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Original scientific paper

UDC: 371.13

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## COMPETENCES OF EMPLOYEES IN EDUCATION<sup>3</sup>

**Abstract:** In this paper we start from humanist-developmental concept of education and upbringing oriented towards the individual, upbringing is understood as communication-interactive process defined by implicit, intangible and irrational moments, as well as new role of the school focused on competence development. The aim of this study is to determine how the employees in elementary and secondary schools of Vojvodina evaluate and what significance they attribute to competences they believe to be necessary in pedagogical activities. Research problem is reflected through the question: Whether the employees in educational institutions are encouraged by combination of important competences: social, professional, personal, developmental and action?

Research tasks are implemented by the analysis of the evaluation of competences that the respondents have given by the application of surveying and scaling techniques, instruments in the form of questionnaires and attitude scales. Research population consisted of elementary and primary schools in Vojvodina, while research sample has included 252 respondents: principals, deputy principals, teachers, professors, expert assistants (pedagogues and psychologists). Data obtained have been processed in statistical SPSS package (descriptive analysis, factor scores on extracted Promax dimensions). The results show high estimation of social, professional, personal, developmental and action competences in case of respondents and provide valid

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<sup>3</sup> This paper is a result of a research conducted within the Project *Digital media technologies and socially educational changes* (Project no. 47020), which is implemented with the financial support of the Ministry of Science and Technological Development of the Republic of Serbia for the period 2011-2014.

information for shaping and creation of operative, target, dynamic programmes of competences development necessary to employees in educational institutions.

**Key words:** competences, education, educational institution, employees in education.

### 1. Introduction

Reflexive process of modernization, not only in the sense of mere change in behaviour or manner of acting, but also providing a systematic response to challenges that follow the education reforms, puts all employees in education in situation of thinking, defining and redefining what can be marked as pedagogical credo. Constant, critical and non-critical, more or less (non)selective enlargement of knowledge that should be adopted and passed on, making environmental circumstances under which the process of teaching and learning more complex, new roles of all participants in education process, reforms at the level of a state, as well as changes in local, personal environment of school and classroom, new values and requirements that appear in transition process, new quality systems, also set new axioms to the system of education and upbringing that are often reflected in the construct of *competences*. In visions of long-term development of society, development of school and education is taken as strategic support and one of the starting points of national policy. School is understood as developmental and autonomous institution that provides proactive behaviour and development of human potentials, qualifications and competences as main precondition for facing with dynamic changes in all fields of life and work.

The word competent – competence (Lat. *competens, competentia*) means in charge, responsible, formally or really skilled, qualified for a job, capable. Richter gives a concept of competences that strongly respects an individual and affects its self-reflexion and self-determination. In his terminology, this author is relieved of traditional attitudes that rely on social function and qualification of an individual and believes that competences lead to the situation where „participant is no longer in position to apply the learned, specific and adaptable to the situation, he is more frequently in position:

- To change the learned according to his needs,
- To integrate new alternatives of action into this system,
- To choose between more alternatives in order to behave properly,
- To connect new scientific skills and other skills,

- To extend his repertoire of behaviour from one integrated synergy, i.e. to extend the behaviour alternatives by connecting previous skills and newly-learned“ (Richter, 1995: 23).

This includes self-reflexion and taking a stand in relation to individuals' undertaken activities. Among many definitions of competences, most broadly accepted is the one given by Waters and Sroufe who believe that competent individual is the one „able to use natural and personal resources in order to achieve good developmental result“ (Waters & Sroufe, 1983: 81).

Competences are individuals' capacity expressed in the achievement of complex activities in educational and upbringing work. It consists of a set of necessary knowledge, skills and value attitudes of all the participants in school, they are determined in relation to goals and outcomes of learning and should provide professional standards regarding what is considered successful in pedagogical process.

Law on basis of education and upbringing system proscribes the measures for the improvement of school work quality, where the focus is on all the participants in learning and teaching process, particularly the teachers. In that sense, goals and general outcomes are set in accordance with the vision of education and upbringing as a basis of „society based on knowledge“. Particularly important is a document of the Institute for the Advancement of Education: *Standards of competences for the profession of a teacher and his professional development* (ZUOV, 2011). This document includes guidelines for employees and represents a support to educational institutions for self-evaluation and personal orientation of teachers within planning own professional development and creation of professional training, monitoring and evaluation of work, defining national priorities. Role of pedagogical employees is multiple, because in addition to development of personal competences, it is expected of them to work on shaping and development of key competences of those who learn.

## **2. Subject, problem, goal, tasks and variables of research**

Educational institutions function today in conditions of strengthening the autonomy of school, assuming the care and responsibility for entire educational process, for all the participants who take part in this process, for their results, for the existence of school in strong requirements of quality and optimal work. It is believed that capable individual can skilfully combine cognitive and non-cognitive elements of competences, all potentials and sources: knowledge, skills, attitudes, values. Competence is

not static, one-side category, on the contrary, it is constantly changed, replenished, upgraded, improved, it is under the impact of a series of factors and it is in constant interaction.

By this research we wanted to examine how the employees in elementary and secondary schools of Vojvodina evaluate and what significance do they attribute to abilities and skills which the literature claims are important in pedagogical actions. Research problem is reflected through the **question**: *Whether the employees in educational institutions of Vojvodina are encouraged by combination of competences: social, professional, personal, developmental, action?*

**Research goal** is the analysis of the structure of *social, professional, developmental, action* competences in case of employees in educational institutions in Vojvodina. The tendency is to, by observing the competences, strengthen the participants in school with the tendencies for continuous development and professional training, in critical thinking and changing the present and shaping sustainable future.

Fundamental **tasks** that originate from research goal refer to operationalization and examination of each of the competences mentioned, determination of their latent structure and implications on pedagogical process of employees in educational institutions.

**Initial hypothesis** of the research is: pedagogical employees in educational institutions highly evaluate competences and recognize them as significant characteristics that employees in education should have.

**Auxiliary hypotheses** set in the research are:

H1- Employees in education highly evaluate the significance of social competences in their activities within a school.

H2 – Employees in education highly evaluate the significance of professional competences in pedagogical activities.

H3 – Employees in education highly evaluate the role of personal competences in pedagogical activities.

H4 – Employees in education highly evaluate the role of developmental competences in pedagogical activities.

H5 – Employees in education highly evaluate the role of action competences in their activities in school.

### **Research variables**

Based on theoretical thinking and analysis of factors which we believe that they can represent the competences necessary for optimal actions of employees in schools – both those who come from broader social and pedagogical environment, and those that are directly related to the process of learning and teaching, we have examined the variables that represent the operationalization of five types of competences in this paper: *social* (familiarity with interpersonal relations, democratic leadership, conflict solving, motivation skill, recognition of quality individuals), *professional* (familiarity with pedagogical principles, knowledge of planning and programming, familiarity with didactic principles, evaluation of work and familiarity with legislation), *personal* (diligence, confidence, tolerance, honesty, communicativity), *developmental* (vision clarity, rationality of organization, information in the profession, introduction of innovation and information technology) and *action* competences (creation of conditions, counselling, openness in work, stressing valuable achievements and active participation in solving the problems that emerged) (see Staničić 2000; 2006a).

### **Research instruments**

In the research, we have used the following:

1. Questionnaire for general data on respondents (socio-demographic data);
2. Questionnaire for evaluation of competences (EC-25 items, modified, short version, according to Staničić 2000); contains 25 statements that should be agreed or disagreed with by circling the numbers from 1 to 5 on Likert scale. Validity of measuring instrument was verified by the analysis of main components (factor analysis) which has shown that subject of measuring was included by three factors. Reliability of internal consistency of scale is expressed by Crombach's Alpha coefficient that is  $\alpha=0.900$  and it represents satisfactory reliability of an instrument. We have started from the assumption that awareness on desirability of some characteristics can be an encouragement for respondents to focus on problems that are subject of an evaluation.

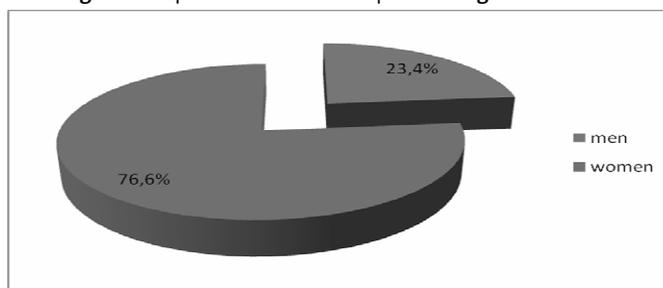
#### **2.1. Methods and sample of research**

Nature of research subject, set goal, tasks and hypotheses, have conditioned the choice of methods based on rational-deductive and empirically inductive approaches to knowledge. Analytical-synthetic and interpretative method are present in the analysis of results. Data obtained are processed by statistical method (with the help of applications of SPSS) and regulated by quantitative and qualitative analysis.

Research is implemented in 2011 in elementary and secondary schools in Vojvodina, on a sample of 252 respondents consisting of principals, assistants of principals, teachers, professors, expert associates (pedagogues and psychologists), which represented an adequate size of a sample for the application of predicted statistical methods. Research sample is *appropriate*, with elements of *intended*, i.e. non-representative and consists of the units of basic set that were available, with the selection of units that researchers considered to be typical for the population. Results obtained in this way can be considered valuable, but with limited possibilities of generalization.

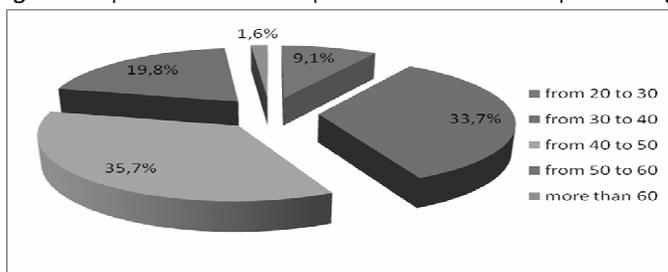
## 2.2. Sample characteristics

**Figure 1:** Graphical overview of frequencies of **gender** variable



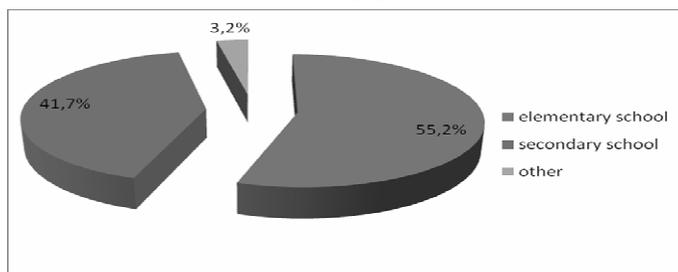
The sample consisted of 193 female respondents (76,6%) and 59 male respondents (23,4%).

**Figure 2:** Graphical overview of frequencies for the variable respondent's **age**



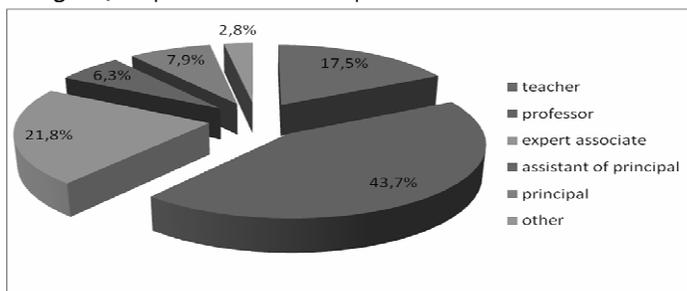
Sample included five categories of respondents according to the age: the youngest (from 20-30 years) had 23 (9,1%), category from 30-40 years had 85 (33,7%), from 40-50 years there was 90 respondents (35,7%), from 50-60 years there were 50 (19,8%), and the least was in a group of older than 60 years, 4 (1,6%).

**Figure 3:** Graphical overview of frequencies for variable **institution the respondent works in**



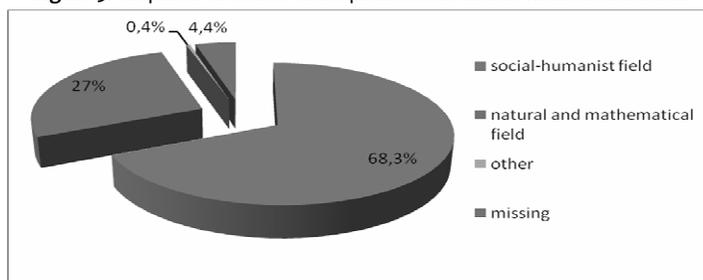
Sample included respondents employed in elementary schools 139 (55,2%), respondents from secondary schools 105 (41,7%) and small number of respondents employed in dorms for high-school students.

**Figure 4:** Graphical overview of frequencies for variable **work function**



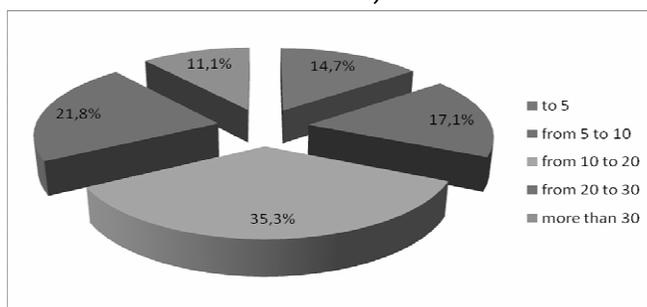
Sample included five categories of respondents classified according to work function: mostly there were professors 110 (43,7%), then expert associates (pedagogue, psychologist) 55 (21,8%), 44 teachers were examined (17,5%), 20 school principals (7,9%) and 16 principal's assistants (6,3%). Questionnaire was also filled in by 7 secretaries of educational institutions (2,8%).

**Figure 5:** Graphical overview of frequencies of variable **field of education**



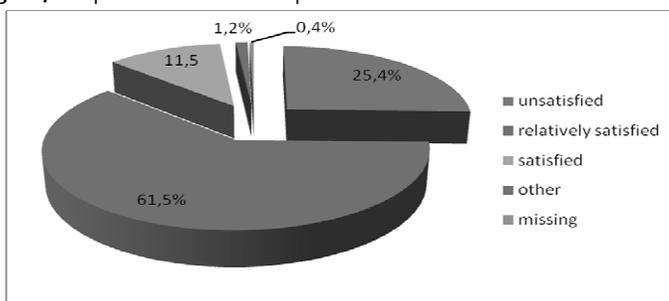
Sample included 172 (68,3%) respondents who belonged to socio-humanist field of education and 68 (27%) respondents from natural-mathematical field of education. Twelve respondents (4,7%) haven't filled in this item of the questionnaire.

**Figure 6:** Graphical overview of frequencies of the variable **work experience (years of service)**



Sample included five categories of respondents classified according to work experience: up to 5 years of work experience there was 37 employees (14,7%), from 5-10 years of service 43 (17,1%) respondents. Majority were the respondents that had from 10-20 years of service 89 (35,3%), with 20-30 years of work experience 55 (21,8%) respondents were examined, and with more than 30 years of service there was 28 (11,1%) respondents.

**Figure 7:** Graphical overview of frequencies of variable **satisfaction with earnings**



64 (25,4%) respondents are not satisfied with their earnings, relatively satisfied 155 (61,5%), satisfied 29 (11,5%), and 4 respondents (1,6%) haven't answered.

### 3. Results and discussion of descriptive statistics

#### 3.1. Average achievement of respondents on questionnaire's items for evaluation of competences

With the aim of determining the attitudes of respondents on competences that employees in a school should generally have, descriptive statistics, measures of central tendency (in the form of arithmetic mean and standard deviation for each response) we have determined average achievement of respondents in items of questionnaire for the Evaluation of competences. Respondents have expressed their consent with aforementioned statements on continuum from 1 to 5. In addition to Arithmetic means, we have also calculated Standard deviation, as a measure of solution, as well minimal and maximal values of responses for each question.

**Table 1:** Minimal and maximal value, arithmetic means and standard deviations of responses to questionnaire's items

	Minimum	Maximum	Arithmetic means	Standard deviation
Q1	1.00	5.00	4.5317	.75413
Q2	1.00	5.00	4.5595	.65628
Q3	1.00	5.00	4.2341	.77095
<b>Q4</b>	<b>2.00</b>	<b>5.00</b>	<b>4.8254</b>	<b>.44774</b>
Q5	1.00	5.00	4.7610	.52022
Q6	2.00	5.00	4.7490	.46169
Q7	1.00	5.00	4.0562	.94017
Q8	1.00	5.00	4.5360	.71185
Q9	3.00	5.00	4.6414	.54306
Q10	1.00	5.00	4.6349	.70967
<b>Q11</b>	<b>1.00</b>	<b>5.00</b>	<b>4.7778</b>	<b>.53393</b>
<b>Q12</b>	<b>1.00</b>	<b>5.00</b>	<b>2.4120</b>	<b>1.43194</b>
Q13	2.00	5.00	4.7160	.51028
Q14	1.00	5.00	4.3532	.86445
Q15	1.00	5.00	4.2720	.80036
<b>Q16</b>	<b>2.00</b>	<b>5.00</b>	<b>4.7738</b>	<b>.48936</b>
Q17	1.00	5.00	4.5219	.68302
Q18	1.00	5.00	4.5357	.67593
Q19	1.00	5.00	4.5817	.61669
Q20	2.00	5.00	4.5777	.58390
<b>Q21</b>	<b>3.00</b>	<b>5.00</b>	<b>4.8095</b>	<b>.41321</b>
Q22	2.00	5.00	4.7331	.51813
Q23	3.00	5.00	4.7160	.47776
Q24	2.00	5.00	4.5240	.62207
Q25	2.00	5.00	4.6400	.55101

Legend: Q1: Extremely important precondition for quality implementation of educational activity is diligence in work. Q2: Confidence among associates is important precondition for successful implementation of planned professional tasks in educational institutions. Q3: In educational institutions, different views of particular professional problems should be tolerated and different approaches in their solving should be allowed. Q4: It is necessary for the employees in education to be honest and consistent and to keep the promises given. Q5: It is good when employees in education do not run away from problems and crises leaving the others to solve. Q6: Communicativity is an important characteristic for successful work in school. Q7: Democratic leading of a school gives better educational results than other forms of leading. Q8: It is good if employees in education fight for public emphasis of success and results of their industrious colleagues. Q9: It is good that employees in education know how to recognize something that is good in each colleague and to develop it for the welfare of their school. Q10: Good associates in school do not sit in their offices all the time, on the contrary, they are in mutual contact constantly. Q11: Employees in educational institutions shouldn't be working „behind the back“ of their colleagues but to solve the problems „face to face“. Q12: It is not necessary for the employees in educational institutions to be burdened by solving the conflicts, when they will be solved anyway, sooner or later. Q13: It is important to recognize the needs of employees in education and apply appropriate forms of motivation for their more effective work. Q14: It is necessary for employees in education to use the computer in their work. Q15: Employees in a school should be well familiar with detailed state legislative documents and regulations from the field of education and upbringing. Q16: It is necessary for employees in school to be familiar with curriculum as well as didactic-methodical principles of their achievement in details. Q17: It is necessary for the employees to be entirely included in each introduction of innovations in educational process of their school. Q18: School will acquire its programme more successfully if the employees have a clear vision of long-term pedagogical priorities of school. Q19: For efficient activity of educational institution, it is important for the employees to rapidly acquire and transfer all relevant professional information. Q20: For good results, it is necessary to constantly eliminate all the obstacles in their professional work in educational institution and create more appropriate conditions for that work. Q21: It is important for employees in educational institution to organize their job in a good and rational manner. Q22: Employees in school should understand the sense and importance of quality planning and programming and to know how to apply it in their school. Q23: it is important for the employees to accept pedagogical principles and to know how to organize educational process in their school according to them. Q24: It is important for the employees in school to understand the rules of interpersonal relations and be familiar with mechanism by which a collective functions. Q25: employees should know manners and procedures for the evaluation of achievements of their work and achievement of objective control of their work.

**Table 2:** Average values of respondents on items of EC (evaluation of competences) questionnaire Social competences

	Minimum	Maximum	Arithmetic means	Standard deviation
Q7	1.00	5.00	4,0562	,94017
Q9	1.00	5.00	4,6414	,54306

Q12	1.00	5.00	2,4120	1,43194
Q13	1.00	5.00	4,7160	,51028
Q24	2.00	5.00	4,5240	,62207

Results of evaluating *social competences* of respondents (items 7, 9, 12, 13 and 24) point to the fact that employees in education extremely highly estimate the significance of *recognizing the needs of employees in education and application of appropriate forms of motivation for their more effective work* (4.71). In addition, they appreciate the ability to recognize what is the best in each colleague *and that is precisely what they want to develop for the welfare of the school* (4.64). It is also important for them that *employees in school understand properly the rules of interpersonal relations and to recognize the mechanisms by which a collective functions* (4.52). Significance of *democratic leadership of school in relation to other forms of leadership* is evaluated somewhat lower (4.05). The lowest evaluated items by which *It is not necessary for employees in educational institutions to be burdened by conflict solving, when they will be solved anyway sooner or later* (2.41), which testifies about the readiness of employees for solving the conflicts.

**Table 3:** Average values of respondents on the items of EC questionnaire – *Professional competences*

	Minimum	Maximum	Arithmetic means	Standard deviation
Q15	1.00	5.00	4,2720	,80036
Q16	2.00	5.00	4,7331	,51813
Q22	2.00	5.00	4,6400	,55101
Q23	3.00	5.00	4,7160	,47776
Q25	2.00	5.00	4,6400	,55101

Results of evaluation of *professional competences* of respondents (items 15, 16, 22, 23 and 25) show that employees in school highly evaluate the *necessity of a detailed familiarity with curriculum, as well as didactic-methodical principles of its implementation* (4.73). Almost identical significance is given to the item on importance of the *employees to accept pedagogical principles and to know how to organize educational process in their school* (4.71). Employees in school believe that it is necessary to *understand the meaning and importance of quality planning and programming, application of that in own school, as well as familiarity with manners and procedures of evaluating the achievements and acquisition of objective control of their work* (4.64). In the group of professional competences, employees in schools give the lowest grade to the need of employees to be well familiar with *fundamental legislative documents and regulations from the fields of education and upbringing*.

**Table 4:** Average values of respondents on items of EC questionnaire – *Personal competences*

	Minimum	Maximum	Arithmetic means	Standard deviation
Q1	1.00	5.00	4,5317	,75413
Q2	1.00	5.00	4,5595	,65628
Q3	1.00	5.00	4,2341	,77095
Q4	2.00	5.00	4,8254	,44774
Q6	2.00	5.00	4,7490	,46169

Respondents highly evaluate the significance of *Personal competences* (items 1, 2, 3, 4 and 6) in educational work. The highest evaluation is expressed towards the *necessity of employees in education to be honest and consistent and to keep the promises given. Communicativity (4.74)* is extremely important skill that the ones who work in schools should own. Among the employees in school, *confidence is an important precondition for successful achievement of planned professional tasks (4.55)*, as well as *diligence (4.53)*. Respondents also believe that *educational institutions should be tolerated to have different views of particular professional problems and allow different approaches in their solving (4.23)*.

**Table 5:** Average values of respondents on items of EC questionnaire – *Developmental competences*

	Minimum	Maximum	Arithmetic means	Standard deviation
Q14	1.00	5.00	4,3532	,86445
Q17	1.00	5.00	4,5219	,68302
Q18	1.00	5.00	4,5357	,67593
Q19	1.00	5.00	4,5817	,61669
Q21	1.00	5.00	4,8095	,41321

When evaluating the results of *developmental competences* (items 14, 17, 18, 19 and 21) the highest evaluation of employees in schools is given to the importance of *good and rational organization of their work (4.8)*. Respondents believe that *rapid acquisition and transfer of relevant professional information is equally significant (4.58)*. In addition, they believe that *the school will implement its programme if employees have a clear vision of long-term pedagogical priorities of school (4.53)*, but also that *it is necessary for the employees to be entirely included in each introduction of innovations in educational process of their school (4.52)*. The lowest evaluation in group of developmental competences the employees give to the need of *knowing to use a computer in their work (4.35)*, which is an unexpected result, having in mind general openness of respondents towards the changes, towards different, more contemporary approaches and solutions in teaching.

**Table 6:** Average values on items of EC questionnaire – Action competences

	Minimum	Maximum	Arithmetic means	Standard deviation
Q5	1.00	5.00	4,7610	,52022
Q8	1.00	5.00	4,5360	,71185
Q10	1.00	5.00	4,6349	,70967
Q11	1.00	5.00	4,7778	,53393
Q20	2.00	5.00	4,5777	,58390

In *action competences* (items 5, 8, 10, 11 and 20), respondents attribute the greatest significance to the statement *that employees in educational institutions shouldn't be working „behind the back“ of their colleagues, but to solve the problems „face to face“* (4.77), as well as that *it is good when employees in education do not run away from problems and crisis leaving the others to solve them* (4.76). In addition they believe that *good associates in school do not spend all their time in offices, but they are constantly in mutual contact* (4.63). In addition, they believe that *for good results it is necessary to constantly eliminate all obstacles in professional work in educational institution and create appropriate conditions for that work* (4.57) and that *it is good if employees in education support public emphasis of success and results of their industrious colleagues* (4.53).

### 3.2. Analysis of latent space of questionnaire for the Evaluation of competences

As descriptive analysis provides only explicative insight into problems, we were further interested in whether there are key attitudes common for all respondents, which are not „visible“ at first sight, hidden psychological structure and attitudes of respondents. On questionnaire in research we have carried out the analysis of main components, in order to determine latent structures of measuring space and reduce initial set of indicators (items in questionnaires) on smaller number of latent dimensions. Having in mind the explorative nature of research and tendency to include all potentially useful variability in analysis, the advantage over procedures of factor analysis in narrower sense is given to this modality of factor analysis.

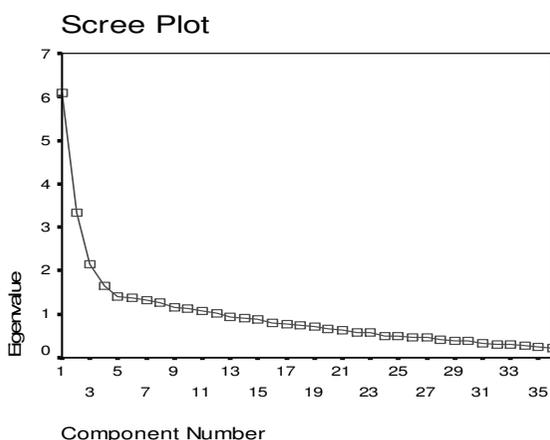
According to Gutman-Kaizer criterion, there were 7 significant main components until Katel's Scree criterion suggested that optimal factor solution is 3-5 main components. We have extracted 3 factors by Promax rotation, applied having in mind the assumption on the existence of correlation among latent dimensions, which together explain nearly 36% of total variance. We have chosen this solution for two reasons, the first one was because it was the most interpretable (after a few solutions with different number of retained factors and different procedures of rotation),

and the second reason is that these factors are in accordance with the factors obtained in previous studies.

**Table 7:** Characteristic roots and percentage of explained variance

Prior to rotation				After rotation
	Characteristic root	Percentage of variance	Cumulative percentage	Characteristic root
1	6,098	24,393	24,393	5,621
2	1,471	5,885	30,278	3,829
3	1,422	5,686	35,964	2,602

**Figure 8:** Scree test – Excerpt from matrix of the structure of the first Promax factor



**Table 8:** Excerpt from the matrix of the structure of the first Promax factor

Item content	r
Q2	,606
Q4	,703
Q5	,716
Q6	,619
Q9	,547
Q11	,564
Q19	,426
Q20	,613
Q22	,653
Q23	,574
Q24	,630
Q16	,596

The first Promax factor gathers items that speak about good interpersonal relations as a precondition for successful work in school. This can be seen from correlation of factors with items of the type: Q4: *It is necessary for employees in education to be honest and consistent and to keep the*

promises given, Q5: *It is good when employees in education do not run away from problems and crisis leaving the others to solve them*, Q2: *Confidence among the associates is an important condition for successful achievement of planned professional tasks in educational institutions*, Q6: *Communicativity is an important characteristic for successful work in school*. In addition, the factor also gathers the items that concern familiarity with educational process as a precondition for successful work at school, and it can be seen from correlation of factors with items of the type: Q22: *Employees in school should understand the sense and importance of quality planning and programming and to know how to apply this in their school*, Q23: *It is important for the employees to accept pedagogical principles and to know how to organize educational process in their school according to that*, Q16: *It is necessary for employees in school to be familiar with curriculum and well as didactic-methodical principles of its accomplishment in details*. Based on everything above-mentioned, **the first factor** is named: *Good interpersonal relations and familiarity with pedagogical principles (F1 EC)*.

**Table 9:** Excerpt from the matrix of structure of the second Promax factor

Item content	2
Q9	,461
Q18	,607
Q19	,672
Q20	,481
Q22	,423
Q23	,412
Q24	,440
Q25	,740
Q13	,685
Q15	,422
Q17	,431

The second Promax factor gathers the items that speak about the necessity of good organization of facility, which implies that employees know on basis on what is their performance measured, what is legal regulation of school work like, to have a clear vision of long-term goals of the school. Factor has statistically significant correlation with items: Q25: *Employees should know the manners and procedures of evaluating the achievements of their work and achievement of objective control of their work*, Q18: *School will achieve its programme more successfully if the employees have a clear vision of long-term pedagogical priorities of school*, Q19: *For efficient activity of educational institution, it is important that the employees rapidly acquire and transfer relevant professional information*.

The **second factor** is named Good organization of institution and educational process (F2 EC).

**Table 10:** Excerpt from the matrix of the structure of the third Promax factor

Item content	3
Q3	,691
Q7	,708
Q12	,454
Q23	,422
Q16	,499
Q17	,379

The third Promax factor is characterized by items that refer to democratic manner of leading a school, as an institution, which can be seen from correlation of this factor and the following items: Q7: *Democratic leading of a school gives better educational results than other forms of leading.* Q3: *In institutions of education we should tolerate different views of particular professional problems and allow different approaches in their solving.* The **third factor** is named Democratic leading of a school and educational process (F3 EC).

**Table 11:** Matrix of inter-correlation of factors

Component	1	2	3
1	1,000	,490	,335
2	,490	1,000	,321
3	,335	,321	1,000

All the factors mutually have statistically significant correlation, which was expected because educational process is rather complex and all its factors are mutually connected.

## 1. Discussion

Based on results, we can see that employees in elementary and secondary schools in Vojvodina show the highest compliance and evaluate the characteristics that refer to honesty, consistency and keeping the promises given as the most important characteristics of pedagogical workers. The significance of characteristics related to interpersonal relations is also stressed, on one hand (*Employees in educational institutions shouldn't be working behind the backs of their colleagues but to solve the problems „face to face“*) as well as competence and good, rational organization of work, on the other hand. Employees in school need to be familiar with curriculum as well as didactic-methodical principles of its achievement in details. The lowest consent they express with the item: *It is not necessary for the employees in educational*

*institutions to be burdened by solving the conflicts, when they will be solved anyway sooner or later (2.41), and as it is about negation, it is observed that indirectly the employees evaluate the need for solving the occurred conflict situations significant.*

Based on results obtained, **auxiliary hypotheses** set in this research are confirmed:

H1 - Employees in education highly evaluate the significance of social competences in their activities within a school (familiarity with interpersonal education, democratic leadership, solving the conflicts, motivation skill, recognition of quality individuals);

H2 - Employees in education highly evaluate the significance of professional competences in pedagogical activities (familiarity with pedagogical principles, knowledge of planning and programming, familiarity with didactic principles, evaluation of work and familiarity with legislation);

H3 - Employees in education highly evaluate the role of personal competences in pedagogical activities (diligence, confidence, tolerance, honesty, Communicativity);

H4 - Employees in education highly evaluate the role of developmental competences in pedagogical activities (clarity of vision, rationality of organization, informing in profession, introduction of innovation and information technology);

H5 - Employees in education highly evaluate the role of action competences in their activities in school (creation of conditions, counselling, openness in work, stressing valuable achievements and active participation in solving the problems that occurred).

As a subject of research, we have also set the definition of key attitudes common for all respondents, which are not „visible“ at first sight, i.e. „hidden“ psychological structures and attitudes of respondents, so we have analyzed latent structure of questionnaire for studying Pedagogical competences. Factor analysis shows that dominant attitude among the respondents is that for successful pedagogical actions in school *good interpersonal relations* (Table 8) are required. In that sense, the biggest group of respondents believes that it is necessary for employees in education to be honest, consistent, to keep the promises given, that mutual confidence of associates is an important condition for successful achievement of planned professional tasks in educational institutions. The biggest group of employees in school stresses that familiarity with educational process in a precondition of a successful work in school. Process of education in school needs to be organized in a good way,

planned, programmed and implemented in accordance with certain pedagogical and didactic-methodical principles.

Further, employees in school believe that school requires good organization, by which they imply legal regulation of work in school, methods and procedures based on which objective control and evaluation of achievements of their work will be achieved and their performance will be evaluated, as well as the possibility of rapid acquisition and transfer of relevant professional information, significance of *Good organization of institution and educational process* (Table 9) extracted by factor analysis. In addition, school will more successfully achieve its programme if employees have a clear vision of long-term pedagogical priorities and if *Democratic leadership of a school and educational process* (Table 10) is provided. Respondents believe that democratic leadership of a school gives better educational results than other forms of leading and that in school we should tolerate different views of particular professional problems and allow different approaches in their solving, so this thesis was crystallized as the third dominant factor of research.

Based on results presented in Matrix of factors inter-correlation (Table 11), we observe that among all derived factors: Good interpersonal relations and familiarity with pedagogical principles (F1 EC); Good organization of institution and educational process (F2 EC); Democratic leadership of school and educational process (F3 EC) there is a positive correlation, of moderate intensity. Higher correlation (.490) is present between the first and second factor, which means that good interpersonal relations and familiarity with pedagogical principles (F1) are closely, positively related to good organization of institution and educational process (F2). Slightly lower correlation exists between factors democratic leading of a school and educational process with good interpersonal relations and familiarity with pedagogical principles (.335) and good organization of institution and educational process (.321). Generally, correlation coefficients are of moderate intensity which, having in mind that it is about correlations among latent dimensions, points to significant interlacing and homogeneity of measuring space of EC questionnaire. This inter-correlation of factors can be related to findings of Arsenijević et al. (2009: 527) where „culture of experimenting and learning created from the part of professors at faculties has high correlation with activities of sharing and allocation of professors' knowledge“. Namely, culture, as determinant of interpersonal relations is largely in interaction with sharing and allocation of knowledge in collective, analogue to good organization, as well as democratic leading of educational institution.

Factor analysis carried out on answers provided by respondents on a questionnaire for evaluation of competences leads to the following conclusions:

Among the employees in educational institutions who have participated in this research, there is a dominant attitude that good interpersonal relations and familiarity with pedagogical principles are crucial for work in school. The second dominant attitude refers to emphasis of good organization of an institution and educational process. Finally, as the third dominant attitude, the thesis that for success in teaching process we need democratic leading of educational institutions, as well as the very teaching process, was crystallized. Respondents who have the attitude that interpersonal relations are the most significant support to the significance of good organization of an institution, as well as democratic leading of a school and educational process (as well as vice versa).

Employees in educational institutions have shown that they recognize the competences and characteristics important for work in education. Based on all the results presented, we can say that **general hypothesis** of the research: pedagogical employees in educational institutions highly evaluate competences and recognize them as significant characteristics that employees in education should have, **is confirmed**.

### 5. Conclusion

Relying to previous research (Staničić, 2000b; 2002; 2006a; 2006b; Andevski, 2007a; 2007b; Andevski/Ristić, 2010, Arsenijević etc., 2009) and results obtained in this research, we conclude that expertise, information, good interpersonal relations and orientation on associates and colleagues is important characteristic of employees in educational institution. This characteristic is significantly related to democratic orientation as the best for of leading in school. Awareness and recognition of democratic leading as an important factor for success of education is essential: „Democratic leadership and authority’s delegation determine anaffirmative culture; whilst repressive and authoritarian leadership determine disintegrated, non-affirmative culture” (Arsenijević et al., 2009: 528). Development of social, professional, personal, developmental, action competences (which can be seen from descriptive statistics of questionnaire) is reflected in profile of pedagogical employee who should have a clear vision, change constantly and positively, introduce innovations, knows how to work with people, motivate students and associates, successfully solves conflicts that prevent the achievement of school programme, he should be honest, full of confidence, open for cooperation, industrious, intensely dedicated to work, familiar with principles on which teaching takes place as a

foundation of educational process. competence of employees in school is reflected through creative and constructive life attitude, through belief and readiness for improving the quality of own life, which can be a positive example in development of students and readiness to answer the requirements of contemporary life.

Findings of research show that in educational institutions it is necessary to implement permanent education, with the aim that all employees in education to be strengthened and to develop their potentials and abilities, because by improving educational process, the state will also be strengthened (Pastuović, 2006). Investment of funds in shaping and education of complete teacher in school who will lead himself and inspire the others by their example would be multiply paid off.

We believe that implications of this paper will be reflected in encouragement of professional and scientific public to dedicate continuous care and attention to the issues of monitoring, development and strengthening the competences of all employees in school. Ultimate result can always be in potential creation of programmes that will be effective in raising competences of pedagogical workers, created as operative, dynamic, flexible, adapted, targeted according to the needs to employees in educational institutions.

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