

The Teacher – A Reflective Researcher of the Teaching Practice

Veljko Bandjur¹ and Jelena Maksimović²

¹Teacher Training Faculty, University of Belgrade

²Faculty of Philosophy, University of Niš

Abstract

The needs of modern society set before teachers some new requirements with regard to the teacher's changed role. Teachers are ceasing to be agents transferring knowledge and are becoming persons who diagnose and organize the research process. As a starting point in the discussion, we have analyzed the correlation between the methodological training of teachers in the model of the reflective practitioner and in the model of educating the teacher – researcher. Likewise, the paper has analyzed teachers' positions on knowledge, skills and potentials needed for the study and promotion of educational practice, viewed against: the length of professional service, the knowledge and use of a foreign language, the school environment, the length of undergraduate study and the grade point average during this study. The goal of the research is to initiate practical changes which would bring about expected results in terms of promoting educational practice. The research pooled 390 Serbian primary school teachers. The results have shown that knowledge of the methodology of pedagogical research (construction and use of instruments, project and research implementation) is perceived as most indispensable for the promotion of educational practice ($p < 0.001$).

Key words: *methodology education; reflective practitioner; teacher researcher; teacher training.*

Introduction

Modern society has brought about a changed view of the teacher, transformed from a controller of the teaching process to an agent of critical change, taking over the role of a critical reflective practitioner (Crebbin, 2003; Bognar, 2002; Schön, 1987, 1990) and teacher-researcher (McNiff, 2011; Whitehead, 1999). In a changing school teachers

cannot be mere users of research results, typically obtained by professional researchers within academic institutions and research centres. Rather, they are becoming active participants in the research process, capable of creating their own pedagogical path and critically questioning all aspects of their professional activity, with the purpose of its constant enhancement (Craft, 2000).

The teacher – reflective practitioner is an alternative to the traditional practitioner, since he exhibits a changed conceptual and methodological approach to the practice. He is an active, student-oriented individual, ready to reconsider his own opinion, to study the capacities and various activities in response to practical problems, staying alert to students' thoughts and emotions. In that respect, the teacher is an active creator of new knowledge of learning, teaching, and the curriculum, rather than a mere executor of expert opinion, producer of professional knowledge. The development of a practitioner implies a complex, multidimensional and dynamic construct of creating and discovering meaning, which develops throughout one's professional practice as a result of interaction between a person and their environment (Coldron & Smith, 1999, pp. 711-726). The teacher – reflective practitioner is one of the possible paradigms of that person's lifelong learning and advancement. It is a new conceptual and methodological approach based on the promotion of the teaching and learning process, standing in opposition to the technical and rational (traditional) model of the practitioner's development.

Authentic methodology of reflective practice can be found in the definitions of numerous authors. Correy (1953, p. 6) says this is a process in which practitioners study problems scientifically, in such a way that they can be evaluated and improved, initiating the change of decisions and practice. Hopkins (2001, p. 32) and Ebbutt (1985, p. 156) claim that it is the combination of action and research that makes this action a form of disciplinary research whose goal is to understand, advance and reform the practice. Based on these definitions, it follows that the promotion of educational practice depends on the following aspects: (1) Every school should create its own developmental model whose aim would be to ensure changes and promotion of the educational practice. This internal change process takes the form of restructuring of the culture, creating a common vision of school promotion, teacher participation in school management, particularly in terms of introducing changes specific to the needs of each individual school (Harris, 2002, Bogнар, 2002; Fullan, 2000). (2) Creation of professional communities enabling teacher cooperation and networking. (3) Investment in professional advancement, carried out in the school via peer discussions and actions. (4) Support of teacher research, which contributes to the quality of the teaching process and student learning, once they have become a constituent part of teachers' everyday professional life.

The Teacher – Reflective Practitioner

Schön's (1987) book "Educating the Reflective Practitioner" is considered the decisive point in the process in which the idea of the reflective teacher became significant.

Schön puts teacher education into the school, in the so-called reflective practicum, which provides the total context in which teachers are trained. The practicum is a virtual world, relatively free from the pressures, hindrances and risks of the real world it refers to, between the world of practice and the esoteric, academic world (Schön, 1987). The goal of reflection is to change the way in which the teacher understands and interprets his practice on the one hand, but also to change the practice itself, on the other. For a reflective practitioner, it is reflection in the action that is important, and we define it as readiness for surprises, enabling one to act in a new way. In this case, the action is the situation in which the newly-emerged problem is to be resolved. Reflection in action is an intellectual and verbal activity, but, first of all, this is the capacity to improvise, in which participants in the educational process listen to one another in order to reach an agreement (Schön, 1987; Winter, 1998). Schön's (1987) reflective practitioner concept is based on Dewey's interpretation of reflection – as a systematic problem solving, extended present to mean “reflection in action”. Understanding reflection as a skill (capacity) of thinking in action has been further developed in various ways. Today there is discussion of reflection not solely related to the teaching process. Rather, in addition to teaching and learning strategies, it includes ethical (goals) and social (institutions) education questions.

The model of the teacher who actively broods upon his professional experience is taken to be the principal goal of professional education and fundamental approach to professional development. The critical-reflective teacher strives to replace the hierarchic, authoritarian, standardized and conformist educational process with an emancipatory and democratic model (Crebbin, 2000), where the teacher's educational activity is not a manipulation, but rather a communicative act (Habermas, 1988; Polić, 1997; Terry, 1997, pp. 269-279). For Brookfield (1995), an important characteristic of critical reflection is the questioning of certitudes, prejudices, *a priori* positions, because what we believe, think and do is what we are. Accordingly, Brookfield (1995) defines three types of assumptions: paradigmatic (our view of the world), customary (our expectations in given situations), and causal (pertaining to events in our lives having the connection of cause and consequence). Naturally, not every reflection is critical. According to Brookfield (1995, pp. 9-21), there are two important conditions for accomplishing critical reflection. One starts from understanding of the importance and power relations at school, while the other is based on the research of hegemony, i.e. imposition of interests of some social groups as own interests. For some authors (McMahon, 1999, Maksimović, 2010; 2011) the concepts of reflective practice and action research are in many respects similar. Action research unifies three processes: teachers' reflective learning, research of practice in the classroom, and development of the quality of the teaching process. This is why teacher research goes under the labels: action research, practitioner research, interactive research, practical research, teacher researcher, classroom research, practice-aimed research, etc. In that respect, the teacher is an active creator of new knowledge of the learning, teaching and the curriculum,

rather than a mere executor of expert ideas, a producer of professional knowledge. However, significant for action research is the well thought-out and planned attempt to solve one or more problems, which is not the case in reflective practice. Given this difference, the reflective practice can be used only for the identification of problems, while action research should be used for finding solutions.

Reflection naturally goes hand in hand with the profession of a teacher, and teachers differ in terms of their capacity to reflect: while some are prone to critically reconsider their positions and behaviour, others are satisfied with models of behaviour and thinking which were once created, and are not willing to easily replace or transform them. The reflective practitioner teacher approach is characterized by: a unique connection between thought and action, an epistemological spiral of learning and changing the practice, appreciation of rational and intuitive learning, as well as that of ethical and affective aspect of the teacher's activities, stressing the importance of contextual factors for the teacher's activity, stressing the social importance of the teacher's activity (Radulović, 2007, pp. 597-609). A unique combination of these components creates a unity of interrelated ideas, an approach to the teacher as a reflective practitioner. The development of a practitioner implies a complex, multidimensional and dynamic whole in which meanings are created and discovered. This system develops throughout the span of one's professional career, as a result of interaction between the person and his or her environment (Coldron & Smith, 1999, pp. 711-726). As a reflective practitioner, a teacher has to be oriented toward life-long education because his education can never be considered complete.

Explaining the development of the teacher – reflective practitioner concept, Zeichner (1993, pp. 5-35) says: "The movement which has developed in the field of teaching and teacher education under the banner of reflection can be viewed as a reaction against the understanding of the teacher as a technician, who only applies something that others, working outside of the classroom, want him to do, or as an expression which rejects the top-down form of education, which involves teachers only as passive participants. Reflection, moreover, suggests that there is recognition that the knowledge of the good teaching process is not an exclusive property of universities and researchers, that teachers too, have theories which can contribute to the pool of knowledge about the teaching process. Although there is a danger that this sentiment could result in the rejection of knowledge gained at universities, and this would be a mistake equal to the rejection of teachers' knowledge, there is a clear awareness that in the reform of education and school advancement we cannot rely solely on knowledge obtained at the university." Education for reflective practice is a comprehensive process, consisting in the acquisition of knowledge on problems and understanding of problems followed by a personal attitude, readiness and skills to reach decisions on one's own action.

The nature of the educational practice is such that there are daily problems that need to be addressed while the action is taking place. The practice is insecure and full

of conflicts, which is why our activities require continuous reflection and verification. Such practice is based on the reflection, recognition and testing of implicit pedagogies, hypotheses and past experiences in present circumstances. A reflective practitioner is an active individual testing solutions and various courses of action in response to practical problems. He is characterized by a reflective open mind, which is possible only if we are willing to reconsider our opinion. No matter how convincing or coherent with our original intention an idea is, it is always liable to reconsideration and improvement.

Based on the positions presented above we can clearly see that, instead of ready-made contents and goals in the syllabus based on the teaching methodology, a reflective teacher has an active channel open to children's thoughts and feelings; he observes activities, notices their capacities and aims to find appropriate procedures helping situations in children's development. During this process, he "allows for surprises originating from various unforeseeable situations, where his prior experience and knowledge cannot provide an adequate response: rather, it is his professional skill which is instrumental in such situations" (Schön, 1987).

A reflective approach to one's own practice, whether the person is a teacher or researcher, is an indispensable condition for us to get to know what we actually do, what we know, and in what segments we are yet to improve ourselves, both individually and socially.

Methodological Education of Teachers

Apart from the influence of other unfavourable factors and conditions, numerous weaknesses in the advancement of the educational process are a result of insufficient methodological education that teachers have received. Teachers should become familiar with the basics of methodological education already during their teacher training, and this should be further enriched in their daily work as educators and through various forms of professional advancement (institutional and individual). Methodological education of teachers implies that they should be actively involved in participative practical studying, that they should gain individual experience, have a practical capacity to conduct research into their own practice, a capacity to take part in studies conducted by other researchers, to critically monitor the educational process, analyze interrelated and developing events, facts and relations, and analyze, study, evaluate and improve daily pedagogical practice and their own activities as teachers.

The need for the methodological education of teachers was stressed by a number of pedagogues and psychologists (Mužić, 2004; Potkonjak & Bandur, 1999; Havelka, 2000; Krulj, 2003; Kundačina, 2008). We list here some of their positions. Mužić claims that, if he wishes to become a person realizing his own educational process, the teacher has to learn how to ground this process scientifically. He sees the following forms of the teacher's role in field research: (1) carrying out action research; (2) participation in field research conducted by external research institutions; (3) monitoring and critical

acceptance, or lack thereof, of the results of research presented from the pedagogical practice: from books, journals, papers (Mužić, 2004).

Research practice and methodological training entail not only theoretical methodological knowledge and skills, but also quite concrete knowledge needed to select and implement appropriate methodological and statistical data gained in the research, and to present results in professional meetings.

Which methodological competences should primary school teachers master? Based on recent discussions, we present a preliminary list to provide an answer to this question:

(1) Get to know epistemological features and basic research methods in the study of development and education (Matijević, 2004; Mužić, 2004; Pejović, 1983).

(2) Use results of other studies, conducted and published by other researchers.

(3) Understand the language of science in the field and domain relevant to the teachers' field of work.

(4) Master the techniques of intellectual activity universal to all science: literature overview, rules of quotation, listing bibliographical and other scientific sources, knowledge of the structure of written research report (Mužić, Matijević, & Jokić, 2003).

(5) Get to know the basic methodological and logical rules of definition, classification, and inference.

(6) Get to know the scientific method of data collection: observation, interviewing, surveying, scaling, content analysis, case study (Maksimović, 2009; Halmi, 2004; Mužić, 2004).

(7) Get to know the scientific methods: descriptive, causal, comparative, historical (Mužić, 2004).

(8) Get to know the standards for the categorization and evaluation of research papers.

(9) Get to know and appreciate ethical rules and norms in research (Mužić, Matijević, & Jokić, 2003).

(10) Be motivated for permanent monitoring of more recent research findings in educational science (Maksimović, 2009).

(11) Master competences relevant for participation in team research projects.

(12) Gain some critical insight with regard to science, i.e. a critical attitude towards upbringing and education theories, and also to results of own research.

Method

The subject matter of this research is an analysis of positions of teacher-practitioners on the knowledge, skills and possibilities for researching and advancing educational practice. The goal of the research is to initiate some changes in the practice, which would bring about expected results, aiming at the familiarization with the pedagogical reality, where researchers should be directly active in order to make teachers more motivated to conduct research and promote the educational practice.

The research goals are to study which knowledge (skills) a teacher needs in order to conduct research and promote educational practice (1) viewed against the length of professional service; (2) viewed against the knowledge and use of a foreign language; (3) viewed against the school environment; (4) viewed against the length of his or her undergraduate studies; and (5) viewed against the grade point average in his or her studies.

Based on the goals so conceived, we defined the null hypothesis: it is postulated that knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out the research project) is indispensable for a teacher wishing to conduct research into and promote educational practice (viewed against the teacher's sex, length of service, knowledge of a foreign language, the school environment, the length of study, and grade point average).

The research variables are: (1) the teacher's length of service (four categories: 0-5, 6-20, 20-30, and more than 30 years of service); (2) knowledge of a foreign language; (3) the school environment (city and countryside); (4) the length of undergraduate studies; (5) grade point average during undergraduate studies. This study is a part of a more thorough research related to teachers' professional advancement in promoting the educational practice.

The research used a descriptive method and surveying technique. Since there are no standardized instruments in this field, and given the nature of the problem studied, for this purpose we constructed a specific Teacher Questionnaire (TQ).

Sample

The sample is a selected part of the statistical set which should be representative of the population studied in the research. If the sample is representative according to all relevant properties, the results obtained in the research are more reliable. Statistically different types of samples can be obtained. The research population from which the sample has been drawn here is that of elementary school teachers. In this study, the teacher sample has the nature of a deliberate and random sample. A series of random elements has resulted in which teachers would participate in the study, which means that the sample has some characteristics of a random one. The research was conducted on 390 elementary school teachers with university level degrees. Schools in which the study was carried out were selected randomly. The sample included elementary school teachers from the territories of Vojvodina (Novi Sad, Subotica, and Sombor), central Serbia (Belgrade, Kragujevac, and Užice) and south Serbia (Niš, Leskovac, and Vranje).

The sample had the following characteristics:

(1) The group of teachers studied is not homogenous in terms of the length of service as teachers, as testified by the χ^2 test parameters ($\chi^2=7.85, p<0.05, \Delta f=2$). Most respondents (43.08%) have worked as teachers for 11 to 20 years. Conspicuously, almost 2/3 of the participants had 10 to 20 years of service during the research. This group is more numerous as compared with both up to 10 year and over 20 year groups.

(2) As expected, most participants (212- 54.36%) knew English, while the remaining three alternative languages (German, French, Russian) were statistically much rarer ($p < 0.001$). Out of the total number, 20 respondents (5.13%) stated they did not know any foreign language. The studied group of teachers is not homogenous in terms of the knowledge of a foreign language according to Pearson's χ^2 test ($\chi^2 = 113.37$, $p < 0.001$, $\Delta f = 2$). One third of the respondents actively use a foreign language, while the vast majority (statistically significant – 61.54%) have only passive knowledge of a foreign language.

(3) The studied group of teachers is not homogenous according to the location of their school, either ($\chi^2 = 31.88$, $p < 0.001$, $\Delta f = 2$). More than half (53.33%) teach in urban environments, while statistically significantly much fewer teach in suburban and rural areas.

Table 1. Sample structure according to the length of service, length of studies and grade point average

	N	\bar{X}	SD	CV
Length of service	390	1.99	0.76	37.87
Length of studies (years)	390	5.49	1.02	18.56
Grade point average	390	7.59	0.56	7.37

The average length of studies for respondents was 5.49 ± 1.02 years, while the grade point average was 7.59 ± 0.56 (5-10). In terms of both of these continuous variables the sample is homogenous, as testified by the variation coefficients, 18.56 and 7.37, respectively.

The study was carried out in 2011 and is a part of a more detailed research about pedagogical research in schools. We strived for the research process to be as equal as possible in all the schools. During this procedure, we received generous help of research assistants without whom this study would not have been completed.

Analysis and Interpretation of Research Results

In this part of the paper, we aim to find out which knowledge (skills) the teacher-practitioner needs in the research and promotion of the educational practice. We analyzed teachers' positions on which knowledge (skills) the teacher needs to research into and promote the educational practice (viewed against sex, length of service, knowledge of foreign languages, the school environment, the length of studies, and grade point average during the studies). Our results are presented below (Table 2).

In the opinion of the large majority of participants, the knowledge of the methodology of pedagogical research (construction and use of instruments, conducting research projects) is needed the most (37.69%). This is also the statistically most frequent response as compared with all other responses ($p < 0.001$). In addition to other unfavourable factors and conditions, numerous weaknesses in the implementation and advancement of the educational process are a result of an inadequate methodological culture and lack of teacher training in that domain.

Teachers should become familiar with the basics of methodological education already during their teacher training, and this should be further enriched in their daily work as educators and various forms of professional advancement (institutional and individual). The remaining responses are quite evenly distributed. One should note that literacy in information technologies ranks second (14.87% of responses).

Table 2. Knowledge (skills) the teacher needs to study and promote educational practice

Knowledge (skills) the teacher needs to study and promote educational practice	N	%
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	51	13.08
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	147	37.09
Knowledge of team work skills	44	11.28
A greater need for individualization, getting to know students, their differences and specific needs	46	11.79
IT literacy (use of computers and modern technologies)	58	14.87
Familiarization with and use of new approaches in the domain of testing and grading of knowledge	44	11.38
Total	390	100.00

Table 3. Knowledge (skills) the teacher needs to study and promote educational practice – viewed against sex

Knowledge (skills) the teacher needs to study and promote educational practice	Male		Female	
	N	%	N	%
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	13	13.27	38	13.01
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	38	38.78	109	37.33
Knowledge of team work skills	9	9.18	35	11.99
A greater need for individualization, getting to know students, their differences and specific needs	13	13.27	33	11.30
IT literacy (use of computers and modern technologies)	16	16.33	42	14.38
Familiarization with and use of new approaches in the domain of testing and grading of knowledge	9	9.18	35	11.99
Total	98	100.00	292	100.00

$$\chi^2=1.49, p=0.9140, \Delta f=5, C=0.06$$

Based on the calculated $\chi^2=1.49$ with borderline Chi square values 11.070 and 15.086 for the given degree of freedom of $\Delta f=5$ and significance levels 0.05 and 0.01, we have found that both sexes report similar opinions on the knowledge and skills that teachers need in order to promote educational practice (Table 3). Thus there are no significant differences in the answers by men and women. The $C=0.06$ correlation coefficient suggests poor relatedness and insignificant correlation. One should stress that in both sexes knowledge of methodology of pedagogical research is a statistically more prevalent alternative as compared with all other responses ($p<0.001$).

Table 4. Knowledge and skills the teacher needs to study and promote educational practice – viewed against the length of service

Knowledge (skills) the teacher needs to study and promote educational practice	Length of service					
	Up to 10 yrs		10-20 yrs		Over 20 yrs	
	N	%	N	%	N	%
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	13	11.61	19	11.31	19	17.27
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	40	35.71	65	38.69	42	38.18
Knowledge of team work skills	24	21.43	15	8.93	5	4.55
A greater need for individualization, getting to know students, their differences and specific needs	14	12.50	17	10.12	15	13.64
IT literacy (use of computers and modern technologies)	13	11.61	33	19.64	12	10.91
Familiarization with and use of new approaches in the domain of testing and grading of knowledge	8	7.14	19	11.31	17	15.45
Total	112	100.00	168	100.00	110	100.00

$\chi^2=26.40, p=0.0032, \Delta f=10, C=0.25$

Although based on the contingency table 6x3, and on the calculated $\chi^2=26.40$ with borderline Chi square values of 18.307 and 23.209 for the corresponding degree of freedom $\Delta f=10$ and significance levels 0.05 and 0.01 there is a statistically significant difference in the responses of groups of teachers formed based on the length of their professional service ($p<0.01$), it is obvious that in all three subgroups, knowledge in the methodology of pedagogical research predominated (Table 4). The $C=0.25$ correlation coefficient suggests weak relatedness, and low correlation.

Among respondents whose professional service has lasted up to 10 years, knowledge of pedagogical research methodology is more important than team work skills ($p<0.05$), which is found in all the other alternatives ($p<0.01$). In the remaining two groups of teachers, those with a longer career, knowledge in the methodology of pedagogical research is more important than all other alternatives ($p<0.01$).

Team work skills are more important for respondents with up to ten years of professional career than for those who have worked for 10-20 or more than 20 years ($p<0.01$). Interestingly, the need to be proficient in information technologies was most expressed in participants with 10 to 20 years of professional service, while the familiarization with and use of new approaches in the domain of testing and grading knowledge was dominant in the oldest, and least reported in the youngest group of colleagues.

From the 6x3 contingency table, based on the calculated $\chi^2=7.89$ with borderline Chi square values of 18.307 and 23.209 and the corresponding degree of freedom $\Delta f=10$, and significance levels 0.05 and 0.01, one notices that there is no statistical difference (Table 5). The $C=0.14$ correlation coefficient suggest very weak relatedness and insignificant correlation.

Table 5. Knowledge and skills the teacher needs to study and promote educational practice – viewed against the use of a foreign language

Knowledge (skills) the teacher needs to study and promote educational practice	Use of a foreign language					
	None		Passive		Active	
	N	%	N	%	N	%
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	5	25.00	31	12.92	15	11.54
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	6	30.00	94	39.17	47	36.15
Knowledge of team work skills	2	10.00	28	11.67	14	10.77
A greater need for individualization, getting to know students, their differences and specific needs	2	10.00	29	12.08	15	11.54
IT literacy (use of computers and modern technologies)	1	5.00	32	13.33	25	19.23
Familiarization with and use of new approaches in the domain of testing and grading of knowledge.	4	20.00	26	10.83	14	10.77
Total	20	100.00	240	100.00	130	100.00

$$\chi^2=7.89, p=0.6394, \Delta f=10, C=0.14$$

In all groups, knowledge in the methodology of pedagogical research is perceived as the most needed. In the group of respondents who use a foreign language passively this alternative is statistically more significant than all the others ($p<0.001$). The same applies to teachers actively using a foreign language, with whom the significance level is lower only in relation to IT literacy: in the opinion of those participants, this category comes second ($p<0.01$).

Table 6. Knowledge and skills the teacher needs to study and promote educational practice – viewed against the school environment

Knowledge (skills) the teacher needs to study and promote educational practice	The school environment					
	Urban		Rural		Suburban	
	N	%	N	%	N	%
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	30	14.42	14	15.91	7	7.45
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	74	35.58	35	39.77	38	40.43
Knowledge of team work skills	22	10.58	11	12.50	11	11.70
A greater need for individualization, getting to know students, their differences and specific needs	20	9.62	10	11.36	16	17.02
IT literacy (use of computers and modern technologies)	36	17.31	10	11.36	12	12.77
Familiarization with and use of new approaches in the domain of testing and grading of knowledge	26	12.50	8	9.09	10	10.64
Total	208	100.00	88	100.00	94	100.00

$$\chi^2=9.41, p=0.4935, \Delta f=10, C=0.15$$

From the 6x3 contingency table, based on the calculated $\chi^2=9.41$ with borderline Chi square values of 18.307 and 23.209, the corresponding degree of freedom $\Delta f=10$, and significance levels 0.05 and 0.01, one notices that there are no statistical differences in terms of the preference of particular types of knowledge the teacher needs to promote educational practice (Table 6). The $C=0.15$ correlation coefficient suggests very weak relatedness and insignificant correlation.

In all three groups, knowledge of the methodology of pedagogical research was selected statistically more often than all other individual alternatives ($p<0.001$).

Table 7. Length of study viewed against the knowledge (skills) the teacher needs in the research and promotion of educational practice

Knowledge (skills, capacities) the teacher needs to study and promote educational practice	N	\bar{X}	SD	CV
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	51	5.40	1.08	19.94
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	147	5.45	0.94	17.20
Knowledge of team work skills	44	5.24	0.98	18.70
A greater need for individualization, getting to know students, their differences and specific needs	46	5.78	0.95	16.47
IT literacy (use of computers and modern technologies)	58	5.46	1.17	21.53
Familiarization with and use of new approaches in the domain of testing and grading of knowledge	44	5.69	1.05	18.38
Total	390	5.49	1.02	18.56

One way ANOVA: $F=1.81$, $p=0.1101$, $\Delta f=5$

Based on the analysis of variance (ANOVA) and obtained $F=1.81$ for the corresponding degree of freedom $\Delta f=5$, we conclude that there are no statistical differences in the mean values of length of study among the participants who selected various suggested alternatives (Table 7).

Table 8. Grade point average viewed against the knowledge (skills) the teacher needs in the research and promotion of educational practice

Knowledge (skills) the teacher needs to study and promote educational practice	N	\bar{X}	SD	CV
Good knowledge of didactics and methodology (proficiency in contemporary teaching methods)	51	7.46	0.47	6.32
Knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects)	147	7.60	0.55	7.28
Knowledge of team work skills	44	7.70	0.60	7.73
A greater need for individualization, getting to know students, their differences and specific needs	46	7.61	0.65	8.55
IT literacy (use of computers and modern technologies)	58	7.60	0.56	7.34
Familiarization with and use of new approaches in the domain of testing and grading of knowledge.	44	7.60	0.54	7.12
Total	390	7.59	0.56	7.37

One way ANOVA: $F=0.94$, $p=0.4581$, $\Delta f=5$

Based on the analysis of variance (ANOVA) and obtained $F=0.94$ for the corresponding degree of freedom $\Delta f=5$ we confirm that there is no statistical difference in the grade point average of participants during their studies viewed against their selection of various suggested alternatives in answering the question (Table 8).

Having in mind all results presented, we can claim that, in the opinion of the vast majority of teachers, knowledge of the methodology of pedagogical research is most needed for promoting educational practice.

Concluding Remarks

A reflective approach to one's own practice, whether that of a teacher or researcher, is an indispensable condition for us to get to learn what it is that we do, what it is that we know, and where we are yet to improve, on both individual and social planes. The nature of educational practice is such that numerous problems crop up daily, such that they should be resolved during the course of action itself. The practice is uncertain and full of conflicting situations, which is why our actions require constant reflection and verification. Such a practice is based on the reflection, recognition and testing of implicit pedagogies, hypotheses and past experiences in current situations. A reflective practitioner is an active individual seeking solutions and various courses of action in response to practical problems. He/she is characterized by a reflective openness, which emerges when we are ready to question our own opinion. No matter how convincing or congruent with one's original intention, this idea is always liable to reconsideration and improvement.

For the teacher, the reflective approach represents a real turning point, in practice teacher education, and research of his or her practice. The reflective approach to one's own practice, whether that of a teacher or researcher, is a necessary precondition for one to learn what it is that he or she does, that he or she knows, and in which segments one should advance, individually and socially.

The analysis of results has shown that knowledge in the methodology of pedagogical research (construction and use of instruments, carrying out research projects) is convincingly perceived as the most necessary for promoting educational practice, as provided by the vast majority of the participants (37.69%). Moreover, this response was statistically most frequent as compared with all other options ($p<0.001$). In all groups of respondents the need for skills in the domain of pedagogical research methodology prevails.

Based on the positions so presented, we can clearly conclude that, instead of pre-made contents and goals given in teaching methodology and syllabuses, the reflective teacher should keep an active channel open to children's thoughts and feelings; he or she should observe activities, notice their capacities and aim to find appropriate procedures helping situations in children's development. During this process, he "allows for surprises originating from various unforeseeable situations, where his prior experience and knowledge cannot provide an adequate response: rather, his professional skill is instrumental in such situations" (Schön, 1987).

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Veljko Bandjur

Teacher Training Faculty University of Belgrade,
43 Narodnog Fronta Str., 11000 Belgrade, Serbia
veljko.bandjur@uf.bg.ac.rs

Jelena Maksimović

Faculty of Philosophy, University of Niš,
Univerzitetski trg 2, 18000 Niš, Serbia
jmaximovic@filfak.ni.ac.rs

Učitelj – reflektivni istraživač u praksi

Sažetak

Potrebe suvremenoga društva pred učitelje postavljaju neke nove zahtjeve s obzirom na promijenjenu ulogu učitelja. Učitelji prestaju biti prenositelji znanja i postaju dijagnostičari i organizatori procesa istraživanja. Kao polazna točka u raspravi analiziran je odnos između metodičkoga obrazovanja učitelja u modelu reflektivnog praktičara i u modelu izobrazbe učitelja – istraživača. U radu su također analizirani i stavovi učitelja o znanju, vještinama i mogućnostima potrebnima za proučavanje i razvoj odgojno-obrazovne prakse s obzirom na: godine rada u struci, znanje i korištenje stranoga jezika, školsku sredinu, duljinu dodiplomskog studija i prosjek ocjena tijekom studiranja. Cilj istraživanja je potaknuti praktične promjene koje bi dovele do očekivanih rezultata u smislu poboljšanja obrazovno-odgojne prakse. Istraživanje je obuhvatilo 390 učitelja u osnovnim školama u Srbiji. Rezultati su pokazali da se znanje o metodama pedagoškog istraživanja (izrada i korištenje instrumenata, provođenje projekata i istraživanja) smatra neophodnim za razvoj i unapređenje odgojno-obrazovne prakse ($p < 0.001$).

Ključne riječi: izobrazba učitelja; obrazovanje o metodama istraživanja; reflektivni praktičar; učitelj istraživač

Uvod

Suvremeno društvo dovelo je do promijenjenoga stava o učitelju, koji se iz voditelja nastavnog procesa transformirao u nositelja važnih promjena i koji je preuzeo ulogu kritičkog reflektivnog praktičara (Crebbin, 2003; Bognar, 2002; Schön, 1987, 1990) i učitelja – istraživača (McNiff, 2011; Whitehead, 1999). U školi koja se stalno mijenja učitelji ne mogu biti samo puki korisnici rezultata istraživanja do kojih dolaze profesionalni istraživači u akademskim institucijama i centrima za istraživanje. Umjesto toga učitelji postaju aktivni sudionici u procesu istraživanja, sposobni sami stvoriti svoj vlastiti pedagoški put i kritički ispitivati sve aspekte svojega profesionalnog djelovanja, s ciljem njegova stalnog poboljšanja (Craft, 2000).

Učitelj – reflektivni praktičar alternativa je tradicionalnome praktičaru, budući da on pokazuje izmijenjeni konceptualni i metodički pristup praksi. On je aktivan

pojedinaac, usmjeren na učenika, spreman ponovno razmotriti vlastito mišljenje i stavove, istražiti mogućnosti i raznolike aktivnosti da bi se riješili problemi u praksi, a istovremeno uvažavati mišljenje i osjećaje učenika. U tome smislu učitelj je aktivni stvaratelj novoga znanja o učenju, poučavanju i kurikulu, a ne samo izvršitelj preporuka stručnjaka ili stvaratelj profesionalnog znanja. Razvoj praktičara podrazumijeva složen, višedimenzionalan i dinamičan konstrukt stvaranja i otkrivanja značenja, koji se razvija tijekom profesionalnoga radnog vijeka kao rezultat interakcije između pojedinca i njegove okoline (Coldron i Smith, 1999, str. 711-726). Učitelj – reflektivni praktičar jedna je od mogućih paradigmi cjeloživotnoga učenja i napredovanja toga pojedinca. To je i novi konceptualni i metodički pristup koji se temelji na unapređivanju procesa poučavanja i učenja, te je u suprotnosti s tehničkim i racionalnim (tradicionalnim) modelom razvoja praktičara.

Autentična metodologija refleksivne prakse može se pronaći u definicijama brojnih autora. Correy (1953, str. 6) kaže da je to proces u kojemu praktičari istražuju probleme na znanstven način, tako da se ti problemi mogu ocijeniti i popraviti, te na taj način inicirati promjene u odlučivanju i praksi. Hopkins (2001, str. 32) i Ebbutt (1985, str. 156) smatraju da je refleksivna praksa kombinacija aktivnosti i istraživanja, što tu aktivnost čini oblikom disciplinarnog istraživanja čiji je cilj razumjeti, unaprijediti i reformirati praksu. Na temelju tih definicija može se zaključiti da unapređenje odgojno-obrazovne prakse ovisi o sljedećim aspektima: (1) svaka škola trebala bi izraditi svoj vlastiti model razvoja čiji bi cilj bio omogućiti promjene i poboljšati odgojno-obrazovnu praksu. Taj proces unutarnjih promjena podrazumijeva restrukturiranje kulture, stvaranje zajedničke vizije o unapređenju škole, sudjelovanje nastavnika u rukovođenju školom, posebno u smislu uvođenja promjena specifičnih za potrebe svake pojedinačne škole (Harris, 2002; Bognar, 2002; Fullan, 2000). Ostali aspekti su: (2) osnivanje stručnih udruga koje učiteljima omogućuju suradnju i umrežavanje, (3) ulaganje u profesionalni napredak koji se odvija u školi preko rasprava i aktivnosti kolega; (4) podrška pružena istraživanjima koja provode učitelji, što doprinosi kvaliteti nastavnoga procesa i učenja, kada jednom ta istraživanja postanu sastavni dio svakodnevnog profesionalnog života učitelja.

Učitelj – reflektivni praktičar

Schönova knjiga „Obrazovanje refleksivnog praktičara” (1987) smatra se ključnom točkom u procesu u kojemu je ideja o refleksivnom učitelju postala bitna. Schön je smjestio izobrazbu učitelja u školu, u takozvani refleksivni praktikum, koji pruža potpuni kontekst izobrazbi učitelja. Praktikum je virtualni svijet, relativno lišen pritisaka, smetnji i rizika stvarnoga svijeta o kojemu se uči. To je virtualni svijet između prakse i ezoteričnoga, akademskog svijeta (Schön, 1987). Cilj je refleksije, s jedne strane, promijeniti način na koji učitelj shvaća i interpretira svoju praksu,

no, s druge strane, promijeniti i samu praksu. Za refleksivnoga praktičara važna je upravo refleksija tijekom samoga nastavnog rada, a ona podrazumijeva spremnost na iznenađenja, koja pojedincu pružaju priliku reagirati na potpuno nov način. U ovome slučaju nastavni je rad situacija u kojoj se trebaju rješavati novonastali problemi. Refleksija tijekom rada je intelektualna i verbalna aktivnost, no, prije svega, ona je sposobnost improvizacije u kojoj sudionici u nastavnom procesu slušaju jedni druge da bi postigli dogovor (Schön, 1987; Winter, 1998). Schönov (1987) pojam refleksivnoga praktičara temelji se na Deweyevoj interpretaciji refleksije kao sustavnog rješavanja problema, kao produžene sadašnjosti koja podrazumijeva „refleksiju u radu“. Shvaćanje refleksije kao vještine (sposobnosti) razmišljanja tijekom rada nadalje se razvija na različite načine. Danas postoji rasprava o refleksiji koja nije samo povezana s nastavnim procesom, nego, uz strategije učenja i poučavanja, ona uključuje i pitanja etičkog i društvenog obrazovanja.

Model učitelja koji aktivno razmišlja o svojem profesionalnom iskustvu glavni je cilj profesionalnoga obrazovanja i temeljni pristup profesionalnom razvoju. Kritičan – refleksivan učitelj ima kao cilj zamijeniti hijerarhijski, autoritaran, standardan i konformistički odgojno-obrazovni proces emancipiranim i demokratskim modelom (Crebbin, 2000), u kojemu obrazovna aktivnost nastavnika nije manipulacija, nego komunikacijski čin (Habermas, 1988; Polić, 1997; Terry, 1997, str. 269-279). Za Brookfielda (1995), važna karakteristika kritičke refleksije je preispitivanje pouzdanja, predrasuda, *a priori* izvedenih stavova, jer smatra da smo mi upravo ono u što vjerujemo, ono što mislimo i što radimo. Shodno tome, Brookfield (1995) daje definicije triju vrsta pretpostavki: paradigmatične (naš pogled na svijet), uobičajene (naša očekivanja u danim situacijama) i kauzalne (koje se odnose na događaje u našem životu koji imaju uzročno-posljedične veze). Naravno, nije svaka refleksija kritička. Prema Brookfieldu (1995, str. 9-21), postoje dva važna uvjeta za postizanje kritičke refleksije. Jedan polazi od shvaćanja važnosti odnosa moći u školi, dok se drugi temelji na istraživanju hegemonije, tj. nametanju interesa od nekih društvenih grupa kao interesa svih. Za neke su autore (McMahon, 1999; Maksimović, 2010; 2011) pojam refleksivne prakse i akcijsko istraživanje slični u mnogim aspektima. Akcijsko istraživanje ujedinjuje tri procesa: učiteljevo refleksivno učenje, istraživanje o praksi u razredu i razvoj kvalitete nastavnog procesa. Zbog toga se istraživanje koje provode učitelji naziva: akcijskim istraživanjem, praktičarevim istraživanjem, interaktivnim istraživanjem, praktičnim istraživanjem, učiteljskim istraživanjem, razrednim istraživanjem, istraživanjem u praksi itd. U tome smislu učitelj je aktivni stvaratelj novoga znanja o učenju, poučavanju i kurikulu, a ne puki izvršitelj ideja stručnjaka ili stvaratelj stručnoga znanja. Međutim, ono što je značajno za akcijsko istraživanje je dobro promišljen i planiran pokušaj rješavanja jednog ili više problema, što nije slučaj u refleksivnoj praksi. Zbog te razlike refleksivna praksa može se koristiti samo za prepoznavanje problema, dok bi se akcijsko istraživanje trebalo koristiti za pronalaženje rješenja.

Refleksija prirodno dolazi uz učiteljsku struku, a učitelji se razlikuju s obzirom na svoju sposobnost refleksije. Dok su neki skloni kritički razmatrati svoje stavove i ponašanje, drugi su zadovoljni modelima ponašanja i razmišljanja koje su jednom stvorili, pa ih nemaju volje lagano zamijeniti ili promijeniti. Pristup učitelja refleksivnog praktičara karakteriziraju: jedinstvena veza između razmišljanja i djelovanja, epistemološka spirala učenja i mijenjanja prakse, uvažavanje racionalnog i intuitivnog učenja, uvažavanje etičkog i afektivnog aspekta aktivnosti učitelja, naglašavanje važnosti kontekstualnih faktora učiteljeve aktivnosti i naglašavanje društvene važnosti učiteljeve aktivnosti (Radulović, 2007, str. 597-609). Jedinstvena kombinacija tih sastavnica stvara jedinstvo međusobno povezanih ideja, tj. pristup učitelju kao refleksivnom praktičaru. Razvoj praktičara implicira kompleksnu, višedimenzionalnu i dinamičnu cjelinu u kojoj se značenja stvaraju i otkrivaju. Taj sustav razvija se tijekom učiteljeve profesionalne karijere, kao rezultat interakcije između pojedinca i njegove ili njezine okoline (Coldron i Smith, 1999, str. 711-726). Nastavnik kao refleksivni praktičar treba biti orijentiran na cjeloživotno učenje, jer njegovo vlastito obrazovanje nikada nije završeno.

Zeichner (1993, str. 5-35) je, objašnjavajući razvoj pojma učitelj – refleksivni praktičar, rekao: „Pokret koji se razvio u području poučavanja i izobrazbe učitelja pod stijegom refleksije može se smatrati i reakcijom na poimanje učitelja kao tehničara koji samo primjenjuje ono što drugi, koji ne rade u nastavi, žele da on učini, ili se može smatrati odbijanjem hijerarhijskog oblika obrazovanja u kojemu su učitelji samo pasivni sudionici. Štoviše, refleksija ukazuje na to da je prepoznata činjenica da znanje o dobrom nastavnom procesu nije samo isključivo vlasništvo sveučilišta i istraživača, kao i da učitelji također imaju teorije koje mogu doprinijeti bazi znanja o nastavnom procesu. Iako postoji opasnost da taj stav dovede do odbacivanja znanja stečenog na sveučilištima, što bi bila pogreška jednaka odbacivanju znanja koje posjeduju učitelji, postoji jasna svijest o tome da se u reformi obrazovanja i unapređenja škole ne možemo osloniti samo na znanje stečeno na sveučilištu.“ Obrazovanje u području refleksivne prakse opsežan je proces koji se sastoji od stjecanja znanja o problemima i razumijevanja problema uz osobni stav, spremnosti i vještine da se donesu odluke o vlastitom radu.

Sama priroda obrazovne prakse je takva da postoje svakodnevni problemi koji se moraju riješiti u isto vrijeme dok se rad odvija. Takva praksa je nesigurna i puna konflikata, zbog čega naše aktivnosti zahtijevaju stalnu refleksiju i provjeravanje. Ona se temelji na refleksiji, prepoznavanju i testiranju implicitne pedagogije, hipoteza i prijašnjih iskustava u sadašnjim okolnostima. Refleksivni praktičar je aktivan pojedinac koji testira rješenja i različite tijekove rada pri iznalaženju rješenja za tekuće probleme. Njega karakterizira refleksivan, otvoreni um, što je moguće samo ako smo voljni ponovno razmotriti svoje mišljenje. Bez obzira na to koliko je neka ideja uvjerljiva ili usklađena s našom prvotnom namjerom, ona se uvijek može ponovno razmotriti i doraditi.

Na osnovi stavova prikazanih u prethodnim odlomcima možemo jasno vidjeti da, umjesto već gotovih sadržaja i ciljeva nastavnog plana i programa koji se temelje na metodici nastave, reflektivni učitelj ima aktivan kanal koji je otvoren za misli i osjećaje djece; on promatra aktivnosti, primjećuje njihove sposobnosti i pokušava pronaći odgovarajuće postupke kako bi pomogao razvoju djece. Tijekom tog procesa on „dopušta iznenađenja koja se javljaju u različitim nepredvidivim situacijama, gdje njegovo prethodno iskustvo i znanje ne mogu pružiti prikladan odgovor: u takvim situacijama on pokazuje svoje instrumentalne profesionalne vještine“ (Schön, 1987).

Refleksivan pristup vlastitome radu, bez obzira na to je li pojedinac učitelj ili istraživač, neophodan je uvjet da bismo saznali što u stvari radimo, što znamo i u kojim se segmentima još trebamo unaprijediti, i individualno i društveno.

Metodička izobrazba učitelja

Osim utjecaja ostalih nepovoljnih čimbenika i uvjeta, brojne slabosti u unapređenju odgojno-obrazovnog procesa rezultat su nedostatne metodičke izobrazbe koju su učitelji prošli. Učiteljima bi trebale biti poznate osnove metodičke izobrazbe već i tijekom nastave na fakultetu, a one bi se trebale dalje nadograđivati tijekom njihova svakodnevnog rada u nastavi i putem različitih oblika profesionalnog usavršavanja (institucionalnog i individualnog). Metodička izobrazba učitelja implicira da bi oni trebali biti aktivno uključeni u participativno praktično učenje, da bi trebali steći vlastito iskustvo, imati praktičnu sposobnost provođenja istraživanja o svojem vlastitom radu, sposobnost sudjelovanja u istraživanjima drugih istraživača, da bi trebali kritički sagledavati odgojno-obrazovni proces, analizirati međusobno povezane događaje, činjenice i odnose, i analizirati, proučavati, procjenjivati i popraviti svakodnevni pedagoški rad i svoje vlastite učiteljske aktivnosti.

Potrebu za metodičkom izobrazbom učitelja naglasili su brojni pedagozi i psiholozi (Mužić, 2004; Potkonjak & Bandjur, 1999; Havelka, 2000; Krulj, 2003; Kundačina, 2008). Mužić tvrdi da, ako učitelj želi postati osoba koja ostvaruje svoj vlastiti odgojno-obrazovni proces, on mora naučiti kako taj proces treba biti znanstveno utemeljen. On u terenskom istraživanju vidi sljedeće uloge učitelja: (1) provođenje akcijskog istraživanja, (2) sudjelovanje u terenskom istraživanju koje provode vanjske institucije za istraživanje, (3) nadgledanje i kritičko prihvaćanje ili ne prihvaćanje rezultata istraživanja pedagoške prakse: iz knjiga, časopisa, znanstvenih radova (Mužić, 2004).

Istraživačka praksa i metodička izobrazba za sobom ne povlače samo teorijska metodička znanja i vještine, nego i prilično konkretno znanje koje je potrebno za odabir i provođenje odgovarajućih metodoloških i statističkih podataka dobivenih istraživanjem, kao i za prezentiranje rezultata na stručnim skupovima.

Kojim bi metodičkim kompetencijama učitelji u osnovnim školama trebali ovladati? Na temelju nedavno provedenih rasprava, predstavljamo preliminarnan popis da bismo pružili odgovor na to pitanje:

- (1) Upoznati epistemološke karakteristike i osnovne metode istraživanja u području razvoja i obrazovanja (Matijević, 2004; Mužić, 2004; Pejović, 1983).
- (2) Koristiti rezultate drugih istraživanja, provedenih i objavljenih od drugih istraživača.
- (3) Razumjeti jezik znanosti u domeni važnoj za učiteljevo područje rada.
- (4) Ovladati tehnikama intelektualne aktivnosti koja vrijedi za svaku granu znanosti: pregled literature, pravila citiranja, navođenje bibliografskih i drugih znanstvenih izvora, znanje o strukturi pisanoga izvještaja o istraživanju (Mužić, Matijević i Jokić, 2003).
- (5) Upoznati osnovna metodološka i logička pravila definiranja, klasificiranja i zaključivanja.
- (6) Upoznati znanstvene metode prikupljanja podataka: promatranje, intervju, anketa, skaliranje, analiza sadržaja, analiza slučaja (Maksimović, 2009; Halmi, 2004; Mužić, 2004).
- (7) Upoznati znanstvene metode: deskriptivne, kauzalne, komparativne, povijesne (Mužić, 2004).
- (8) Upoznati standarde kategoriziranja i evaluacije znanstvenih radova.
- (9) Upoznati i prihvaćati etička pravila i norme u istraživanju (Mužić, Matijević i Jokić, 2003).
- (10) Biti motiviran za trajno praćenje novijih rezultata istraživanja u području odgojno-obrazovne znanosti (Maksimović, 2009).
- (11) Ovladati kompetencijama važnima za sudjelovanje u timskim projektima istraživanja.
- (12) Steći kritički uvid u znanost, tj. razviti kritički stav prema teorijama o odgoju i obrazovanju, kao i prema rezultatima vlastitoga istraživanja.

Metode

Predmet ovoga istraživanja je analiza stavova učitelja – praktičara o znanju, vještinama i mogućnostima za istraživanje i unapređenju odgojno-obrazovne prakse. Cilj je istraživanja potaknuti promjene u praksi koje bi dovele do očekivanih rezultata, s ciljem upoznavanja s pedagoškom stvarnošću, kada bi istraživači bili izravno aktivni u motiviranju učitelja na provođenje istraživanja i unapređenje odgojno-obrazovne prakse.

Ciljevi istraživanja bili su ispitati koja znanja (vještine) učitelj treba imati da bi provodio istraživanja i unaprijedio odgojno-obrazovnu praksu (1) gledano u kontekstu duljine radnoga staža u struci; (2) gledano u kontekstu znanja i korištenja stranoga jezika; (3) gledano u kontekstu školske sredine; (4) gledano u kontekstu duljine njezina ili njegova studiranja na fakultetu; i (5) gledano u kontekstu prosjeka ocjena tijekom studija.

Na temelju tako zadanih ciljeva definirali smo nultu hipotezu: osnovno je polazište da je znanje o metodologiji pedagoškog istraživanja (stvaranje i uporaba

instrumenta, provođenje projekta istraživanja) neophodno za učitelja koji želi provoditi istraživanja i unaprijediti odgojno-obrazovnu praksu (gledano u kontekstu učiteljeva spola, duljine radnoga staža, znanja stranoga jezika, školske sredine, duljine studiranja i prosjeka ocjena tijekom studija).

Varijable u istraživanju su: (1) duljina učiteljeva radnog staža (četiri kategorije: 0-5, 6-20, 20-30 i više od 30 godina rada u struci); (2) znanje stranoga jezika; (3) školska sredina (gradska i seoska); (4) duljina studiranja na fakultetu; (5) prosjek ocjena tijekom studiranja. Ovo je istraživanje dio detaljnijega istraživanja o profesionalnom napretku učitelja u unapređivanju odgojno-obrazovne prakse.

U istraživanju se koristila deskriptivna metoda i metoda ankete. Budući da u tome području ne postoje standardizirani instrumenti, te uzevši u obzir problem koji se ispituje, za ovu smo svrhu izradili poseban Upitnik za nastavnike.

Uzorak

Uzorak je odabrani dio statističkoga skupa koji bi trebao biti reprezentativan za populaciju koja se u istraživanju ispitivala. Ako je uzorak reprezentativan prema svim važnim karakteristikama, rezultati koji se dobiju u istraživanju su pouzdaniji. Mogu se dobiti i statistički različite vrste uzoraka. Populacija čiji se uzorak koristio u istraživanju sastojala se od učitelja zaposlenih u osnovnim školama. U ovome istraživanju je uzorak učitelja bio odabran namjerno i nasumično. Uslijedio je niz nasumičnih elemenata po kojima će učitelji sudjelovati u istraživanju, što znači da uzorak ima karakteristike nasumično odabranog uzorka. Istraživanje je provedeno na 390 učitelja zaposlenih u osnovnim školama, koji imaju završen sveučilišni studij. Škole u kojima je istraživanje provedeno odabrane su nasumce. Uzorak je obuhvatio učitelje osnovnih škola s područja Vojvodine (Novi Sad, Subotica i Sombor), središnje Srbije (Beograd, Kragujevac i Užice) i južne Srbije (Niš, Leskovac i Vranje).

Uzorak je imao sljedeće karakteristike:

- (1) Grupa učitelja koja je bila promatrana nije bila homogena s obzirom na duljinu radnoga staža u učiteljskom zanimanju, o čemu svjedoče parametri χ^2 testa ($\chi^2=7,85$, $p<0,05$, $\Delta f=2$). Većina ispitanika (43,8%) rade kao učitelji 11 do 20 godina. Lako je uočiti da je gotovo dvije trećine ispitanika imalo 10 do 20 godina radnoga staža u vrijeme kada je istraživanje provedeno. Ta grupa je brojnija u usporedbi s grupama koje se sastoje od učitelja s do 10 godina radnoga staža i onih s više od 20 godina radnoga staža.
- (2) Kao što se moglo očekivati, većina sudionika (212 – 54,36%) zna engleski jezik, dok su preostala tri jezika (njemački, francuski i ruski) bili statistički puno rjeđi ($p<0,001$). Od ukupnoga broja ispitanika, 20 (5,13%) ih je navelo da ne zna ni jedan strani jezik. Grupa učitelja koja je sudjelovala u istraživanju nije homogena u smislu znanja stranoga jezika prema Pearsonovom χ^2 testu ($\chi^2=113,37$, $p<0,001$, $\Delta f=2$). Jedna trećina ispitanika aktivno upotrebljava strani jezik, dok velika većina (statistički značajna – 61,54%) ima samo pasivno znanje stranoga jezika.

- (3) Grupa nastavnika koja je sudjelovala u istraživanju nije homogena ni s obzirom na mjesto u kojem se njihove škole nalaze ($\chi^2=31,88$, $p<0,001$, $\Delta f=2$). Više od polovine (53,33%) ih radi u urbanim sredinama, dok je statistički značajno manje onih koji rade u suburbanim i ruralnim sredinama.

Tablica 1.

Prosječna duljina studiranja kod ispitanika bila je $5,49\pm 1,02$ godina, dok je prosjek ocjena bio $7,59\pm 0,56$ (5-10). S obzirom na te obje kontinuirane varijable uzorak je homogen, kao što potvrđuju koeficijenti varijacije 18,56 i 7,37 za svaku pojedinačno.

Istraživanje je provedeno u 2011. godini i dio je opsežnijega istraživanja o pedagoškim istraživanjima u školama. Nastojali smo da proces istraživanja bude jednak u svim školama, koliko god je to bilo moguće. Tijekom istraživanja imali smo velikodušnu pomoć asistenata bez kojih ovo istraživanje ne bi moglo biti privedeno kraju.

Analiza i interpretacija rezultata istraživanja

U ovome dijelu rada cilj nam je saznati koja znanja (vještine) učitelj – praktičar treba imati da bi provodio istraživanja i unaprijedio odgojno-obrazovnu praksu. Analizirali smo stavove učitelja o tome koja znanja (vještine) učitelj treba imati da bi istraživao i unapređivao odgojno-obrazovnu praksu (s obzirom na spol, duljinu radnoga staža u struci, znanje stranih jezika, školsku sredinu, duljinu studiranja i prosjek ocjena tijekom studiranja). Naši rezultati prikazani su u Tablici 2.

Po mišljenju velike većine sudionika, znanje o metodologiji pedagoškoga istraživanja (izrada i korištenje instrumenata, provođenje istraživačkih projekata) smatra se najpotrebnijim (37,69%). To je također i statistički najčešći odgovor u usporedbi sa svim drugim odgovorima ($p<0,001$). Uz druge nepovoljne čimbenike i uvjete, brojne slabosti u provedbi i unapređivanju odgojno-obrazovnog procesa rezultat su neadekvatne metodološke kulture i nedovoljne izobrazbe učitelja u tom području.

Učitelji bi trebali biti upoznati s osnovama metodološkog obrazovanja već i tijekom studiranja, a to znanje bi se dalje obogaćivalo tijekom njihova svakodnevnog rada kao edukatora i tijekom različitih oblika stručnoga usavršavanja (institucionalnog i individualnog). Preostali odgovori su prilično jednako raspoređeni. Trebalo bi napomenuti da je na drugome mjestu informatička pismenost (14,87% ispitanika).

Tablica 2.

Tablica 3.

Na temelju izračunatoga $\chi^2=1,49$ s graničnim vrijednostima Hi-kvadrata 11,070 i 15,086 za zadani stupanj slobode $\Delta f=5$ i stupnjevnima važnosti od 0.05 i 0.01 saznali smo da oba spola navode slična mišljenja o znanjima i vještinama koje učitelj treba imati da bi unapređivao odgojno-obrazovnu praksu (Tablica 3). Stoga ne postoje značajne razlike u odgovorima muškaraca i žena. Koeficijent korelacije $C=0,06$

upućuje na slabu povezanost i nevažnu korelaciju. Trebalo bi naglasiti da je kod obaju spolova znanje o metodologiji pedagoškog istraživanja statistički učestalija mogućnost u usporedbi sa svim ostalim odgovorima ($p < 0,001$).

Tablica 4.

Iako se temelji na kontingencijskoj tablici 6x3, zatim na izračunatom $\chi^2=26,40$ s graničnim vrijednostima Hi-kvadrata od 18,307 i 23,209 za odgovarajući stupanj slobode $\Delta f=10$ i stupnjeve važnosti od 0,05 i 0,01 postoji statistički značajna razlika u odgovorima grupa učitelja koje su formirane prema duljini njihova radnog staža u struci ($p < 0,01$). Očito je da je u svim trima podgrupama prevladavalo znanje o metodologiji pedagoškog istraživanja (Tablica 4). Koeficijent korelacije $C=0,25$ upućuje na slabu povezanost i malu korelaciju.

Među ispitanicima čiji je radni staž u struci do 10 godina, znanje o metodologiji pedagoškog istraživanja važnije je nego vještina tinskoga rada ($p < 0,05$), što se može vidjeti u svim preostalim mogućnostima ($p < 0,01$). U preostale dvije grupe učitelja s duljim radnim stažem u struci, znanje o metodologiji pedagoškog istraživanja važnije je od svih ostalih mogućnoati ($p < 0,01$).

Vještina tinskog rada važnija je ispitanicima koji imaju do 10 godina radnog staža u struci, nego onima koji imaju 10-20 godina ili više od 20 godina radnog staža ($p < 0,01$). Zanimljivo je to što su potrebu usavršavanja u informacijskim tehnologijama najviše izrazili sudionici koji imaju 10 do 20 godina radnoga staža u struci, dok je upoznavanje s novim pristupima u području testiranja i ocjenjivanja znanja dominiralo u odgovorima najstarije, a najmanje je bilo spomenuto u odgovorima najmlađe grupe kolega.

Tablica 5.

Iz kontingencijske tablice 6x3, na temelju izračunatoga $\chi^2=7,89$ s graničnim vrijednostima Hi-kvadrata 18,307 i 23,209 i odgovarajućim stupnjem slobode $\Delta f=10$, i stupnjevim važnosti 0,05 i 0,01 može se primijetiti da ne postoji statistička razlika (Tablica 5). Koeficijent korelacije $C=0,14$ upućuje na slabu povezanost i nevažnu korelaciju.

U svim grupama znanje o metodologiji pedagoškog istraživanja smatralo se najpotrebnijim. U grupi ispitanika koji koriste strani jezik pasivno ta mogućnost je statistički značajnija od svih ostalih ($p < 0,001$). Isto se odnosi na nastavnike koji aktivno koriste strani jezik, kod kojih je stupanj važnosti niži samo u odnosu na informacijsku pismenost – po mišljenju tih ispitanika ta je kategorija na drugome mjestu ($p < 0,01$).

Tablica 6.

Iz kontingencijske tablice 6x3, na temelju izračunatoga $\chi^2=9,41$ s graničnim vrijednostima Hi-kvadrata 18.307 i 23.209, odgovarajućim stupnjem slobode $\Delta f=10$ i stupnjevim važnosti 0,05 i 0,01, može se primijetiti da ne postoje statističke

razlike s obzirom na preferiranje određene vrste znanja koju učitelj treba imati da bi unapređivao odgojno-obrazovnu praksu (Tablica 6). Koeficijent korelacije $C=0,15$ upućuje na vrlo slabu povezanost i nevažnu korelaciju.

U svim trima grupama znanje o metodologiji pedagoškog istraživanja bilo je statistički češće odabrano nego sve ostale pojedinačne mogućnosti ($p<0,001$).

Tablica 7.

Na temelju analize varijance (ANOVA) i dobivenog $F=1,81$ za odgovarajući stupanj slobode $\Delta f=5$ možemo zaključiti da ne postoji statistička razlika u srednjim vrijednostima duljine studiranja među ispitanicima koji su odabrali različite predložene mogućnosti (Tablica 7).

Tablica 8.

Na temelju analize varijance (ANOVA) i dobivenog $F=0,94$ za odgovarajući stupanj slobode $\Delta f=5$ možemo potvrditi da ne postoji statistička razlika u prosjeku ocjena sudionika tijekom studiranja s obzirom na njihov izbor raznih predloženih mogućnosti u odgovaranju na pitanja (Tablica 8).

Imajući na umu sve prikazane rezultate, možemo tvrditi da je, po mišljenju velike većine učitelja, znanje o metodologiji pedagoškog istraživanja najpotrebnije za unapređenje odgojno-obrazovne prakse.

Završne napomene

Refleksivan pristup vlastitoj praksi, bila ona učiteljska ili istraživačka, neophodan je uvjet da bismo saznali što mi zapravo radimo, što je to što znamo, te gdje smo i što bismo trebali popraviti, i u individualnoj i u društvenoj sferi. Priroda odgojno-obrazovne prakse je takva da se brojni probleme javljaju svakodnevno, a trebali bi se riješiti tijekom same nastave. Praksa je nesigurna i puna konfliktnih situacija, zbog čega naš rad zahtijeva stalnu refleksiju i potvrdu. Takva praksa temelji se na refleksiji, prepoznavanju i testiranju implicitnih pedagogija, hipoteza i prijašnjih iskustava u sadašnjim situacijama. Refleksivni praktičar je aktivan pojedinac koji pronalazi rješenja i različite aktivnosti da bi odgovorio na praktične probleme. Bez obzira na to koliko je ta ideja uvjerljiva i u skladu s prvotnom namjerom, ona se uvijek može ponovno razmotriti i poboljšati.

Za samoga učitelja refleksivan pristup predstavlja pravu prekretnicu u praksi, izobrazbi učitelja i istraživanju o njegovu ili njezinu radu. Refleksivan pristup vlastitome radu, bio on rad učitelja ili istraživača, neophodan je preduvjet da bi pojedinac saznao što zapravo radi, što zna i u kojim bi segmentima trebao napredovati, osobno i društveno.

Analiza rezultata pokazala je da se znanje o metodologiji pedagoškog istraživanja (izrada i korištenje instrumenata, provođenje istraživačkih projekata) uvjerljivo smatra najpotrebnijim za unapređenje odgojno-obrazovne prakse, prema velikoj većini sudionika u istraživanju (37,69%). Štoviše, taj je odgovor bio statistički najčešći

u usporedbi sa svim drugim mogućnostima ($p < 0,001$). U svim grupama ispitanika prevladava potreba za vještinama u domeni metodologije pedagoškog istraživanja.

Na temelju tako prikazanih stavova možemo jasno zaključiti da umjesto prethodno stvorenih sadržaja i ciljeva navedenih u metodici nastave i nastavnim planovima i programima reflektivni učitelj treba imati otvoren kanal za razmišljanja i osjećaje djece; treba promatrati njihove aktivnosti, primijetiti njihove sposobnosti i nastojati pronaći odgovarajuće postupke kojima će im pomoći u razvoju. Tijekom toga procesa on „dopušta iznenađenja koja se javljaju u različitim nepredvidivim situacijama, gdje njegovo prethodno iskustvo i znanje ne mogu pružiti prikladan odgovor: u takvim situacijama on pokazuje svoje instrumentalne profesionalne vještine“ (Schön, 1987).