillingness to do their homework is one of the major issues with which I have been dealing for quite a long time.

Note that it is not at all being insinuated here that after this single experience students started reading compulsively or homework was no longer a burden. It seems, though, that the introduction of a new element in our practice might bring a few significant changes to the classroom dynamics. These changes may not be perceived at once, but deep inside our students' *black boxes* something might happen. Complex nonlinear systems as well as classrooms (and students' minds) seem to be sensitive to external forces.

6.2 Dynamism

Correlating the characteristics of complex nonlinear systems with the behavior of students in the classroom is not a novelty in the English language teaching field (VAN LIER, L., 2000).²⁶ The language classroom is generally understood as a dynamic system which is constantly going through changes. These changes might be in behavior, in the learning situation, or even in the kind of relationship teachers

²⁶ VAN LIER, L. From input to affordance: social-interactive learning from an ecological perspective. In J.P. Lantolf (ed.) *Sociocultural Theory and Second Language Learning*. Oxford, Oxford University Press: 2000.

have with their students. What seems to be true is that everything inside the classroom is constantly evolving.

During the second activity, a student decided to play the guitar (which he had brought to his music class at school). He played the guitar while the other students were thinking of the sentences they were going to write. I could have forbidden him to play the guitar, but I thought that his guitar playing could be an example of an activity for the groups to write about. For instance, they wrote about the fact that that student *loves* to play it.

Two thoughts crossed my mind at that moment. The first thought was that I had avoided a possible argument which could have spoiled the atmosphere of the class. The second one was that we teachers should always try to find ways to deal with unpredictable situations.

It is a fact that nobody has ever found a set of magical rules which could be used to deal with classroom complexity. Yet, just being aware of its dynamism, and willing to accept it as part of classroom life might eventually make a big difference in our practice. The dynamics of the classroom will ultimately force us to start taking more risks and use our creativity to deal with them.

Magalhães (2003)²⁷ states that:

“[...] Creative practice consists in drawing new maps; it does allow to use or improve existing ones. New maps lead us to new places where nobody has ever been before, the route and destination are discovered along the journey.”

6.3 Unpredictability

“In complex systems, each component or agent finds itself in an environment produced by its interactions with the other agents in the systems. It is constantly acting and reacting to what the other agents are doing. And because of that, essentially nothing in its environment is fixed.”²⁸

(WALDROP *apud* LARSEN-FREEMAN, 1997)

²⁷ MAGALHÃES, M. *A formação do professor como profissional crítico: Linguagem e Reflexão*. Campinas: 2003. p.39.

²⁸ WALDROP, M. *Complexity: The Emerging Science at the Edge of Order and Chaos*. New York:1992. *apud* LARSEN-FREEMAN, D. *Chaos/complexity Science and Second Language Acquisition*. Oxford:1997

It is thought to be almost an impossible task to foresee how our students will behave during a particular class. Most of it is due to the fact that young learners have short attention spans and a lot of physical energy (SHIN, 2006)²⁹. Changes in their behavior are, for the most part, not predictable.

That event in which a student suddenly had an urge to play his guitar right in the middle of an activity may also be a good example of an unpredictable situation. I did not know that a student could walk into the classroom carrying a musical instrument. How I managed to deal with that situation and also take advantage of it was not part of my plans either.

The belief that teachers must anticipate what might happen during their classes seems to be quite a misleading one. Every attempt to control what happens in our classes appears to be doomed to failure. What might be helpful, though, is to learn how to deal with unexpected situations.

These things which happen in our classes and are beyond our control should not always be understood as disturbing or distracting events. As opposed to what most teachers think, they might come in quite handy so as to provide our students with a learning opportunity. If we bear in mind that learning can be fostered when we least expect it, everything which goes on inside our classrooms may be meaningful to the teaching and learning process.

Another example of an unexpected situation was the student's puzzle itself. It generated a whole series of events which culminated in the writing of this paper. Her question was not taken as an offense. I could have understood that she was somehow trying to imply that I was not able to make my students do group work. Instead, her puzzle turned out to be a unique opportunity to carry out an investigation.

Note that this is not an attempt to advocate that we should let our students be in charge of the classes and do whatever they want to. However, giving our students the chance to voice their feelings and question what happens in the classroom may eventually help us improve our teaching skills, and, in turn, the quality of our classes. Classroom unpredictability might no longer be seen as a threat against our so-called *certainties*.

²⁹ SHIN, J. Ten Helpful Ideas for Teaching English to Young Learners. Washington, DC. v.44, n° 2, p3, 2006.

6.4 Self-organization

Working within the EP framework helped us increase the sense of community in our class. Once the students were given the chance to speak and act for themselves, they took up a more active role in class. Surprisingly, a significant number of students seemed to have no difficulty in adapting to the new dynamics of the class. Besides, since the activities were based on a language of which most of them have little knowledge, they had to rely on one another to perform the tasks.

The capacity of our students to self-(re)organize is quite the same as that found in complex systems in nature. Berreby (1994)³⁰ explains that they do not simply respond passively to events; they actively try to turn whatever happens to their advantage.

It seems that the sense of responsibility increases when students are made aware that they are also in charge of their learning. Not every student wants to have this role in class, maybe because they do not feel mature enough for it yet (maybe not). This could be another good puzzle to be investigated.

The majority of the students in class did not want to write about their experience working on their puzzle. Instead, they wanted to talk about it. Therefore, we sat in a circle inside the classroom and almost every student contributed with comments and ideas verbally. Their choice to talk instead of writing could also be understood as a strategy used to organize themselves in order to better participate in the activity³¹. Most of the students do not feel confident about writing. Just a few of them wrote to me. Here are their comments³²:

“Group work, it’s self-explanatory... It means that we have to work together, but it isn’t always like that. Sometimes we end up doing someone else’s job. However, each one of us has an important role to play. First, we need to do our jobs, so that we can, ultimately, help those who have more difficulty in doing theirs.”

Jonny (902)

³⁰ BERREBY, D. Murray Gell-Mann. *The New York Times Magazine*, May8, 1994:24-7. *spud* LARSEN-FREEMAN, D. *Chaos/complexity Science and Second Language Acquisition*. Oxford:1997

³¹ Note here that the students did not need to write to me in English. The discussion held was not in English either.

³² The original comments were written in Portuguese and translated into English.

“ I learned to get along with my classmates in my English class. I also learned how important I am to the group. Before this experience, I thought I did not have anything to contribute with.”

Gilcimara (902)

“We learn a lot from reading books, our notes, and even from our classmates... This is cool! We can help each other... This is a cool way of learning”

Gilvania e Thayane (902)

“We could do it, at least, once a month.”

Rafael, Rildo e Geovane (902)

“[...] We could help each other. We are not saying that we cannot learn anything by ourselves. Some things are easy to learn, but there is some homework that is a bit more complicated, and the best thing to do is to ask our friends for help.”

Deborah, Gabriella, Jéssica e Samara (902)

“I learn better with a little help from my friends, because they help me work think out. Besides, I think that I learn a lot more when we work together. If it hadn't been for my friends, I wouldn't be here attending classes.”

Rafael (902)

7. Conclusion

It seems that contemporary society still expects teachers to be always in charge of everything which happens in the classroom. The popular belief appears to be that teachers should be able to transfer all their knowledge to their students. This over-reliance on teachers might be the cause of a lot of stress and some of the problems we face regarding teacher-student relationship.

Unfortunately, and it may not come as a surprise, some of us still believe teachers must have control over students and consequently over their own learning. However, life in the classroom is quite chaotic. Teachers deal with human beings, and human beings are quite complex. Lewis (1997) states that it is not only a language that is being taught but people that are learning a language.

Public school teachers work in very challenging conditions. Their classes are usually overcrowded and needless to say that each and every student has different abilities, interests, beliefs etc. To expect the whole class to act according to our own beliefs is quite inappropriate and goes against its nature. What seems to be chaotic at first glance may turn out to be a valuable resource to take into consideration while planning a lesson. The supposed chaos we find in our classrooms, if taken from another perspective, may show us that classrooms have a life of their own. And since life is quite chaotic, we teachers should be able to, at least, deal with its complexity. To control the uncontrollable is just like trying to play God.

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Appendix I

Present Simple (Presente Simples)

Descrevendo atividades cotidianas em inglês:

I **study** in the afternoon. (Eu estudo à tarde.)

They **get up** at 6 o'clock. (Ele(a)s acordam às 6 h.)

You **have** breakfast at 9 o'clock. (Você(s) toma(m) café às 9 h.)

She **reads** the newspaper every day. (Ela lê o jornal todo dia.)

He **listens** to music at night. (Ele ouve música à noite.)

She **has** English class every Wednesday. (Ela tem aula de inglês toda quarta-feira.)

The cat **drinks** milk in the morning. (O gato bebe leite pela manhã.)

Interrogative Form (Forma interrogativa):

Fazendo perguntas sobre atividades de nossa rotina em inglês:

Do	I(eu)	have lunch(almoço)	at noon(ao meio dia)?
Do	You(você)	have dinner(janta)	at 8 o'clock. (às 8h)?
Do	We(nós)	eat meat (comemos carne)	every day (todo dia)?
Do	You(vocês)	study English(estudam inglês)	every week(toda semana)?
Do	They(eles/elas)	drink juice(bebem suco)	at lunch (no almoço)?

Does	He(ele)	have lunch(almoço)	at noon(ao meio dia)?
Does	She(ela)	have dinner(janta)	at 8 o'clock. (às 8h)?
Does	It(ele/ela)	eat meat(come carne)	every day (todo dia)?

Negative Form (Forma negativa):

Formando frases negativas sobre nossa rotina em inglês:

I	don't(não)	have lunch(almoço)	at noon(ao meio dia).
You	don't(não)	have dinner(janta)	at 8 o'clock. (às 8).
We	don't(não)	eat meat(comemos carne)	every day (todo dia).
You	don't(não)	study English(estudam inglês)	every week(toda semana).
They	don't(não)	drink juice(bebem suco)	at lunch (no almoço).

He	doesn't	have lunch(almoço)	at noon(ao meio dia)?
She	doesn't	have dinner(janta)	at 8 o'clock. (às 8)?
It	doesn't	eat meat(come carne)	every day (todo dia)?

Exercise:

1 – Fale sobre suas atividades cotidianas em inglês. Use o dicionário quando necessário.