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PEDAGOGICAL CLIMATE REGARDED AS A FACTOR OF PUPIL'S SELF-DEVELOPMENT

Summary: Many educational researches concerning the climate inside the educational institutions, as a special kind of the school climate, have given, as a result, relatively completed methodological knowledge of different school climate dimensions and ,therefore, its interactions with various educational variables. In addition, such researches are still current, both in content and theoretical and methodical views.

The aim of the researches was to explore the way how the pupils experienced school climate which was represented by different factors: clearness of the rules, teachers' support, connection, supervision, order and organisation and school milieu, and, whether different views of class climate were significantly connected to pupils' self-development (school achievement, attitudes tied to the competition). We assumed that secondary school pupils, especially those of the final grades, experienced differently the school climate given by six factors.

The used method of research has been accomplished through epistemological hypothesis and methodological approach of new research generation, which is determined, in relevant literature in this area, as a model of high conclusive beta pressure factors.

Our results have shown that our understanding of school climate, as a factor of pupils' self-development, is considerably keeping with scientific conceptions. They content almost all important components which serve the scientists to explain this phenomenon: pupils' evaluations, regarded individually in the scales and through dimensions, are relatively equalized.

The results also confirmed the expectation of systematically and statistically considerable connection of pupils' evaluations of the school climate as a factor of self-development. Pupils have better results and more positive attitudes and develop competitive spirit if they accept pedagogical climate inside their own class and its factors as supporting ones.

Key words: pedagogical climate, pupils' self-development, pedagogue.

Pedagogical climate as a permanent characteristic of some social organisation, and a common name for individual types and relations inside that organisation, its theoretical and practical sides founds into those searching efforts which were trying to answer the

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questions concerning the interactions between an individual and his surrounding. The influence which surrounding and life conditions have on behaviour of an individual has recently become the subject of the scientific researches, especially on field of industrial work psychology and sociology.

We know that the school climate, (school atmosphere, school world, school life, emotional atmosphere, school system of values, school culture, school spirit are only some of the names), depends on the given school situation.

It is caused by school environment and it is observed, analysed and evaluated inside it. School climate is not something that just happens, it develops constantly all the time. It is a long history phenomenon into each single school.

Some authors define school climate as school culture, an informal observation of the school processes.(Deal and Kennedy, 1985, Aurin, 1990, 58).Our opinion is that we cannot consider terms „school climate“ and „climate inside schools“ as synonyms. Truth is they are inter-allied and even in both directions.Obdrzalek thinks that the climate in school influences in time the school climate.When that influence is positive, school personnel, both teachers and students, are satisfied, which, of course, positively influences the school culture. There are better results when everybody feels well and good results are motivation for further improvement and achievement of desired goals. Good climate in the schools is of greatest help, in reverse, friendly relationship between a teacher and a pupil and positive surrounding create enjoyable environment. In that way, teachers and pupils are able to have similar experience of school surrounding. We will try to answer how pedagogical climate factors attribute pupils' self-development.

During teaching processes, an inter-human relationship between teacher and single pupil, or, between a teacher and the whole class, develops through interaction and communication, and its significance comes from its influence on behaviour, both teacher and pupil. The quality of interpersonal relations among all factors of teaching process creates an emotional climate in the class. In her works, Gojkov (1984) dealt with psychological climate problems at schools and teacher's mental health. The same author considered pedagogical climate as a base of didactics methods and procedures to induce pupils' creativity and interpersonal relationships among teachers (Gojkov, 1990).

When we estimated the influence of pedagogical climate as a factor of self-development, we were primarily interested in the pupils' appraisal. We took into consideration the most important factor of school climate, and that are pupils' personal attitudes to school climate because they are its most significant part.

Each consideration of schools has to deal with transcendental idea of pedagogical or school climate. The importance of good school climate has been proved by various surveys which had shown how positive, supporting and cultural school and class climate facilitate pupils' accomplishments, which also, become bigger when there are qualitative social relations among pupils.(Bouillet,Bijedic,2007, according to Marshall, 2002). Problem lies in fact that the school climate is not easy measurable category and it is hard to describe it statistically, considering its complexity ,which can clearly point to all difficulties

and possible solutions to the problem how to improve school quality. Therefore, it is very important to accomplish the process of self evaluation through tests, which every school should do independently according to its needs. Kennewell et al. (2007) show how the school manager influences school climate as well as pedagogue, teachers, pupils, educational recourses, class rules, surrounding culture and education policy. Analysing these factors we can recognise key element of personal attribution individually to all school characteristics which could be described as school climate. Pupils get knowledge in schools, skills and develop their abilities. We cannot know what happens to them on psycho-socially field. We cannot either be sure whether we know how all that happens to them influence on their educational results and on development of their personality and mental health.

Self-development goes hand in hand with educational process and it cannot be done without it.

According to Rogers, self-development process must have experience characteristics, or in his own words „significantly experienced learning“ where logic, intuition, cognitive and emotional elements, experience and ideas are all connected and unified into organisation and self structure.

Self- development begins as a result of self – initiative, even if the stimulus comes from outside.

That process, according to its characteristics, influences behaviour and the whole personality of a pupil.

A pupil is a centre of the school evaluation and he knows better if his educational needs are accomplished, if he adopted all he wanted. That has to be well programmed process which should enrich pupils' experience.

The school role changes, so that in institutionalised conditions, under the influence of new pedagogical knowledge and other relevant sciences, there are significant changes in the education task. Some explorers (Klages 1984, Fend 1988), instead of underlining the importance of discipline, fulfilling duties, obedience, order etc, emphasize „self-development values“: autonomy, criticism, emancipation etc.

He especially emphasizes how important is to enable the pupils to be independent and active. They get it through active learning. That means learning all the time, during different kinds of activities where child learns through stimulus and disposable situations. (Sekulić-Majurec and Cvetković – Lay 1998).

Thus, we need to be in constant search for strategies which bring quality and will improve the inter-action and communication pattern and education process in the school. It is very important to teach pupils how to corporate and cherish desirable patterns of relations among them, as well as to learn. From this point of view, we are talking about interaction and communication inside education and their effects on development and self – development and that means human side of bringing up.

Looking for the answers we get into an unjustifiably forgotten area, investigation of school and education climate, i.e. school and class life. Worldwide, investigations of various aspects of psycho-social school climate have already got long tradition, their methodical input is well-known field theory of K. Lewin as much as numerous works based on surrounding approach.

In this work we will try to give theoretical conceptualisation and results of empirical research, done in four classes of final grades in High Medical School in Valjevo. All data were gathered on given sample of 120 pupils. We were motivated to proceed to an empirical research of an extremely important but neglected education problem, we will examine it in detail, so that we could give our contribution to an more effective approach in solving this problem in high school.

Practically, the importance of studying the influence of school climate as a factor of self-development, reflects in fact that pupils' opinion has very important part in school self evaluation process. Furthermore, pedagogical climate as a factor of self-development tells us what the foundations are, and how it is implemented in pupils' lives. That is important for the children, teachers and those who work with them.

A special contribution of the school climate' researches to the self – development are new aspects and directions, which include higher involvement of social environment. Considering the fact that we have mostly been doing researches in high schools as samples, there is greater interest in investigation of different aspects of school climate, and this kind of research was highly significant because it made a new point of view on pedagogical climate. We put an accent on basic factors of school climate which influence the most on pupils' self-development, looking from pupils' side.

In previous part the importance of pedagogical climate has already been stressed. The innovation of this work is in fact that in our circles there is not a single one research dealing with pedagogical climate as a factor of pupils' self-development, but there has been difference in exploring ways of school climate and its influence on pupils' learning results. There is a considerable growing up in interest for questions of the school climate influence, as much as for application of new approaches to this theme, it was important to conduct this investigation, certainly on secondary school sample.

Why on secondary school sample? Final graders already have their own attitudes and opinions. The influence of pedagogical climate on self-development is a specific subject, but it is also influenced by young students' attitude. There is another reason for taking this sample, the research itself considers secondary school pupils, because we assumed that senior pupils do not consider school climate so much attractive, they do not estimate teacher-pupil relation so favourable. They also think secondary school is less important for their future life and assess their education competence as weak, which some researches showed.

We emphasize practical, educational significance of results outcome from the research, which will, among other things, enable us to point out some different observations of pedagogical climate .In accordance with determined understanding of pedagogical

climate and pupils' self-development we can easily formulate practical recommendations for improving pupil's position, primarily in secondary schools.

The understanding of school climate shows informal, everyday approval and outcomes for children, teachers and everyone who works with them.

Thus, the subject of this research is what are pupils' opinions about the influence of the pedagogical climate on their self-development. We put accent on school climate factors which concern personal development, the ways of that development, personal growing up.

In researches we chose systematic access based on so called Moss' model's of educational surrounding dimensions. This model is made of three general categories which serve to describe surroundings, no matter of their differences.

The aim of the researches is to investigate how pupils experience pedagogical climate represented by factors (dimensions) class climate (clearness of the rules, teacher's support, connection, supervision, order and organisation, and school milieu) and if differences in observation of class climate statistically connected with self-development (school achievement, competition attitudes). According to the research aim, there are following researching tasks:

1. to define basic variables of the researches
 - 1.1. to define structure of variables of pedagogical climate based on observed indicators
 - 1.2. to define structure and dimensions of system of variables of pedagogical climate applying measure scales, internal consistence and discrimination of items and subscales.
2. to determine connection between class climate factors and self-development
 - to determine connection between clearness of the rules and self-development
 - to determine connection between connection factor and self-development
 - to determine connection between teacher's supervision and self-development
 - to determine connection between order and organisation and self-development
 - to determine connection between school milieu and self-development

Theoretically, this research would help in broadening our knowledge of pedagogical climate area and self-development. Practically, we will get desirable facts and pieces of information about how pupils consider school climate factors and on what extent they influence their self-development.

Specific research aims are:

1. to establish elementary (factors, in statistical sense) which compose pedagogical climate
2. to determine how pupils understand pedagogical climate and its factors as well as their influence on self-development.

We can assume that final graders in secondary schools experience differently school climate, which is represented in this research, by six factors. The general assumption is

that pupils get better results and have positive attitude towards competition if they appreciate favourably pedagogical climate in their school.

Differences in pupils' perceptions of pedagogical climate related to observed educational effects, school achievement and attitude towards competition, are expected, both, in relation with factors of class climate in total and with individual investigating system factors. Furthermore, we assume, there are going to be differences in effects of specific class climate factors on self-development aspects.

Special hypothesis:

1. Secondary school pupils think that the clearness of the rules affect on their self-development
2. There is statistically significant connection between school climate factor-teacher's support and self-development
3. Larger number of pupils think that adequate teacher's support represents the best context for better self-development
4. There are statistically significant differences in self-development considering the factor-pedagogical climate connection
5. Teacher's supervision influences positively on self-development
6. Order and organisation as school climate factors influence positively on self-development
7. School milieu as pedagogical climate factor influences positively on self-development

General method of research organisation

Research conducted with intention to see the influence of pedagogical climate as a factor of secondary school pupils' self-development, does not belong to the experimental researches. Main characteristic is molar approach to investigation of connection among certain social, subject and relevant pedagogical phenomena. The concept is based on method of non-experimental causative research. Used techniques were survey and scales. This applied model of research was realised by taking into consideration the epistemological assumptions and methodological approach of new research generation, which is in relevant literature defined as model of high conclusive beta pressure factors. This methodological approach is based on two assumptions:

1. In order to gain better understanding of behaviour of an individual it is far more important to know the subjective reasons than to give an objective estimation of surrounding's influence (personal beta-pressure, according to Levin, Marej, Stern, Štajn, Blum, Mos).
2. Pupils, as individuals, form their own attitudes about themselves, the world and surrounding, based on personal experience coming from social interaction and communication during educational process, these attitudes are significant predictors of their educational success and behaviour (Walberg).

Instruments and research variables

The instrument for data gathering and quantification was made in form of the unique questionnaire which has two structural parts:

First part is intended for gathering general facts (school, sex, class, general achievement). The questions are, apart from the questions referring to gender, open. General pieces of information about pupils are in function of sample description and control of representative pupils' marks in pupils' characteristics distribution in population.

Second part is made of School climate Scale (Bošnjak, 1997). This measurement instrument contains claims organised in a form of five degree scales which describe wide spectrum of behaviour and school climate components. Therefore, higher value marks higher degree of agreement with a given statement, i.e. with often manifested conduct. This part of questionnaire are the items of the instrument „Class climate scale“, an original questionnaire containing 55 points, made for the purpose of present research.

Each scale has same number of claims which are indicators of the following factors: clear rules, teacher's support, connection, teacher's supervision, order and organisation and school milieu. In this research two groups of variables were defined:

- pedagogical climate
- self-development

The first group consists of class climate factors which are: clearness of the rules factor, teacher's support factor, connection factor, teacher's supervision factor, order and organisation factor and school milieu factor.

Class climate factors are predictor variables in the research marked as independent variables. Factors description and their classification are given in previous paragraphs. Gradualism and elementary results of the independent variables definition are shown in chapter: statistical procedures and results analysis.

In the second group there are self-development variables which are operational as factor scores on factor extracted from the measurement field: scale attitude to self-development.

Sample

Sample consisted of final graders, students of the third and fourth grade attending Medical secondary school in the municipality of Valjevo. There were 120 students in total. Sample basic characteristic is that it belongs to sample: group.

Table: Sample structure by sex, class and general success

Sample characteristics		f	%
Class	Third grade	62	52,10
	Fourth grade	57	47,89
Sex	Male	10	8,40

	Female	109	91,59
Success in school	Sufficient	11	9,24
	Good	38	31,93
	Very good	44	36,97
	Excellent	25	21,00

As you can see, in this sample there were more females, since this criterion was not controlled by examiners, and when we talk about sex, there were simply more girls because that is real female representative in Secondary medical school.

We notice there was approximately same number of third and fourth graders. That is also reflection of real situation in medical school. Pupils distribution is that we can say that our sample is quite uniformed in variable „class“.

Among 119 pupils who made this sample, 11 pupils have sufficient success, 38 pupils have good success, 44 pupils have very good success and 25 pupils have excellent success. When we talk about third graders success, most pupils have very good success (26), followed by pupils who have good success (17), then 11 pupils have excellent success and 7 pupils have sufficient success. Fourth graders, most pupils have good success (21), followed by those with very good success (18), 14 pupils have excellent success and 4 pupils have sufficient success.

Data processing

To analyse given data from this research we used qualitative analysis and content analysis. This analysis enabled the identification class climate factors, needed to be included in pedagogical climate understanding. After coding and proceeding in data base, we analysed them applying standardised procedures of statistical description and statistical conclusion.

In descriptive analysis we estimated absolute and relative indexes of frequency, and we made appraisal of parameters central tendency and dispersion of all variables indicators.

For analysing data given in the scale, we have prepared the parameters of absolute and relative frequency, and then, central tendency and dispersion of results upon every single point on the scale.

After that, we have analysed parameters characteristics, both scale parameters and every point parameters, as well as scale structure for exploring school climate, so that we could get exact facts how pupils understood the notice of pedagogical climate, and self-development factors.

Research results analysis and interpretation

On base of the analysis of answers completion and creating final data base, we made first step in the analysis of the results. Then we isolated basic research variables. In concern for basic variables pedagogical climate and self-development, the instrument which has been

used, it is shown total analysis flow which contains analysis of research results on single points, the appraisal of parameters answers distribution by points.

Final part of the research results refers to variant analysis which is related directly to the explored problem. We are talking about multiple regressive analysis, used for exploring of the connection of factors pedagogical climate and self-development. In order to follow the basic research results easily, they are classified into groups by main variables. In the further research presentation we took aside parts of given analysis which enable following their flow and key results. All results are presented at the end of the work in the same order they are going to be grouped and interpreted in following paragraphs.

PARAMETERS CHARACTERISTICS AND STRUCTURE OF PEDAGOGICAL CLIMATE EXPLORING SCALE

In this part of result analysis we firstly appraised the parameters with absolute and relative frequency, and then central tendency and results dispersion on single scale points used for exploring the pedagogical climate. After that, we analysed metric characteristics of scale points and the scale in total, as well as the scale structure.

In the frame of descriptive analysis of the scale for exploring pedagogical climate, beside frequency of answers in relation to the intensity of the opinion, we analysed also, parameters of central tendency on scale points.

On base of values descriptive parameters distribution of scale points in total, we could conclude that pupil attitudes are, looking through dimensions and single scale points, relatively unified.

Point by point, middle values move in range from the highest „Teachers often don't believe the pupils“ (AS = 4,042) to the lowest „Some pupils in my class don't stand each other“ (AS=1,697).Parameters values show that pupils answers on the point dimension are homogeneous, with low variable going from 0,76 to 1,33.

Variables normality is explored by checking corresponding indexes curves and symmetry for each point, aiming to identify variables with leptokurtic and platikurtic distribution, as well those which are positively or negatively asymmetric.

Most variables are negatively asymmetric, which tells us that pupils estimate on the scale points are moved towards higher scores. Asymmetry indexes (Skew) vary in the range from -0,883 to 1,312 and values curves (Kurt) are between -1,274 and 3,150.

Differences in our pupils opinions are shown by numbers and graphically. Pedagogical climate is expressed as asymmetric middle of individual results of questioned pupils.

In the table 3.2 in addition, there are arithmetic means, standard deviations, for pupils' estimates of pedagogical climate for some subscales. In the graphs 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 and 4.7 , in addition, we have shown pupils score distribution in pedagogical climate dimension.

Having insight into data given in the table 3.2, in addition, it is possible to confirm easy recognition of characteristics of pupils pedagogical climate estimates. First of all, it is evident that there is a difference between all dimensions of observed pedagogical climate, like it was in the moment of investigation. When given data were compared with t-test, the results confirmed the existence of statistically significant differences in dimensions: clearness of the rules ($t=1,988, p=0,049$) and teacher's support ($t=2,133, p=0,035$) between male and female pupils.

The obtained differences point to the fact that the boys have significantly more scores than girls on above mentioned dimensions used for appraisal of pedagogical climate. Concerning the sample structure, that means not equalized number of boys and girls, we should be careful when we interpret these pieces of information.

If we look at information in connection with pupils appraisal of pedagogical climate dimensions concerning their grade, we can notice statistically significant differences between third and fourth grade, concerning the score in pedagogical climate dimensions: "clearness of the rules" ($t=-3,658, p=0,000$), "competition" ($t=5,600, p=0,000$), "teacher's support" ($t=-3,971, p=0,000$), "connection" ($t=-4,190, p=0,000$) and "order and organisation" ($t=-4,123, p=0,000$). The obtained differences point to the fact that the third graders have higher score in the pedagogical climate appraisal scale.

Simultaneous regressive analysis is conducted to establish the best predictors score in dimension "competition". Obtained *multiple correlation coefficient* is 0,47 and statistically is significant ($F(6,112) = 5,360, p=0,000$).

Thus, between the group of predictors (clear rules, teacher's support, connection, teacher's supervision, order and organisation and school staff) from one side, and criteria variable (competition) from the other side, there is moderate linear connection. The existence of this linear connection means that, a certain percentage of differences between questioned pupils, concerning dimension competition, could be explained on the base of their different scores in predictors variables included in model.

Based on effects of partial contribution factors (β coefficients which show the size of prediction effect of dependent variable for each single factor), it can noticed differential influence of dimensions, both the size and influence direction.

Beta coefficients reveal that dimension "Connection" is statistically significant ($\beta = -0,289, t=-2,722, p<0,01$) and predicts differences in scores in dimension "Competition" when all predictors variables are included in model. Also, dimension "School milieu" ($\beta = -0,299, t=-3,332, p<0,01$) statistical significantly predicts differences in scores in dimension "Competition" when all predictors variables are included in model.

From all variability of criteria variables, 18,1% (Adjusted R-square) can be explained based on individual differences among the interrogated pupils in concern with dimensions scores, predictor variables.

In that way, we confirmed the hypothesis about statistically significant difference among pupils estimates of pedagogical climate influence on self-development.

We have shown estimate differences among our interrogated pupils by numbers and graphically.

Pedagogical climate is expressed as arithmetic middle of interrogated pupils individual results.

Table 2. Intercorrelations of dimensions in the pedagogical climate research scale (N = 119)

	1	2	3	4	5	6	7
Clearness of the rules	-	-0,287(**)	0,531(**)	0,574(**)	0.038	0,308(**)	0.121
Competition	-	-	-0.160	-0,338(**)	-0.078	-0,230(*)	-0,273(**)
Teacher support	-	-	-	0,359(**)	0.056	0,391(**)	0.180
Connection	-	-	-	-	0.154	0,247(**)	-0,046
Teacher supervision	-	-	-	-	-	0,229(*)	-0,257(**)
Order and organisation	-	-	-	-	-	-	0.145
School milieu	-	-	-	-	-	-	-

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Concerning the correlations among scale dimensions, 13 correlations are positive, and they range from low to moderate level. The table shows that, from 21 pairs of inter-correlations among the pedagogical climate dimensions, 12 correlations are statistically significant. The strongest positive correlation is between dimension „Clearness of the rules“ and „Connection“ $r(119)=0,574, p<0,01$. This means that pupils who have higher score in dimension „Clearness of the rules“ also have higher score in dimension „Connection“. We can notice that pupils consider favourable more clearness of the rules and connection. According to field experience, pupils consider this kind of behaviour as confidence from the side of their teachers in learning and their self-development which reflects on better connection in the class. This result can be connected with achieving better learning results of the whole class. More successful classes where there are clear rules from the side of the teachers show better results and higher cohesion and harmony.

The level of satisfaction in working together in the class, as a part of dimension „connection“, is probably higher in successful classes, which contributed probably these results.

In further scale validation, we analysed the scale reliance and scale dimensions by applying Cronbach alpha correlation coefficient. The scale internal reliance coefficient (55 points) is $r=0,75$, which shows good reliability of used measurement instrument.

What follows is the review of reliability of pedagogical climate dimensions, expressed through Cronbach's alpha coefficient.

Table 3. Cronbach alpha coefficients of pedagogical climate dimensions

Class climate dimension	Claim number	N	Cronbach's Alpha
Clearness of the rules	5	119	0.73
Competition	5	119	0.49
Teacher support	10	119	0.79
Connection	10	119	0.60
Teacher supervision	7	119	0.43
Order and organisation	9	119	0.76
School milieu	9	119	0.34

In further scale validation, it was analysed the scale reliability and scale dimension by applying Cronbach's alpha correlation coefficient. The scale internal reliance coefficient (55 points) is $r=0,75$, which is quite good and points to good reliance of this measurement instrument.

In Table 3 are shown the coefficients of the inter-correlations among the single pedagogical climate dimensions. Only three scales (Clearness of the rules, Teacher's support, Order and organisation) from seven in total have reliability above 0,70 (low acceptability) when these coefficients of other dimensions are relatively low, but they, nevertheless, show the existence of high order factor. However, for need of teaching practice, our interest was more directed to specifically expressed factors. The reliability was estimated by method of internal consistency, **we could tell that the scale dimensions are not homogeneous**. The reliability coefficient varies from 0,34 (school milieu dimension) to 0,79 (teacher 's support dimension). **One of the reasons for such prohibitively low alpha coefficient, surely lies in insufficient number of items in scale dimensions, as well in small number of investigated pupils.**

Values of given alpha coefficient go in range from 0,34 to 0,79. If we compare these values in our research with Moos' research (Moos and Trickett 1974, Trickett and Moos 1973), the values of this coefficient went from 0,74 to 0,85, and, in Fisher and Fraser's research (1983) from 0,60 to 0,90. The values of reliability coefficient in our research go inside the borders of Fisher and Fraser's findings (1983) with the exception of dimensions Competition (0,49) Teacher's supervision (0,43) and School milieu (0,34) which are considerably low.

Our instrument „School climate scale“ used in research, kept elementary criteria characteristic of the origin measurement instrument. They are the following: **Consistency with secondary school instruments** reflects in the fact that basic dimensions identified on base of checking the dimensions contained into relevant instruments for secondary level.

Preserving Moos's general categories was done by choosing dimensions which provide three Moos's categories for conceptualisation every climate in the social institutions (relationship dimension, personal growth dimension and system maintaining and changing dimensions).

According Moos, to obtain an appropriate image of any social milieu, the instrument has to provide appraisal of, at least, minimum of each of three mentioned categories.²

Economy is achieved by choosing a relatively small number of reliable scales and claims on which pupils answer in really short time (between 30 and 40 min).

RELATIONS BETWEEN PEDAGOGICAL CLIMATE AND PUPILS SELF-DEVELOPMENT

Distribution of pupils scores on scale dimensions for investigating the pedagogical climate, Class and educational scales (Bošnjak, 1997) describe appraisal of the behavioural rules clearness, consistency in applying sanctions when the rules are broken, discipline level in the class, the quality of relation among pupils (including the competitive relations among them), the quality of relation teacher-pupils, the quality of pupils' relations to educational contents (including the degree of involving pupils into creating educational process) and classrooms where the educational process is about to develop.

Table 3.1 presents the results informing us about pedagogical climate factors (dimensions) experienced by the investigated pupils, concerning their sex, class and school success in statistically significantly different ways. According to the information shown in Table 3.1 it can be seen that the interrogated pupils differentiate by analysing the quality of class-educational climate.

In accordance with it, among the pupils there are differences in estimating clearness of the rules, class discipline level, the quality of the relationships among pupils, there are certain components of relation teacher-pupil they experience differently, the quality of the relation pupils and educational contents and classrooms where the educational process is flowing.

According to the information shown in table 3.1, we can conclude that 10,92 % of pupils agreed with the claim „In our class the rules are clear and well known“. If we add to this finding another positive category, the total number of the pupils who positively estimate the influence of the factor clearness of the rules is 20,16%.

Number of 51,27 % pupils who negatively estimate the influence of the factor clearness of the rules, is large, in absolute and essential sense. The situation is even worse if we consider middle category, where more than a quarter of pupils are still undecided, which points to a latent knowledge of rules, and, in that way, the behaviour which is expected from the pupils in the class.

In relation with the claim „In my class we don't pay much attention to the other pupils' marks“ relating to the appraisal of the factor „pupils competition“, 34,46 % pupils answered positively. This information shows that one third of pupils have unclear notice of unstable criteria of secondary school assessment, and equal difficulties in getting better marks and positive results.

² 1 For more details, see Class-educational milieu research, Bošnjak,1997.

To the claim „Teachers often don't believe pupils“ in teacher's support factor, 73,11% of pupils gave positive appraisal, which points to the conclusion that pupils don't assess positively the teachers' confidence in them. These results can be indicators of teacher-pupils relationship and communication.

If we analyse pupils' answers on the claim „My class easily agree about some task or work“, we conclude that 42,86% pupils gave positive mark, which tells that almost half of pupils in class is tightly connected and ready to cooperate in class activities.

Distribution of the answers on the following claim teacher' supervision „If pupil doesn't attend the classes, he hardly can make up the lessons he lost“ shows that 30,00% of pupils agree with it. The conclusion is that pupils need more teacher's supervision and support to make up the lessons they have lost.

When we talk about order and organisation factor, 63,86% of pupils positively estimate the claim „Pupils are always quiet and obedient during the classes“. Nevertheless, we can ask whether it is real pupils experience or it is only about giving socially desirable answers. On the base of positive answers on claim „Our school space is dark, like we are in some military barracks or prison“, which concerns the factor (dimension) school milieu, we conclude that 56,30% of pupils have negative experience.

It seems important to us to underline that our results show the way how pupils experience class-educational climate, but they actually do not inform us on what kind of climate it really is. Therefore, we can indirectly accept the thesis that objectively similar conditions are experienced differently by different pupils, and, differences in experience depend on their individual characteristics. It is known that better school results and pupils competition are consequence of the interaction among numerous factors, where, very important place belongs to the quality of the relationships with the classmates, teaching staff and relation to the education, too.

Thus, pupils' specific behaviour contributes to the uniqueness and interactions among pupils, in the relations with teachers and towards the educational contents, which, most probably, results in worse estimates of the pedagogical climate quality. On the base of the analysis of our research, it seems justified to examine the ways the teachers and experts could contribute to more qualitative social integration of pupils whose success is lower, into school milieu, which would mean their more qualitative communication with pupils and teachers. That could be next important step in improvement of the relation of those pupils to the school and education in general. On that way, it is extremely important to very clearly define the rules and the consequences of their breaking down. However, the rules mustn't be imposed to the pupils, they themselves should be involved in their creation, and the consequences of breaking the rules should be directed to their strengthening, and not to their punishment. It is about applying the educational paradigm which follows the theory of choice and operationalizes the scientific discoveries about the self-development complexity. The efforts, which are going in that direction, would contribute, we strongly believe, to the quality improvement of the educational process,

and it would also help in giving support to the self-development process. This research, completely, confirmed the hypothesis that there are differences in pupils' perception of the pedagogical climate (pupils' experience) related to the observed educational effects, that means school achievement and attitude towards the competition, both in relation to class climate factors in total and to individual investigating system factors. We assumed different effects of the interactions and influence of single class climate factors in relation to different aspects in self-development of the pupils.

The information obtained from the research lead to the conclusion that the expert work regarding more qualitative integration into school milieu is needed for all the pupils, regardless of their school achievement and behaviour. Defining rules together, expert pedagogical maintenance of the school discipline, development of the pupils' communication skills, are the components of the expert work which would help improving the pedagogical climate quality.

All of mentioned is supported by the well-known thesis which says that experience of the class educational climate, as a subjective reality made by impressions and estimates, is in service of satisfying the pupils by teaching process which indirectly leads to the realisation of numerous desirable social and creative behaviours (Jagić, Jurčić 2006, Bijedić 2007).

Beside that, it is known that precisely the pupils with low school achievement need positive class climate which can provide them a feeling that they belong to the class that they cannot have in other surroundings, which makes their need to manifest unacceptable behaviour, smaller (Spratt 2004, Bijedić 2007.) The question is, in secondary school, if it is possible to realise that kind of work in modern conditions.

Sometimes, this work, however, surmounts the possibilities and professional competences of the teachers and asks for changes in the schools themselves, in the classes, teaching processes and other educational fields.

It can also be added the need for changes in law regulations and in social institutions, so that the role of the school strengthens in the society, and that the reorganised school could satisfactory answer to the temptations which are imposed in front of it by modern society with all the risk.

INFLUENCE OF THE PUPILS' SEX ON APPRAISALS OF PEDAGOGICAL CLIMATE FACTORS

In order to deal with the task in the best possible way, we analysed the information obtained on the school climate scale which contains the factors of pedagogical climate and their influence on the chosen sample. When we gathered the results from the instrument School-educational climate scale, (Bošnjak, 1997), screening how the pupils estimate isolated factors characteristic for pedagogical climate, and how much the offered factors are important for their self-development, it should have been established if those appraisals are independent or, there are some more general categories (latent dimensions) underlying them.

In further scale validation, it was analysed the scale reliability and the scale dimensions by applying Cronbach's alpha correlation coefficients. The internal scale reliability coefficient (55 points) is $r=0,75$, which shows good reliability of the used instrument.

Table 4. Comparison the boys and the girls on the school climate dimensions (N= 10 boys and N= 109 girls)

Pedagogical climate factors	AS	SD	t	df	p
Clearness of the rules			1.988	117	0.049
boys	14.00	3.266			
girls	11.97	3.072			
Teacher's support			2.133	117	0.035
boys	36.30	6.684			
girls	32.05	5.981			

Statistically significant differences haven't been confirmed in the score of the dimension „Competition“ (growth and development) by variables sex and pupils' success, but there is a difference by classes. There are statistically significant differences regarding the score on dimensions „Clearness of the rules“ ($t=1,988$, $p=0,049$), „Teacher's support“ ($t=2,133$, $p=0,035$) among the pupils of different sex.

The obtained differences show that the boys have statistically significant higher scores than the girls on above mentioned dimensions for evaluation of pedagogical climate. Researches done in different countries and educational systems have shown that girls, both in primary and secondary school, are more satisfied with the quality aspects of school life than the boys (e.g. Gil 1996, Kong 2008, Leonard et al, 2000.)

These results show that the schools satisfy more the girls' needs than the boys', which can be especially stressed in primary schools. Anyway, Kong (2008) , in his research which included 19.477 primary and secondary school pupils in Hong Kong, showed that the difference in noticed quality of school life between boys and girls, is smaller in secondary than in primary schools.

Concerning the fact that in our research we had small number of male pupils ,big differences in average results are statistically significant, as it is seen in Table 5, our results are opposite the research of the same problem in foreign countries.

INFLUENCE OF THE SCHOOLING DURATION ON PUPILS' APPRAISAL OF PEDAGOGICAL CLIMATE FACTORS

The researches on how schooling duration influences pupils' appraisal of pedagogical climate factors, are based on the assumption that, with the changing of how long we stay at school, we change also our appraisal of its pedagogical climate. It is realistic to expect that the pupils, during their secondary schooling, which is a part of their self-development and socialisation, will become more critical towards themselves, the other persons and their surrounding. Midgley, Eccles and Feldlaufer (1991) pointed to those facts, during

their research, where they had shown how to connect the differences in school climate appraisals at the end of the primary school and the beginning of the secondary school with the appearance of the negative changes in pupils' self-confidence and appropriate behaviour.

In accordance with those results, it is logical to expect that the first and second graders, will show bigger differences in their appraisals of pedagogical climate in those dimensions which concern the adaptation period to a new secondary school climate, and to its educational and other specific traits. We can also expect younger pupils to idealise secondary school which could be the reason they have more similar pedagogical climate estimates.

We need not neglect the fact about the relative equalization of school achievement of the first graders, who are going to be now among the pupils of the same age and the same abilities, in difference with the primary school, where they, mostly, were the best in their classes. Therefore, it is justified to expect stronger expression for competition.

The older pupils, especially, those of final grades, could be more radical in their appraisals, which could result in higher disproportion in pedagogical climate estimates. This could be strongly tied up with dimensions connected with the changing area and the system maintenance.

This research gave us larger picture of differences in pedagogical climate estimates between the third and the fourth graders.

Table 5. Comparison of the third and the fourth graders in school climate dimensions (N = 62 third graders and N= 57 fourth graders)

Pedagogical climate dimensions	AS	SD	t	df	p
<i>Clearness of the rules</i>			-3.658	104.814	0.000
third graders	11.18	2.570			
fourth graders	13.19	3.351			
<i>Competition</i>			5.600	117	0.000
third graders	14.03	3.334			
fourth graders	10.82	2.873			
<i>Teacher's support</i>			-3.971	117	0.000
third graders	30.39	5.721			
fourth graders	34.60	5.837			
<i>Connection</i>			-4.190	117	0.000
third graders	26.98	4.294			
fourth graders	30.68	5.319			
<i>Teacher's supervision</i>			-0.263	117	0.793
third graders	20.03	3.094			
fourth graders	20.19	3.568			
<i>Order and</i>			-4.123	117	0.000

<i>organisation</i>					
third graders	30.05	4.650			
fourth graders	33.88	5.474			
<i>School milieu</i>			-1.263	117	0.209
third graders	28.73	3.618			
fourth graders	29.63	4.203			

There are statistically significant differences between the third and fourth graders concerning the score in pedagogical climate dimensions „Clearness of the rules“ ($t=3,658, p=0.000$), „Competition“ ($t= 5,600, p=0.000$), „Teacher’s support“ ($t=-3,971, p=0,000$) „Connection“ ($t=-4,190, p=0,000$) and „Order and organisation“ ($t=4,123, p=0,000$). The differences show that the third graders have statistically significant higher scores on the pedagogical climate scale.

This results review enables getting the picture of quantitative aspect of differences among individual dimensions. Apart from this quantitative aspect, we are also interested to find the answers on the following questions: what is the pedagogical climate like? is it favourable or not? is it good or bad? We can make a conclusion, independently from the statistic procedures, that it is only possible to get an idea that the pedagogical climate is better in those classes where the average pupils results in specific dimensions are matched with the supposed factors of educational process and the self-development.

Thus, it can be supposed that better school achievement will be in those classes where there is better connection among the pupils, clear rules, more order and better organisation, more teachers’ support and competition, and, consequently, less teachers’ supervision. (Moos and Moos, 1978, Moos 1979). Besides this normative, the answer to the question what the quality of pedagogical climate is, and, if there is its influence to the pupils’ self-development, is of metric nature.

It would be quite significant to say in what extent and based on which referent pedagogical climate dimensions, we can claim that the climate is good or bad, and if it is supportive or not for the pupils’ self-development. For a such claim, it would be necessary to have the references taken from a representative sample of all secondary schools on national level. In our case, we will be talking about all medical schools, and not only them in the educational system on the state level.

The implications of these results are practical, the pupils, in comparison with their noticed pedagogical climate, express the wish to be more connected, to have more order and organisation, more teachers’ support and clearness of the rules. At the same time, pupils want less special rules which refer to the dimensions school milieu, teachers’ supervision and competition among them.

If we compare the results of our research with the results of an Australian research (Fisher and Fraser, 1983, page 11), it has been confirmed that the pupils want more involving, more connection and support, but also, more order and organisation, and more inventiveness, as well. The results of Moos’ research on germain sample (1979, 145-150), the pupils also wanted more involvement, connection, support, order and organisation,

clearness of the rules and inventiveness. In both of researches, they wanted less competition.

More the pupils are older, more they perceive learning as less tempting and funny, so they don't appreciate favourably teacher-pupil relationship. Older pupils also consider school less important in preparation for the future life and appraise their school competence considerably weak. The pupils in the seventh and eighth grade feel less socially accepted from the part of those in the fifth and sixth grade. Those differences in this aspect of school life are significant, but their effect is relatively small.

The decrease of pupils' satisfaction with the schooling aspects, which depends on their age, has also been shown in the other researches (e.g.: Epstein and McPartland, 1976, Gil, 1996, Kong, 2008). Epstein and McPartland (1976) explain this trend by the fact that in the age of secondary school, pupils begin to differentiate more, regarding their abilities, and schools are less capable to satisfy older pupils' various academic interests and needs, even if the schools are still able to keep the general and social quality of school life for the most pupils. Some authors impute this to the teachers who pay less attention to the individual pupils in higher grades (Okun et al, 1990).

The results of our research in our surrounding (Bošnjak, 1997, 96-97) showed that the pupils appraise the pedagogical climate in their class as firmly organised, and, concerning the rules, more clearly structured, with more determined teachers' supervision and more competition pressure.

The results of the simultaneous regressive analysis are in the Table 6.1 in addition, they have shown the best predictors of the score in dimension „Competition“. The obtained *multiple correlation coefficient* states 0,47 and it is statistically significant ($F(6,112) = 5,360$, $p = 0,000$).

Therefore, between the predictors group (clearness of the rules, teachers' support, connection, teachers' supervision, order and organisation and school milieu), from one side, and, criterion variable, from the other side, there is a moderate linear connection. The existence of this linear connection means that the certain percentage of the differences among the pupils regarding the score in dimension competition can be explained on the base of them being different in the scores on the predictors variables included in model.

The obtained results have confirmed the hypothesis according to which there are statistically significant bigger differences in appraisal of the pedagogical climate factors on the pupils' self-development.

- 1.Secondary school pupils consider that the clearness of the rules as pedagogical climate factor, influence their self-development.
- 2.There is a statistically important connection between pedagogical climate factor „teachers' support“ and self-development. The most pupils think that an adequate teacher support represents the optimum context for their self-development.

3. There are statistically significant differences in pupils self-development regarding pedagogical climate factor „connection“.

4. Teachers' supervision as pedagogical climate factor influences positively pupils' self-development.

5. Pedagogical climate factor „order and organisation“ influences positively on pupils' self-development.

On the base of the factors' partial contribution effects (β coefficients which show the size of the prediction variable effect for every single factor) we can notice the differentiate influence of the dimensions, not only by their size but also by their influence direction, too. β coefficients point that dimension „Connection“ is statistically significant ($\beta = -0,289$, $t = -2,722$, $p < 0,01$), predicting the differences in scores on dimension „Competition“ when all the predictors' variables are included together in model. The dimension „School milieu“ also, ($\beta = -0,299$, $t = -3,332$, $p < 0,01$) statistically significant predicts differences in scores on dimension „Competition“, when all the predictors' variables are included in model.

From all the variability of the criterion variable 18,1% (Adjusted R-square) of the variability can be explained on the base of the individual differences among interrogated pupils regarding the scores on dimensions, the predictors' variables.

In this work the main point was the consideration of pedagogical climate influence from the final graders' point of view regarding their self-development, while we put the accent on finding out how the pupils understand pedagogical climate factors and their influence on their self-development.

SUMMARY AND CONCLUSION

The motive for conducting this research lies, on the one hand, in the strongest tradition of pedagogical climate researches, which began at the end of 1960's, and it is engaged in the research of prognostic value of the class climate appraisal results which influence different pupils' achievements. On the other hand, it arises out of the self-development area, regarded from the view of secondary school pupils, which is insufficiently explored phenomenon in our surrounding.

Modern pedagogical and psychological researches speak in favour of the assumption about the connection between pedagogical climate and development of different aspects of the pupils' personality. Actually, the consideration of the school social dimension as an institution and teaching process which is going on in it, are operationalized through the pedagogical climate factors and the pupils' self-development, that consideration represents the reference frame of our research on **subject pedagogical climate as the pupils' self-development factor**.

The aim of the research was to examine how the pupils experience the pedagogical climate which is represented by class climate factors (clearness of the rules, teachers' support, connection, teachers' supervision, order and organisation and school milieu) and, if the differences in class climate factors' observation are, statistically significant,

connected with the pupils' self-development (school achievement, attitudes to the competition). In the research, we started with the hypothesis that, the final graders in the secondary school, experience differently the pedagogical climate, represented, in this research, by six factors. The general assumption is that the pupils get better results (have greater school achievement) and more positive attitude to competition if they perceive more favourably the pedagogical climate in their school.

The relevant components: pedagogical climate and self-development have been defined in the research as two groups of variables. The first group consists of the representative school climate factors: clearness of the rules, teachers' support, connection, teachers' supervision, order and organisation and school milieu.

In the other group there is self-development variable which is operationalized as a component deduced from two indicators: pupils' achievement and attitude to competition.

In this work, we focused on the exploration of the influence pedagogical climate factors have, as well on the exploring how the pupils appraise individual pedagogical climate dimensions; furthermore, we were interested in the relations between pedagogical climate dimensions and self-development, and what importance the pupils associate to the single factors.

In the descriptive analysis we made the appraisals of the relative and the absolute frequency indicators as well, and the appraisal of the central tendency and dispersion parameters for all variable indicators in the research. After that, we analysed the metric characteristics of every scale point and the scale in total, and the structure of the pedagogical climate exploring scale itself.

On the base of the distribution descriptive parameters values of the scale points in total, we can conclude that the pupils' appraisals, looked by dimensions and by single points on the scale, are relatively standardized. According to the points, the average values range from the highest „Teachers often don't believe the pupils“ (AS = 4,042) to the lowest „Some pupils in my class can't stand each other“ (AS = 1,697). The values of the parameters show that the pupils' responses in the dimensions homogeneous, with the low variability which ranges from 0,76 to 1,33.

The normality of the variables was explored by checking the appropriate indexes of curve and symmetry for each claim, with the aim to identify the variables with the leptokurtic and platykurtic distributions, as well as those which are positively or negatively asymmetric.

The most of the variables are negatively asymmetric, which tells that the pupils appraisals are moved towards higher scores. The asymmetry indexes (Skew) vary in the range from -0,883 to 1,312, and the values of the curve (Kurt) range from -1,274 to 3,150.

When we are talking about the correlations among the scale dimensions, 13 correlations are positive, and they are going to the higher scores. The table shows that, from 21 pairs of inter-correlations among pedagogical climate dimensions, 12 inter-correlations are

statistically significant. The strongest positive correlation is between dimensions „Clearness of the rules“ and „Connection“ $r(119) = 0,574, p < 0,05$. This means that the pupils who have higher score in dimension „Clearness of the rules“ have higher score in dimension „Connection“, too.

In further validation of the scale, it was analysed the scale reliability and its dimensions by using the Cronbach's alpha correlation coefficient. The coefficient of the internal scale reliability (55 points) is $r = 0,75$, which proves good reliability of the measurement instrument we used.

On the base of the reliability of the pedagogical climate dimensions expressed by Cronbach's alpha coefficient, we can conclude the following: Only the three scales „Clearness of the rules“, „Teachers' support“ and „Order and organisation“ from the seven in total, have reliability above 0,70 (low level of accessibility). We estimated the reliability by the internal consistency method, that's why **it can be said that the scale dimensions are not homogeneous.**

The reliability coefficient varies between 0,34 (dimension school milieu) and 0,79 (dimension teachers' support). **One of the reason of such unacceptable low alpha coefficient surely lies in insufficient number of the items in scale dimensions, and in small number of the interrogated pupils.**

It is significant to emphasize, that all pupils appraisals, even those refered to the influence of pedagogical climate factors on self-development, have quite a lot of common points with the scientific conception of the pedagogical climate, which was strictly underlined in previous reports.

We will give a short résumé of the results obtained on the explored sample:

We will turn to the first part of the results, whose function was to validate the class climate questionnaire. In accordance with the standards of the instrument's metric characteristics analysis, from one language and culture surrounding to another, in the evaluation of class climate questionnaire, all analysed parameters (central tendency and dispersion, reliability and discrimination of the scale points, and analysis of the instrument dimensions) are compared to the relevant referent data of the original instrument. The results of the descriptive analysis respond to the metric characteristics of the class climate Scale confirmed in other researches.

1. Firstly, we will sum up **Metric characteristics of the scale points and the scale in total, and the dimensions of the scale for exploring the pedagogical climate.** In this part of the results analysis, the parameters of absolute and relative frequency were estimated first, and then those of central tendency and the results dispersion on single points in the scale for exploring the pedagogical climate. After that, we analysed metric characteristics of the scale points and scale in total, as well as the dimensions of the scale for exploring the pedagogical climate.

In the frame of descriptive analysis of the pedagogical climate scale, beside the response frequency, in relation with the attitude's intensity, we also analysed the information about

the central tendency parameters on the scale points. Based on the value of the descriptive parameters of the points distribution in total, we can state that the pupils' appraisals are, looking at dimensions and single points in the scale, relatively standardized. By points, the average values range from the highest „Teachers often don't believe the pupils“ (AS = 4,042) to the lowest “Some pupils in my class can not stand each other“ (AS = 1,697). The values of the parameters show that the pupils responses in the points of dimensions, are homogeneous , with the low variability which goes from 0,76 to 1,33.

The normality of the variables has been examined by checking the appropriate indexes of the curve and the symmetry for each claim, with the aim to identify variables with leptocurtic and platycurtic distributions, as well as those which are positively or negatively asymmetric.

The most of the variables are negatively asymmetric, which shows that the pupils appraisals on the scale are moved to the higher scores. The asymmetry indexes (Skew) vary in the range from -0,883 to 1,312, and the values of the curve (Kurt) from -1,274 to 3,150.

When we are talking about the observed similarities between the results in our research and certain research, both in foreign and domestic literature, we can ask whether it concerns only the external similarities or it could be stated that the pupils intuitively put their understanding of the pedagogical climate into their attitudes, which influence their self-development.

The key question is whether the pupils can, with the help of these six dimensions of the pedagogical climate, estimate their influence on the self-development. On the basis of the obtained information, it seems that we could answer positively.

Therefore, we could conclude that the pupils , with the help of mentioned six pedagogical climate factors (Clearness of the rules, Teachers' support, Connection, Teachers' supervision, Order and organisation, School milieu), successfully enough estimate their influence on the self-development.

2.Sum up now **The relations between pedagogical climate factors and pupils self-development.**

Let's look now what the pupils' opinion about the importance of the pedagogical climate factors is. The relations between the pedagogical climate factors and self-development have been explored with the help of simultaneous regressive analysis, conducted to get the best predictors of the score on dimension „Competition“. The obtained **multiple correlation coefficient** is 0,47 and statistically is significant ($F(6,112) = 5,360$, $p = 0,000$). Thus, between the predictors group (clearness of the rules, teachers' support, connection, teachers' supervision, order and organisation and school staff), from one side, and criteria variables, from the other side, there is moderate linear connection. The existence of this linear connection means that the certain percentage of the differences among the interrogated pupils, regarding the score on dimension Competition, could be

explained by the fact that they differ in the scores on predictors variables included in model.

Based on the effects of the partial contribution factors (β coefficients which show the effect size of the dependant prediction variable for every single factor) it can be noticed the differentiate influence of the dimensions, both by size and the influence direction. β coefficients state that dimension Connection statistically significant ($\beta = -0,289$, $t = -2,722$, $p < 0,01$) predicts the score differences on dimension Competition when all the predictors variables are included in model.

The dimension School milieu, also, ($\beta = -0,299$, $t = -3,332$, $p < 0,01$) statistically significant predicts the score differences on dimension Competition when all the predictors variables are included in model.

On the base of the total results analysis of the pedagogical climate factor Connection with the self-development, that means, with school achievement and attitude towards the competition, we can state that, from all the variability of criteria variable, 18,1% of variability can be explained by the individual differences among the interrogated pupils regarding the scores on dimensions, or predictors variables.

The results confirmed the expectation of systematic and statistically significant connection among the pupils' appraisals of pedagogical climate factors as self-development factors. Pupils get better school achievements and have more positive attitudes and developed competition spirit if they accept pedagogical climate in their class and its factors as supporting ones.

School, as educational institution, is defined as a milieu, which can and should provide, by its developing plans and programmes, the conditions for improving positive school climate, in such a way that it gives, before all, safe and supporting surrounding to the pupils, qualitative social relationships, contribution to the developing pupils personal resources and support to the family, and educational culture. Beside the influence on pupils personal resources, schools should, in their programmes, develop the special programmes which take care of social support and induce better acceptance among the pupils of the same age. In that way, it develops the pupils' identity, self confidence and personal values. It is very important that, modern schooling, introducing the stages of agreement, realisation and evaluation, respects the request for esteem between the school factors (teachers and pupils), which implicates, at the same time, the demand for positive school climate.

FINAL CONSIDERATIONS AND PEDAGOGICAL IMPLICATIONS

Our intention to explore the influence of the pedagogical climate as a factor of secondary school pupils' self-development was urged, on the one hand, by the intensive pedagogical research of school climate phenomenon itself, and, on the other, by pointing out bigger and bigger significance of how important positive school climate is. The numerous researches results show at what extent positive, supporting and cultural school climate contribute the pupils' achievements, and pupils' educational goals grow when there are

qualitative social relationships among the pupils (Bouillet, Bijedic, 2007, Marshall, 2002). The problem lies in the fact that the school climate is hardly measurable and statistically descriptive category, concerning the complexity of its factors, however, school climate can clearly points to all difficulties and possible solutions of school' quality development. The school climate researches are complex socio-psychological phenomenon.

By analysing up-to-date researches in the area of pedagogical climate, before all, those which were conducted abroad and in our country, we can spot that most of them concern the attempt of analysing the teaching and learning process in relation with the conditions that the teacher makes, which is a characteristic of previous researches (Lewin, Lipit, Anderson, Vithol, Bovard, Medley, Mityal, Hjuž, Flanders). Later researches were directed to the pupils' perspective and social interaction (R.Moos, H.Wallberg). The results of the researches that came later ,showed that the climate factors brought more weight than it was attributed to them in the evaluation of educational issues, and , in accordance to that ,they cannot be reduced to the following of planned instructions in teaching process (Ingلمان, Grancin & Severson, 1979, Jiseldajk & Eliot, 1999).

In our environment, there were done researches which were occupied with exploring the interaction and communication as the indicators of the pedagogical climate in the school and in the class (Bošnjak, 1997, Bratanić, 1002, Đermanov, 2005), and the teacher's educational style (Kostović, 1005).The information gained by TIMSS research 2003, in detail and precisely, talk about the explored school climate conditions and their effects on pupils' achievements. (Maksić, Đurišić-Bojanović, 2003).

The uniqueness of this research is in its methodology, which comes from the traditional patterns and is directed to the exploring of the pupils' appraisals concerning the contribution of the pedagogical climate to their self development.

The main argument in favour of need to conduct this kind of research is that one to which pointed numerous explorers, one of them is Fraser, one of the most impact authors in the field of researching pedagogical climate in the educational context. The same author states that the quality of surrounding where the pupils learn has the key role in what we want to achieve in the educational process. (Fraser, 2002) .

Beside that the experience of the school context impacts on the efficiency in realisation of educational aims and on behaviour and opinion of the key participants in educational process, it determines the pupils' achievement and contributes to the personal self-development, by discovering the pedagogical climate contribution to the pupils' self-development, we get the possibility to enlarge already existed knowledge in that area. At the same time, it is useful to find out what the secondary final graders mean by pedagogical school factors and what they consider under the important points of self-development. In that way, we get the information about how the pupils experience pedagogical climate, which can represent significant source of knowledge about the educational process in secondary schools, and that is very important for introduction many innovations in the education. The obtained information lead us to the possible directions of future researches in pedagogical climate area.

On the other side, when we talk about the pedagogical climate research in general, including this research too, there are certain number of authors who direct themselves more and more, to the problems of specific pupils' populations, for ex; gifted children (Walberg, 1991) hyperactive children (Templeton, 1994), different relations and connections among pedagogical climate, pupils' characteristics and special subjects teaching (Wubbles, 1990, Knight, 1990, Bolte, 1994), combination of quantitative and qualitative approaches to the research of pedagogical climate (Fraser and Tobin, 1991). One of the criticisms which were made to these quoted researches, relates on the positive and significant correlations between pedagogical climate measures and pupils' school achievement measures, which were in general higher in the sample of senior pupils and in researches where the average values were considered as the analysis measures.

The correlation values, however, depend neither on the number of interrogated pupils, the curriculum, pupils', the sort of pupils' achievement measurement, nor on the statistical control of pre-knowledge and general competitions of pupils (Bošnjak, 1997). The same author concludes that class-educational climate has important influence and significance for school success and pupils development, and, in that way, for success of the whole education process. For that reason, these researches will further be needed in the future.

Despite of this sort of criticism, we must agree that those researches have their own significance, because they make us to understand better on what way secondary final graders, who are at the end of that educational cycle, perceive the school context and consider their personal self-development.

Our results have shown that the pupils' conceptions about pedagogical climate as a self-development factor are in significant accordance with the scientific conceptions. In their view, there are almost all important components which are used by the scientists to explain the following phenomenon: pupils' appraisals, looked by dimensions and by unified scale points, are, relatively, standardized. By points, the average values range from the highest „Teachers often don't believe the pupils“ to the lowest „There are some pupils in my class who can't stand each other.“

Therefore, between the predictors group (clearness of the rules, teachers' support, connection, teachers' supervision, order and organisation and school milieu), on the one hand, and, criterion variable (competition), on the other, there is a moderate linear connection. The existence of this linear connection means that the certain percentage of the differences among the interrogated pupils regarding the score on dimension competition can be explained on the base of their being different in the scores on the predictors variables included in model.

It is easy to notice the differential influence of dimensions, both by their size and their influence direction. „Connection“ predicts statistically significantly the differences in scores on dimension „Competition“ when all predictors variables are included together in the model. Dimension „School milieu“ also, statistically significantly predicts the differences in scores on dimension „Competition“ when all predictors variables are included in the model.

One of the most important tasks of the schools is, before all, to pay enough attention to the application of the results gained from the pedagogical climate measurement, in the area of studying the effects of programmes and methodical innovations, as well to organize the teachers' appropriate training to improve the class climate. It is necessary to educate additionally the teams for school developing planning and to support teachers to help pupils' personal developing. To achieve a significant support for developing positive pedagogical climate at schools, it is needed to have the adequate school rules which will guarantee it and which will institutionalize the support for pupils' self-development. Even if there is readiness in schools to engage more themselves in self-evaluation and, to work more appropriately with the pupils who demonstrate the competition spirit, that is not simply enough. The real state at schools is that the pedagogical climate is not satisfactory, especially the relations between teacher and pupil and pupil – pupil relation. Thus, the work – out school rules are missing, beginning with the laws, plans, programmes until practical work at school.

The additional instructions are needed, which will give the teachers more knowledge about the nature of pedagogical climate factors, about the pupils' self-development values, the specific sides of the work with pupils, work manuals with the examples and an additional teachers' and expert associates' training which will serve to improve pedagogical climate at schools and give support to the pupils' self-development.

One of the basic motives for conducting this research is the absence of research works in our surrounding which concern the understanding of the pedagogical climate factors and their influence on the pupils' self-development, even from the pupils' side, which leaves, as a consequence, very little space for more general conclusions. Among the conducted researches in the pedagogical climate area in our surrounding, it can be noticed that they did not involve more complex statistical procedures. This is exactly the fact where special significance of this research lies. Beside that, to its importance, point the earlier researches' results, considering the connection between school climate and pupils' achievement (Pritchard, Morrow & Marshall, 2005) as one of personal development dimensions, that means, the direction where a person goes further in his development and self-development. These results show that the pupils with higher school achievements appraise more positively the climate at school than those with low achievements, which represents one of more motives for this research.

However, when we interpret and make the conclusions on the base of obtained results, as well as when we conceive the future researches, it is necessary to have in mind the certain restrictions of this research. First of the restrictions is of methodological nature, and that means that the sample was appropriately chosen. Therefore, we should be cautious when we generalize the results on wider population, even if we don't see any reason why the results would be different on general population.

Some of the future researches should be dedicated to exploring parents' and teachers' attitudes about the influence of the pedagogical climate on the pupils' self-development in the certain domain. Very important field for future exploring should, certainly, be the

way how parents and / or teachers experience pedagogical climate factors which influence pupils' self-development.

The results of this research will serve as a review of pedagogical climate factors and their influence on pupils' self-development in secondary schools. Beside that, it will show at what extent it is possible to change the pupils' activities and independence in the area of exploring the methodical and programme's innovations. The obtained information could help the identification of difficulties which pupils have during their schooling, and all the problems in the relations pupil-teacher and pupil-pupil; that will enable making the individual plans for giving support to the pupils. We will get new hypothesis how to improve the pedagogical practice.

The pedagogical climate researches improve our understanding of this phenomenon and have its place in modern pedagogy. That is why they will be necessary in the future, for getting more knowledge about the pedagogical climate as pupils' self-development factor, and to achieve fully understanding of this phenomenon.

BIBLIOGRAPHY

- Bašić, J.Kranželić-Tavra. V.(2004) *About the pupils' behaviour and its appearance in school surrounding*.
- Bašić, J.Hudina, B.Koller-Trbović, N.Žižak, A.(1994) *The integral method*, Zagreb:Alinea
- Bognar, L.Matijević, M.(2002) *Didaktika*, Zagreb:Školska knjiga
- Bečaj, J (1994) *It is necessary to be successful, about the school culture in Slovenia*, Vzgoja in izobrazavanje, Vol. 25, 3, 3-9
- Bijedić, M.(2007),*Some aspects of the connection between pupils' behaviour disturbance and quality of school climate in secondary schools*, Magistarski rad, Zagreb
- Bošnjak, B.(1997), *Other face of school*.School climate research.Zagreb, Alinea
- Bošnjak,,B Matijević, M(1999), *School and class climate-new possibilities of improving its efficiency*. Teachers Academy Review,Zagreb, Vol.1 , n.1, pp 125-134
- Gašić-Pavišić, (2005), *Class discipline models*, Pedagogy Researches Institute, Belgrade
- Gojkov, G. (1990) *Pedagogical climate at schools as a base of didactic methods and actions to improve pupils' creativity*, Teachers Parliament of Serbia, Kraljevo, 1990
- Gojkov, G (1990) *Interpersonal relations among the teachers as a base of pedagogical climate and school educational function today*, Third Conference of pedagogues, Vršac, 1990.
- Grandić, R.(2001) ,*Pedagogy basis-manuel*, Author edition, Novi Sad, 38-43
- Grandić, R, (1994) *The specifics of teacher-pupil relationship and possibilities for improving cooperation*. The Faculty of Philosophy Almanac, Novi Sad, p 1-7
- Joksimović,S. *Development of democratic values at schools* .Democracy,education,personality, Z.Avramović, Pedagogical Research Institute, Belgrade (Text Almanac)
- Jurić, V.(1989), *Class climate- Pupils' work background* , Conclusions made at scientific meeting
- „Pedagogy and social reality“, Pedagogical Research Institute, Zagreb
- Kašparkova, J.(2007) *Vyzkumny nástroj pro evaluaci školního klimatu (konstrukce a aplikace v praxi)*,Olomouc:VUP
- Mares, J. (2000), *Social climate at school* Pedagogical Review, Vol.52, no 3, 241
- Miljević-Ridički, R. Maleš, D. Rijavec, M. (1999), *Education for development* , Zagreb, Alinea

- Moos, R.H.(1978), A typology of junior high and high school classrooms, American educational Research Journal , 15, 53-66.
- Obdržalek, Z. (2002), *School is a management* , Bratislava, UK
- Peko, A. (2000), *Approaches which support pupils autonomy* , U.Babić, N.Irović, S.
- Previšić, V.(1996), *Modern school:socio-educational association* U.Vrgoč,H.ŽRijavec,M. Miljković, (2009).*School and classroom climate and pupils (mal)satisfaction with school*, Teachers Faculty, Zagreb.