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IDENTIFICATION OF WORKING STYLES DURRING CLASSES AMONG TEACHERS OF PHYSCAL EDUCATION

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Abstract

Research is done to determine different structures of Physical Education lessons given the fact that lesson style has significant impact on the entire pedagogical flow within teaching process. Examinee samples were taken from students of seventh and eighth grade of primary schools in Canton Sarajevo. 514 examinees were included in survey, 53% male students and 47% female students. Data was gathered by filling out the survey of 17 different questions – variables. The aim was to identify work methods of the teachers during the lesson. This type of data is very important since work methods determine pedagogical climate and teacher – student interaction during Physical Education lessons in primary school. After the research, analysed results have shown that first extracted latent component with characteristically root of 5.133 and 43 percent of the overall explained variable previews democratic behaviour of teachers. For the other isolated latent component with characteristically root of 2.441 and 20 percent of overall variable previews „lessees fair "work methods. Third isolated latent component with only 12 percent of explainable variable is practically mathematical artefact. This is confirmed by isolated characteristically root whose value is 1.452. So, this component clearly states these are work methods of so called autocratic teachers. Recommendation for researchers who want to investigate similar themes is to evaluate teachers of Physical Education in High School. In following researches, information could be distinguished according to sex of the students and compare eventual differences of interpreting teachers' methods during the lesson.

Key Words: **Factor Analysis, Students, Primary School**

Introduction

Physical Education teacher has significant impact on successful realization of lesson plans since he/she is the one who is directly using it (Stefanović, 1988). Teacher's attitude, behaviour and love towards children and teenagers but also the authority in the classroom shall greatly influence the beginning, flow and end of the lesson but also other matters in PE classes. This is in much relation to teacher's personality and profile which is dictated by social, economic, cultural and educational conditions that formed one's profile. So, attitude towards students is formed according to these factors but also education of the teacher. All of this represents teacher's work methods (Bojanović, 1974). One's work style is behaviour set which gives character why is one teacher different from the other. This altogether makes one teacher recognizable. To elaborate, one's individuality is seen in lesson style and methods. Teacher's style is important to establish unified work climate towards students (Arsentijević, 1972; Bratanić, 1997; Nurković, 2006.).

When it comes to pedagogical climate, one can notice it is widely used in teaching process (Erceg, 1984; Flanders, 1970; Oljača, 1996; Radanović, 1998; Havelka, 2000). The term „pedagogical climate "can be defined more precisely as set of activities that are used during the lesson. Main characteristics which define pedagogical climate are: differentiation, organization, student initiative, lesson contents, differences, teacher's competence to present and develop class subject (Dotlić, 1986; Kiryacu, l994.). This is a good opportunity to emphasize authors Kuzmanović (1998.) and Havelke and sur. (1998.) that make clear distinction between work styles and lifestyles where work styles are orientation towards achieving general social goals while lifestyles are means to achieve personal goals. It is interesting to mention that in PE lessons, work styles can be divided into desired and undesired. Undesired work styles are defined as Romantic – Recreational, Organic – Functional and Formalistic (Filipović, 1988; Najšteter, 1997) and should be avoided in

practice. Other work styles can be used in lessons and are Authoritative (Autocratic, Command). They have somewhat emphasized unified communication with students. Second work style is Combined (empathic) when pedagogue can be authoritative by only using his/her knowledge with two-sided communication and objective acceptance of students' needs or problems. Third work style could be called Democratic style in order to fully recognize students' individual characteristics during lesson process (Hadžikadunić and Mađarević, 2004; Rašidagić, Manić and Mahmutović, 2016). Today in modern lesson process one of the most important things is to apply the appropriate work style. Students who have the opportunity to choose which school they'll attend whether it is public or private should be animated by having the right pedagogical climate on the class. Main goal of this research is to identify work styles currently used on PE lessons that influence pedagogical climate in the class. Given the fact that pedagogical climate can trigger radical decrease of students in certain schools, educational staff could be found in a situation to face the consequences of such events (Đorđević i Đorđević, 1988; Milijević, 1995). On the other hand, there are popular or elite schools in certain areas (schools where parents enrol

children because of „good reputation") that could have exceeding number of students.

METHODS

Examinee Sample

The research involved 514 students from 10 schools. When it comes to students' sex, there were 277 male students or 53% while there was 47% of female students, that is, 237 in number. The research was done on seventh graders (283 students) and eighth graders (231 students). Research Approach

Students who participated were fully aware of the research intentions. They attended PE lessons regularly. Survey was done with previously given permission by school and parents. Survey participation was entirely voluntary. Research used a questionnaire with 17 questions done by Flanders (1970). Survey was filled during Guidance lessons. According to Helsinki Rules, all participants and their guardians accepted to participate in this study with open possibility to leave it at any time. Variables from survey are in Table 1.

Table 1. Survey to Evaluate Work Styles

1	Criticism and suggestions have elements of support and are at a pace to solve the problem.
2	Lessons are democratic, respectful and full of encouragement.
3	Talented students are encouraged with praise which makes other students work harder to achieve same goals.
4	Teacher's questions are acceptable and made with full understanding and respect.
5	Student's testing is tolerant and encourages student to show knowledge and capability.
6	Each step of successful students' activities is done with teacher's approval and praise. Good results are not separated from excellent results.
7	Student – Teacher relationship is based on mutual respect.
8	Students' ideas are accepted.
9	Teacher is too mild and tolerant which makes atmosphere exceedingly relaxed.
10	Teacher gives instructions and teaches in an easy and acceptable way. (permissive climate and emphatic relations).
11	Teacher is happy and sufficiently tolerant towards students.
12	Teacher approves of students' actions.
13	Teacher understands feelings of students.
14	Student testing is strict and inadequate, zero tolerance, dominant and has elements of attack towards student's personality.
15	There is autocratic relation between teacher and students (strict conditions, zero tolerance)
16	Criticism is projected with elements of cruelty and insults.
17	Teacher gives instructions with dominant and repressive attitude, very strict, demands constant attention and strict discipline.

Methods of Data Analysis

Factor analysis was used for data examination. Fulgosi (1979) explained the structure and defined criteria which have to be respected by Factor Matrix. According to this criteria factors should be as independent as possible and

determined by different sets of variables. In this research, regardless of extracted number of components, only components with value over 1.00 were presented according to Kaiser – Gutman criteria. Gathered information were analysed in statistical program SPSS 22. Statistical levels of

sensitivity in the research were set to value P<0.00. When understanding results, only variables with latent dimension connected by coefficients of 0.30 and more were taken into consideration.

RESULTS

Acquired data in Bartlett's Test of Sphericity for main matrix of intercorrelation shows that matrix is prone to factorization. It is positive on level P = 0.000 (Table 2). This is appropriate assumption for further data analysis and determining metric characteristics of variables.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.774
Bartlett's Test of Sphericity	Approx. Chi-Square	1388.882
	df	67
	Sig.	.000

After reducing the space of manifested variables with Guttman – Kaiser criteria to determine number of significant main components with overall explained variants, more latent components were isolated. In the results, only three latent components were exemplified (Table 3) since each of them has characteristically root higher than 1.00. Previously mentioned criteria are defined as boundary. Percent value of overall explained variant is on high level – 75,97% out of 100%. First latent component is characteristic variable with 5.133 and has the most information. It contains 43% of the entire variant. Second characteristic isolated latent variable has the value of 1.452. Explained variability has minimum of 12% and it is defined as mathematical artefact. However, if we take into consideration all latent characteristic variables over 1.00, this example is considered and explained.

Table 3. Preview of Three Significant Components with Latent Variables

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.133	43.122	43.120	5.133	43.122	43.122	4.554
2	2.441	20.515	63.637	2.441	20.515	20.515	3.544
3	1.452	12.336	75.973	1.452	12.336	12.336	2.432

Inter correlational matrix confirms that each of the latent components has its own space. All coefficients of internal relations between latent characteristic components have negative prefix (-,025, -,630, -,766) and are not connected to positive prefixes.

Table 4. Correlation Matrix of Significant Components

Component	1	2	3
1	1.0		
2	-.025	1.0	
3	-.630	-.766	1.0

Table 5 includes relation between manifested and latent space. It can be assumed that first main component (5.133) has connection to 11 manifested variables. Coefficients that show significance of correlations go from lowest (.311) to highest (.669) which is satisfying and set as criteria determining whether to be considered further or not.

Second main component (Component 2) can be stated to have less coefficients connected to space of manifested variables. This was expected indicator because it has lower characteristic root (2.441). Value of each of eight coefficients that have no explained latent space go from lowest (.302) to highest (.742).

Third latent dimension with manifested space is connected to four coefficients. The significance of determined coefficients goes from lowest (.580) to highest (.776). Connections between manifested and latent space are surprisingly high given the fact that this latent dimension is supposed to have isolated characteristic root (1.452) as well as low level of explained variability (12%). All coefficients that are part of this variable are in such formations where significance of explained space can be increased.

Table 5. Relation of Manifested and Latent Space

VAR	Component 1	Component 2	Component 3
1	.669	/	/
2	.633	/	/
3	.627	/	/
4	.609	/	/
5	.588	.407	/
6	.579	/	/
7	.577	.302	/
8	.533	.531	/
9	/	.742	/
10	.311	.630	/

11	.471	.621	/
12	/	.589	/
13	.561	.564	/
14	/	/	.776
15	/	/	.760
16	/	/	.738
17	/	/	.580

DISCUSSION

By interpreting given results one can say that highest correlation with first latent characteristic component have manifested variables "Criticism and suggestions have elements of support and are at a pace to solve the problem", "Lessons are democratic, respectful and full of encouragement." and "Each step of successful students' activities is done with teacher's approval and praise. Good results are not separated from excellent results." All three variables show us there is democratic atmosphere on the lessons that motivates students who do their tasks with pleasure. Other manifested variables in first latent characteristic variable also show trust between students and teachers as well as working together to overcome obstacles and acquire knowledge. Such relationship where teachers have positive pedagogical and social lesson climate is compilation of democratic and integrative work style which contributes to better personality development of students (Bajraktarević, 2008).

Second latent characteristic variable has one part same as previous one. Difference is found in two manifested variables with high correlation with latent space: "Teacher is too mild and tolerant which makes atmosphere exceedingly relaxed." and "Teacher understands feelings of students.". Main difference between first and second latent variable should be looked for in distinction between democratic style of the teacher and too much relaxed approach which is described by Hadžikunić and Mađarević in 2004. Such work style is already mentioned as undesired one and it is known as Romantic - Recreational or "Lessais Fair" style. If it is used too much, students can become uninterested, moody and not able to accept their tasks in a disciplined way. Third latent characteristic variable has small number of manifested indicators but is typical autocratic work style still present in educational process. Regardless of being greatly judged, such style has its advantages. In a phase of positive transformation and going to "higher" work styles (democratic, combined, humanistic or individual approach defined by Babić, 1977 and Muminović, 1986, autocratic work style is often the first one to begin lesson process. There is no precise information on how long it should be applied and go to higher levels of work styles. In certain cases, if the interaction of students stops being on appropriate level, teacher can again start using this autocratic work style. After factor analysis of given data one can claim that goal of the research is achieved, and three different work styles used in PE lessons in primary schools were identified. It is interesting to mention that PE teachers' work styles can be seen as appropriate according to this research.

Most of the teachers have positive interaction with students and apply appropriate (empathic, democratic) work styles. Appliance of autocratic work style (seen in four lower manifested variables) can be explained at the beginning of the school year or situations where students do not respect determined set of rules made by democratic work methods. Sometimes pedagogical climate is changed which is seen in first and second latent components. Such connections bring us to conclusion there is a need to reinstall autocratic work styles if necessary. Recommendations for other researchers would be to evaluate work styles of PE teachers in high schools. Gathered data could be further differentiated by sex to have clearer picture about applied work styles of the teachers.

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