JOURNAL OF RESEARCH IN EDUCATION AND SOCIETY
EĞİTİM VE TOPLUM ARAŞTIRMALARI DERGİSİ
ISSN: 2458 - 9624 (Online)

Eğitim ve Toplum Araştırmaları Dergisi/JRES, 5(1), 139-161, 2018

THE MANAGEMENT OF METHODICAL WORK IN MIDDLE AND HIGH SCHOOLS

ORTAOKUL VE LİSELERDE METODİK ÇALIŞMANIN YÖNETİMİ

Pirali ALIYEV [1] ve Farah HUSEYNOVA[2]

[1] Institute of Education, Department of Management and Economy of Education. Baku, Azerbaijan, e-posta: piralibexbud56@mail.ru
[2] Institute of Education, Department of Management and Economy of Education. Baku, Azerbaijan, e-posta: fereh_xanum@mail.ru

Gönderim Tarihi: 11.04.2017 *Düzeltme Tarihi: 04.04.2018* *Kabul Tarihi: 06.05.2018*

Abstract
The current study analyses the content, form, organisation and management of scientific-methodical work as well as its impact on students' research skills and their learning in middle and high schools. 100 principals and 102 vice-principals working in public schools in such cities of Azerbaijan as Binagadi, Khachmaz, Goygol, Yardimli, Lerik, Astara and Lankaran were included into this research study, which attempted to identify the system of scientific-methodical work, its purpose and duties in addition to its forms and directions. The study also aimed to identify the collaboration between the principals and vice-principals, the system of scientific-methodical work with young teachers, and the structure and content of teacher portfolio. This paper justified the value of the aforementioned factors and proved their necessity. Moreover, in the study it is confirmed that scientific-methodical work is still a valid and reliable approach.

Keywords: Scientific-methodical provision, Self-study of teachers, Professional development of teachers, Teacher portfolio, Independent work, Research skills.

Öz
Bu araştırma ortaokul ve liselerde bilimsel-metodolojik çalışmanın içeriği, biçimi, organizasyonu ve yönetimi gibi meseleleri analiz etmekte olup; bunun yanı sıra bilimsel-metodolojik çalışmanın öğrencilerin araştırma becerileri ve onların öğrenme üzerindeki etkisini araştırmaktadır. Bu araştırmaya Azerbaycan'ın Binagadi, Haçmaz, Göygöl, Yardımlı, Lerik, Astara ve Lenkeran gibi şehirlerinden 100 ortaokul ve lise müdürü ve 102 ortaokul ve lise müdürü yardımcısı dâhil edilmiştir. Araştırmanın amacı bilimsel-metodolojik çalışmanın sistemini, amacını, görevlerini, biçim ve istikametini, okul müdürü ve okul müdürü yardımcısı arasındaki işbirliğini, genç öğretmenler ile bilimsel-metodik çalışma sistemi, öğretmen portfolyosunun yapısı ve içeriği gibi meseleleri tanımlamaya çalışmaktır. Araştırma, aynı zamanda, yukarıda belirtilen faktörlerin önemli etkenler olduğunu savunmuştur. Bunların yanı sıra, araştırmada bilimsel-metodolojik çalışmanın hâlâ geçerli ve güvenilir bir yaklaşım olduğu teyit edilmiştir.

Anahtar Kelimeler: Bilimsel-metodolojik tedarik, Öğretmenlerin bireysel öğrenme faaliyeti, Öğretmenlerin profesyonel gelişimi, Öğretmen portfolyosu, Bağımsız çalışma, Araştırma becerileri.

Alıntı için Künye Bilgisi: Aliyev, P. & Huseynova, F. (2018). The management of methodical work in middle and high schools. *JRES, 5*(1), 139-161.

Introduction

After gaining independence the tradition in the field of methodological service has collapsed, and the new traditions have not been fully formed in Azerbaijan. For this purpose relevant international experience is being investigated and applied to education. It is considered that proper organisation and management of methodical work in middle and high schools will support professional development of teachers and academic achievements of students. From this perspective, The State Strategy for the Development of Education in Azerbaijan (State Strategy, 2013) envisages referring to current experience and also benefiting from international experience. The Strategy also envisages creating education system with competent teachers and infrastructure with modern technologies which will stand out as an developed education system in the world. Moreover, in the Strategy it is mentioned that it is necessary to recreate, in accordance with progressive international experience and development concept of Azerbaijan, education infrastructure and education management, teacher training and content of education (Shakurov R.KH. (1990) Socio-psychological bases of management: leader and staff. Moscow). The Strategy also emphasizes the importance of establishment of economy based on knowledge, development of information society and assuring sustainable development of the country.

One of the main tasks of education system in Azerbaijan is to reconstruct the system of education management. Form this perspective, some concepts in the third priority of State Strategy, which envisage "formation of new education management which is based on accountability for results, have transparent and effective regulatory mechanism, and have state-public characteritics and state-business parnership" and "development of result-oriented and transparent management model in public schools", bear huge significance (State Strategy, 2013).

Important measures are being taken in the sphere of modernisation of management of public schools. In Azerbaijan public school education consist of three stages (primary education – I-IV grades, secondary education (or general middle education) – V-IX grades, and upper-secondary education (full middle educarion) – X-XI (XII) grades). State standards and programs of general education (curriculum) states management of general education is based on principles such as accountability, distribution of responsibility and monitoring of progress. Interpretation of these principle are as following: accountability – each member of personnel of school bear responsibility for the assigned task; distribution of responsibility – it is a factor

which support democracy, systematization and transparency; monitoring of progress – this activity boosts effective planning and operative control mechanism of activities within school (State Standards and Programs, 2010).

Management of public schools is based on the following documents: Education Law of the Republic of Azerbaijan (2009), Prosvesheniye, State Strategy for the Development of Education in Azerbaijan (2013), and Model Regulations of Public Schools (2011), Constitution of the Republic of Azerbaijan (2005). Baku: Azerbaijan, Teaching of Human Rights: Methodical Manual. Norwegian Council of Refugees (2003). Baku - Azerbaijan: NRC country programmes, Report from Norvegian Refugee Council.

Organisational functions of managers of public schools are as the followings (Model Regulations of Public Schools, 2015):

- Organise pedagogical process and scientific-methodical work;
- Make recommendations to teachers and other teaching staff about implementation of teaching plans and programs;
- Prepare necessary teaching-methodical documents and monitor their quality;
- Suggest prompt and relevant changes to teaching programs when necessary;
- Realise quality pedagogical process, optional lessons and school clubs, and provide students with quality education based on state standards;
- Determine optional subjects according to students interests, and ensure optimal classification of classes;
- Compile schedule of teaching and other activities, and realise control and leadership of methodical council and method unions;
- Ensure maintenance, provision and effective use of school rooms;
- Make suggestions on development of pedagogical process, research relevant progressive experience, and help young teachers and parents in organisation of teaching process;
- Help pedagogical personnel to participate in certification process and also help them to gain professional development and undergo retraining;
- Bear responsibility for improving the quality of learning and increasing students' knowledge, keep semiannual, annual and final records of student assessment, and ensure that exams are hold according relevant instruction;
- Ensure monitoring for the quality management in education

According to traditional school management:

- Subject determines purposes of management of object;
- Stresses the importance of quality in system management;
- It is considered that scientific approach to pedagogical activity is important.

Unlike the above-mentioned factors, modern phisolophy of public school management are as the followings: “control reflex”, “cooperation”, “self-realization”, “result-centered management”, and “counter-centralization”. Moreover, flexibility, independent decision making, acquiring wide information for better decision-making, gaining global information and determining the right direction in activities are considered to be important features in management.

According to anlyse of these researches, principals of public schools should conduct systematic work in scientific-metodical issues and support teachers in professional development. Professionalism of teaching staff of a school depends on scientific-methodical skills.

Scientific-methodical work in middle and high schools is implemented through systematic process. Main scientific achievements is applied to scientific-methodical work. Moreover, scientific-methodical work consists of the followings: development of teaching staff, creative development of potential of teaching staff, modernising pedagogical process, accountability and raising quality of education.

Organisation of Scientific-Methodical Work in Middle And High Schools

Objective and Duties

The objectives of scientific-methodical work in the middle and high schools where experiments are held: help for teacher and student in organisation of education process, dissemination of progressive experience and development of pedagogues. To achieve this purpose we had the following recommendations: proper management of teacher training; meeting individual needs of teachers; motivating research activities of teachers; stimulating projects; self-realisation and self-management in learning; teaching values; raising pedagogical competence of teachers; disseminate progressive educational experience; support creative activities of students. Teachers need do self-analyses based on personal characteristics and build professional performance on conceptual principles of education.

Therefore it is important that professional self-education should be creative. Furthermore, schools should create structure which supports professional development of teachers. External impacts should be compared with internal resources.

The next main functions of scientific-methodical work are as followings: increase of knowledge; enrichment of profession values; development of outlook; creative advancement of motives of professional activities; development of national and universal values; development of modern pedagogical approaches; development of pedagogical mastery and skills; development of skills for self-realisation; development of skills for self-study and professionalism.

The following factors are also important: consultation, organised activity; general values, traditions, ritual, and identification of pedagogical creativity; investigating progressive teaching experience and disseminating them among teaching personnel; stimulating initiatives of teachers for creativity and mutual cooperation.

The level of quality if scientific-methodical work of pedagogical personnel of a school depends on real condition and needs of school. Masures need to be taken according to these factors. School managers should build scientific-methodical work on modern requirements.

Developing professional competence of teachers for establishing scientific-methodical work in middle and high schools are very important. The following are suggestions for creating self-study system of teachers.

Self-Study of a Teacher is a Part of Scientific-Methodical Work

Professional pedagogical self-study is very important for teachers. Self-study activity involves independent and systematic approach, planning, initiative, self-confidence, certain methodology and professional development.

The main aim of self-study is to raise quality of professionalism and achieve necessary qualification. To attain the goal a teacher needs to:

- get professional competence;
- become a civilised person;
- raise level of pedagogical quality and get better results.

The followings are parts of functions of self-study of teachers suggested by Simonov (2004):

- skills which are needed to fill the gaps in theoretical knowledge gained at university;

- increasing professional skills and enrich and widen theoretical knowledge and learn additional skills;
- achieving experience with independent activities;
- using all kinds of opportunities in order to boost professionalism;
- being engaged with self-development and self-advancement.

Self-study activities of a teacher consists of several segments which are demonstrated below:

Table 1.

Content and Form of Self-Study of Teachers of Middle and High Schools Involved in the Research

Form	Content
1	2
Research activities of a teacher	Participation in experimental activities, preparing various programs and manuals and their approbation, reviewing research papers, studying theoretical materials, studying scientific-practical and theoretical researches, participation in scientific-practical conferences and seminars, dissemination of research results, writing research articles and manuals
Leadership in research activity in learning process	Leadership in optional lessons, clubs and extra-curricular activities, involving students into research activities; organising scientific-practical conferences for studens, approbation of research materials by students, consultation for students in research activities, individual education plan for students involved into inclusive education
Preparation of methodical documents	Preparation of teaching plan, school curriculum, methodical recommendation for organisation and management of learning process, scientific-methodical work; preparation of experimental materials, surveys, methods of diagnostic work applied to student activities in various settings (exhibitions, competitions, etc.)
Preparation of audio and video recorgs	Preparation of audio and video materials for lessons
Professional development of teachers	Internship, debates, private consultation, seminars, “open lessons”, mutual assistance, studying scientific-methodical literature, participation in competitions and preparation of teaching manuals
Researching and dissemination of progressive pedagogical experience	Working with groups studying experience, aim of studying experience, system demonstration advantages of personal experience, experience in innovative activities, investigation of research results (research articles, manuals, monographs, brochures), presentations, education process, master classes, pedagogical skillfulness, participation in pedagogical councils, presentation in seminars, pedagogical lectures, cooperation with creative teachers, researching and dissemination of innovative experience

Pedagogical mastery (teaching skills) of a teacher can be classified according to the above-mentioned description. In other words, forms of work can be classified according to each level.

Possibility of scientific-methodical forms of pedagogical mastery of teachers based on levels.

Table 2.

Pedagogical Competence of Middle and High Schools Teachers Involved in the Research

Level	Content of work
1	2
High	Didactic materials, methodical works and articles of professional teachers association
Average	Seminars according to issues and topics
Low	Attachment of experienced teachers to assistance program for young teachers

Types of Scientific-Methodical Work in Middle and High Schools

Collective discussion of scientific-pedagogical ans scientific literature (conference, debates, etc.); preparation of articles, recommendation and books; resume, library cards, compilation of recommended literature; methodical seminars; classification of retraining of teachers; records of level of creativity of students' learning; "pedagogical reading" at i school; scientific-practical conference; patronage for newcomers to teaching process; "open lessons"; personal exhibitions dedicated to a certain teacher's experience; planning based on subject curriculums, recommendation on difficult topics to perceive; joint preparation of planning of extra-curricular activities (quizzes, olympics, etc.); book exhibition; scientific report and presentation on pedagogy and methodology; pedagogical consultation; scientific interviews on pedagogical and methodical topics; realisation of learning results; analyses of semiannual and annual results; impact of psychological service on learning of students.

The teachers in the middle and high schools involved in research did took interest and needs of the staff, importance of modern standards, regional characteristics, level of theoretical and methodical problems into consideration for selection of scientific-methodical work.

Table 3.

Sample of Single Scientific-Methodical Work

Aim and stages of each task	Content of work		
	Method union, Pedagogical council	Activity of a teacher	Control for activities

Table 4.

Single Stage and Type of Scientific-Methodical Work in Middle and High Schools

Stage	Content of work
I stage Organisation	• selection of topic of methodic service; • identification of a problem by teachers and group of creative teachers; • theory of seminar and psychological experiment, identification of topics of pedagogical council; • presentation of review of self-study methods; • popularization of essence of new approaches in teaching; • preparation of individual self-study methods; • identification of planned control.
II stage Application of new ideas	• practical recommendation for teachers relating to learning; • approbation of new methods and strategies (problems of creative teachers and groups); • new methods of professional development (organisation of activities, debates, collective discussion of reports, modernization of lessons, etc.); • control of planning – diagnosis.
III stage Receiving and regulating information	• receiving and regulating information (by manager, teachers, etc.); • monitoring, generalisation and regulation of management results; • application of main information to activity; • realisation of planned activities in institutions (opening of an event, creative groups, reports by teachers, interview with participant, scientific-methodical seminars).
IV stage Assessment of result	• creative report; • help raise quality of ‘open lessons’; • preparation of pedagogical reports, materials, laboratory work, exhibitions; • assistance for self-socialisation; • private work (internship, thematic consultation).

V stage Prognosis and analyse	• analyse of scientific-methodical work of teaching staff (pedagogical council, scientific-methodical conference, method union); • thematic exhibitions; • assessment of professional development of teachers; • participation in competitions by Ministry of Education; • generalisation of experience of teachers (pedagogical card catalogue, methodic literature, preparation of self-study plan, idea bank). • illustration of materials with content of meeting discussion; • prospect of future progress.

Creative Activity of a Teacher Assures Development of Scientific-Methodical Work

It is recommended to teachers of middle and high schools that they should be self study as it leads to self-development. For this purpose there needs to be fundamental activities and application of new forms and methods (Ismikhanov & Bakhtiyarova, 2012).

Professional and creative self-study techniques should lead to self-development. In order to achieve this, objectives and duties of self-study should be defined accurately, and the content of self-study should be devided into modules. Moreover, teacher need to do self-analysis in their teaching career. The followings are recommendations for self-study: personal activity should be directed towards self-study; forms, methods and means of self-study should be chosen based on expected results; teaching experience of ther teachers should be explored and used for future development plans; self-analysis of teachers should help self-realisation and self-development (Support for professional competence of teachers: available experience and recommendations (2015). Baku, QHT Publication LLC).

Teacher need to carry out regular analysis of their teaching activities which is good for the following. This performance prevent a teacher from “copying” other teachers, personal characteristics of a teacher guarantees his or her achievements, making an better use of ICT help a teacher use time effectively and be more creative (Aliyev, 2016).

Assessment of self-analysis of teachers let them find out advantages and disadvantages of their performance. From this perspective, assessment of teaching activity of a teacher is also of crucial importance (Abutalibovov, Mammadov & Guliyev, 2014).

Teacher Portfolio Should Reflect Creative Work of a Teacher

Portfolio consists of relevant materials which reflects achievements and success of teachers in professional teaching career. Portfolio also help teachers assess their choice of teaching strategies and techniques.

Furthermore, portfolio can be depicted as following: is is a map of demonstrating activities if a teacher from various aspects; it is an indicator of implementation of a plan designed beforehand (Jabbarov, 2004).

Practical importance of a teaching portfolio are as followings: gain high grades in certification; participate successfully in national projects and creative competitions; be successful in accreditation of public school where they work as well as their own certification; systematize teaching activities; stimulate performance.

Diagnosis and portfolio in professional performance let a teacher: realise his or her plans; keep substantial reserves; be engaged with self-realisation which inspires a teacher in better performance.

Administrators of a school keep continuous assessment of teachers. According to the rules, a teacher portfolio is made of a folder in which documents (surveys, relevant documents, certificate of retraining and professional training, awards, honorary diplomas, etc.) are kept which reflect results of teaching performace of a teacher (monitoring and certification of students, methodical researches, participation in competitions, articles published in newspapers and journals, etc.).

Structure of a teacher portfolio in the middle and high schools are as following:

1. General features: Birthday; education background; qualifications; profession; experience; retraining certificate; awards.

2. Methodical performance: Model of a lesson; plan of a lesson; methodical approaches; analysis of lesson; article.

3. Work with students: List of creative work with students; research activities of students; partipation in competitions and olympics; plan of extra-curricular activities.

4. Creative activity: Self-study; participation in competitions and seminars; participation in experimental work; creative work of teachers.

5. Review: it includes final expert review of assessment council; review for the articles and books; recommendation letters; review for performance of creative group.

6. Work with newcomers: Special attention is paid to young teachers who are newcomers. The central concept of self-realisation of newcomers is adaptation to staff and process at school. The following measures are effective for quick and smooth adaptation of newcomers: develop adaptive skills of newcomers; develop professional communication skills of newcomers; motivate self-study of newcomers (Mehrabov, 2007).

One of the important issues on which school managers focos their attention is a folder of acticity of a student (portfolio). Portfolio is a collection of documents relation to learning performance of a student (Rzayev, Mammadov & Ismayilov, 2010). Student portfolio enables teachers and parents to keep track of student performance. Moreover, portfolio is an effective means for students and teachers to assess their performance.

Table 5.

Scientific-Methodical Work with New-Commers in Middle and High Schools

No.	Necessary measures	Responsible person	Implementation period
1.	Interview with newcomers	Principal and vice- principal	September
2.	Activity 1. Preparation of current planning based on subject curriculum. Defining the aim of a lesson	Principal and vice- principal	September
3.	Rules of compilation and preparation of school documents	Principal and vice- principal	September
4.	Planning of extra-curricular activities	Principal and vice- principal	September
5.	Activity 2. Modern requirements for a lesson	Method union for subjects	September
6.	Methodical support for newcomers in defining the aim of a lesson	Leading teachers	Throughout year
7.	Activity 3. Practical seminar. Implementation of subject curriculum based on teaching plan	Principal and vice- principal	December
8.	Observing “open lessons” of newcomers and importance of using “pedagogical technologies”	Principal and vice- principal	February

9.	Organising “open lessons” of newcomers under the topic of “Educative function of learning”	Principal and vice- principal	According to action plan of a school
10.	Activity 4. Self-analysis lesson	Principal and vice- principal	January
11.	Activity 5. Organising private lesson of teachers of various categories	Teachers	February
12.	Control of final results. Interviews with teachers. Preparing questionnaire regarding teachers’ attitude and professional views	Principal and vice- principal	April-May
13.	Newcomers week	Principal and vice- principal	March

Objectives of student portfolio: develop sense of responsibility and sense of discipline of students and improve their self-assessment skills; develop an alternative assessment method in addition to written and oral assessment; keep track of learning progress of students based on facts; support future performance of students; demonstrate skills of students and increase their scope of interests; ensure cooperation and mutual support of students and encourage them into active participation in group works; help students assess their own performance; support teachers in decision-making; support teacher-parent cooperation; ensure gatherinf necessary information to assess learning process and results; involve students into various activities and assess them.

Content of Student Portfolio

Tasks done by student (complete or incomplete); researches; photoes, pictures; video and audio records, CDs; group works and projects; tasks for vocabulary development; essays; tasks which are difficult for students or on which they want to work again; selected tasks by students; assessment forms; list of books read by a student.

The role of a teacher in compilation of student portfolio:

- a teacher guide students for preparation of student portfolio;
- a teacher help students to determine the content of portfolio;
- students choose relevant tasks to be included into portfolio but a teacher participate in decision-making process;
- proper assessment of student portfolio is a sign of sense of responsibility of a teacher.

Assessment criteria should be determined in advance, and students and parents should be aware of these criteria.

The role of student portfolio: Since a portfolio belongs to a student, it is important that a student determine which items be included into portfolio. A teacher should help student in these process but a student has the right to make last decision (Suleymanova, 2014).

It is important that items to be included into student portfolio be documented. Students need to illustrate tasks which have been implemented by them. Perception of criteria by student is very important in terms of proper fulfilment of them.

The role of parents in compilation of student portfolio: The role of parents in compilation of student portfolio is of serious importance. Parents need to understand the function and importance of student portfolio for teachers, and they need to be aware of the fact that teachers refer to portfolio while preparing programs and assessment procedures.

Content of a student portfolio: Teachers define general objectives and expected results of learning before preparing a student portfolio. Teachers and student work in collaboration to choose which learning results deserves being included into portfolio (Maksimova, 2002). Teachers need to explain to role and function of portfolio to the students. Teachers can refer to a real model of portfolio so that student can understand it completely. Exam results, projects, assessment criteria, etc can be kept in portfolio. Teachers should explain student how every stages of learning is assessed (students need to be aware of assessment levels). Teachers can use specific assessment forms and self-assessment paper in order to evaluate tasks of students. Moreover, other informations like teachers opinion about student skills and abilities can be written on a paper and included in portfolio **(** Results of assessment and monitoring of achievemets of learners for decision making in management (2013). Baku, Khazar University).

Research Skills of Students in Middle and High Schools

Research projects are used to assess thinking of students. Research is a means for a teacher to assess how well students can apply their knowledge to practice and real life. Through implementation of researches students acquire adequate knowledge and skills which are necessary to deal with real life issues. Research projects can be implemented in several days even in several weeks. Therefore, unlike exams there should not be time limit for realisation of project so that students are able to use their full potential. A research project is an effective tool for teachers to find out and assess practical skill of student.

A research project consists of four parts:

1. Information on current situation (level of class, topic, expected activity, etc.)
2. Explanation on a task;
3. Explanation on a project;
4. Assessment criteria for a project.

Adequate assessment methods are used in order to evaluate tasks in specific activity. Teachers are also provided with assessment means (forms, tables, etc) and non-standard models of lessons so that they use it for better teaching.

Independent Activities of Students in Middle and High Schools

The directors and the vice-directors work with students in a purposeful and systematic way. This work is carried out in the learning process, outside of the classroom and at extracurricular activities. Activities can be divided into four places (individual, pairs, group and collective). The goal is to execute assignments, analytic analysis, logical, critical and creative thinking in a given environment (Migal, 2013). In modern times, Student Scientific Societies have been established in schools. The purpose of this activity is to develop children's independent research skills and psychological health, assist in identifying an active performance and adapt to cultural life. The most important issue for directing children to the scientific community is the preparation of topics relevant to the age of VI-XI grades by teachers. School children conduct research in several areas:

The first direction: *systematic research development of basic education*

This direction involves:

• Getting acquainted with research practice;

• Formation of research skills (the relevance of the topic in the introduction, identifying the goals and objectives of the research, analysis of information, summarizing, reflection of scientific innovation);

• Analytic analysis of development (current state of the issue, investigation of information);

• Analysis of creative development (content definition);

• The development of a new society (as a result of the work being done in this article) in the context of scientific report.

Second direction: organization of research work

This direction includes:

- Familiarization with actual problems in the world around modern civilizations;
- Analysis of actual problems, role of education in the formation of an active living position;
- Realization of research within the school curriculum and raising the level;
- Developing this field based on suggestions.

In the school library, literature and internet facilities are created for the study. Teachers create motivation for the development of students' research skills. There are broader resources for the development of children's research skills in high school and gymnasiums (Panferova, 2010).

Fulfilment of plan for a student scientific society is an efficient tool for a vice-principal to modernise management system of a school.

Table 6.

Design of Project of Students in Middle and High Schools

Months	Activities
September	Establishing a student scientific society
	Defining structure of a student scientific society
	Presenting symbols of a student scientific society to its members
	Preparing the regulations of a student scientific society
October	Making the system of a student scientific society
	Preparation for a intellectual science week
	Participation in a creative competition (on a city, regional and national level)
November	Preparation for scientific-practical conference to be held in December
	Participation in a creative competition (on a city, regional and national level)
December	Holding a science week:
	An intellectual competition named “Erudition” for V-VI grades
	Research projects for V-XI grades
	Scientific-practical conference
	Participation in a creative competition (on a city, regional and national level)
January	Preparation of discussion under the topic of “Application of scientific achievements to life”
	Participation in a creative competition (on a city, regional and national level)
February	A discussion “I love my country” with high school students
	Participation in a creative competition (on a city, regional and national level)
March	Preparation for “Science week”
	Participation in a creative competition (on a city, regional and national level)

April	Preparation for a scientific-practical conference to be held in May
	Participation in a creative competition (on a city, regional and national level)
May	Holding a science work
	An intellectual competition named “Erudition” for V-VI grades
	An intellectual game “Intellect” for VII-IX grades
	Holding a scientific-practical conference
	Final meeting with active members of a scientific society
June	A report with participation of memebers of a student scientific society
	Assessment of research projects of active members

Projecting Student Activity in Middle and High Schools

Working on projets is a productive and useful meand for gifted and talented students to realize and demonstrate their creativity potential. In order to involve students in active and dynamic learning process, it is essential that students work on projects within their scope of interest (Pomoshnikin, 2002). Furthermore, it is necessary that content, forms and types of class activities be selected according to interests of student.

The following three factors have a direct and effective influence on development of student:

- Zone of proximal development (knowledge, skill, competence, content of personal experience, collaboration of students);
- Zone of future development (possible domains of talent);
- Zone of self-realisation (activity, independence, zelf-assessment, collaboration with others).

Before starting a project, it is important to determine context, mechanism, plan and references to be used for carrying out a project. Project implementation is a crucial process in terms of pedagogical-methodical technologies, assessment of integration of available knowledge and skills of students.

Desing of Learning in Middle and High Schools

While working on projects students develop the following competence: creativity, searching for information, collecting information, presenting information, delivering information, data input (in computer), projecting, collaboration, and self-study.

The sequence in project implementation process:

I stage: this stage consists of initial preparation, determining content of a project. This is a very important stage of a project. This stage involves aim of a project, topic and student motivation. The topic of project should be both interesting and relevant to zone of proximal development of students (Rudnev, 2013). Effective cooperation and mutual understanding among students lead to smooth implementation process and productive results. A teacher is supposed to teach students how to defend their position. Considering all important aspects of the topic under research is crucial in terms of gaining expected result.

II stage: this stage consists of planning and organisation of activity. In this stage types of student activities, as objectives and duties of these activities as well as function and role of each participant are determined. The following factors can constitute parts of planning of group work: double-check of accuracy of information, analysis and generalization of information, methods of publicizing results of activities (reports, presentations, etc.).

III stage: in this stage necessary information need for activity planning is gathered. Information (data) can be gathered through various methods (interview, survey, observation, experiment). Students need to use assistive technologies such as ICT and other resources while working on tasks independently. Finally, students work on data analysis and conclusion.

IV stage: this stage consists of presentation of results of activities and preparing reports.

Presentations should make it possible to assess the research. Students can present results in various ways like oral presentation in conferences, written summary, and journalist report in a newspaper. Learning projects need to be in a form of presentation which can be presented easily to teaching staff. In this case what is important is to demonstrate analysis of activity clearly. Other vital issues in presentation are scientific justification, logical argumentation, performing manoeuvres within context while while explaining ideas. A teacher also play an important role in presentation. A teacher assess the activity, summarise and generalise it. This process make an effective impact on learning of students (8).

Types of a project: project can be different according to content. Projects are grouped based on fine criteria:

Type of projecting activity and justification of method: researching; creativity; role play; data collection; practicing.

Researching content of a subject (discipline): realising joint project; a project relevant to a certain subject (discipline).

Type of relation: regional or internal; international.

Participant of a project: individual, in pairs; group; collective.

Preparation of a project: short-term; middle-term; long-term.

Project implementation is a very important issue in learning process. It is also essential that a project be implemented within a topic or a subject and be carried out within academic year. Approximately 15-20 topics can be presented to students (as individual or group projects).

There should be available references for students to carry out a project. Additional references contribute to better self-study and raise quality of a project. It is recommended that public schools should have "a project week" two times a year and involve all students into projects on all subjects.

Table 7.

Sample of Learning Project of a Student

No	Content of work	Period	Implementor	Control	Further information
1	2	3	4	5	6
1	Assigning a task: objectives and duties of a project, main idea, approximate theme, genre of future project				
2	Information provision of a project				
3	Written instruction to be considered for future teachers (topic, requirements, time, responsible person)				
4	Main idea and idea development. Advice on selection of a topic with relevance and genre				
5	Forming a group for project implementation				
6	Discussing an idea of future project, individual plan on a project				
7	Approving topic of a project and individual plan				
8	Research period. Illustrations, putting materials into system, arranging activities according to idea and genre				
9	Consultation: reports by students (reflection of future idea in a project)				
10	Consultation for each group on compilation of a project				
11	Support for generalisation and systematic work, continuous consultation on content of a project				

12	Generalisation. Reflection of an idea in a project
13	Rehearsal for project implementation
14	Eliminating drawbacks and making some additions
15	Forming an expert group, reviewers and opponents
16	Preparing a project for an open defence
17	Defence
18	Constructive analysis of defence process
19	Finalising process

It is also vital that student activity be modernised for better project implementation. To gain a better modernisation the following factors should be taken in to serious consideration:

1. Objectives and duties should be leading factors;
2. Availability of alternative options;
3. Argumentation for preferred options;
4. Understanding expected results;
5. Improving independent activity;
6. Comparison of activities of students;
7. Making necessary corrections;
8. Assessment of process and results of a project.

Assigning projects to students is an effective method to evaluate their weaknesses and strength. Working on a project help students learn cooperation with peers, observe other students wile working and make collective decisions. These features of students can be bettered through the followings:

- Team work competence;
- Decision-making, sense of responsibility, making a right choice;
- Distribution of responsibility;
- Competence of analysis of results;
- To have sense of belonging.

Working on projects develops some skills and competence of students such as labour, communicative skill and social interaction. Besides, it is possible to see the following factors (Migal, 2013):

- raising quality of making items;
- understanding a task and its essence well, collaboration of peers, requirement for task implementation;
- planning final result and verbal presentation form, high fantasy, working on various tasks of in terms of level of difficulty;
- considering financial resources for project implementation, assessment of activity in various stages;
- generalisation of a project;
- decision-making and necessary corrections;
- constructive discussion of a problem and expected results, supporting with survey (consultation, further information, cooperation, etc.);
- expressing ideas with aid of models, drawings, sketches, scheme and technical patterns;
- searching for appropriate information independently;
- compilation of reports by means of schemes (constructive, technological, economic);
- assessment of innovation and its quality and quantity in terms of relevance to result of a plan;
- assessment of a project and other issues;
- defending a project publicly as well as criteria for assessment of a project;
- preparation of information, defining results, private project implementation, constructive design of professional activity;
- coding an ideas, increasing content of a project, and preparation for print.

A teacher also needs to consider the followings while helping students in project implementation:

- Motivating students;
- Teaching students necessary competence;
- Involving all students into productive research activity;
- Explaining complicated issues to students in a simple way;
- Involving students into individual work, pair work, group work and collective work;
- Preparing assessment criteria;
- Preparation of learning project based on a certain time period.

Ethical Issues

Since data collection process requires respecting participant, the researcher needs to get their plan reviewed and approved by a concerning board. Regarding this point, permission was obtained from Ministry of Education to start research. According to the permission, the research guarantees that right after finishing the project the data will be deleted for ultimate anonymity of the participants.

Moreover, informed consents were submitted to the participants to make them familiar with all the details such as content and purpose of the study so that they get full understanding of the research and become eager voluntary. The informed consent also contained research procedures, topics, possible future perspectives, assured their mentioned anonymity and of course mentioned their voluntary participation which allowed them to withdraw from participation any time.

Research data were treated with special care during the analysis and interpretation process. Pseudonyms or numbers are used for anonymity. This study used pseudonym for teachers.

Conclusion

Sovetovan (2008) and Pomoshnikin (2002) examined the issues of education management while demonstrating the improvement of pedagogical and methodological service as the most optimal way of achieving learning outcomes in middle and high schools. However, they did not show ways to improve the level pedagogical-methodical service. We have taken it into consideration and research optimal ways of pedagogical-methodical service in middle and high schools. We have systematically established the pedagogical and methodological work in middle schools and high schools involved in the study. Teachers achieved the scientific and theoretical development, the acquisition of new skills in technologies, result-oriented functioning, and the improvement of quality in education. We tried to do the followings: raise professional competence of teachers; raise methodical competence of teachers involved in school management, improve curricular and extra-curricular education.

We have also succeeded in identifying interest and needs of the pedagogical staff in at middle and high schools; actuality and modernity of service; features of the region; theoretical and methodological problems, and the identification of those involved in this process. Most importantly, we have succeeded in shaping research skills of students.

Ministry of Education of the Republic of Azerbaijan makes a special effort to study experience of developed countries with quality education and take advantage of this experience in favour of national education system. To attain this purpose teacher are involved into professional development training and establish resource centres in public schools in various regions of the country. The system, which we suggest, also support professional development of teachers and research skills of students.

The results of middle and high schools indicated that the scientific-methodical system we suggested improves teachers' professional skills, develops research skills of students and achieves result-oriented activities.

References

Abutalov, R.R., Mammadov, S.M. & Guliyev, S. (2014). *Basics of management*. Baku.

Aliyev, P.B. (2016) *Planning of management of public schools*. Baku.

Constitution of the Republic of Azerbaijan (2005). Baku: Azerbaijan.

Education Law of the Republic of Azerbaijan (2009). Baku.

Ismikhanov, M.A. & Bakhtiyarova, R.A. (2012). S*chool management: A textbook for pedagogical institute and universities*. Baku.

Jabbarov, R. (2004). *Management and planning of education at public schools*. Baku, Muallim.

Maksimova, L. & Shibanova, E. (2002). *Handbook of a school principal*.

Mehrabov, A.O. (2007). *Current problems of education in Azerbaijan*. Baku, Mutarjim.

Model Regulations of Public Schools. (2011). Baku.

Migal, E.A. (2013). *Management of modern school.* Moscow.

Panferova, N.N. (2010). *Management in the education system: A textbook.* Moscow.

Pomoshnikin, M. (2002). *Quality of education: Problems and technology of management.* Moscow.

Results of assessment and monitoring of achievemets of learners for decision-making in management (2013). Baku, Khazar University.

Rzayev, O.H., Mammadov S.M. & Ismayilov, S.N. (2010). *Basics of education management: A textbook.* Baku, Mutarjim.

Rudnev, E.A. (2013). *Management of the quality of education in a school: Manager resources.* Moscow.

Simonov, V.P. (2004). *Pedagogical management: know-how in education: a tutorial.* Moscow, Higher Education.

Sovetova, E.V. (2008). *Directory of the vice-principal of a school.* Rastov: Phoenix.

Suleymanova, A. (2014). *Basics of education.* Baku, Tahsil.

Support for professional competence of teachers: available experience and recommendations (2015). Baku, Publication LLC

State Strategy for the Development of Education in the Republic of Azerbaijan. (2013). Baku.

State Standards and Programs (Curiculum) of Public School. (2010). Baku.

Teaching of Human Rights: Methodical Manual. Norwegian Council of Refugees (2003). Baku -Azerbaijan: NRC country programmes, Report from Norvegian Refugee Council - https://reliefweb.int/report/azerbaijan/azerbaijan-nrc-country-program

Shakurov R.KH. (1990) Socio-psychological bases of management: leader and staff. Moscow, Prosvesheniye