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Doctoral Dissertation Abstract
**COOPERATIVE LEARNING –
APPLIED TO THE 3RD AND 4TH GRADE**

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ADDENDA

The educational sciences have marked lately a more sustained interest for the interactive teaching methods that allow the teacher to develop in the student competences as: sociability, communication, interactivity. Cooperative learning is such a model, based on theory, validated through research and turned operational in clear procedures, which teachers can use in class.

Our research integrates in the didactic approach perspective of the field, by presenting, at a theoretical level, the particularities of this model and by offering some practical references related to its implementation at the primary cycle.

The theoretical substantiation of the present paper is supported by the five chapters.

In the first chapter, we mean to bring forward some conceptual clarifications. Thus, some terms have been defined and some terminological distinctions have been clarified, such as: traditional learning group –cooperative group, cooperative learning-collaborative learning etc. We considered these conceptual delimitations necessary, because often in the scholastic practice, group work (in the traditional sense) and work in cooperative groups are considered the same, without a theoretical clarification of the matter.

In the second chapter we have presented the theoretical fundamentals which support the cooperative learning and the scientific arguments of some personalities in the field, regarding the efficiency of the application of this model. They are the representatives of the social interdependence theory, of the behaviorist theories and of the cognitive theories.

In the third chapter we have summarized some of the most recent results of the researches in this field. Because we were interested in the particularities of the application of the cooperative learning model in the primary cycle for the subjects Romanian Language, and Mathematics, we have presented in this chapter results of the research regarding the efficiency of application of different cooperative learning methods for the students of this level. Also, we have presented the results of some studies regarding the efficiency of cooperative learning in the case of text study and problem resolution by the students of the primary cycle, as well as the results of some research oriented toward the analysis of some implementation methods of cooperative learning in class.

In the fourth chapter we made a general presentation of the most recognized models and methods of cooperative learning: *Student Team Learning* (R. Slavin and his team, 1990), *Structural Approach to Cooperative Learning* (S. și M. Kagan, 1992), *Group Investigation* (G.I.), (Y. și Sh. Sharan, 1992), *Jigsaw* (Aronson E., 1978), *Complex Instruction* (E. Cohen, 1986).

Chapter V describes in a detailed way one of the models of cooperative learning, i.e. *Learning together* (D. and R. Johnson, 1984). Because our design is founded on this theoretical model, we have assigned a greater number of pages within the paper for its presentation. In this

chapter we have discussed the five principles of cooperation, the characteristics of the integration within teaching of the three types of groups (formal, informal, basic), as well as the particularities of the implementation of this model in the Romanian curriculum.

The chapters VI, VII and VIII present in a detailed way, the manner of conception and development of the pedagogic experiment that we elaborated, the methodological details for each stage of the research.

Theoretical Fundament

The necessity of a theoretical fundament of the cooperative learning matter and of some terminological clarifications has been felt for at least two reasons.

One of the reasons is related to the unsatisfactory results obtained in the ascertaining stage of the research, stage that was concluded with the following conclusion: „(...) *the need of a change regarding the current practices of work group application in the classroom is necessarily imposed*, as well as *a better information of the teaching staff regarding this method*. Last but not least the need of *offering some practical instruments* to the teaching staff, in order to support them in the innovation process of the current teaching practices, is imposed.” (pg. 197)

Often in the assistance of the lessons unfolded with students from the primary cycle we noticed that the elementary teachers introduce in their teaching different methods, just because they have seen them applied by other colleagues or because they were recommended by different sources of local authority as interactive strategies. We have to appreciate the openness of the teaching staff for the introduction of some innovative teaching elements, as well as for the attempt to adapt and modernize the didactic strategies. In our opinion, the taking over of some “recipe” type methods and their introduction in class without the thoroughness of the theoretical support on which they are based is superficial and even dangerous. That is why we were interested in finding a work model that has a theoretical foundation, and that offers practical references in order to improve and perfect the traditional group work strategies.

The necessity of a theoretical foundation of the cooperative learning matter is imposed because of the reduced number of researches and studies on this matter in our country. If the ebullience of the studies and publications in this field has extended at an international level with the passing of the years, we cannot ascertain the same evolution in the pedagogical literature in our country. Moreover, analyzing the curriculums of the institutions of formation of the future teachers as well as the contents of some pedagogical subjects which could integrate aspects related to the group work and its application in class, we surprisingly observe that despite the

international recognition of the model, in Romania it has been neglected, even excluded. The pedagogical preparation of the teachers has not referred either to the group work matter and it is possible that this may be one of the reasons for which the practitioners have excluded this method from the current teaching strategies.

The research results in this field attest the fact that the model of cooperative learning has positive effects regarding the development of the students in the cognitive, social-affective and motivational plan. The cooperative learning is the foundation for many other instructional innovations including curricular integration, critical thinking, active reading, problem solving. We can talk about cooperative learning when the success or the performance of the group are to be found in the success or the performances of each member of the group and vice versa, i.e. the success or the performances of each member of the group are the success or the performances of the group.

In the theoretical foundation part we tried to explain the difference between the cooperative study groups and traditional groups. Thus, the first step of the research was made towards defining the key terms. Also, we have widely presented the cooperative learning model proposed by David and Roger Johnson, the *Learning together* model. This model draws the attention on the introduction and the respect within the cooperative group work activities of five principles: *positive interdependence*, *face to face interaction*, *individual responsibility*, *social skills* and *evaluation of the quality of the group work*. Regardless of the group work method introduced in class, it is necessary that the five principles be respected if we aim for student cooperation in solving the tasks. Such an approach does not offer us ready-made methods that need to be followed step by step (as we could find in Kagan's structural approach), but a general theoretical frame that can be particularized afterwards and adapted for any level or subject.

One of the objectives of our research was to improve the traditional group work experience and to perfect it by correctly applying the five principles on the *Learning Together* model. We did not want our experiment to turn into a jigsaw of group work methods, chosen without any theoretical foundation. Therefore, we consider that it is very important to present and argue the theoretical model that lies at the base of the pedagogical experiment. In more concrete terms, our aim is to demonstrate that in the group activities and tasks, the students can learn to cooperate in order to avoid the classical unwanted social components such as: „the leader works, the others benefit from his work”, „easy assumption of the success, blaming others for the failure”, „misappreciations regarding some members of the group due to prejudice”.

We have started from the prerequisite that the organization of learning in a cooperative frame develops a positive and motivating climate, with clearly positive effects in the knowledge and social-affective plan of the students.

The Experimental Approach

The results of the questionnaire we applied to over 150 primary school teachers, prove that: group work (not cooperative learning, because at a national level, the only group of students is the classic, traditional one, not the cooperative one) is used by teachers only in a small percentage of the school time; mostly, the students being directed towards individual learning, by frontal teaching, under the teacher's directions. We think that, in this case, a disadvantage is created right from the start, because school has to prepare students so as to be able to face not only competitive situations or individual situations, but also collaborative, team work situations, to train them into practicing their social skills and their interpersonal communication. Therefore, the reasons we considered necessary to introduce this program to the class are the following:

1. To offer the students a chance to cooperate, in order to make them exercise those social skills that will be required later, in their adult life (in the family, career or, as simple citizens);
2. To recall to the attention of the higher education research studies in the country, what we think it is such a generous method of teaching, a model whose theoretical and practical presentation was not done in a systematic or scientific manner, being done only fragmentarily, by making use of some practical instruments (methods and strategies of group work/cooperative learning), in the framework of some national training programs for teachers, without having a clear view over the theoretical fundamentals, overt its general background, and without having the validation of its efficiency, after school implementation;
3. Last but not least, because there is a personally felt need for development and support of teaching strategies for the primary school teachers, a need to offer some clear landmarks so as to apply a theoretical model in the classroom, to introduce new things in a personal manner, a need to urge reflection. We considered this model would be efficient in helping to change the climate, a climate that is more and more tense, due to job loss or diminishing of available positions, facts that create competition between teachers and a negative climate in the school establishments.

Thus, we made this study in order to verify the efficiency of implementing the cooperative learning model "Learning Together", to the primary school, under experimental

circumstances. With this purpose, six teachers having 3rd and 4th grade classes were trained, and after 10 weeks, they introduced the direct teaching-learning activity to subjects as: Romanian and Mathematics, for one hour a week.

We will now make a synthetic presentation of the specific hypotheses of the research, and we will also present the results of our experimental approach.

1st Specific Hypothesis

*We presume that cooperative learning groups lead towards changes in the student's **perception**, regarding **the cooperative relationships in the classroom**, **the support** received from **colleagues and teacher**.*

Dependant variables: *Personal support and learning from colleagues* (operational in subclass 1 of the *Classroom climate* questionnaire); *Personal and academic support* (operational in subclass 2 of the *Classroom climate* questionnaire); *Cooperation* (operational in subclass 3 of the *Classroom climate* questionnaire)

Independent variable: cooperative group learning program

2nd Specific Hypothesis

*We presume that cooperative learning groups lead towards significant changes regarding the student's **active listening capacity**;*

Dependant variables: *ideas summarizing attitude; expressing agreement/disagreement towards colleagues ideas attitude; expressing new ideas attitude; listening without intervening attitude; non-listening attitude, distraction.*

Independent variable: cooperative group learning program

3rd Specific Hypothesis

*We presume that cooperative learning groups lead towards significant changes regarding the frequency of using **cooperative and non-cooperative verbal expressions**;*

Dependant variables: *supportive verbal expressions, non-cooperative verbal expressions*

Independent variable: cooperative group learning program

4th Specific Hypothesis

We presume that cooperative learning groups lead towards significant changes regarding **peer-to-peer supportive attitude**.

Dependant variables: *informative* questions, *control* questions, questions requesting *explanations*.

Independent variable: cooperative group learning program

5th Specific Hypothesis

We presume that cooperative learning groups lead towards significant changes regarding the manner in which students **take group decision**;

Dependant variables: first manner of decision taking (*One student* takes all decisions); second manner of decision taking (*One or two* students take decisions), third manner of decision taking (*The majority* of students take decisions); fourth manner of decision taking (*All* students take decisions).

Independent variable: cooperative group learning program

1st Specific Hypothesis

We presume that cooperative learning groups lead towards changes in the student's **perception**, regarding **the cooperative relationships in the classroom**, **the support** received from **colleagues and teacher**.

Table 4.VII. *Post-test* results regarding inter-group comparisons about student's attitude towards **classroom climate**

| Variables | Class | Average | Standard deviation | t | p |
|---|--------------|---------|--------------------|------|------|
| <i>Personal support and learning from colleagues (subclass 1)</i> | experimental | 46.66 | 7.77 | 5.75 | *** |
| | control | 40.67 | 8.58 | | |
| <i>Personal and academic support (subclass 2)</i> | experimental | 41.72 | 4.06 | 3.49 | .001 |
| | control | 39.33 | 6.40 | | |
| Cooperation (subclass 3) | experimental | 40.61 | 4.05 | 5.08 | *** |
| | control | 37.60 | 5.17 | | |

*** p<.001

Table 5.VII. *Pre-test – post-test average comparisons regarding the attitude towards classroom climate (experimental group)*

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|---|--------------------------|----------------|---------------------------|----------|----------|
| <i>Personal support and learning from colleagues (subclass 1)</i> | Pre-test | 39.55 | 7.20 | - 10.17 | *** |
| | Post-test | 46.6 | 7.77 | | |
| <i>Personal and academic support (subclass 2)</i> | Pre-test | 39.43 | 4.85 | - 4.92 | *** |
| | Post-test | 41.7 | 4.06 | | |
| <i>Cooperation (subclass 3)</i> | Pre-test | 36.92 | 5.19 | - 7.67 | *** |
| | Post-test | 40.61 | 4.07 | | |

*** p<.001

Table 13.VII. *Re-test results regarding inter-group comparisons about student's attitude towards classroom climate*

| Variables | Class | Average | Standard deviation | t | p |
|---|--------------|----------------|---------------------------|----------|----------|
| <i>Personal support and learning from colleagues (subclass 1)</i> | experimental | 45.50 | 7.82 | 6.11 | *** |
| | control | 38.79 | 9.06 | | |
| <i>Personal and academic support (subclass 2)</i> | experimental | 41.65 | 4.42 | 4.81 | *** |
| | control | 38.20 | 6.47 | | |
| <i>Cooperation (subclass 3)</i> | experimental | 39.29 | 4.84 | 3.44 | .001 |
| | control | 37.10 | 4.99 | | |

*** p<.001

Table 14.VII. *Post-test – re-test average comparisons regarding the attitude towards classroom climate (experimental group)*

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|---|--------------------------|----------------|---------------------------|----------|----------|
| <i>Personal support and learning from colleagues (subclass 1)</i> | Post-test | 46.76 | 7.86 | 2.46 | .01 |
| | Re-test | 45.43 | 7.86 | | |
| <i>Personal and academic support (subclass 2)</i> | Post-test | 41.73 | 4.08 | .30 | .76 |
| | Re-test | 41.62 | 4.45 | | |
| <i>Cooperation (subclass 3)</i> | Post-test | 40.64 | 4.05 | 3.28 | .001 |

The research results confirm this hypothesis. The introducing of the “Learning Together” cooperative model of learning, leads to the improvement of the student’s perception towards the help received from the colleagues and teacher, and towards cooperation. The results following the post-test and re-test (pre-test - post-test and post-test - re-test average comparisons, also post-test and re-test experimental and control classes average comparisons), confirm the fact that work in cooperative groups helps students have a positive attitude towards classroom climate.

In a cooperative climate, the students will be able to communicate acceptance, support and cooperation. The more the students will manifest a higher degree of acceptance and support towards the others, the more they will express their thoughts, ideas, conclusions, emotions and reactions. Communicating acceptance, support and openness to cooperation implies the expressing of warmth towards the one next to you, support and cooperative intentions. Being open as a response to the openness of the others is a contribution to the increase of the level of interpersonal trust. Some research studies show that expressing warmth and support leads to a growth of interpersonal trust, even when there are some unresolved conflicts.

The model of cooperative learning gives the students the possibility to open themselves to the others around, to express their availability to support and cooperate. Usually, people comply with the expectancies others have towards them. If people perceive you as a trustworthy person, you will be inclined to be one. This is the reason why we think that, the model of cooperative learning is extremely valuable, because it offers each student the chance of being perceived positively by the others. The negative perception towards the students that are not so good in class, communicated sometimes indirectly by the teacher in the context of frontal teaching, can be replaced with a positive one. Working together, in a group, the students will become aware of the fact that each student has strong points, and that each one has the necessary skills to face the situation he/she is in. Consequently, the model of cooperative learning develops a positive attitude among students, a positive attitude towards the support received from the teacher, these being the premises of a motivating, simulative education.

When dealing with distance testing, the results are poorer, being obvious that the maintenance of the student’s positive attitude regarding the cooperation and the support received from colleagues and teacher requires an exercise that takes longer, and also requires generalizing the principles of cooperation with respect to all activities the students are involved in. The maintenance of a cooperative atmosphere, in frontal teaching as well, will contribute to a better understanding of the role of cooperation and consolidation of the student’s collaborative skills. If

we wish students to use these skills also in their personal life, the whole educational process will have to be imprinted with cooperation.

2nd Specific Hypothesis

*We presume that cooperative learning groups lead towards significant changes regarding the student's **active listening** capacity.*

Table 6.VII. **Post-test** results regarding inter-group comparisons in relation to student's **active listening** capacity.

| Variables | Class | Average | Standard deviation | t | p |
|--|--------------|----------------|---------------------------|----------|----------|
| Ideas summarizing | experimental | .40 | .66 | -4.11 | *** |
| | control | .13 | .36 | | |
| Verbal feedback as a response to the colleague's ideas | experimental | 3.47 | 2.24 | -4.11 | *** |
| | control | 2.37 | 2.05 | | |
| Expressing new ideas | experimental | 7.76 | 4.09 | -5.36 | *** |
| | control | 5.27 | 3.39 | | |
| Passive listening | experimental | 2.05 | 2.36 | 1.78 | .05 |
| | control | 2.63 | 2.84 | | |
| Nonparticipation | experimental | .01 | .18 | 5.05 | *** |
| | control | .88 | 1.89 | | |

*** p<.001

Table 7.VII. **Pre-test – post-test** average comparisons regarding the **active listening** capacity. (experimental group)

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|--|--------------------------|----------------|---------------------------|----------|----------|
| Ideas summarizing | Pre-test | .12 | .47 | -4.46 | *** |
| | Post-test | .40 | .66 | | |
| Verbal feedback as a response to the colleague's ideas | Pre-test | 2.05 | 1.86 | -6.32 | *** |
| | Post-test | 3.47 | 2.24 | | |
| Expressing new ideas | Pre-test | 4.3 | 2.9 | -9.36 | *** |
| | Post-test | 7.76 | 4.09 | | |
| Passive listening | Pre-test | 2.72 | 2.32 | 2.55 | .012 |
| | Post-test | 2.05 | 2.36 | | |
| Nonparticipation | Pre-test | .45 | 1.4 | 3.42 | .001 |
| | Post-test | .01 | .18 | | |

*** p<.001

Table 15.VII. *Re-test* results regarding inter-groups comparisons in relation to *active listening capacity*.

| Variables | Class | Average | Standard deviation | t | p |
|----------------------|--------------|---------|--------------------|-------|------|
| Ideas summarizing | experimental | .34 | .60 | -3.76 | *** |
| | control | .12 | .35 | | |
| Verbal feedback | experimental | 3.82 | 2.75 | -5.93 | *** |
| | control | 2.13 | 1.79 | | |
| Expressing new ideas | experimental | 8.51 | 3.76 | -7.92 | *** |
| | control | 5.04 | 3.30 | | |
| Passive listening | experimental | 2.04 | 2.03 | 2.99 | .003 |
| | control | 2.94 | 2.72 | | |
| Nonparticipation | experimental | .04 | .28 | 6.04 | *** |
| | control | .97 | 1.68 | | |

*** p<.001

Table 16.VII. *Post-test – re-test* average comparisons regarding *active listening capacity*.
(*experimental group*)

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|--|-------------------|---------|--------------------|-------|-----|
| Ideas summarizing | Post-test | .40 | .66 | .88 | .38 |
| | Re-test | .34 | .60 | | |
| Verbal feedback as a response to the colleague's ideas | Post-test | 3.47 | 2.24 | -1.43 | .15 |
| | Re-test | 3.82 | 2.75 | | |
| Expressing new ideas | Post-test | 7.76 | 4.09 | -1.87 | .06 |
| | Re-test | 8.51 | 3.76 | | |
| Passive listening | Post-test | 2.05 | 2.36 | .07 | .93 |
| | Re-test | 2.04 | 2.03 | | |
| Nonparticipation | Post-test | .01 | .18 | -1.07 | .28 |
| | Re-test | .04 | .28 | | |

The research results confirm this hypothesis. The introducing of the “Learning Together” cooperative model of learning, leads to the improvement of the student’s active

listening capacity. The results following the post-test and re-test (pre-test - post-test and post-test - re-test average comparisons, also post-test and re-test experimental and control classes average comparisons), confirm the fact that work in cooperative groups helped students in giving an increased number of verbal feedback: *ideas summarizing, verbal feedback, expressing new ideas and opinions*. At the same time, following the application of the cooperative listening principles in work groups, the *passive listening* was reduced, and also the *nonparticipation* to the group activity.

Cooperative learning gives to the students a possibility to learn together, by sharing ideas among themselves. The key element that is specific to the cooperative learning model is the fact that it offers the opportunity to interact in a group. Making use of survey charts, we put under observation the active listening attitude; we monitored the verbal interventions among a group. Thus, we identified two types of interactions: task related (the first three items on the table) and distraction from the task (passive attitude and nonparticipation).

Task related interactions were aimed not only the reaction towards the other's attitude (idem 1 and 2), but also personal attitude (idem 3). The results we obtained proved that by a cooperative structuring of the learning tasks, we had an increased number of situations in which the students had a reaction towards their colleagues interventions (expressing agreement or disagreement, summarizing others ideas), and also an intensified input and verbal feedback of each group member. In other words, in contrast with the students in traditional groups (with no cooperative structure), those included in the experimental program had an increased frequency in attitudes like: expressing ideas, expressing their own thoughts, demonstrating their own ideas. In addition, in the experimental classes we had a higher frequency of peer-to-peer feedback, and also more situations in which the students summarized other colleague's interventions.

These results appeared following the cooperative structuring of the work tasks, by applying the cooperative principles. For example, the fact that at the end of the task, each one of the group members would have been able to explain the obtained result, and also the fact that each task was constructed so as to involve each student, determining them to take part in group discussions, to express opinions, to ask for feedback etc. Introducing group rules, role-play and by evaluating the way in which they were respected had as a consequence a decrease of distracted attitude, of passive listening. In a cooperative group, the students learned that they should take care of each other so as to stay focused on the task, learned that they have to be patient, to listen to each opinion and offer feedback, learned that they have to encourage each other so as the members of the group to understand that each opinion is valued. Group rules taught students

that, while solving a task, each student should participate, that they have to verify each other, and listen carefully.

The results we obtained in post-test and re-test, and also the higher average of experimental classes prove that the experience of cooperative group work encouraged the students to express their own opinions, to take part in discussions, not just to sit and listen passively. Compared to the pre-test, there was a significant diminishing of the situations in which the students were distracted by other factors, without having real contact with colleagues. Still, the low average when dealing with summarizing others attitudes, prove us that these skill needs to be exercised longer, and probably the students must have a specific training, to learn explicitly what is the meaning of summarizing.

We conclude by saying that the cooperative model of structuring learning lead to an improvement in the student's active listening.

3rd Specific Hypothesis

We presume that cooperative learning groups lead towards significant changes regarding the frequency of using cooperative and non-cooperative verbal expressions.

Table 8.VII. *Post-test results regarding verbal expressions used in group*

| Variables | Class | Average | Standard deviation | t | p |
|------------------------------------|--------------|---------|--------------------|-------|-----|
| Cooperative verbal expressions | experimental | 7.37 | 5.21 | -3.97 | *** |
| | control | 3.36 | 2.38 | | |
| Non-cooperative verbal expressions | experimental | .58 | 1.01 | 2.51 | .01 |
| | control | 2.00 | 2.87 | | |

*** p<.001

Table 9.VII. *Pre-test – post-test average comparisons regarding the verbal expressions used in a group (experimental group)*

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|------------------------------------|-------------------|---------|--------------------|--------|-----|
| Cooperative verbal expressions | Pre-test | 4.24 | 5.24 | - 2.05 | .04 |
| | Post-test | 7.37 | 5.21 | | |
| Non-cooperative verbal expressions | Pre-test | 1.79 | 1.8 | 4.03 | *** |
| | Post-test | .58 | 1.01 | | |

*** p<.001

Table 17.VII. *Re-test results regarding verbal expressions used in a group*

| Variables | Class | Average | Standard deviation | t | p |
|------------------------------------|--------------|---------|--------------------|-------|-----|
| Cooperative verbal expressions | experimental | 10.41 | 6.67 | -5.58 | *** |
| | control | 3.48 | 2.33 | | |
| Non-cooperative verbal expressions | experimental | .82 | 1.22 | 2.15 | .03 |
| | control | 2.03 | 2.77 | | |

*** p<.001

Table 18.VII. *Post-test – re-test average comparisons regarding the verbal expressions used in a group (Experimental group)*

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|------------------------------------|-------------------|---------|--------------------|-------|-----|
| Cooperative verbal expressions | Post-test | 7.37 | 5.21 | -2.12 | .04 |
| | Re-test | 10.41 | 6.67 | | |
| Non-cooperative verbal expressions | Post-test | .58 | 1.01 | -.94 | .35 |

The research results confirm this hypothesis. The introducing of the “Learning Together” cooperative model of learning, lead to a higher frequency of using supportive verbal expressions, and also non-cooperative verbal expressions in the framework of group interactions. The results we obtained in post-test and re-test (pre-test - post-test and post-test - re-test average comparisons, also post-test and re-test experimental and control classes average comparisons), prove the fact that our experimental program had a positive effect in the increase of the frequency of using encouragement and support expressions, and a decrease of non-cooperation.

When working in a group, for each member it is important to know that the effort he/she makes was noticed, recognized and celebrated. In frontal teaching situations, observing the progress of the student’s knowledge and self-development is difficult to achieve, it is a long process, generating frustration and disappointment. In a group though, each member receives immediate feedback, a word of encouragement, so that they would become confident in themselves.

The good results we obtained regarding the encouragement attitude are based on the fact that during the experiment, the students were told to encourage each other, to recognize the effort and individual contribution in solving the task, to praise, to take care of each other and to support each other. Most of the time, the thing that inspires the members to invest more energy in the

activities they do is the love for their work and the love for the others. We believe that the cooperative structuring of learning tasks and the encouragement of developing a supportive climate in the group are essential conditions, which contribute to the improvement of student's performances and to the growth of their personality.

4th Specific Hypothesis

We presume that cooperative learning groups lead towards significant changes regarding peer-to-peer supportive attitude.

Table 10.VII. *Post-test results regarding peer-to-peer supportive attitude.*

| Variables | Class | Average | Standard deviation | | |
|--|--------------|----------------|---------------------------|--------|------|
| <i>Item 1</i> Informative questions | experimental | .28 | .63 | -1.948 | .053 |
| | control | .15 | .38 | | |
| <i>Item 2</i> Control questions | experimental | .14 | .37 | -1.316 | .189 |
| | control | .08 | .35 | | |
| <i>Item 3</i> Questions requesting explanations | experimental | .04 | .21 | -2.083 | .038 |

Table 11.VII. *Pre-test – post-test average comparisons regarding peer-to-peer supportive attitude. (experimental group)*

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|-----------------------------------|--------------------------|----------------|---------------------------|----------|----------|
| Informative questions | Pre-test | .25 | .52 | -.49 | .624 |
| | Post-test | .28 | .63 | | |
| Control questions | Pre-test | .13 | .40 | -.35 | .725 |
| | Post-test | .14 | .37 | | |
| Questions requesting explanations | Pre-test | .01 | .12 | -1.42 | .158 |
| | Post-test | .04 | .21 | | |

Table 19.VII. *Re-test results regarding the supportive attitude variable.*

| Variables | Participants | Average | Standard deviation | t | p |
|-----------------------------------|--------------|---------|--------------------|-------|-----|
| Informative questions | experimental | .27 | .64 | -1.65 | .09 |
| | control | .16 | .41 | | |
| Control questions | experimental | .17 | .44 | -2.51 | .01 |
| | control | .06 | .27 | | |
| Questions requesting explanations | experimental | .06 | .27 | -2.31 | .02 |
| | control | .00 | .08 | | |

Table 20.VII. *Post-test – re-test average comparisons regarding peer-to-peer supportive attitude. (experimental group)*

| Variables | Evaluation moment | Average | Standard deviation | t | p |
|-----------------------------------|-------------------|---------|--------------------|------|-----|
| Informative questions | Post-test | .28 | .63 | .10 | .91 |
| | Re-test | .27 | .64 | | |
| Control questions | Post-test | .14 | .37 | -.70 | .48 |
| | Re-test | .17 | .44 | | |
| Questions requesting explanations | Post-test | .04 | .21 | -.70 | .48 |

The research results do not confirm this hypothesis. The introducing of the “Learning Together” cooperative model of learning, did not lead to the improvement of the peer-to-peer supportive attitude. We monitored the frequency of requesting help from colleagues by using three types of questions: informative questions, control questions and questions requesting explanations. The results obtained in pre-post-test and post-re-test did not have significant differences, and none of the three variables. This means that the experience of working in cooperative groups did not lead to an increase of the frequency of using the three types of questions. The obtained results prove that, even though cooperation creates a learning medium that facilitates a help-centered atmosphere, this would not lead to the emerging of such specific student attitudes. By soliciting the emerging of certain attitudes, would not lead to their materializing, even when such a request happens in a cooperative group. It is necessary that the

students would learn these skills, the same way they learned to read or to write. Just by stating a rule and by giving a general explanation over its content, is not enough for the students to learn to ask for their colleague's help. Also, such a skill needs more exercise in order to become visible. The obtained results prove that the students need more time to learn to work efficiently among each other. Learning the skills necessary for group work is a process that takes time and the students have to go through certain stages. Until the students will learn these skills in order to better process the group material, they have to exercise basic skills in the group. We think that the 10-week duration of our experimental program was insufficient for the students to learn basic group skills (support, active listening) and also skills that imply a superior processing of the information (help request by asking questions to colleagues). By putting a stop to the experimental program, the students didn't have any more the opportunity to work in a group so as to exercise their fresh achieved skills, so their chances to develop more complex social skills diminished. On the other hand, because the skill to ask questions implies cognitive reorganizing, we would have needed an exercise that would have taken longer for such skills to be learned.

We conclude by saying that learning group work skills is a duration process, in spiral, a continuum pile up. Students without work group experience must first of all achieve basic skills, and only after these skills are organized, they can move to a new phase of learning more complex skills. The results of our research prove that without a permanent group work exercise, and without abiding a gradual program of learning such skills, the students would not achieve the social skills that are the basis of the processing of higher information. By discontinuing in exercising the group work skills when the basic skills are barely consolidated, will have the effect of reducing the student's chances to learn more complex skills. The lack of a constant interaction exercise is comparable to the lack of exercise for an athlete preparing for a contest. The athlete could never achieve superior results if he/she stops exercising, if he/she doesn't have a training program. The same is applicable to cooperative skills. A work group exercise done from time to time, in the absence of a program, would not lead to achievements. Patience is needed, constant exercise and severe planning for each stage the students go through.

5th Specific Hypothesis

*We presume that cooperative learning groups lead towards significant changes regarding the manner in which students **take group decision**.*

Table 12.VII. *Post-test results regarding decision-taking attitude.*

| Participants | All | The majority | One or two | Only one | χ^2 | p |
|--------------|-----|--------------|------------|----------|----------|-----|
| Experimental | 14 | 6 | 6 | 3 | 20.75 | *** |
| Control | 0 | 11 | 15 | 7 | | |

*** p<.001

Table 21.VII. *Re-test results regarding decision-taking attitude.*

| Participants | All | The majority | One or two | Only one | χ^2 | p |
|--------------|-----|--------------|------------|----------|----------|-----|
| Experimental | 18 | 7 | 4 | 0 | 26.44 | *** |
| Control | 2 | 10 | 11 | 10 | | |

*** p<.001

The research results confirm this hypothesis. The introducing of the “Learning Together” cooperative model of learning, leads to the improvement of decision-taking strategies, for the groups partaking the experiment. In other words, following the cooperative group work exercise, the students started from a stage in which decision was taken without consulting the team, and reached a new stage based on agreement. All through the experiment, the students understood that working together means respecting each opinion, supporting different opinions, acceptance of other ideas. All these are doable only in a cooperative atmosphere, supportive, based on open communication, so as each member of the group to have the courage to tell the group what his opinion is regarding the decision.

Using a method of decision-taking based on expressing the agreement of all group members has the following advantage: for implementing the decision, all members of the group will make considerable efforts, as opposed to decisional methods in which the members of the group have no motivation to implement the decision.

As a conclusion, we can say that the introducing of “Learning Together” model, leads to an evolution of the decision-taking methods in the group, towards democratic methods, based on obtaining agreement and respect for the diversity of opinions.

We conclude by stating several originality elements, which were brought by this study to the pedagogical Romanian literature:

- introduced and made operational the concept of *cooperative learning*, making a clear distinction between group work (in the traditional meaning) and cooperative group work (applying the cooperative principles to the structure of the traditional group);
- presented a classification of methods and models of cooperative learning, also describing them, contributing to the enrichment of the education sciences;
- made an in depth description of the most used cooperative learning models, the "Learning Together" model having specific elements for applying this model to the Romanian curriculum;
- offered to the specialized experts in the educational field, a research instrument (the *Classroom climate* questionnaire validated on Romanian population) for investigating some aspects having to do with class atmosphere;
- made a scientific investigation of the present way of applying work group to the class, and also the perception of the Primary School teachers towards this strategy of teaching;
- analyzed examples of using different types of interdependence in the structuring of some tasks for Primary School – something new for the pedagogical literature;
- designed and undertook an experimental program with 3rd and 4th grade students in studying two fundamental Primary School subjects;
- recorded a complex video database, having 160 hours recorded in class, fact that made possible a superior analysis of the efficiency of the program; a database which can be used later as a demonstration (for the teachers in the class), or as research, for investigational purposes.

The results obtained following the experiment, doubled with the teachers' openness to this learning model, made us put the bases of a non-governmental professional association named The Association for Promoting Cooperation In Education (A.P.C.E.), founded in 2006, an association that organizes each year a summer school on the theme of cooperative learning.

At the same time, we extended our project by introducing this cooperative model to the activities taking place at the University of Oradea, the Faculty of Social Humanistic Science, for the Pedagogy of Pre-School and Primary School Education Specialization. Starting with 2006-2007, an optional lecture - *Cooperative Learning* was introduced to the above-mentioned specialization.

The results we obtained encourage us to continue what we began, to make even greater efforts, so as to implement efficiently the cooperative learning to the under- and post-graduate curriculum of the universities in our country.