Working with problem methods – possibilities for pupils and teachers

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Abstract
Development of self-assurance, improvement of interpersonal communication, development of the sense of security, an opportunity to share one’s experiences and ideas, as well as cooperation and interaction, which supplant rivalry and competition are just a few benefits resulting from working with the problem methods for the pupils. We have discussed the issue of benefits for both pupils and teachers resulting from working with the problem methods and the diagnosis of skills of the teachers of early education in the field of applying problem methods in their work with the pupils. The basic method applied during the study was diagnostic survey. The main technique of collecting data was the questionnaire survey, which was used to collect opinions of teachers from selected schools in Poland. In the second part of the analysis of research we present the profits for teachers working with problem methods. Remarks provided by teacher-respondents reveal very conscious attitude of the teachers, who understand the principles of permanent education and challenges they have to face in their work. The questionnaire of the survey was drawn up specifically for the conducted study.

Key words: teacher’s didactic workshop, theory and practice, teaching strategy, didactic competence
1. Introduction

Problem solving as a method of teaching has long been recommended by leading educators (Dryden & Vos 2003; Dzierzgowska & Kotowska, 2005; Klus-Śańska, 2010; Osiński, 2010; Rau & Ziętkiewicz, 2000; Śliwerski, 2010). The starting point in the conducted study was an assumption that education with the use of problem methods builds up development and improvement of a number of vital capabilities necessary for both pupils and teachers. Development of self-assurance, improvement of interpersonal communication, development of the sense of security, an opportunity to share one’s experiences and ideas, as well as cooperation and interaction, which supplant rivalry and competition are just a few benefits resulting from working with the problem methods for the pupils (Jąder, 2008; Krzyżewska, 1998; Smak, 2014). We have discussed the issue of benefits for both pupils and teachers resulting from working with the problem methods and the diagnosis of skills of the teachers of early education in the field of applying problem methods in their work with the pupils. Benefits for teachers using problem methods include, first of all, increased motivation of the pupils and their involvement in the process of education, more opportunities to satisfy the pupils’ interests and better diagnosing of their individual abilities, not to mention involvement in active work of the pupils who are not so good at satisfying the general requirements and a possibility of more reliable evaluation of their own work due to constant feedback (Kubiczek, 2009; Marek, 2018; Polanowska, 2017; Sagor, 2008; Winczura, 2014). Our research also assumed taking up actions aimed at publishing successful works based on problem methods invented by teachers (Olczak, 2009; Parczewska, 2005; Pankowska, 2000). The teachers from Poland have achieved certain results in the development of problem-based learning theory (Abushkin et al., 2018).

The basic method applied during the study was diagnostic survey. The main technique of collecting data was the questionnaire survey, which was used to collect opinions of teachers from selected schools in Poland. Apart from description of the phenomena, there was also a statistical analysis carried out and attempts were made at quantitative analysis of the collected data and interrelations among certain variables. The questionnaire of the survey was drawn up specifically for the conducted study. At first, a list of data was prepared, concerning the issue of using the problem methods at school. Variables selected for the study became basis for individual questions in the questionnaire. In this way, the questionnaire of the survey was drawn up. Successive questions were related to variables isolated during the research procedure. The survey was made up of factual survey questions and a specification certificate. The assumption of the certificate was to collect information about personal data provided by teacher-respondents, such as their work experience, the degree of their professional improvement, location of their schools, number of pupils in their classes, type of their postgraduate courses of study. A drawn-up questionnaire was tested in a two-stage process. The first stage was a rational test. It involved reviewing the sample of the survey questionnaire by seven specialist experts in the field of primary school teaching methods, teaching and methodology. The questionnaire included suggestions and instructions of experts, and formed a research tool, which was submitted to the test of the second degree. A pilot study was carried out on a small group of teachers. Answers of the respondents were closely analyzed, which resulted in introducing final amendments into the research tool, i.e. an 18-question-questionnaire survey. The filled in survey questionnaires were first reviewed in terms of complete answers, then they were submitted to statistical analysis and, in the final stage, they were submitted to detailed analysis and interpretation of the results of the study. The variables used in the study include: education of teacher-respondents, their work experience, the degree of their professional progress, type of their postgraduate education, location of their schools, number of pupils in their classes, use of the problem methods, pupil benefits from working with the problem methods, teacher benefits from working with the problem methods, initiative on the part of pupils and their reactions during their
work with the problem methods, using the problem methods in extra-school classes and developing teachers’ skills in the field of working with the problem methods.

2. Methods

Sample groups and populations: the general population was made up of all the teachers employed in the primary schools in Poland in September 2019. A sample group of 1004 teachers was selected from the population by means of a two-stage procedure. The first stage involved drawing 251 schools out of the list of all the public primary schools in Poland in such a way that the schools represented all Polish voivodeships (administrative regions). In the second stage, there were four teachers selected at random from the list of all the teachers employed in each school drawn in the first stage. Characteristics of the sample group selected for the study included education of the teacher-respondents, seniority, occupational progress, postgraduate courses of studies, teachers’ workplaces, and size of classes taught by teacher-respondents. The first table shows education of the teacher-respondents.

Table 1. Education of the teacher-respondents

| Education of the selected teachers                                      | Frequency | Percent | Cumulative Percent |
|-------------------------------------------------------------------------|-----------|---------|--------------------|
| taking the course of the first-cycle study                              | 5         | 0,5     | 0,5                |
| completed a course of the first-cycle study (B. Ed. degree)             | 29        | 3,0     | 3,5                |
| completed a course of the second-cycle study (M. Ed. degree)            | 948       | 96,5    | 100,0              |
| Total                                                                   | 982       | 100,0   |                     |

The data in Table 1 looks very optimistic. After all, the choice was random and did not concern only the best educated teachers. In spite of the fact, over 96% of the surveyed teachers hold a master’s degree. It is a very good result and allows to expect that finishing a college of education provides teachers with knowledge that is necessary for implementation of the process of education in a way that is up-to-date and arousing interest of the pupils. The second Table contains data on the occupational progress of the respondent-teachers.

Table 2. The occupational progress of the respondents

| Degree of occupational progress       | Frequency | Percent | Cumulative Percent |
|--------------------------------------|-----------|---------|--------------------|
| trainee teachers                      | 28        | 2,9     | 2,9                |
| contract teachers                     | 109       | 11,1    | 14,0               |
| commissioned teachers                | 139       | 14,2    | 28,2               |
| qualified teachers                    | 706       | 71,9    | 100,0              |
| Total                                | 982       | 100,0   |                     |

A predominant group of the respondents was formed by the teachers with the highest degree of occupational advancement. They constitute over 70% of all the respondents. This ratio is not very
surprising, because majority of the randomly selected teachers in the sample group are those who have served in this profession for at least 11 years. The total ratio of the respondents with the longest periods of service in the teaching profession is over 80%. It means that the teachers participating in the studied sample group had every opportunity to successfully reach the highest level of their occupational career and be awarded to the position of a qualified teacher.

Table 3. Teachers’ seniority

| Teachers’ Seniority       | Frequency | Percent | Cumulative Percent |
|---------------------------|-----------|---------|--------------------|
| 1-2 years of service      | 26        | 2,7     | 2,7                |
| 3-5 years of service      | 74        | 7,5     | 10,1               |
| 6-10 years of service     | 79        | 8,1     | 18,2               |
| 11-20 years of service    | 297       | 30,2    | 49,4               |
| 21-40 years of service    | 506       | 51,5    | 100,0              |
| Total                     | 982       | 100,0   |                     |

Selecting a sample group in terms of seniority is quite diverse. The dominant group among the respondents are teachers who have spent the longest time in working with their pupils, i.e. 21 to 40 years of their teaching careers. Such experienced, long-servicing teachers form over 51% of the entire sample group. There is quite a number of teachers with periods of service between 11 and 20 years - over 30% of the respondents. The sample group did not include many teachers who have only recently started working with pupils, having served just 1 or 2 years (c. 3% of the respondents). There are two groups of teachers, about 8% each, one representing teachers of 3 and 5 years of service and the other representing those who have 6 and 10 years of service in the profession. The successive table deals with the problem of postgraduate education.

Table 4. Postgraduate education.

| Postgraduate courses of studies | Frequency | Percent | Cumulative Percent |
|---------------------------------|-----------|---------|--------------------|
| YES                             | 529       | 53,9    | 53,9               |
| NO                              | 453       | 46,1    | 100,0              |
| Total                           | 982       | 100,0   |                     |

A tabular list reveals data showing that over 50% of the respondents completed a course of postgraduate studies. This data, similarly to the one showed in Table 2 are not surprising for several reasons. In the past dozen or so years postgraduate studies have become very popular among teachers in Poland due to the requirements connected with occupational advancement. Another factor that contributed to the growing popularity of postgraduate studies was general improvement of the economical situation of teachers, who now, due to their higher salaries, are able to afford to
pay the fees. An obvious reason for taking up postgraduate studies is also the desire to earn more money and update one’s knowledge acquired a dozen or so years ago during one’s studies. An important reason for undertaking postgraduate studies is also anxiety about lay-offs, which take place in schools more and more often due to the decline of the number of schoolchildren. The first candidates to be laid-off are teachers without additional qualifications or those with the lowest levels of seniority. Both reasons are very closely connected. An important reason for the popularity of postgraduate studies among teachers of early education is the necessity to develop one’s competence in the fields of speech therapy, ADHD, autism and work with pupils suffering from different types of developmental deficits. Competence is essential, due to the fact that it is the teachers of early education who most often work with children suffering from various developmental problems and they need the knowledge necessary for solving didactic difficulties and eliminating pupils’ school failures using up-to-date methods.

Table 5. The number of pupils in classes in which the surveyed teachers work

| Number of pupils in a class | Frequency | Percent | Cumulative Percent |
|----------------------------|-----------|---------|--------------------|
| 5-10 pupils                | 60        | 6,1     | 6,1                |
| 11-15 pupils               | 125       | 12,7    | 18,8               |
| 16-20 pupils               | 385       | 39,2    | 58,0               |
| 21-25 pupils               | 219       | 22,3    | 80,3               |
| 26-31 pupils               | 193       | 19,7    | 100,0              |
| Total                      | 982       | 100,0   |                     |

Almost 40% of the sample group teachers, who teach in the first three primary school forms, work with groups of 16 to 20 pupils. More than 22% teach groups of pupils in which there are from 21 up to even 26 pupils. Only a smaller group of respondents, i.e. 19.7%, work with even more numerous classes of 26 to 31 pupils. The smallest proportion of the sample group includes teachers who work with very small groups of 5 to 10 pupils.

Table 6. Surveyed teachers’ workplaces

| Size of a community                  | Frequency | Percent | Cumulative Percent |
|--------------------------------------|-----------|---------|--------------------|
| a village                            | 421       | 42,9    | 42,9               |
| a town of 3 to 5 thousand inhabitants | 56        | 5,7     | 48,6               |
| a town of 6 to 50 thousand inhabitants | 222      | 22,6    | 71,2               |
| a town of 51 to 500 thousand inhabitants | 68       | 6,9     | 78,1               |
| a city of more than 500 thousand inhabitants | 215     | 21,9    | 100,0              |
| Total                                | 982       | 100,0   |                     |
The workplace of over 40% of the respondents is a school in a village or a little town of less than 3 thousand inhabitants. There are relatively many (over 20%) representatives of teachers working at schools localised in towns of 6 to 50 thousand inhabitants and in schools localised in big cities of over 500 thousand inhabitants. The above Table shows at the same time a large diversity of the randomly selected sample group of teacher-respondents in terms of places in which the school, which employs them, is localised.

3. Results

3.1. Results of pupil’s profits working with problems methods

Our study focuses on the issue of benefits that the pupils gain from working with the problem methods, as it is one of the fundamental tasks of the modern teaching process. I point out competence and skills which pupils acquire while participating in both ordinary classes and working with the problem methods during corrective and compensatory classes and other teams for the pupils who have difficulties in learning and for the particularly gifted pupils. When indicating benefits for the pupils resulting from working with the problem methods, the respondents made an attempt at hierarchizing their answers. Selecting the proposed answer, the respondents also determined the magnitude of the selected benefit. Results of the study concerning the discussed issue are displayed in Table 7.

The Table below, marked as No 7, shows opinions of the respondents about benefits gained by their pupils from their participation in the problem method classes. The respondents were asked to assess the benefits and the effect of the problem methods that they applied.

| Pupils’ benefits from working with the problem methods | very high | medium | low | total |
|------------------------------------------------------|-----------|--------|-----|-------|
| they learn to cooperate in a team                     | 831       | 131    | 19  | 981   |
|                                                      | 84,7%     | 13,4%  | 1,9%| 100,0%|
| they become more independent                          | 754       | 165    | 61  | 980   |
|                                                      | 76,9%     | 16,9%  | 6,2%| 100,0%|
| they learn to communicate with other pupils           | 745       | 185    | 52  | 982   |
|                                                      | 75,9%     | 18,8%  | 5,3%| 100,0%|
| they become motivated to work harder                  | 669       | 244    | 69  | 982   |
|                                                      | 68,1%     | 24,8%  | 7,0%| 100,0%|
| they acquire an ability to behave in concrete situations| 652       | 244    | 86  | 982   |
|                                                      | 66,4%     | 24,8%  | 8,8%| 100,0%|
| they can display their skills and knowledge in different fields of life | 649   | 256    | 76  | 981   |
|                                                      | 66,2%     | 26,1%  | 7,7%| 100,0%|
| they become motivated to work harder                  | 669       | 244    | 69  | 982   |
|                                                      | 68,1%     | 24,8%  | 7,0%| 100,0%|

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The respondents recognize the huge benefits resulting from work with the problem methods. Among the most important profits gained by their pupils, the respondents mentioned such skills as the social skills, competence in self-development and interpersonal communication. According to the respondents, working with the problem methods, on one hand their pupils learn to work in a team and on the other hand they become more self-reliant, as the problem methods require cooperation with others as well as encourage the pupils to express their opinions and/or to present their intellectual independence in front of their small peer group. A smaller group certainly creates more friendly conditions, even for the shyest pupils, who find it definitely easier to express their opinions in front of their closest friends or in a small group rather than do it in an open forum of the entire form. Working in small groups and using the activating methods, the pupils become more self-reliant, more ready to deliver their arguments, raise counterarguments, formulate and declare their own judgements and suggestions, controversies, opinions, and they often independently choose methods of carrying out joint tasks, for implementation of which they are responsible. When working with the problem methods, the pupils do not wait for a method of solving a problem to be suggested by their teacher. They usually enter the first phase of the problem methods unaided and formulate their ideas by means of brainstorming. The respondents also noticed beneficial effects resulting from development of such skills as motivation for work, knowledge how to behave in certain situations and a chance to display their strong points. Interpretation of such choices is certainly multifaceted. Motivation of the pupils for work with the problem methods results most probably from the fact that during such classes the pupils encounter contents and situations which make them curious and are closely related to real life. This is the reason why pupils are more willing to learn the offered contents while working with these methods, they are more active, and at the same time they are more motivated to work more effectively. It should also be remembered that the pupils have an opportunity to be successful at a small or zero probability of suffering a failure in front of the entire form or, in the worst case, in front of a small group. Hence, they gladly perform the assigned tasks, because when they work with the problem methods, the risk of failure is very small. The motivation is additionally enhanced by participating in classes and situations which are mostly well known to the pupils from everyday life and are closely connected with their routine practice. It is an extremely important element, which helps the pupils acquire the sense of security not only due to the small risk of failure, but also to their participation in the events and performing their roles in situations that they are familiar with. The respondents also strongly emphasized another element of a pupil’s benefit resulting from his or her work with the problem methods, which is an opportunity to present their individual talents in different fields of life. It is mainly due to the fact that the pupils are not so active when taught with the traditional methods and they have no opportunity to demonstrate their unusual talents. Because the problem methods refer to many different situations in everyday life, they provide the pupils an opportunity to present their talents in different fields of life and knowledge to all their classmates.

It should be noted that the benefits attained by the pupils when working with the problem methods were also designated by the respondents in their answers to two other questions. The questions referred to the issue of making good use of the problem methods and the resulting benefits when working with the children who have difficulties in learning, as well as when working with particularly talented pupils.

Referring to the benefits resulting from working with these methods, the teachers also designated methods that most successfully develop different competences of their pupils. Apart from skills listed in Table 7, i.e. competence in team cooperation, interpersonal cooperation, the teacher-respondents also listed such pupil competences as: easier association, fluent expression of opinions, consolidation of skills and knowledge, ability to hierarchize, selection and assessment, universal physical ability and
creative solution of problems. Respondents also designated the methods that they most frequently apply in their work with the pupils who have difficulties in learning. They include such methods as: keeping a portfolio, brainstorming, ranking, chain of associations, simulation, the basket and case method, the role-play method, drama, different types of rebuses and riddles, graffiti, the case questions study, improvisations involving physical movement – e.g. building memorial monuments, magic hand and the unnecessary word method. In their work with the particularly gifted pupils, the teachers usually apply one of the most difficult and time-consuming methods – the project method. Apart from the project method, teachers also use the drama method, work planning technique, the method called “the question star”. Quite often, especially during classes for particularly talented pupils, such methods as debate, other discussion methods – e.g. de Bono’s six colored hats (De Bono 2011), association methods, jigsaws, puzzles, our photo, crosswords, simulations, creative problem solving methods, creative writing, question-storming, brainstorming, decision-tree, fishbone diagram, visual-art techniques, time line and fish in the aquarium – are gladly used. It should be stressed that all the methods listed by the teachers have many variations and each teacher can freely modify, improve and develop them depending on the goals which he or she determined and the major targets to be reached when working with these methods.

3.2. Results of teacher’s profits working with problems methods

The second part of the analysis of our research presents the profits of teachers working with problem methods. We must emphasize clearly and distinctly that the basic requirement for using the problem methods is universal and accurately delineated competence of a teacher. This means that already at the point of departure, i.e. at the moment of first use of the problem method, a teacher should be well-equipped in various types of competences necessary to conduct such classes with the pupils. At the same time, work with problem methods creates favorable conditions not only for development and improvement of skills which the teacher has already been equipped with, but the classes are a wonderful opportunity to acquire new skills. In the survey distributed among the respondents, apart from the key skills of a teacher, indispensable for working with the problem methods with the elementary school pupils, there were a few competences formulated, which, in the opinion of the authoress of this project, are the most essential. The respondents were asked to choose from the teacher’s skills in the field of interpersonal communication, in the field of creativity, in the field of work organization, in the field of using information-communication technology, and define usefulness of his or her musical and visual art talents. Detailed choices of the teacher-respondents are displayed in Table 8.

Table 8. The importance of the following competences in the work of a teacher using the problem methods – express your opinion?

| Type of competence        | very important | medium important | of little importance | total |
|---------------------------|----------------|------------------|----------------------|-------|
| interpersonal communication| 860            | 90               | 32                   | 982   |
|                           | 87,6%          | 9,2%             | 3,3%                 | 100,0%|
| creativity                | 814            | 109              | 59                   | 982   |
|                           | 82,9%          | 11,1%            | 6,0%                 | 100,0%|
| organizing work           | 763            | 167              | 52                   | 982   |
|                           | 77,7%          | 17,0%            | 5,3%                 | 100,0%|
The respondents recognized skills in interpersonal communication as the most important competence of a teacher. The skill essential in working with the problem methods. 82.9 % of the respondents described the skill as very important - an exceptionally high result. Interpersonal skills are also considered essential, because a teacher plays different roles there – from a narrator, work coordinator, adviser, sometimes initiator of ventures, a guide, through a debate leader and maker of different objects or costumes necessary for presentations. Therefore, it is difficult to imagine a teacher devoid of interpersonal skills consisting in sending and receiving verbal and non-verbal messages, the art of conducting discussions, self-presentation, convincing arguing and counter-arguing, as well as maintaining contact. Competence in creativity proved to be of almost equal importance for the respondents. The result of almost 83% responses classifying the skill as very important is an evidence of very high responsibility of the teacher, connected with conducting classes with the problem methods. Although teachers receive role-plays for individual methods, they must constantly modify the methods, introduce their own ideas and often create new variations of the methods depending on the targets they want to achieve, age of their pupils, the number of pupils attending their classes, time of duration of a method and many other different factors. Teachers should also react flexibly to any pupils’ reactions when working with the selected problem method, devote more attention and time to the elements of their classes which arouse their interest or are difficult to understand, regardless of the pre-assumed scenario of the class, and this requires high levels of teachers’ creativity. In the survey, the respondents also stressed great importance of the teachers’ skills in the field of organizing work with their pupils. The competence in the field of using information and communication technologies, particularly knowledge of various computer programs, turned out to be very important for 54,1% of the respondents. The least important skills turned out to be competences in music and visual arts. It should be noted, however, that about 20% of the respondents marked them as very important in each category. Such distribution of responses sent by the surveyed teachers is above all evidence of their awareness of the real problems encountered in their work and experiences drawn from their work with the problem methods.

It is worth noting that the respondents also designated another benefit resulting from working with the problem methods, namely an opportunity for constant development of different competences while using them in their work with their pupils. While treating the problem methods as an indispensable element of their work, the surveyed teachers treat them also as a training field for perfecting the competences they have already acquired and find indispensable in the work of a modern teacher. Apart from the competences designated as the most important and, the most frequently used ones and most often perfected, the surveyed teachers mentioned also many other benefits that will be discussed more extensively in the interpretation of Table 9.

| Teacher’s benefits from working with the problem methods | very high | medium | low | total |
|--------------------------------------------------------|-----------|--------|-----|-------|
| using IT equipment (mastery of different computer programs) | 531 | 313 | 137 | 981 |
| music | 197 | 563 | 222 | 982 |
| visual art | 190 | 581 | 211 | 982 |
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| methods                                      | 804 | 148 | 30 | 982 |
|----------------------------------------------|-----|-----|----|-----|
| the classes are not monotonous               | 81.9% | 15.1% | 3.0% | 100.0% |
| the pupils are active and show initiative    | 799 | 159 | 24 | 982 |
| better contact with pupils                   | 81.4% | 16.2% | 2.4% | 100.0% |
| better knowledge of the pupils and their skills | 745 | 176 | 61 | 982 |
| better teaching results                      | 982 | 54.9% | 36.2% | 9.0% | 100.0% |

The results listed in the table show the benefits that the teachers see for themselves when using the problem methods, such as e.g. lack of monotony of their classes and high degree of activity and initiative of their pupils, as the most beneficial. Both of these categories were chosen by about 82% of the respondents and marked very important. The surveyed teachers (almost 75%) designated good contact with the pupils as a very important benefit resulting from using the problem methods. It is quite a puzzling fact that a smaller number, though still quite high (about 66%) of the respondents marked the category of better knowledge of the pupils and their skills. It seems that it is exactly the problem methods that provide the best occasion for gaining knowledge about the pupils, their untypical talents, abilities and strong points. Therefore, it might seem that it is this category that will be marked most often. Meanwhile, it came on the last position but one in the ranking shown in the table. The least often selected category in this question turned out to be: better learning results of the pupils. It should be firmly stressed, however, that this category also received very good results. Almost 55% of the respondents designated it as very important, and over 36% of the respondents designated it as medium important. The lists displayed in the Tables in this section show very clearly that the teacher’s benefits resulting from working with the activating methods are enormous. Teachers also build their own beliefs about the nature of learning as a result of the education they have received, the culture they have lived and the experiences they have gained (Kinay & Suer 2020). Innovative development of education is possible only based on energy and initiative of young, talented and professionally trained teachers mastered the whole range of professional competencies with internalised a huge amount of knowledge included in the standard of pedagogical education (Voloshina et al., 2019).

4. Discussion and Conclusion

The study revealed great popularity of the problem methods in teachers’ work at the primary school level. The teachers indicated, above all, a definitely higher initiative of their pupils in comparison to their involvement during lessons conducted with the use of traditional methods of education. The teachers highly appraised their preparation for work with the problem methods received during their studies. The problem among the respondents turned out to be, above all, the high number of pupils in their forms and availability of cohesive literature pertaining to implementation of innovative problem methods. The responding teachers indicated that the basic source of their knowledge on problem methods came from the Internet and extra-school courses. The study also showed the need to continue the research on the subject at higher levels of teacher training. The starting points for
distinguishing the subsections were the major issues of the study, such as: practicing the methods (frequency, popularity, failures, expenses), benefits of pupils resulting from practicing the problem methods, benefits of teachers, activeness and reactions of the pupils, use of the problem methods for optional classes (using the problem methods when working with the pupils who have learning problems and with the clever pupils), as well as developing teachers’ skills in the field of introducing problem methods when conducting classes (major sources of the knowledge on the problem methods, forms of development of the teachers’ workshops in the use of problem methods, evaluation of preparation of higher education graduates for work based on the problem methods and new realms of the problem methods that the teachers would like to learn about. The problem methods are aids and hints, which enable pupils to extend their knowledge, deepen their interests, develop new ideas, communicate with other pupils, learn to discuss and tolerate individual ways of thinking and acting of other members of the group. The methods are characterized by intensive force of stimulating pupils’ and teachers’ initiatives, high effectiveness as well as high diversity and attraction. They not only allow to stimulate pupils’ interest in a subject or test their knowledge, but also make use of the knowledge acquired on other school subjects or in activities done outside school and classes. The ability to draw conclusions, think analytically and critically, linking events and facts into causal and consecutive relationships, the ability of appropriate behavior in a new situation, as well as creativity, which constantly develops while working with the problem methods (Canfield, 2014; Kozak, 2009; Kožuh, 2020; Krzywoń, 2008; Krzyżewska, 2000; Wosiak, 2011). The educational process carried out with the use of the problem methods also develops the art of discussion, argumentation, counter argumentation, active listening, analyzing, concluding and evaluating one’s own work and achievements of other members of the team.

Benefits resulting from working with the problem methods can be divided into two basic groups: organizational benefits and individual benefits. Among the organizational benefits, one can easily find team performance of tasks, which individual pupils are unable to cope with on their own. Other benefits include making use of all one’s abilities and talents in the process of solving complex problems, as well as team decision making while taking into account different, often contradictory, points of view. As for the individual benefits, one should remember the opportunity to recognize one’s skills, positive support from the group and satisfying important needs, such as the need for affiliation or membership and the need for approval and the sense of security.

Working with problem methods perfectly relates to the concept of learning through experience (Brudnik et al., 2011; Hamer, 1997; Marek, 2018; Niemierko, 2007). The foundation of this concept is formed by three major assumptions: we learn best when – we are included in an experience providing some kind of knowledge, knowledge is best discovered on one’s own and we learn enthusiastically – if we have a possibility of choosing the goal and the method of learning. The model of work, which absorbs a pupil’s activity and enables him/her to experience diversity of emotions, means parallel transfer into a number of important directions and dimensions: from an approach towards an individual pupil left on his/her own to the approach towards a group, from a teacher as an educator to the teacher as a person creating conditions and contributing to the process of learning and from pupils as recipients of the transmitted knowledge to the pupils as individuals learning in a creative way.

The use of problem methods of education yields results not only in the process of teaching, but also in the process of upbringing. Advocates of these educational methods agree that such methods as drama or simulation or brainstorming develop the ability of to work in a team. They also teach cooperation in working for common success. Active-learning teaching provides opportunities to express one’s own judgements and opinions, without exposing oneself to failure. Opponents of excessive use of the problem educational methods accuse them that they take too much teacher’s time to prepare. Moreover, in their opinion, pupils working in a team are often dispersed, talk to one
another, do not always concentrate on their tasks, which results in chaos. Some teachers worry that if they use the problem methods, they can be accused of inability to control their pupils. Many of them reject frequent use of the problem methods due to excessively extensive syllabuses. Irrespective of the indicated drawbacks of working with the problem methods, the benefits for both the pupils and the teachers are incommensurately higher.

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