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EQUILIBRIUM PEDAGOGY

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Abstract

The first institution approached equilibrium pedagogy term are from the Institute of Education Sciences. In an empirical form, the education system that has continuity in Romania, has been identified in response to the teachers that provided progress without influence from the ministry and the government. The reaction of teachers is to ensure continuity and stability. Romanian teachers to ensure a equilibrium pedagogy. When I looked for information on the theories of equilibrium I identified biological studies on equilibrium and chaos theories. Equilibrium theory and chaos theories build structures that we can analyze in terms of education and pedagogy. Located at first analysis I propose has areas that do not include, but fails to clarify educational structures that define the behavior and outlook that he has. Punctuated equilibrium, launched in biology in 1972 by Niles Eldredge and Stephen Jay Gould, is found in education by analyzing the type of progress. Punctuated equilibrium shows that there is progress in a period of time, that is a very short time with high progress, and that is a long time, with steady progress. Chaos theory can adapt education through structures that they perceive as fractals, which analyzed in 1960 by Edward Lorenz, shows that there is structural in any development seemingly chaotic dynamical systems, complex. The education system is a dynamic and complex system.

Keywords: Chaos, education, equilibrium pedagogy, education system.

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1. Introduction

After 1989, we can speak about an Equilibrium pedagogy, which appeared in Romania, as a necessity arising when in transition in last 27 years. At the Ministry of Education in Romania there were at least 24 ministers.

Every government and every minister imposed change without impact assessments have built in the immediate term, medium and long term.

The first institution approached *equilibrium pedagogy* term are from the Institute of Education Sciences. In an empirical form, the education system that has continuity in Romania, has been identified in response to the teachers that provided progress without influence from the ministry and the government.

The reaction of teachers is to ensure continuity and stability. Romanian teachers to ensure a *equilibrium pedagogy*. The education system is a dynamic and complex system. Education made contact between teachers and students, parents and the local community. Is a chaos in education. At the entrance children and students in the education system there is no predetermined systems analysis and interpretation of information relating to children, students, parents, local community.

Introducing change in the education system without being based on impact studies to determine changes in the immediate term, medium and long trigger reactions that generate rejection or take changes but changes generate effec**ts** that were initially foreseen.

Zembylas and McGlynn in 2012, started to talk about discomforting pedagogies, as a challenge a new education. Also, UNESCO (2017a) in the publication *Education for the sustainable development goals. Learning objectives* identifies new directions of education.

Post-intervention results can be analyzed with different baselines - where we started, and was where expected. Philosophical approach to Equilibrium pedagogy ongoing plans to build a system that can analyze events and trends in education. We'll start at preschool and primary school because they are available to us now.

2. Problem Statement

When I looked for information on the theories of equilibrium I identified biological studies on equilibrium and chaos theories (2016). Equilibrium theory and chaos theories build structures that we can analyze in terms of education and pedagogy. Located at first analysis I propose has areas that do not include, but fails to clarify educational structures that define the behavior and outlook that he has.

Punctuated equilibrium, launched in biology by Eldredge and Gould (1972), is found in education by analyzing the type of progress. Punctuated equilibrium shows that there is progress in a period of time, that is a very short time with high progress, and that is a long time, with steady progress.

Chaos theory (2016) can adapt education through structures that they perceive as fractals, which analyzed in 1960 by Lorenz (1960), shows that there is structural in any development seemingly chaotic dynamical systems, complex**.**

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3. Research Questions

Just two research questions were:

1. What informations or fields that you feel safe (in control zone) in the school system? List at least 3.
2. What informations or fields that you consider to be sensitive to changes (in chaos zone) in the education system? List at least 3.

4. Purpose of the Study

The research purpose to study the dimensions of equilibrium pedagogy:

1. Fixed size - which means the ownership control - areas perceive as strengthened structure of the education system in our country by research subjects.
2. Sensible size - which is perceived as chaos - areas considered hardly known and whose sensitivity to external influences are to be seen as challenges for the education system in our country.

5. Research Methods

The method used was *investigation (inquire*) and as a research tool we used *questionnaire*. The survey was used to students in Professional Conversion Program - Pedagogy of primary education and preschool.

I mention that in "*Dimitrie Cantemir*" Christian University are 217 students at post-graduate program and just 203 students responded to the questionnaire**.**

6. Findings

The questionnaire is based on two questions and aims at identifying the safe elements in the education system (control zone), as well as the without control elements (chaos zone).In terms of demographic data, the results showed that most of the respondents are young, with less than 20 years of working life and coming from urban areas.

Let's talk about age. It has been grouped in five intervals, as can be seen in the Table 01.The highest percentage is at the first category, that of persons less than 30 years (31,3%) and the lowest is people over 50 years (14,3%).

Table 01. Frequency table for the respondents' age

Age			
Frequency			**Valid Percent**
Valid	under 30 years	68	31.30%
	31-40 years	57	26.30%
	41-50 years	61	28.10%
	over 51 years	31	14.30%
	Total	**217**	**100%**

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Regarding the years of teaching experience of the teachers questioned, over 60% of them have less than twenty years of experience. People with the highest experience (over 31 years) are 27 (12.4%), as can be seen in Table 02.

Table 02. Frequency table for the respondents' years of teaching experience

Seniority			
Frequency			**Valid Percent**
Valid	under 5 years	20	9.20%
	6-10 years	52	24%
	11-20 years	64	29.50%
	21-30 years	54	24.90%
	over 31 years	27	12.40%
	Total	**217**	**100%**

The years of respondents' experience can be directly proportional to their didactic degree. In Table 03 we can see that about half of them have the second degree. In descending order, the next percentage belongs to people with permanent teacher certification (24%). The smallest percentage is in the hands of non-didactic individuals.

Table 03. Frequency table for the respondents' didactic degree

Degree			
Frequency			**Valid Percent**
Valid	no degree	31	14.30%
	permanent teacher certification	51	23.50%
	2nd degree	100	46.10%
	1st degree	35	16.10%
	Total	**217**	**100%**

Table 04 shows the frequency of responses to the respondents' environment of origin. Thus, it can be noticed that most of them come from the urban environment t(74%) and only a quarter from the rural area.

Table 04. Frequency table for the respondents' environment of origin

Environment			
Frequency			**Valid Percent**
Valid	Urban	161	74.20%
	Rural	56	25.80%
	Total	217	100%

6.1. Possible associations/ correlations

In order to identify the possible associations between these variables, I have chosen the didactic degree as dependent variable and as the independent variable the environment of origin.

Table 05 shows the correlation between degree and environment. The value of the significance coefficient ”p” (0.001) suggests that there is association between the two variables because it is smaller than the theoretical ”p” value of 0.05 (confidence level of 95%).

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More than half of people from urban areas have a second degree, while only 8% do not have a didactic degree. The distribution of percentages for rural areas is more uniform, 32% of non-teaching staff, 34% permanent, 25% second-degree and only 9% first degree .These results suggest a greater likelihood that people from urban areas will have a first or second degree. Urban people are more likely to have a higher teaching degree than rural people.

Table 05. Crosstab for degree and environment

		Environment			
		Urban	Rural	Total %	Total n
Degree	no degree	8%	32%	14%	31
	permanent teacher certification	20%	34%	24%	51
	2nd degree	53%	25%	46%	100
	1st degree	19%	9%	16%	35
Total		100%	100%	100%	217

Chi square = 30, p = 0.001 (approximated)
Sample volume= 217

If I want to test also the force of the association between two variables, I can calculate a correlation coefficient. Such a coefficient checks to what extent the two variables vary together.

Table 06. Correlation between degree and environment

Correlations			
		Degree	Environment
Degree	Pearson Correlation	1	-.344**
	Sig. (2-tailed)		0.000
	N	217	217
Environment	Pearson Correlation	-.344**	1
	Sig. (2-tailed)	0.000	
	N	217	217
** Correlation is significant at the 0.01 level (2-tailed).			

In the presented situation (Table 06), the Pearson Coefficient is -0.344 and the coefficient p (the statistical significance) is below the threshold of 0.05, which suggests a strong correlation between the background and the didactic degree. Therefore, two variables are correlated to -0.344, $p < 0.05$.This suggests a higher probability that urban people have a more advanced teaching degree.

In the next correlation model (Table 07) I wanted to test the strength of the association between the didactic degree and the years of experience in education. This time the Pearson coefficient is +0.852 and the coefficient p (statistical significance) is below the threshold of 0.05, which suggests a very strong correlation between the didactic degree and the age in the education. Thus, two variables are positively correlated to +0.852, $p < 0.05$ and show that with the increase in the number of years of experience, the teacher's degree is also increased.

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Table 07. Correlation between degree and seniority

Correlations			
		Degree	Seniority
Degree	Pearson Correlation	1	.852**
	Sig. (2-tailed)		0.000
	N	217	217
Seniority	Pearson Correlation	.852**	1
	Sig. (2-tailed)	0.000	
	N	217	217
** Correlation is significant at the 0.01 level (2-tailed).			

6.2. Control zone and chaos zone

Regarding the main questions of this questionnaire, namely questions five and six, these are open questions with multiple answers. I asked to the respondents a minimum of three answers for each question, without specifying a maximum number.

In order to achieve the database, it was necessary to identify all the answers and the maximum number provided by the respondents. Thus, I have associated the answers formulated differently but which refer to the same element and obtained a maximum of ten possible answers for question 5 and nine for question 6.These are listed in the following figure (Figure 01).

Question no.5 is about elements or domains considered by respondents to be safe in education (control zone). Following the classification of the answers I obtained the following variants: the structure of the school year, national curriculum, didactic staff, material facilities, schedule, school documents, school locations, subsidize of education, getting the positions and political involvement.

The variants identified in question no.6 (about information or areas considered by respondents to be without control in education- chaos zone) are the following: the pupils' school competences, the pupils' interest in school, interest of parents for children's education, involvement of parents in children's education, supporting education by public policies, assessment of children/pupils, use of curriculum textbooks/auxiliaries, new/alternative education methods, organizational culture of the school unit.

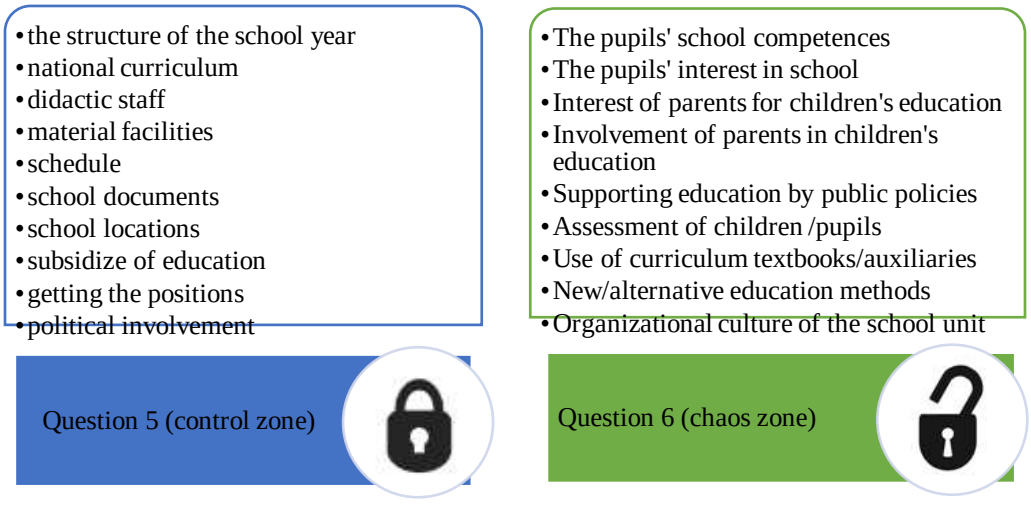

Figure 01. All the answers mentioned inside of questions 5 and 6

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For both main questions in this study, respondents were asked a minimum of three answers for each question, without specifying a maximum number.

The Figure 02 below shows the situation of multiple responses and the number of people who chose the same number of variants. The maximum number of responses received was 10 responses to question 6.

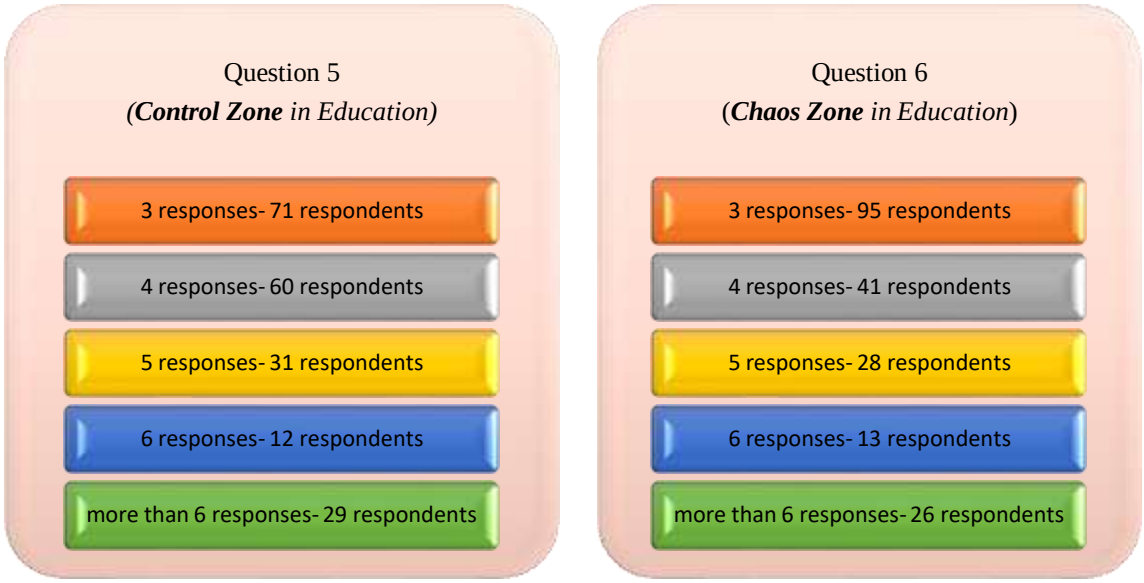

Figure 02. Number of answers for question 5 and 6 **Sample volume=217 Total valid answers= 203**

7. Conclusion

Of the 217 respondents to this study, 203 had valid answers. The two questions on which the questionnaire was based focused on the identification of safe elements in the education system (control zone) and the elements without control (the chaos zone).

In terms of demographic data, the results showed that the majority of respondents are young, with less than 20 years of activity and coming from urban areas.

7.1. Control zone in education

About elements or domains considered by respondents to be safe in education (control zone), I obtained the following variants: the structure of the school year, national curriculum, didactic staff, material facilities, schedule, school documents, school locations, subsidize of education, getting the positions and political involvement.

The variants identified in the last question (about information or areas considered by respondents to be without control in education- chaos zone) are the following: the pupils' school competences, the pupils' interest in school, interest of parents for children's education, involvement of parents in children's education, supporting education by public policies, assessment of children/pupils, use of curriculum textbooks/auxiliaries, new/alternative education methods, organizational culture of the school unit.

In the question about the control area in education, 71 respondents chose to mention the minimum number required by 3 elements or domains, 60 respondents mentioned 4 elements, 31 mentioned 5, 12

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mentioned 6 and 29 mentioned more than 6 elements. The maximum number was 10.In the question about the area without control, 95 respondents chose to mention the minimum number required by 3 elements or domains, 41 respondents mentioned 4 elements, 28 mentioned 5, 13 mentioned 6 and 26 mentioned more than 6 elements. The maximum number was 9.

For each of these questions I have conducted an analysis to identify which were the most mentioned elements and which were the least mentioned.

Thus, the year divided into semesters, the national curriculum, the teaching staff, the school documents and the material facilities were the most mentioned elements within the control area. Regarding the chaos area, the most mentioned elements were school competencies, public policy support, pupils' interest in school, but also the involvement and interest of parents.

For more detailed results, I have correlated multiple-response variables with age and respondent degree to find out how in each category they mentioned a certain element/domain as a safe (control zone) or a without control (chaos zone) in education.

The highest absolute frequencies are for people under the age of 30 who mentioned 41 times the year divided by semesters as a controlled element in education or the national curriculum (mentioned 38 times) and the facilities (also mentioned 38 times). There are also frequent frequencies among people aged 41 to 50. The divided year and school documents have been mentioned by them 38 times.

Also, persons who do not have a teaching degree (29) have the fewest variants mentioned. Only seven times have been mentioned the locations in which schools are, and 8 times the political involvement and the subsidization of education.

7.2. Chaos zone in education

About elements/domains considered without control in education (chaos zone) and the age or degree of respondents, the highest frequencies are on the people under the age of 30 who have elected 39 times the schooling skills as without control elements and the support received from public policies 38 times.

The total number of those in this age group is 63, which means that over half of them chose the two previously mentioned variants. The smallest percent of this crosstab is in people over 50 who are 27 in total. They chose only 9 times the organizational culture of the school as a without control element of education and only 5 times the use of curriculum textbooks. Also, the highest absolute frequencies are for people with the 2nd degree who mentioned 47 times the school competences as a without control element in education or the involvement of parents (mentioned 44 times). The smallest frequencies are in the hands of first-degree people and have mentioned the use of curriculum text only 7 times (of a total of 32 people) as a without control element in education.

Therefore, there is a greater tendency for people with less experience in the education system and a younger age to consider many more items as hard to control. This is explained by the lack of experience and self-confidence.

On the other way, people with the second or first didactic degree chose several elements and areas as part of the control area and much less within the chaos area.

Older people often have many years of experience in their field, and that gives them confidence and security, but also the skills they need to control as many elements as possible.

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References

Chaos theory (2016). Retrieved from https://www.britannica.com/science/chaos-theory

Eldredge, N. &. Gould, S. J. (1972). "Punctuated equilibria: an alternative to phyletic gradualism" In T.J.M. Schopf, ed., *Models in Paleobiology*. San Francisco: Freeman Cooper. pp. 82-115. Reprinted in N. Eldredge *Time frames*. Princeton: Princeton Univ. Press.

Lorenz, E.N. (1969). "Three approaches to atmospheric predictability", *Bulletin of the American Meteorological Society*. *50,* 345–349.

UNESCO (2017a). *Education for the sustainable development goals. Learning objectives*, Paris: UNESCO. (available at 15.08.2018).

Zembylas, M. & McGlynn, C. (2012). 'Discomforting pedagogies: Emotional tensions, ethical dilemmas and transformative possibilities', *British Educational Research Journal*, *38* (1), 41–59.