„ION CREANGĂ" STATE PEDAGOGICAL UNIVERSITY FROM CHIȘINĂU

Presented as manuscript
CZU 37.014 (043.3)

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THE INFLUENCE OF INSPECTORS' LEADERSHIP STYLE ON MATHEMATICS TEACHING EFFICACY IN ISRAELI PRIMARY SCHOOLS

Specialty: 531.01. General theory of education

Doctoral thesis in Pedagogy

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Chișinău, 2016

UNIVERSITATEA PEDAGOGICĂ DE STAT „ION CREANGĂ”
DIN CHIȘINĂU

Cu titlu de manuscris
CZU 37.014 (043.3)

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INFLUENȚA STILULUI DE LEADERSHIP AL INSPECTORULUI ȘCOLAR ASUPRA EFICACITĂȚII PREDĂRII MATEMATICII ÎN ȘCOLILE PRIMARE DIN IZRAEL

Specialitatea: 531.01. Teoria generală a educaţiei

Teză de doctor în științe pedagogice

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CHIŞINĂU, 2016

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Influența stilului de leadership al inspectorului școlar asupra eficacității predării matematicii în școlile primare din Izrael,

teză de doctor în științe pedagogice, Chișinău, 2016

Structura tezei: introducere, 3 capitole, concluzii și recomandări, bibliografia cuprinzând 234 titluri, 141 pagini de text de bază, 17 anexe, 81 tabele, 20 figuri.

Publicaţii la tema tezei: rezultatele cercetarii sunt reflectate în 18 lucrări științifice (8 articole în reviste internaționale, 4 comunicări la conferinte internaționale, 6 publicații științifico-metodice).

Cuvinte-cheie: inspector școlar, învățător, influență, stil de leadership, eficacitate, predare, performanțe școlare, identificare profesională, leadership transformațional, leadership tranzacțional, integrare, prestigiu extern perceput etc.

Scopul cercetării: Stabilirea fundamentelor teoretice și praxiologice ale eficacității predării matematicii sub impactul stilului de leadership al inspectorului școlar.

Obiectivele cercetării:delimitarea particularităților leadership-ului educațional versus managementul educațional; clasificarea și definirea stilurilor de leadership specifice inspectorilor școlari; examinarea cadrului teoretic privind eficacitatea activității învățătorilor în predarea matematicii; stabilirea dimensiunii funcționale a inspecției școlare și statutului inspectorului școlar; caracteristica variabilelor asociate eficacității activității învățătorilor în predarea matematicii; structurarea *Modelului pedagogic de eficientizare a predării matematicii în clasele primare din Izrael*și validarea lui prin experiment; analiza, interpretarea și sistematizarea rezultatelor cercetării, formularea concluziilor generale și recomandărilor practice.

Noutatea și originalitatea științifică a cercetării sunt obiectivate de actualizarea semnificației conceptelor de inspector școlar, stil de leadership, eficacitate didactică, identificare profesională etc; elaborarea modelului teoretic al ipotezelor cercetării și determinarea corelațiilor dintre variabilele eficacității profesionale a învățătorilor.

Problema științifică soluționată în lucrare constă în fundamentarea teoretică și științifică a funcționalității *Modelului pedagogic de eficientizare a predării matematicii în clasele primare din Izrael*prin valorizarea stilului de leadership al inspectorului școlar pentru intensificarea eficacității învățătorilor claselor primare și performanțelor elevilor la matematică.

Semnificaţia teoretică a cercetării constă în stabilirea reperelor teoretice privind leadershipul educațional; determinarea stilurilor de leadership educațional; argumentarea rolului inspectorilor școlari pentru asigurarea eficacității activității învățătorilor în predarea matematicii la nivelul ciclului primar; relevarea variabilelor asociate eficacității predării matematicii în clasele primare, precum și structurarea modelului teoretic al corelațiilor dintre ele.

Valoarea aplicativă a investigației rezidă în identificarea corelației dintre variabilele eficacității profesionale a cadrelor didactice; structurarea*Modelului pedagogic de eficientizare a predării matematicii în clasele primare din Izrael,* elaborarea programului formativ stipulat de model și validarea lui prin experiment; interpretarea valorilor statistice obținute experimental și formularea recomandărilor practice.

Implementarea rezultatelor ştiinţifice Rezultatele cercetării au fost aprobate în cadrul conferințelor științifice, simpozioanelor și revistelor științifice și au fost testate în instituțiile preuniversitare din Izrael în perioada anilor 2012-2016.

ANNOTATION

Halfon Hen Dalia

The influence of inspectors' leadership style on mathematics teaching efficacy in Israeli primary schools

Doctoral thesis in the field of Pedagogy, Chişinău, 2016

Thesis structure: introduction, 3 chapters, general conclusions and recommendations, bibliography of 234 titles, 141 pages of basic text, 17 appendixes, 81 tables, 20 figures.**Publications:** the research results are reflected in 18 publications (8 articles in educational journals, 4 articles at international conferences, and 6 scientifico-methodological publications).

Key-words: school inspector, mathematics teachers, influence, leadership style, efficacy, school achievements, professional identification, transformational leadership, transactional leadership, integration, perceived external prestige etc.

The goal of the research consists in establishing the theoretical and practical foundations for enhancing mathematics teaching efficacy throughout the valuation of school inspector's leadership styles.

Research objectives: point out the peculiarities of educational leadership versus educational management; classify leadership styles and define their characteristics; examine the theoretical frame of teachers' activity efficacy in the process of teaching mathematics; determine the functional dimension of school inspection and school inspector's status; characterize the variables associated to teachers' activity efficacy in the process of teaching mathematics; structure the *Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools* and its experimental validation; analysis, interpretation and systematization of research results, formulating conclusions and practical recommendations.

The scientific novelty and originality of the research consist in updating the significance of the terms: school inspector, leadership style, professional efficacy, professional identification etc., in elaborating the theoretical model of hypotheses and determination of correlations between the variables associated to teachers' professional efficacy. **The scientific problem solved** in this research consists in substantiating the theoretical and practical functionality of the *Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools*, through the valuation of school inspectors' leadership style, for the improvement of elementary school teachers' activity efficacy and pupils' achievements in mathematics.

The theoretical significance of the investigation is justified by: the establishment of theoretical aspects related to educational leadership; the determination of educational leadership styles, and definition of school inspector's role in ensuring teachers' activity efficacy in teaching mathematics at primary school level; the establishment of professional efficacy variables and the elaboration of the theoretical model of correlations among variables.

Thepractical value of the research is argued by the evaluation of variables related to teachers' activity efficacy in teaching mathematics; elaboration of the*Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools,* development and experimental validation of the formative program included in the model; interpretation of statistic data and formulation of practical recommendations.

Implementation of scientific results: the results were approved in the frame of international scientific conferences, educational journals and didactico-scientifical publications in Moldova and Israel and were experienced in secondary institutions of Israel between 2012-2016.

АННОТАЦИЯ

Халфон Хен Далия

Влияниестиля руководства школьного инспектора на эффективность преподавания математики в израильских начальных классах, диссертация на соискание учёной степени кандидата педагогических наук, Кишинэу, 2016

Структура диссертации: введение, 3 главы, общие выводы и рекомендации, библиография из 234 источников, 17 приложений, 141 страница основного текста, 20рисунков, 81 таблица. **Публикации по теме диссертации:**результаты исследования отражены в18 научных работах (8 статьей в специализированных журналах, 2 статьи в национальных научных сборниках, 10 тематических докладов на международных и национальных конференциях и 3 национальные премии).

Ключевые понятия: школьный инспектор, стиль руководства, влияние, эффективность работы учителей, успеваемость учащихся (тест по математике), экономические показатели в сфере образования, трансформационное руководство, транзакционное руководство, интеграция.**Область исследования:**Общая теория образования

Цель работы: определение теоретических и практических основ развития эффективности преподавания математики в начальных классах под воздействиемстиля руководства школьного инспектора.

Задачи исследования: подчеркнуть особенности руководства и управления в области образования; классифицировать стили руководства и определить их характеристики; разъяснить специфику эффективности работы учителей в процессе преподавания математикив начальных классах; определить особенности школьной инспекции и статуса школьного инспектора; разработка и экспериментальное обоснование *Педагогической модели развития эффективности преподавания математики в начальных классах*под воздействиемстиля руководства школьного инспектора.

Научная новизна и оригинальность диссертацииобъективируется в обновлении значение терминов: школьный инспектор, стиль руководства, профессиональное исполнение, профессиональная идентификация и т.д., в разработке теоретической модели гипотез и определение корреляции между указателями профессиональной эффективности учителей математики. **Актуально-значимая научная проблема, решённая** в данной области, состоит в обосновании теоретической и практической функциональности*Педагогической модели развития эффективности преподавания математики в начальных классах*под воздействиемстиля руководства школьного инспектора, для улучшения эффективности учителей и достижений учащихся в области математики.

Теоретическая значимость работы оправдана определением теоретических аспектов, руководства и управления, стилей руководства, и разъяснением статуса школьного инспектора в обеспечении профессиональной эффективности учителей в процессе преподавания математики в начальных классах, и разработка теоретической модели соотношений указателей профессиональной эффективности.

Практическая значимость: разработка и экспериментальное обоснование*Педагогической модели развития эффективности преподавания математики в начальных классах*под воздействиемстиля руководства школьного инспектораи и разработка практических рекомендаций.

Внедрение научных результатов. Результаты исследованийбыли утверждены в рамках научных конференций, симпозиумов инаучныхжурналахибыли протестированы вдоуниверситетскихучрежденияхИзраиляв период 2012-2016 гг.

List of abbreviations

MLQ- multi-factor leadership questionnaire

BI school-behavioral integration in the school

BI team -behavioral integration in the team

Oah- Hebrew acronyms for internet and educational information, the official portal of the Ministry of Education

Ofk- The new Ofek reform (Hebrew for Horizon) has created a salary scale of nine ranks and eight promotion steps.

Meizav tests- school efficiency and growth indexes in Hebrew acronyms

TIMSS-trends in international Mathematics and Science Study

PEP- perceived external prestige

PEP professional- perceived external professional prestige

PEP school - perceived external prestige of a school

PEP team - perceived external prestige of a team

PI- professional identification

SI-school identification

TI- team identification

SN -system of national accounts

(α)-Alpha Cronbach's

CFI- comparative fit index

CV (R^2)- coefficient of variation

Max- maximum min-minimum

M-mean (AVERAGE)

NFI- normated fit index

RFI-relative fit index

Pr- Pearson correlation

RMSEA- root mean square error of approximation

SD- standard deviation

SEM- structural equation modeling

INTRODUCTION

The research theme relevance. We live in a timewhen changes have been happening faster than everin the history of humanity [56],[225, p.59], and these changes influence all facets of our life, including education. The needs of humans and society are changing in their essence and the level of complexity and success of any organization, including schools, greatly depends upon their ability to deliver inherent knowledge to their clients [60].

The subject of mathematics has a unique status in comparison with others[101] because of its complexity for pupils of all levels – from school to higher education institutions[118].Theefficacy data in the national math test indicates a worrisome failure to reach the targets of the Ministry of Education.A review of data of the OECD (Organization for Economic Cooperation and Development), the Central Bureau of Statistics, research organizations in Israel and around the world, and the results of international tests with the participation of Israel in the last two decades reveal that the achievements of Israeli pupils in math are lower than in the developed countries. These findingsare repeated consistently in the TIMSS studies which measure pupils'ability in the field of math and science, and Israel is one of the coutries whose achievements have significantly decreased in math. In 2007, Israel reached the 24-th place out of 49 states, with 463 points (the average being 466) In 2003 has been at 496 points. In order to compare the rankings of participating countries with Moldova, a comparison has been made in TIMSS studies of 1999 and 2003 when Moldova has been invited to participate in these studies as a Benchmarking Participant. Based on data of the international report, the international average on the TIMSS test in 1999 has been at 469 point and in 2003 at 460 points. In 2003, Israel reached the 19-th place and Moldova the 28-th out of 52 states. In the last publication of the TIMSS study on the findings of December 2012, we witness a trend of improvement in the achievements of Israelin Mathematics, a rise from the 24-th place out of 49 countries in 2007 to the 7^{th} in 2012, when Israel accumulated516 points, whereas the international average was 467[182]. The Ministry of Education attributes the success of 2012 to the promotion of achievements in the TIMSS-R test, to the program enacted in 2011 that included additional allocation of resources formathematics, science and language – academic hours, instruction days, more school instructors, and training apprenticeships for teachers. Nonetheless, the findings of the national Meizav test of 2012 (Hebrew acronym for indexes of school efficiency and growth) indicate a descent in achievements by 20 points in comparison to 2011 [222].

Despite the vast financial investment of the Ministry of Education in the new educational reforms, the RAMA center report indicates a decrease in the Meizav tests [222]. In the OECD reports, it has been found that the Israeli educational system does not manage to improve its achievements. This situation makes our research actual and gives us hopes to find a way to improve the situation. We

believe that the key to this problem solution lies in the math teachers' hands. That is why it is important to examine the correlation between teachers' activity efficacy(achievements)in teaching mathematics and the factors influencing it. Among these factors, there aremoderating variables - the economic educational indicators (resources, school size, teacher's training, class size), identification with the group one belongs to, motivators, perceived external prestige of the organization, behavioral integration in an organization etc.

There is recognition amongst the public in general and those practicing education in particular that a prerequisite for meeting educational goals is improvement of teachers'position, and that the key component influencing the educational system activity and its outcomes is teachers' quality. Nowadays, the job of teachers is more complex than ever and the reasons for this are changes in the pupils' population and the demands advanced to teachersby society[79, p.163], [133],[143],[194].

An important part in improving teachers' position plays the school inspector. The inspector is that who mediates between the Ministry of Education and the teacher. Being perceived as an expert, who is aware of all updates in the educational policiesand methodology, the inspector should, first of all, focus on the dissemination of good teaching practices, and only afterwards on monitoring and control. The tendency to fulfil formally their job, by staying in the office and studying reports, aroused much criticism at their address.In the "Dovrat Committee"[217, p. 28], it was mentioned,on the one hand, the inefficiencyof school inspectorsand, on the other hand, it was underlined their necessity for schools, offering even somerecommendations on how to improve this situation.In Israel, there was even an attempt to cancel the position of inspectors; but itwas not successful and invoked a lot of objections amongst the senior personnel in the Ministry of Education, considering the impact that inspectors might have on the teaching process in general.

The theoretical and methodological basesof the researchrelied on fundamental works in educational management, leadership, pedagogy, and psychology - different theories of human activity and jobefficacy [6], [37], [169].Empiric studies also produce some descriptions of the effective leaders for teachingefficacy improvement and their achievements [169].E.A. Hanushek, J.F. Kain and D.M. O'Brien [88]examinedteachers' activity efficacy and achievements and reached the conclusion that it is impossible to predict pupils' achievements according only to the traditional characteristics of teachers (experience, education, and gender). On the other hand, another study of H.F. Ladd and R.P. Walsh [117]characterize the effect of teachers' attributes over pupils' achievements and their findings indicate that teachers' experience and their education have a significant effect upon teachers' activity efficacy and pupils' achievements.

Most of theresearchers connect jobefficacy with such variables as reward, working conditions, commitment, organizational support, citizen behavior, stress, attrition, etc. M. Justman and C. Bokobza [209] recommend to considerthese indicators in order tounderstand the educational

phenomena. The quality or changes they have undergone serve as a comparative index on the subject of teaching personnel, scope of employment, experience, age, training, education, rate of success in training, type of supervision, social organizational climate and the pedagogical environment in school, and have a big influence over educational activity, as well as over the external environment the school operates in and over the public opinion about the educational system and personnel. Some studies are limited to the Mathematicsteachers' activity efficacy. "Tomorrow 98" report of 1992 [216]assigns a great importance of professional training of math teachers, increasing the academic hours for studying Mathematics,etc. Some researchers, discussing the subject of corporate reputation and organizational management[apud],corporate reputation and its affect on the organizationefficacy,explain that organizationalimage is important to the employees asthey compare their organization or department with other organizations or departments and feel pride for their organization if it has a good image. This image serves as a mediator between the organizational incentive and behavior of an employee and hisefficacy. The factors which affect development of the organizational image are mutual experience of employees, mutual information, job expectations, commitment, and mutual interaction.

J.D. Dutton, J.M. Dukerich and C.V. Harquail [63, p. 248-249] propose a distinction between the organizational identity and the construed external image and how they influence workers'efficacy. The construed external image as reflection of public attitudes supplies information of what outsiders think about the organization.The term"organizational identification" has many interpretations in the research literature. The most common describes identification in terms of sharing of values and purposes by individuals [63],[151],[181]. Positive organization identification makes employees to be consent with the organization policy, to take part in the organization, and contribute to the collective effort[19],[107]. The Social Identity Theory-SIT supplies a theoretical background on the organization professional conflict and patterns of employees' behavior. This theory shows that an individual can have identification with more than one social groups - such as an organization and profession [18].In the scientific literature, it is also described the correlation between the identification with the organization and perceived external prestige in an organization. Throughthe corporate reputation and the organizational image, the organization sends a message of quality and team spirit to employees in and outside the organization. A good organizational image is perceived as an organization that is worthwhile working in [63],[127],[144],[173]. A. Van Knippenberg and N. Ellemers [188] state that belonging to a group with a low external status has a negative effect on the social identity of an individual and the group, whilea good organizational image expresses a positive perception of an individual towards the organization, itself, actions, and achievements in the organization[173], [63],[109]. There is a clear distinction between the corporate reputation that

relates to organization perception by outsiders and the construed external prestige that presents the perception and attitudes of the organization members towards their own organization [63].

In the Republic of Moldova and Romania, theoretical reflections related to *teachers' activity efficacy* are presented by I. Achiri [1], O.Afanasiu [2], N. Bucun, L. Pogolșa [4],V. Andrițchi [3], Callo T. Paniș A. [6] etc.;*professional development of teachers*:Codul Educaţiei [7];aspects of *school management* are reflected by V. Gh. Cojocaru [8],N. Silistraru [15], Dm. Patrașcu [14], Ș. Iosifescu [1010], S. Cristea [9],S. Baciu [55]; *school inspection*: V. Molan [12], I. Jinga, I. Negreț-Dobridor [11], A. Nedelcu, E. Palade [13] etc.

Appreciating the value and significant character of the investigations objectified in the works of the authors mentioned above, we should mention that theimpact of school inspectors' leadership styleon mathematics teaching efficacy hasn't beent the subject of a specific study, neither in Israel, nor in Moldova.The established premises and the contradictions between the practical necessity of enhancing mathematics teachers' activity efficacy and the lack of a tight cooperation with school inspectors as part of educational management; the vast financial investment in education and the decrease in the score of Meizav Tests lead to the definition of the **research problem**: *How can we improve mathematics teachingefficacy through the valuation of school inspectors' leadership styles?*

The goal of the research consists in establishing the theoretical and practical foundations for enhancing mathematics teaching efficacy throughout the valuation of school inspector's leadership styles.

Research objectives: point out the peculiarities of educational leadership versus educational management; classify leadership styles and define their characteristics; examine the theoretical frame of teachers' activity efficacy in the process of teaching mathematics; determine the functional dimension of school inspection and school inspector's status; characterize the variables associated to teachers' activity efficacy in the process of teaching mathematics; structure the *Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools* and its experimental validation; analysis, interpretation and systematization of research results, formulating conclusions and practical recommendations.

The scientific novelty and originality of the research consist in updating the significance of the terms: school inspector, leadership style, professional efficacy, professional identification etc., in elaborating the theoretical model of hypotheses and determination of correlations between the variables associated to teachers' professional efficacy. **The scientific problem solved** in this research consists in substantiating the theoretical and practical functionality of the *Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools*, through the valuation of school inspectors' leadership style, for the improvement of elementary school teachers' activity efficacy and pupils' achievements in mathematics.

The theoretical significance of the investigation is justified by: the establishment of theoretical aspects related to educational leadership; the determination of educational leadership styles, and definition of school inspector's role in ensuring teachers' activity efficacy in teaching mathematics at primary school level; the establishment of professional efficacy variables and the elaboration of the theoretical model of correlations among variables.

Thepractical value of the research is argued by the evaluation of variables related to teachers' activity efficacy in teaching mathematics; elaboration of the*Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools*, development and experimental validation of the formative program included in the model; interpretation of statistic data and formulation of practical recommendations.

Implementation of scientific results: the elaborated didactic tools were implemented in the process of professional training apprenticeships organized in the educational centers of Israeli central district and in the primary schools of the same district, between 2012-2016, as well as in the frame of international scientific conferences, educational journals and didactico-scientifical publications from Moldova and Israel.

Approbation of research results: The results of our investigation were discussed and approved during the methodological meetings, chair sittings, and teachers' councils organized in the frame of the primary schools and Educational Department of Israeli Central district. The basic ideas were promoted and exposed at different international and national scientific conferences: Educaţia din perspectiva valorilor, Universitatea 1 Decembrie, Alba-Iulia, Romania, 5th Edition, 2013; Educaţia pentru dezvoltare durabilă: inovaţie, competitivitate, eficienţă, 18-19 octombrie, Institutul de Ştiinţe ale Educaţiei, R.M., Chişinău, 2013; Scientifical symposium on Leadership organized at Levinsky College, Israel, 2012.

Thevolume and structure: introduction, 3 chapters,general conclusions and recommendations, bibliography of 234 titles, 141 pages of basic text, 17 appendixes, 81 tables, 20 figures.

Key-words: school inspector, mathematics teachers, influence, leadership style, efficacy, school achievements, professional identification, transformational leadership, transactional leadership, integration, perceived external prestige etc.

Publications: the research results are reflected in 18 publications (8 articles in educational journals, 4 articles at international conferences, and 6 scientifico-methodological publications).

The dissertation structure

In Introduction, it iselucidatedthe relevance ofthe research theme, its theoretical and methodological bases, the grade of the problem solution, the research object, the research goal, andobjectives, research methodology; it is exposed the scientific novelty and originality of the work, the scientific problem solved in the research, its theoretical and practical importance, the statements offered for defense, approbation and implementation of research results, as well as the description of dissertation structure, key terms and abbreviations.

CHAPTER 1,Theoretical approaches on educational leadershipfrom the perspective of school inspection activity, exposes a scientific and theoretical analysis of the literature related to our subject, with the purpose to find out what has been done by different researchers in this domain. It contains a theoretical overview on educational leadership and management, here included their

peculiarities as related to educational organizations. In the same context we focused on the classification of leadership styles, pointing out their characteristics and underlining those which are the most efficient and productive in the process of leading educational institutions. We also exposed some aspects of school inspection as a component of educational management, types of inspection and inspectors, as well as the status of the school inspector in terms of leadership styles and their impact on mathematics teaching efficacy.

In Chapter 2,Methodological frame of inspectors' leadership styles and their influence on mathematics teaching efficacy,weapproached the importance of mathematics in the context of global economy, emphasizing the necessity of enhancing teachers' activity towards the improvement of mathematics teaching efficacy. There were analyzed the sources of efficacy (mastery experiences, vicarious experiences, verbal persuasion, and physiological arousal) and the factors of teachers' activityefficacy (achievements)- job efficacy motivators, organizational identification, professional identification and prestige as well as the process of behavioral integration related to organization commitment- examined as a system with all possible correlations between them;andcharacterized the variables associated to teachers' activity efficacy.

Chapter 3, Valuating inspectors' leadership styles in improving teachers' activity efficacy in teaching mathematics, has a practical character. It includes the pedagogical experiment organized in three steps: ascertaining experiment, formative experiment and control experiment. The first step, ascertaining experiment, has a complex character as it checks the reliability of research hypotheses, the correlations between the research variables and the level of indicators associated to teachers' activity efficacy in teaching mathematics. On the basis of ascertaining experiment it was designed the pedagogical model for enhancingteachers' activity efficacy in teaching mathematics, containing both theoretical and practical elements whose functionality was tested during the formative experiment. The practical elementsincluded a formative program directed to the improvement of teachers' activity efficacy and pupils' achievements through the valuation of inspectors' leadership styles. The control experiment proved the efficacy of the pedagogical model and of the formative program and offered the ground for general conclusions and recommendations.

In **General conclusions and practical recommendations** we exposed the most significant theoretical and praxiological findings of our investigation and suggested some recommendations for the subjects of education.

1. THEORETICAL APPROACHESON EDUCATIONAL LEADERSHIP FROM THE PERSPECTIVE OF SCHOOL INSPECTION ACTIVITY

1.1.Conceptual delimitations of educational leadership and management

The post-modern era is characterized by globalization and economic conditions of uncertainty. The origin of these conditions is the rapid technological and organizational development, changes in demands of the global economies, and abundance from changing stimuli. The people's needs changed both in their essence and the level of complexity [153], consequently, the schools all around the world are required to functionefficiently in this period of intensive and powerful changes. In this context, school managers and leaders are those who are entrusted to carry on their shoulders the responsibility for educating the young generation in the spirit of change and innovation.

Leadership is a complex, deeply intentional process involving change, and basing on values. It stipulates a deliberate influence directed towards stimulating the members of a group to reach certain goals, with permanent benefits for them that ensure the achievement of group necessities [71, p. 37]. Taking into consideration this statement, we adhere to the concept of leadership referring to the influence that some individuals exercise on the achievement of some others' goals, into an organizational context. Leaders become better and stronger not only due to the power they have, but also due to their ability to empower the others. This happens when a leader comes to develop the others- one of the highest levels of leadership. That's exactly what school inspectors do.

Management and leadership are viewed as different things. *Management i*s a process of planning, organizing, coordinating, directing and controlling the activities of others. *Leadership* is the process of influencing for the purpose of achieving shared goals. Management involves coping with complexity, and leadership involves coping with change.W. Bennis and B. Nanus [33, p. 22-32] see management as a system of exchange transactions, and leadership as empowering people and lifting them to higher levels of awareness and morality. Another point of view on management we can see in the works of J. Kotter [115]: management is control of complexity and disorder, while leadership is creation of useful changes. P. Druker [203, p. 11-37] defines management as doing things in the right way and leadership as doing the right things in the right way. There is a classification of management that consists of two common styles: *the task-oriented managers* whose main interest lies in production, and who manage execution of the organizational targets, propose optimization suggestions, and criticize the emphasis of the technical aspect, and *the social managers* who turn out to be the considerate managers, show interest in their employees and act towards creation of a calm atmosphere.

Table 1.1 Differences between managers and leaders

MANAGERS	LEADERS
Administer	Innovate
Maintain	Develop
Control	Inspire
Short term view	Long term view
Ask how and when	Ask what and why
Initiate	Originate
Accept the status quo	Challenge the status quo
Do things right	Do right things

The most successful managers are those who combine a high task-oriented management and a high social management style, with a higher tendency to sociality. The managers who operate by a combined management style would contribute to a greater production of the organizational products, improvement of the atmosphere in the working place and fulfilling the organizational expectations [21], [162].

D. Goleman [78, p.148] describes the "management with heart" that in which managers take into consideration their employees' emotions. Leadership in this case is not control, but rather an art of convincing people to act towards the achievement of the common goal.

The phenomenon of leadership is considered to be the key concept in the research of the theory of organizations and there are many works related to leadership. Thus, P. Hersey and K.H. Blanchard [100] consider that leadership is a process of affecting actions of an individual or a group in a direction of achieving purposes in a given situation. Leadership is an individual's behavior that stems from a non-compulsive influence, out of a will, while a person leads and coordinates the activities of a group towards achievement of mutual purposes and commitment[155]. G.A. Yukl [196, p.3] mentions that "most definitions reflect the assumption that leadership entails a process of social influence, in which a person or a group deliberately affect other people or groups with the purpose of understanding the activities and relations within a group or an organization".

One of the definitions of the notion of leader belongs to J. Scwartzwald [223] who defines the leader as a person that affects the actions of a group. He considers that anyone with an official appointment by force of authority is not defined as a leader, but as a head, a formal leader; consequently, a leader who grows within a group and acquires his status and trust of the group is defined as a non-formal leader. B. Mevorach [214] states that a manager is given the functional

authority with the appointment as a manager and his subordinates must adhere to him, while a non-formal leader is born with a personal authority that people want to follow. He also distinguishes between the managers who maintain balance and rationality in their actions and the leaders who create new approaches and outline new fields of actions.

P. Banjeri and V.R. Krishnan [22] focus on the characteristics from the field of values such as freedom, justice, and equality, the inspiring leaders tending more to the ethical decision making. In the literature, there are some descriptions of effective leaders' behavior [169]. S.P. Gordon [80] states that the democratic, collaborative, developmental approaches, based on the human resources and transformation, lean on the principles of equality (instead of hierarchy), reflection and growth (instead of compliance); inspection, and control being still dominant in the professional practice.

Another aspect of the leader's attributes is devoted to ethics and integrity, integrity being identified as a trust-building characteristic, relations of appreciation and reciprocal relations between the leader and employees. An effective leadership contributes to successfulefficacy in an organization.

B. Mevorach [214] indicates that effective leaders have a logical thinking of a higher quality, a strong determination, a higher ability of empowering those being led, and a higher self-control. There are some subjective aspects of satisfaction of those being led with their leader in relation to the attributes of the leader that would succeed in raising their productivity.

Educational leadership is perceived as a source of influence over the study achievements [64], and this source is in the hands of the school authority. The school principals are required to lead an organization, and one of the questions is through what process a principal can reach improvements [217, p. 117]. In the study of M. Colman and T. Bush [54], it has been found that a learning environment offers the necessary circumstances to an organization employee in order to change and improve hisefficacy. Successful organizations are those which are headed by leaders who manage to lead employees, to develop internal motivation, define theefficacy targets, and improveefficacy.

Educational leadersip can be understood as a process of consolidating and extending teachers' professionalism by authorizing them to display and exercise their leadership skills. **The basic principles of educational leadership,** promoted at international level are**:**

ensure a strong partnership between school and external agencies (centers for professional development, higher education institutions, representatives of the associative sector etc.);offer mutual support within leading teachers communities; consolidate teachers' professional culture that offers support and feedback to educational leadership;create opportunities for open debates (values, strategies etc.); elaborate tools for displaying and exemplifying good educational

practices;empower teachers to identify the priorities of their professional development; guide towards those educational strategies and methods leading to change and innovation;mobilize organizational leadership towards providing support to educational staff;offer an educational framework for supporting teachers in documenting leadership activities;offer opportunities for creating professional nets/societies outside schools;offer opportunities for building knowledge on the basis of leadership activities [69], [70, p.11]

School leadership is considered the second most influential factor upon pupils' learning, the first being quality of teaching in a class. *In educational leadership researches, two principal approaches can be distinguished:* ***the first approach relates to school principals as pedagogical expertise leaders*** who focus on improvement of teaching quality, defined as a collection of proactive actions of the school principal that directly affect the pupils' achievements; ***the second approach sees development of the study environment as a part of the school culture and policy and encourages gaining of achievements [138].***

According to*Andy Hargreaves and Dean Fink, e*ducation leaders must accomplish goals that matter, inspire others to join them in working toward those goals, and leave a lasting legacy [233]. In this context they propose seven principles of sustainable educational leadership:

1.*Sustainable educational leadership matters*. The prime responsibility of all education leaders is to put in place learning that engages students intellectually, socially, and emotionally. Sustainable leadership goes beyond temporary gains in achievement scores to create lasting, meaningful improvements in learning [77, p.82]

2. *Sustainable educational leadership lasts.* Sustainable leadership means planning and preparing for succession—not as an afterthought, but from the first day of a leader's appointment. Charismatic leaders are followed by less-dynamic successors who cannot maintain the momentum of improvement. Leaders who turn around underperforming schools are prematurely transferred or promoted before their improvements have had a chance to stick.

3. *Sustainable educational leadership spreads*. A certain way for leaders to leave a lasting legacy is to ensure that others share and help develop their vision. Leadership succession, therefore, means more than grooming the principal's successor. It means distributing leadership throughout the school's professional community, so others can carry the torch after the principal has gone [233]

4. *Sustainable educational leadership is socially just*. Sustainable leadership benefits all students and schools—not just a few at the expense of the rest. Sustainable leadership is aware of how lighthouse, magnet, and charter schools and their leaders can leave others in the shadows and is sensitive to how privileged communities can be tempted to skim the cream off the local leadership pool. Sustainable leadership recognizes and takes responsibility for the fact that

schools affect one another in webs of mutual influence. In this respect, sustainability is inextricably tied to issues of social justice.

5. *Sustainable leadership is resourceful.* Sustainable leadership systems provide intrinsic rewards and extrinsic incentives that attract and retain the best and brightest of the leadership pool. Such systems provide time and opportunity for leaders to network, learn from and support one another, and coach and mentor their successors. Sustainable leadership is thrifty without being cheap. It carefully husbands its resources in developing the talents of all its educators rather than lavishing rewards on a few proven stars. Sustainable leadership systems take care of their leaders and encourage leaders to take care of themselves.

6. *Sustainable leadership promotes diversity*. Promoters of sustainability cultivate and re-create an environment that has the capacity to stimulate continuous improvement on a broad front. Supporters of sustainability enable people to adapt to and prosper in their increasingly complex environments by learning from one another's diverse practices [apud.]

7. *Sustainable leadership is activist*. Standardized reform has exaggerated the problems of the traditional schools in our study, turning these schools into less-motivated versions of their former selves. Meanwhile, the innovative schools have lost some of their edge. Durant has proven the most resilient of all—not just because of its innovativeness or its strength as a learning community, but because of its activist leadership. Durant engages assertively with its environment in a pattern of mutual influence

Yet, sustainable leadership cannot be left to individuals, however talented or dedicated they are. If we want change to matter, to spread, and to last, then the systems in which leaders do their work must make sustainability a priority.

M. Barber and M. Mourshed [25] present a document of "excellence in the field of skills" on the subject of challenges faced by *school leaders*. These leaders have to provide a good familiarity with pedagogy and evaluation for learning, or to identify and encourage others to act that way. The effective leaders in schools should know what takes place in classes and amongst the pupils and make sure that the efforts of all team members in the school are focused on studying. All forms of communication including the collected data and its evaluation, team development and designing the school culture also contribute to the school success.*Education leaders have a positive and strong influence over improvement of teachers' activity efficacy, derived from motivation, commitment to teaching, and implementation of strategies for developing their efficacy [122]. They are responsible for promoting teaching, supervising learning efficiency and efficacy, setting targets, purposes, and priorities within a school [38], [76, p. 260], [167, p. 104]*.The figure below exposes the main functions of leadership:

Figure 1.1. The functions of leadership

Additionally, the responsibility for pupils' achievements liesalso on the school leaders. The pupils' achievements in school almost never surpass the quality of leadership and management in the same school. In a study, it is found that out of every 100 schools, that are well managed and led, in 93 of them, there are good results of work and a high level of achievements; and only in one out of every 100 schools that are not well managed and led, there are high levels of pupils' achievements [192, p. 77-78]. For the last 20 years, the inspection of education in the UK (HMI - Her Majesty's Inspector (the government official who examines and supervises schools) acknowledges *leaders as one of the components of success in schools* [59, p. 36].

Summarizing the functions exposed in figure 1.1, we conclude that the *perception of a successful educationalleadership relates to four practices: setting targets and directions, professional development of the educational team; re-planning organizations, management of the teaching-learning program, supporting the people being led and effectiveefficacy in the long-run [123, p. 20]*.

Adopting the concept ofK. Leithwood and D. Jantzi [122], we emphasize that the key mission of school leaders is to deliver educational leadership at a high professional level in order to guarantee success and constant improvement of school functioning, a high quality education for all, and an improved level of studies and achievements.

1.2. Classificationand peculiaritiesof educationalleadership styles

M. Popper [221, p. 139-156] states that there are four sources to activate people: the formal authority granted by the organization; professionalism – when some employees are identified as professionals by others; interpersonal skills of ability to diagnose people and change the social conditions; and identification – when a person creates strong emotional effects in others and motivates them to act without considerations of worth and profit (charisma).

Therefore, we hypothesize the hypothesis 4b (See details in the appendix 2).

There are many classifications of leadership. We spoke above about formal and non-formal leaders and, therefore, correspondingly about formal and non-formal leaderships. W.J. Reddin [152, p. 120] and R. Likert [124, p. 85-86] offer a classification that consists of *four leadership styles: integrated, related, dedicated, and separated*. In their opinion, each style can be effective in one specific situation and not effective in another. Through style we should understand here the way in which something is said, done, expressed, or performed [185, p. 768].

B.M. Bass and B.J. Avolio [28] expand the leadership-style model into the "Full-Range of Leadership Model" which relates differentially to the leadership styles ways of operating and creating a hierarchical sequence between leadership styles according to the leader's level of activeness and effectiveness. This leadership model consists of transformational, transactional and laissez-faire leadership types [33, p. 22-34]. In this sequence, the transformational leadership style is considered to be the highest and the most efficient and the laissez-faire leadership as the lowest and less efficient. The most common style is a combination of different leadership styles.Transformational leadership style reinforces the effect of transactional leadership style, the behavior andefficacy of those being led, thus being possible to detect the dominant behavior patterns [28].It instigates emotions that beget motivation, faith and obligation -on the part of those being led-to perform beyond what is expected of the job, while transactional leadership offers immediate rewards [146].

Transformational Leadership.B.M. Bass [27] states that transformational leaders inspire, in those they lead, a sense of will to invest beyond the normal effort, and occasionally even more than they believed they can and that is by setting high challenges and creating a common vision [28], [149].

There are five characteristics of transformational leadership:

1. *Idealized leadership* (termed "charisma") - inspiring respect and gaining trust, avoidance of using force to achieve personal needs, sharing risks together with people, expressing consistent and not arbitrary behaviors. People expect of their transformational leader to act according to high ethical and moral standards;

2. *Model for emulation and idealized influence* – attributed behaviour: These leaders evoke in their subordinates a strong sense of collective mission. They convey messages focusing on beliefs and values that should be adopted. They take into account all moral and ethical implications deriving from the decision-making process;
3. *Inspirational motivation* - arousers of motivation and inspiration by assigning discipline and challenge to work amongst employees; enthusiasm and optimism being raised regarding future situations due to the definition of expectations and purposes, and commitment to the mutual vision;
4. *Intellectual stimulation* - encouragement of creativity and innovation, awarding legitimacy to rising doubts about old approaches of problem solving. There is legitimacy to err and suggest new ideas
5. *Individualizedconsideration* - the leader functions as a spiritual father and mentor; realization of potential for achieving high gains regarding a supportive atmosphere and consideration of the individual. Supervision of task execution is meant for guiding or supporting but not for criticism; a two-way communication is possible being based on personal relations[28].

The transformational leadership style includes the relations-oriented and task-oriented behaviors, and this allows the group to achieve its targets. The transformational leader affects the moral aspects and inspires the employees to develop their expectations and work for the vision of the organization. This type of leadership raises awareness regarding what is good, right, and important and assists in raising the needs of the people being led for achievements and self-realization, encourages the employees to achieve a high-levelefficacy and creates a working environment that sends a message of cooperation and trust[28], [214].

One of the prominent characteristics of the transformational leadership is having the charismatic leader, the person whose influence stems from his personality and not from the formal authority the organization bestows upon him or by force of a rare or threatening resource. The charismatic leader works in the emotional dimension: he turns to emotions of the employees and thus leads them. He has ability to pull the employees into the mission and make them believe in ability to execute it; to act with no considerations of worth, invest above and beyond what is required with no compensation. He makes employees produce a higherefficacy level than what is expected of them, to transcend beyond their personal interests for the sake of interests of the team or the organization [155]. W. Bennis and B. Nanus [33, p. 22-32] find equal attributes in all the transformational leaders: same method of thinking, vision, clear and detailed future image of the organization when it functions optimally. B.M. Bass and B.J. Avolio [28] add that the intellectual stimulus the transformational leader invokes in the people, he leads, makes them see the problems they are facing in up-to-day and creative ways.

A. Glusnikos [206] offers the *Quiet Leader model* which presents an alternative perception for the charismatic leadership. The quiet leader is ready to take significant chances only if they are worthwhile both for them and the organization, meaning that they manage the risk.

Transactional leadership*:*The transactional leadership is characterized by for dimensions:

1. Contingent reward - the transactional leader rewards his subordinates according to the achievement of the requiredefficacy level;
2. Management by exceptions (active) - the leader acts to detect diversions and deviations from the requiredefficacy and thinks of suggesting solutions for improving and rectifying the situation in time, in order to prevent them from coming into being;
3. Management by exceptions (passive) - the leader is not after diversions from the optimal functioning and takes actions only when there are problems or deviations, [28].
4. Laissez-Faire leadership style:This leadership style is termed "let them be", that indicates a lack of leadership. The leader avoids interfering in what takes place, delays decisions, feedbacks and rewards, and doesn't handle problems. The people, he leads, have a sense of direction lack and being not directed to achieve the target and results. This dimension is a part of the model in order to allow a relation to all ranges of leaders' expected behaviors [29].

S.W. Newstrom and K. Davis [140, p. 301] present the "way-purpose" leadership model. The process starts with identification of the needs of the employee by the manager, continues with setting suitable targets; the target achievement is always related to suitable rewards for the employees. The manager assists the employees in achieving these targets, taking obstacles off their way to achieve the target; the employees feel satisfaction, are motivated, and accept the leadership of their manager. The organization and the employees better achieve the purposes of the organization and there is an improvement in theirefficacy.

R.F Balse [21] and J. Kotter [115] indicates obstacles on the way of the transactional leadership style: this leadership is used for the short-term problems and it is not good for the long-term problems. The rewards for the sake of improvement and meetingefficacy creates an atmosphere of give- and-take, employees' motivation is driven by executing the tasks as a result of an agreement and understanding between the manager and his employees - any reward is for actions.

The transactional leader operates on the basis of a rational dimension. The basis of relations between him and his employees is on the basis of worthwhile and economic interests; it grants external reinforcements or external sanctions; a contingent reward - employees would reach the required level of efficacy , but not beyond it [152, p. 31], [155].

Table1.2.Differences between transformational and transactional leadership styles

TRANSACTIONAL LEADERSHIP	TRANSFORMATIONAL LEADERSHIP
Leaders are aware of the link between effort and reward	Leaders arouse emotions in ther followers which motivate them to act beyond the framework of what may be described as exchange relations.
Leadership is responsive and its basic orientation is dealing with present issues	Leadership is proactive and forms new expectations in followers
Leaders rely on standard forms of inducement, reward, punishment and sanction to control followers.	Leaders are distinguished by their capacity to inspire and provide individualized consideration, intellectual stimulation and idealized influence to their followers.
Leaders motivate followers by setting goals and promising rewards for desired performance.	Leaders create learning opportunities for their followers, motivate and stimulate them to solve problems
Leadership depends on the leader's power to reinforce subordinates for their successful completion of the bargain.	Leaders possess good visioning, rhetorical and management skills, to develop strong emotional bond with followers.
Leaders often use technical knowledge to determine the change process.	Leaders search for adaptive solutions to engage hearts and minds in the change process.

Therefore, we hypothesize hypotheses 1 and 1a (See details in appendix 2).

K. Leithwood, D. Jantzi and R. Steinbach [121, p. 67-90] identify four models of **educational leadership**: *managerial, pedagogical, transformational, collaborative, and moral:*

1. **Managerial leadership** - the leader focuses on the tasks and behaviors, relates to the technical aspects of the principal's work related to daily planning, such as coordination, control over schedule, budgeting, and operating a school - for realization of the effective teaching-learning processes;
2. **Pedagogical leadership** - this model assumes that the main focus of the school principals as leaders should be in pedagogical processes and in the teaching-learning promotion processes that take place in a class and their systematic examination [138];
3. **Transformational leadership** - the model assumes that the transformational leader should practice development of vision, building relations of trust and respect with teachers, creation of a team spirit, invoke teachers towards reflective and alternative thinking, and tending to consider their personal needs and apprehensions. It constitutes a professional role and identification model for teachers and presents high moral standards in behavior; the transformational leadership is characterized by decentralized management;
4. **Collaborative and moral leadership**– the model that assumes that decision making processes in a group should be the central point of the leader's work, whereas the priority is to means of inclusion in decision making [191, p. 30-49].

Therefore, we hypothesize hypothesis 5 (See details in appendix 2).

The leadership typesdescribed above are not enough to answer the anticipation of establishing professional learning communities in organizations and make sure they will persevere over time.

The research literature that deals with the transactional or transformational leadership focuses on the single leader who is at the top of the pyramid, but nowadays the decentralized leadership is an alternative for the traditional models for the hierarchical leadership [119]. In the last decade, the discussion takes place between two common approaches – the transactional leadership where the management is centralized and the transformational leadership where the management is decentralized [191, p. 30-49].

*Distributed leadership***:** This leadership allows many viewpoints, different and relevant, that can be found amongst individuals, through which people contribute to the group or the organization in a pattern of the interpersonal relationships; that creates a situation in which created energy is more than the sum of separated actions of the individuals [167, p. 104]. The distributed leadership has a few main characteristics: leadership as a growing characteristic of a group - as a result of interpersonal relationships; it suggests openness regarding the limits of leadership and expands the network of the leaders, instead of the only one over to many people in the organization, who are not necessarily in formal positions. Additionally, it acknowledges specialty distributed amongst the many as a basis for an optimal functioning in the group [167, p. 104].

J.C. Maxwell[131 .p. 6-9] defined leadership as the power or ability to lead other people.

He established 5 levels of leadership. Each leader needs to work through the following: *Level 1*: **Position**: People who make it to this stage are the lowest stage and may not be leaders but just bosses. *Level 2*: **Permission**: People follow the leader at this stage because they want to. To back this point, he said one can like people without leading but an individual cannot leader people well without liking them. *Level 3*: **Production**: This stage is based on the result. People follow based on what leaders have done for the organization. Leaders at this stage become change agents. *Level 4*: **People development**: leaders reproduce themselves. Meaning, they change the lives of people they lead. *Level 5*: **Pinnacle**: The highest leadership accomplishment is developing other leaders to level 4 and this is what Level 5 is about. It involves high level of challenge. People follow this kind of leaders for who they are and what they represent.

Another taxonomy of educational leadership stylesincludes:*teaching-learning improvement leadership, transformational leadership,integrative management style, and system leadership*. Their characteristics are given below.

*Teaching-learning improvement leadership***:** The managers must serve as leaders in the field of teaching and study program in order to bring about improvement of the teaching-learning process, and this process creates opportunities for the teaching-learning improvement leadership[139]. E. Pajak [145, p. 138] states that *the "worthy" functions to be included in the teaching improvement leadership are planning, organizing, creation of possibility for changes,*

and raising motivation of employees. His conclusion is that "certain behaviors and skills that are dictated from above have to be reinforced in teachers", as well as the dialogue approach that comes into being and emphasizes teaching in a class, the study program, and team development which would "assist teachers to find out and formulate professional knowledge and skills". The current thinking sees in learning a more and more complex action and context-related.

Therefore, we hypothesize hypothesis 5a (See details in the appendix 2).

In the educational system of the USA, in order to improve schoolefficacy, the focus is directed towards educational achievements and ceases ordering schools in details whose inputs they should use. Instead, schools should be offered resources in light of achievements. The main idea of this proposal is simple: to flow resources into schools that function well and prevent resources from schools that perform poorly [49, p. 224-225].

P. Hallinger and R.H. Heck [86] examine the direct impact on school results, including pupils' achievements. They report that 75% of cases show that the principal is a teaching- improving and transformational leader in the participating leadership where decision making is decentralized. T.J. Sergiovanni and R.J. Starratt [166, p. 37] add that teaching improvement leadership (inspection) is considered as a moral framework in which teachers work together with their colleagues in teamwork, by means of observations, instruction, and feedback.

S.P. Gordon [80] states that the democratic, collaborative, developmental, transformational approaches based on human resources lean on the principles of equality (instead of hierarchy), reflection and growth (instead of compliance). Having inspection and control are still dominant in the professional practice.

Unfortunately, many researchers state that most of aspects of correlation between the study improvement leadership and pupils' achievements have not been studied [120]. This correlation is indirect and thus, in order to promote pupils' achievements, teachers and pupils need to be motivated to achieve the mutual purposes by designing an organizational culture[71, p. 102], [167, p. 104]. Anyway, it has been found that the principal's leadership explains 3-5% of the variance of the pupils' achievements, and that teachers have the strongest effect upon pupils' achievements and they are those directly responsible for their pupils' studying[122].

Presently, the common opinion is that *the teaching-learning improvement leadership is not a principals' province and that it can be expressed in direct or indirect actions*[193]. G.A. Southworth [175] singles *out three powerful techniques that affect the learning-focused leadership: personal example of acting; inspection that includes observations, sample documentation, and review that exhibits commitment to practices; the third technique is dialogue - discussions on studying that take place both in the orderly meetings and informally*. He also

states that one possible way to progress is examination of alternative perceptions and examination of leadership that allows teaching-learning improvement.

Therefore, we hypothesize hypotheses 15 and 16 (See details in appendix 2).

*Transformational leadership***:** H. Madler [213] considers that a group that works under a manager with transformational leadership attributes reaches a very high level of efficacy ability, initiative and creative solutions, that its working environment is supportive, and manager's satisfaction focuses on the process and not just on the outcomes (whereas a manager with a low integrative style focuses only on outcomes). Transformational Leadership enhances the motivation of followers, to identify with the organization, to be more involved in their work, by the leader submitting to the personal needs of employees and encouraging them to be active, initiative and creative.

B.M. Bass and B.J. Avolio [28] consider that the charisma of the transformational leader has a significant correlation with employees' efficacy gradation and that many aspects of this leadership are related to personalefficacyimprovement. K. Leithwood, D. Jantzi and R. Steinbach [121, p. 17] outline a correlation between leadership and learning, and *they are sure that the main result of transformational leadership is a "rise in the ability of the organization to continually improve".*Further studies indicate that a supportive style of a school leader, who encourages, gives positive reinforcements and appreciates his followers, would be expected to have positive effect on commitment of school teachers [141]. In meta-analysis studies dealingwith transformational leadership and pupils' achievements, that have been published recently, it has been found that principals' transformational leadership is related to pupils' achievements through an impact on teachers, for example, increasing their commitment to school [220, p. 3].

Therefore, we hypothesize hypotheses 2, 2a, 3 and 3a (See details in appendix 2).

*The integrative (system) management style***:** The system leadership affects improvement of the teaching-learning processes out of the entire educational system orientation, when the managers accept upon themselves the system duties for the sake of pupils' success in additional schools. This leadership is based on creation of a mutual pedagogical vision, consolidation of purposes for professional development, learning encouragement, establishing a reflective teachers' community that learns in the job, and distribution of leadership amongst the position holders in the school [121, p. 67-90], [123, p. 20],[167, p. 4]. Most researchers indicate a positive effect of this leadership on people's motivation[135]. There is a direct dependence of the organizational product on this leadership style: the more integrative management style, the higher the organizational products.

Therefore, we hypothesize hypotheses 3 and 3a (See details in appendix 2).

The main purposes of the system leaders are:

1. Raise achievements, improve teaching-learning processes in other schools that the system leaders apprentice or accompany, and reduce of gaps;
2. Create commitment amongst the teams of their school, as well as of other schools to improve the teaching-learning process;
3. Strategic management of relations between events taking place in the class, the school and the educational system because a change at one level is affected by other levels that also affect them.

In many countries, some reforms have been made in the top-down approach whose purpose is improvement of study achievements and reduction of study gaps by raising the level of expectations for all pupils, teachers and schools, measuring pupil's achievements in tests and establishing an accountability system, out of the purpose to lead for improvement. In fact, these reforms have not met the expectations and pupils' achievements have improved by very little or not improved at all. No significant changes have occurred in the teaching-learning practice and norms in a class and school [121, p. 67-90].In his book "Primal Leadership," Daniel Goleman, who popularized the notion of "Emotional Intelligence," describes six different styles of leadership. The most effective leaders can move among these styles, adopting the one that meets the needs of the moment. They can all become part of the leader's repertoire.

Arguments for a successful school leadership: In a comprehensive report, conducted in the UK on the subject of leadership, a few arguments of successful school leadership have been found:

1. School leadership is ranked as the second after teaching in class, in correlation to affecting pupils' achievements;
2. Almost all successful leaders employ the basic and similar leadership methods;
3. Their leadership method responds to the working environment rather than coercion;
4. Improvement of the teaching-learning is indirectly performed by affecting motivation of the team and its commitment;
5. School leadership has a greater influence over school and pupils when it is widely distributed; some distribution patterns are more effective than others;
6. A handful of personality attributes explains a large portion of variance in leadership effectiveness.

M. Fullan [71, p. 102] maintains that a new breed of leaders is required in an educational climate, as there is no single correct answer for all the required complexities in an organization and therefore, the expectation from leaders to suggest solutions, puts them in an impossible situation. Therefore, we hypothesize hypotheses 2 and 2a (See details in appendix 2).

1.3. The functional dimension of school inspection and school inspectors' status

School Inspection is part of the National Educational Management Board. The process of inspection is comprised of a mixture of duties, such as instigation, encouragement of professional growth, teachers' development, informed choice, improvement of educational targets, teaching approaches and methods, and the evaluation thereof; the total of all efforts for the teaching improvement by the educational personnel [52, p. 29].

The Israeli Ministry of Education defines the role of an inspector in a statutory status, which means, the status according to the law. An inspector is "one whose duty is to inspect and examine the quality of efficacy of a certain action performed by others" [198, p. 610]. He is a senior educational employee, whose position description stipulates: to provide the educational institutions with school or kindergarten teachers; to evaluate and improve the teaching quality and the teachers' activity efficacy in a school; to approve employment of new teachers or get them to resign from the system; to collect, synthesize and supply information, to formulate policy at the state level, and distribute the principles of a proper execution. The main role of an inspector is perceived as controlling the school and making sure that the execution of the state instructions is fulfilled in a proper manner [215]. The inspector is not a part of the school team; one of his basic duties is to regularly make professional visits, as opposed to the school principal that deals with the current management of the school and is a member of the team in the educational institution.

The inspector's role is affected by the trends, documents, and processes taking place in the educational system: the Mandatory Education Law, system decentralization, strengthening the status of local authorities, transformation of authorities and budgets to the local authorities and schools directly, educational standards, attempts to standardize educational targets and purposes. All these aspects set complicated challenges that require changes in the role of inspection and in evaluation of the educational system [214], [217, p. 117].

In Moldova the activity of school inspection is regulated by the Government. The National Inspectorate currently operates based on Decision no. 898
from 27.10.2014 regarding School Inspectorate. On the basis of art.14 (5) and (7) and art. 15 of Law No. 98 of May 4, 2012 on specialized central public administration (Official Gazette of the Republic of Moldova, 2012 nr.160-164, art. 537:

1. it was established the structure of School Inspectorate comprising 45 units, ensured from the account of number of staff units limit and personnel expenses approved for the Ministry of Education.
2. it was approved the *Regulation regarding the National School Inspectorate organization and activity*. According the above mentioned regulation, the basic function of School

Inspectorate is to ensure the quality of general education by promoting, monitoring and assessing state policy implementation in the field of general education. Thus, the main functions of school inspectorate are:

- evaluation of general education institutions activity on the basis of standards approved by the Ministry of Education;
- complex evaluation of general education institutions in order to accredit them;
- evaluation of general education institutions managing staff on the basis of evaluation methodology approved by the Ministry of Education.

Besides monitoring the educational activity, elaborating and updating accreditation and evaluation standards for general education institutions, managing staff and didactic staff, the regulation comprises a series of attributions referring to the promotion of quality in general education. In this frame, paragraphs 17 and 18 stipulate the promotion of good practices for ensuring quality of general education and the supply of supportive and guiding services for the application of methodology and self-assessment tools [7], [232]. Analyzing the attributions mentioned above, we notice that most of them are concentrated on monitoring, control and evaluation, and less on cooperation between inspectors and didactic staff, situation specific to Israel too.

J. Glanz [74] considers that presently the class inspection is still "a bureaucratic legacy of isolating defects" and presents the characteristics of the field with help of terms such as "snooper-vision".

Types of inspectors: There are three types of inspectors operating in the Israeli educational system:*General inspectors*- entrusted with the educational institutions, study programs, implementation of processes and pupils' achievements; *professional inspectors* - entrusted with the field of knowledge, designing syllabuses and usually operating as a national professional inspection; *management staff inspectors* that include division and administration managers, the unit chiefs, and more.

The main duties of a general inspector are:

1. Evaluation and instruction of teachers and principals, supervision and inspection, meaning a practical rendition for application and execution of the key principles directed by the Ministry of Education;
2. Supervision of the execution of the Mandatory Education Law;
3. Supervision of absorption of the teaching personnel and its regulation;
4. Dismissal of the teaching personnel;
5. Authorization of the educational institutions;
6. Authoritative supervision and control [218]. (See details in appendix 1 A1.1)

There are two main ways to perform an inspector's job: the hierarchical, traditional approach when an inspector is a specialist who operates from his authoritative status towards teachers; and the modern leader-guide approach that is a cognitive coaching when the inspector and the teacher work together in order to empower the teacher's abilities. In Israel, the leader-guide approach is taken only by some of the inspectors in cooperation with the educational institutions and their principals, by their initiative or their direct inspectors' initiative [215].

Examining the types of inspection, many researchers distinguish between *external inspection* and *collaborativeevaluation* and describe the role of an inspector, on one hand, as a critic and evaluator and, on the other hand, as a pedagogical and advisory figure. R. J. Krajewski [116] directs his attention to the fact that teaching inspection is the biggest part of general inspection and that it is a process that ensures pupils' success. The general inspection deals with the aspects of teacher's commitment, while the teaching inspection is directly related to teaching as a process. The researchers distinguish several types of inspector's styles where each one represents cognitive complexity and different approaches. *Inspection styles are based on two orientations – inspection and supervision.* The management of various orientations within the duties of inspectors is a complex subject stemming from cultures and behavior patterns.

The *inspection orientation is authoritative* and limited in its targets; it stresses critical dimensions, such as use of tests and standards in a control aspect; *the supervision orientation is a softer approach* that stresses trust and focuses on the processes of accompanying, guidance, consulting, and feedback that promotes professional development. An inspector of supervision style assists studying the supervised subject for the inspection type inspector, whereas the status of inspection orientation strengthens the status of the consultant (supervision). There is an offer to divide the inspector's duties so that he would deal with only a part of inspection, while the consulting part would be performed by private companies and academy people as vouchers [177].

Inspection approaches are divided by C.D. Glickman [77] into three primary groups: *direct, collaborative, and indirect*, where each approach allows for adjustment of an inspector for a more efficient work. In the direct approach, the emphasis is on the structure and frequent actions of reciprocal relations with teachers; in the collaborative approach, the responsibilities, decision making, and professional colleagues' relations are mutual; in the indirect approach, the emphasis is on assistance and support needed for teachers.

T.J. Sergiovanni [167, p. 104] analyzes five ways of differential inspection: the clinical inspection that means a practical work in a school, inspection with colleagues, inspection directed by an educational employee, non-official inspection, and inspection based on investigation. The clinical supervision is basically defined as *application in practice*. It is the

only thing that is supposed to improve teachers' activity efficacy in a class. The researcher emphasizes that the clinical supervision is considered as the most strategic and effective method promoting improvement of teaching by creating motivation and commitment in teachers out of the purpose to assist teachers to replace existing teaching patterns by more efficient. The *clinical supervision is conducted repetitively and consists of five stages:* makingacquaintance for preliminary discussion (before observing), observing teaching, analysis and strategy, feedback for a summarizing report (after observation), and feedback analysis.

A. Glatthorn [76, p. 178] states that a combination of inspection types is required, while each inspection style allows choosing from several means:

1. Colleague inspection (collaborative) - mutual thinking and working with teachers, creation of development and collaborative professional development;
2. Inspection directed by the teacher - teachers work alone and assume the responsibility for their professional development, formulate an annual program, targets and purposes;
3. Inspection based on investigation – the decisions based on the application and practice
4. Non-official inspection - bases upon random encounters between inspectors and teacher, at work.

Therefore, we hypothesize hypotheses 1and 1a (See details in appendix 2).

The analysis of these data and the relations between a teacher and an inspector create the foundation for the formulation of an action plan, procedures and a search for a strategy that might improve pupils' achievements in mathematics, through tools that allow for the improvement of a teacher's behavior in a mathematics class [51, P.54).

1.4.Conclusions on chapter 1

1.Management and leadership should be viewed as different things. *Management i*s a process of planning, organizing, coordinating, directing and controlling the activities of others. *Leadership* is the process of influencing for the purpose of achieving shared goals. Management involves coping with complexity, and leadership involves coping with change.

2. *Educational leadersip* can be understood as a process of consolidating and extending teachers' professionalism by authorizing them to display and exercise their leadership skills. Thus, school leadership is considered the second most influential factor upon pupils' learning, the first being quality of teaching in a class. The *perception of a successful educational leadership relates to four practices: setting targets and directions, professional development of the educational team, re-planning organizations, management of the teaching-learning program, supporting the people being led and effective efficacy in the long-run.*

3.There are diferrent taxonomies of leadership styles. The most commonly met is that including *transformational leadership*and *transactional leadership* styles. According to another taxonomy, leadership styles are divided into: *teaching-learning improvement leadership, transformational leadership, integrative management style, and system leadership*. There are four models of educational leadership - managerial, pedagogical, transformational, collaborative, and moral [121, p. 67-90]. Our investigation will base on the two main leadership stylesmentionabove.:transformational and transactional styles

4. The "worthy" functions to be included in the teaching improvement leadership are planning, organizing, creation of possibility for changes, and raising motivation of employees.Our study focuses on the second approach attributed to educational leadership, directed towards the development of achievements, at both the level of teachers and pupils under the influence of school inspectors' leadership styles.

5.The process of inspection is comprised of a mixture of duties, such as instigation, encouragement of professional growth, teachers' development, informed choice, improvement of educational targets, teaching approaches and methods, and the evaluation thereof; the total of all efforts for the teaching improvement by the educational personnel.

6.A school inspector is a senior educational employee, whose position description stipulates: to provide the educational institutions with school or kindergarten teachers; to evaluate and improve the teaching quality and the teachers' activity efficacy in a school; to approve employment of new teachers or get them to resign from the system; to collect, synthesize and supply information, to formulate policy at the state level, and distribute the principles of a proper execution. The main role of an inspector is perceived as controlling the school and making sure that the execution of the state instructions is fulfilled in a proper manner [215].

2. METHODOLOGICAL FRAME OF INSPECTORS' LEADERSHIP STYLES AND THEIR INFLUENCE ON MATHEMATICS TEACHING EFFICACY

2.1.Aspects of mathematics teaching efficacy and the factors associated to it

Education nowadays is considered an economic product that can be produced, subsidized, marketed, and distributed. The indexes of the educational inputs are a rendition of financial inputs into the educational inputs, such as academy hours, class sizes, teaching and administration employees' payment, educational programs, study environments, physical infrastructures, researches, and the general development. The evaluation of an organization is conducted in its final balance where the match between moral expectations and economic achievements is examined and the school organizations are to supply a positive return to all stakeholders in a form of high results. Education in all countries is paid by the government (national expenditures), people (public expenditures) – organizations, communities, parents, and some volunteering individuals [209].

R. Zozovski and R. Nachmias [227], express by **indicators** the perception of the function of educational systems: conceptual perception of "inputs-outputs", relating to the educational system as a function of production; conceptual perception of school as a framework of "inputs-processes-outputs", relating to changing and dynamic processes that represent the impact upon a school; conceptual perception of school as an "organizational framework", relating to hierarchical structure, affecting educational processes, management decision making and its effect upon outputs.

The conceptual perception of indicators represents, in addition to organizational hierarchy, a method of operation, **"Moving Mosaic",** meaning that organizational functioning is conditioned by context and situation an organization finds itself in.

Comparing the data related to national expenditures on education in different countries, provided by the Bureau of Statistics [219], it is seen that Israel allocates more resources to education than the OECD (Organization for Economic Cooperation and Development) countries. The measurement is the national expenditure on education as a percentage of the GDP (Gross Domestic product). In Israel, it is 9.1% compared with the average of 6.1% amongst the OECD countries. Nonetheless, as stated previously, upon examining the average expenditure per a single pupil, between countries, this advantage dissipates (a fact that stems from birthrate in Israel).

Different countries' achievements on the macro-economic level. The level of economic development is commonly measured by the GDP per capita that indicates the importance attributed to education by governments. The question is why GDP per capita is statistically

related to achievements of school pupils. The common explanation is that the level of economic development affects the ability of a country to fund the costs of the educational system and invest in the educational resources which might affect pupils' achievements. The education services in the state of Israel constitute about 9% of the HDI (Human Development Index) and about a third of the public expenditures, in Moldova about 6.6% of the HDI[201].

Indicators of the educational system efficiency in the OECD countries are assessed at the level of two basic subjects (most important in the 21st century) - mathematics and science [95]. The average expenditure per pupil in the world is by 23% lower as compared to the expenditure in Israel; on the other hand, pupils' achievements in the OECD countries are about 10% higher than those of the Israeli pupils.

The educational systems nowadays adopt the concepts and the thinking patterns that rely upon economic investments in education. The national expenditure per pupil compared with expenditures of other countries is very high: in the US, the expenditure is 4% lower than in Israel, while it is not so in regards to a single pupil. In Israel the national expenditure on education per pupil is indeed low in terms of dollars as compared with the OECD countries; however, in terms of buying power, it is relatively high. On the other hand, the rate of governmental expenditure on education in Moldova, as percentage of the HDI, ranks 113 with 0.660 is higher than its rate in most of the developed countries and the exemplary countries. These conclusions question the relation between the inequality in inputs and inequality in outputs.

At the same time, some researchers like McKinsey, Koopman and Pritchett [133] as well as M. Barber and M. Mourshed [25] consider that despite the steep rise in expenditure on education in some developed countries, the achievements have not significantly risen [100], and therefore there is no correlation between the level of investment per pupil and pupils' achievements. This is confirmed by the situation in Israel: in recent years, the public expenditure on education has significantly increased, but pupils' achievements have gone down [200].

*The Role of the Ministry of Education.*The Israeli Ministry of Education is responsible for promoting educational services in the public educational system from pre-primary education up to the tertiary education [218]. The principal targets of the Education Ministry are: strengthening the teachers' status, improving teaching quality and achievements, reducing the study gaps, focusing on the core subjects, promoting excellence, reinforcing the early stages of education, and cultivating a more educated society [218].

The assessment of pupils' achievements is the main tool used by authorities to determine the efficiency of an educational system. It consists in collecting evidences for the formation of opinion about a pupil, starting with measurement and evaluation of products (such as -

achievements tests, alternatives in achievements' evaluation), and up to the evaluation of teaching and learning processes. Evaluation has the following roles:

- Evaluation as a judgmental tool (accountability): results, efficiency and more;
- Evaluation as an improvement tool: programs, abilities, skills and social capital;
- Evaluation as creator of knowledge: development of good understanding of the field, delivery of local knowledge to other groups.

Quantitative total evaluation of pupils' achievements is perceived as an integral and inseparable part of the teaching-learning process; it is a common and convenient means of measurement by normative (knowledge and understanding) and quantitative (test score) representation. In some areas of knowledge the score travels on the entire sequence, between the very low level of achievements and up to the very high level of achievements, in order to ensure the level of pupils' achievements on a basis of comparison with a set standard predetermined for decision making, from two aspects - of the pupils in relation to achievements of other pupils and of the pupil for a group of pupils [202, p. 41-42], [210, p. 47]. D. Kfir, B. Fresco, and A. Paul [210, p. 99], state that evaluation has three roles:

1. Encouragement of future learning;
2. Information about learning that has occurred;
3. Testing teacher's success in doing his job.

We witness trends that call upon schools to hold accountability for the achievements of pupils, a demand for effectiveness in the educational system in Israel and the world. Teachers, parents and pupils perceive the processes of quantitative evaluation of achievements as essential in monitoring and designing the educational activity, with the purpose of evaluating the level of effective learning [217, p. 174]. Accountability focuses the role of evaluation on producing of summarizing information on study achievements; information that allows for local, national and international comparisons. External evaluation of this type that is usually performed once in a period is not sufficient and can as well be negative; therefore, additional types of evaluation have to be included [55].

As one can see, *the first target of the Education Ministry*, as well as the opinion of the general public and the education employees, *is strengthening the teacher's status* (The number of teaching personnel in Israel is 128,089) and improving teaching quality [218].

Teachers' characteristics: Teachers' characteristics, as a part of the economic-educational indicators, have been studied in our research in order to see whether these characteristics are similar to the state statistics and whether they influence teachers' activity efficacy.

Age: The data of the Bureau of Statistics [219] indicate that the median of the entirety of teachers' population in the Primary education is 50 years and the rate of teachers up to the age of 29 is 15.9%, up to the age of 50 is 21.2%, and above the age of 50 is 25.8%.

Education of teachers: In the 2010 OECD report [194], it was indicated that the Israeli teachers are amongst the most educated in the world: 46% as opposed to 30% of the global average. The Bureau of Statistics [219] indicates that the number of the primary education teachers with a master degree and a higher education consists 22.4%. In the data of the entire Israel population of the Knesset, Research, and Science Center, the math teachers' scene, the number of teachers with the same grades is 18.3% [211].

Experience in teaching: The Central Bureau of Statistics [219] indicates that the average length of the teaching experience in the Primary schools is 15.1%, and we have received about the same percentage.

Training apprenticeships undergone in the last 3 years: The Ministry of Education, according to the "New Horizon" [218] and "NEW OFEK" reforms, recommends each teacher to have minimum 2 training apprenticeships every year and to participate in professional development programs in order to improve the teaching quality.

The TIMSS (Trends in International Mathematics and Science Study) test, intended for the examination of pupils' achievements in the fields of science and math, and performed by the IEA (International Association for the Evaluation of Educational Achievement) has as a main purpose to provide grounds for policy makers, experts designing study programs and researchers, for better understanding the achievements of their educational systems. The 2007 TIMSS test shows that Israel is one of the countries where achievements in math have significantly dropped, and Israel had the 24^{th} place out of 49 countries, with 463 points (while the average of the participating countries was 466). In the last publication of the TIMSS study results (December 2012), there was seen a little improvement in Math teaching achievements as compared with other participating countries, a rise from the 24-th place in 2007 to the7-th place in 2012 (out of 49 countries), Israel reaching an esteemed place with 516 points, the international average being 467 [182].

The findings of the internal national Meizav test of 2012 (School Efficiency and Growth Indexes, in Hebrew acronym) indicate a 10-point descent in the achievements in the Junior High schools and stability in the achievements in the Primary schools [222].

We consider that pupils' achievements are directly and significantly related to teachers' activity efficacy and that, therefore, we see our task as studying all variables linked with job efficacy and their efficiency [99].

We hypothesize hypotheses 8 and 8a (See details in appendix 2).

Teaching efficacy. The construct of teaching efficacy has been derived from two theoretical concepts: locus of control theory and social cognitive theory. Locus of control refers to the extent that a person believes that events are determined by his or her actions [234]. Considering the fact that teaching efficacy was conceptualized in terms of locus of control, efficacy was perceived as the extent to which teachers' believed that factors, which they could control, had a larger impact on teaching outcomes than beliefs that the environment held greater power. In social cognitive theory, [apud.], it was introduced the concept of self-efficacy as the primary motivational force behind an individual's actions. Self-efficacy is viewed as one of the most relevant motivational constructs [138]. In our study we adopt both theories and emphasize that teaching efficacy is affected by environmental factors as well as by an individual conviction in his/hers skills to perform certain activities. Efficacy beliefs have four sources: mastery experiences, vicarious experiences, verbal persuasion, and physiological arousal.

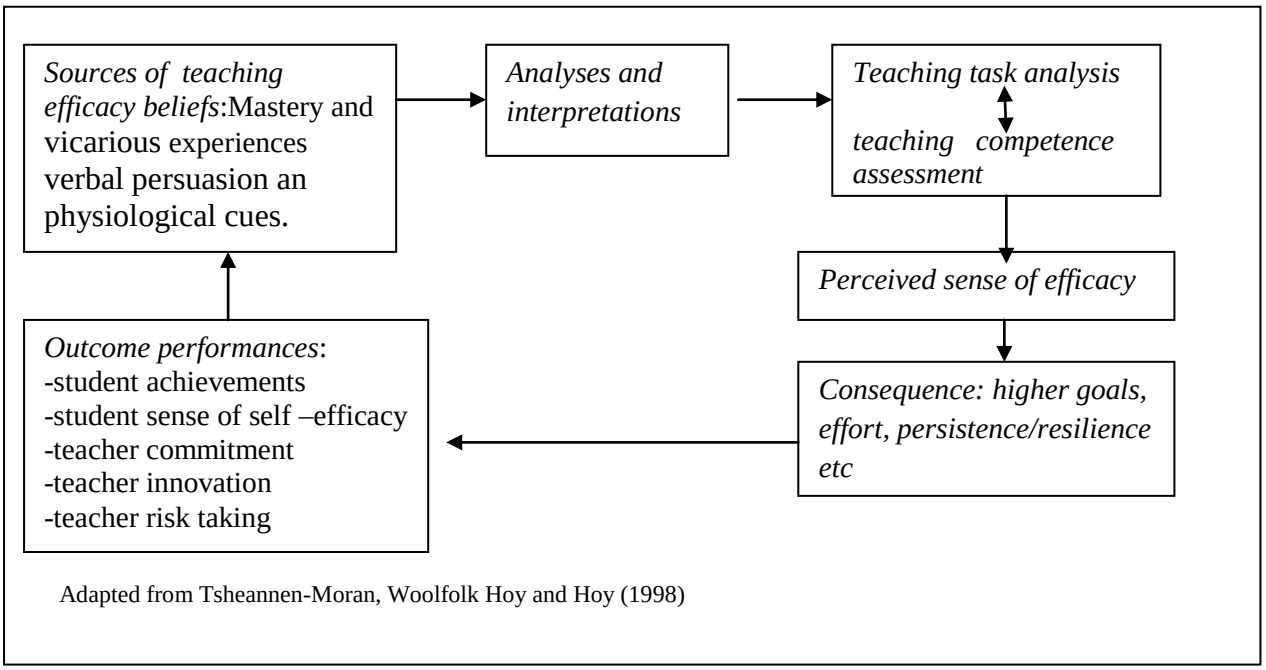


Figure 2.1. The cycle of teaching efficacy judgements

Mastery experiences are those instances in which individuals actually perform the act under question. When one teaches a class, has a field experience, or tutors a child, these are instances that provide perspective or practicing teachers with source material for the formation and development of their efficacy beliefs. Efficacy beliefs are formed based on the degree of success or failure one feels in each of these direct experiences. Another source of efficacy beliefs are*vicarious experiences* in which individuals observe others and use these observations as a source of information in the beliefs that are formed about the self. The power of vicarious experiences is dependent on the similarity of the model observed to the observer and the actions

observed.The third source of efficacy beliefs is *verbal persuasion*. This is found in the support of our friends and colleagues as they provide verbal support for our attempts to complete tasks. However, verbal persuasion, like vicarious and mastery experience, can be negative as well as positive. Teacher efficacy feedback from students' parents, colleagues, and the students themselves, may work to convince teachers that they are not succeeding and should give up the effort. The last source of efficacy beliefs *is physiological cues*. The human body can inform its owner of emotions that may not be evident on the surface. Thus, sweaty palms and butterflies in the stomach serve to inform individuals of how they are doing in a mastery experience [105], [233], [234].

Synthesizing the above mentioned facts we conclude that job efficacy is defined as the extent to which an employee has achieved the targets related to his job. These targets determine the question of what the components of an employee's occupation are and how they should be processed into dimensions for describing behavior relevant to the employee's job [35, p.229].

Efficacy is one of the criteria ensuring the quality of the educational process. In this context, according to the researchers Dm. Patrașcu and V. Crudu [14, p.198], it expresses the ratio between educational achievements and educational objectives.Teachers' activity efficacy is therefore a powerful construct with real implications on student achievements and success. It is one of the most predictive factors of teachers' success because it affects their motivation, teaching style, approach and support for diverse students. When a teacher has a high sense ofefficacy, he will set high expectations for their students and in doing so, will generate positive change in some of the most difficult students. Teacher training programs must reflect this change in school demographics [231].T.J. Sergiovanni [167, p. 104] characterizes teachers' activity efficacybasing on two purposes: as a means of evaluatingteachers' activity efficacy (quality control, professional development, and teaching motivation) and studying the general school targets and their educational perception.

It is known that pupils, taught by the same teaching methods, have higher results if their teachers work efficiently, and the effective teachers have a long-term effect upon pupils' functioning and achievements [195]. Teachers' wish to invest efforts in success is a crucial and fundamental component and therefore it is important to recognize that their behavior increases and cultivates pupils' desire to work better. This is an outcome of an efficient use of time, productive and professional work, an intelligent use of ability to reach high achievements and bring about good outcomes [60], [98]. The expected outcomes of efficacy assist to change the process and enhance motivation, and that serves as a means for team developing and promoting the teaching-learning process by setting the agreed-upon effective teaching standards, looking for study opportunities and commitment to meet standards, constant improvement of training, and

specialization programs. When a school has high results, it has a good reputation in society and among stakeholders. Many researchers study the so called *Fortune index* to measure organizational reputation and perceived external prestige of organizations [42].

Adjustments have been made regarding persons who seek for career promotion and relations with the organization [34], [47], [127], [173].The perceived external prestige of an employee as perceived by the top management team plays a big importance for stimulating teachers. Certain standards are a necessary foundation for promoting teachers' activity efficacy that is related to pupils' achievementssuch as:

1. Teachers are committed to pupils and their learning.
2. Teachers know their teaching subjects and the ways of teaching those subjects to pupils.
3. Teachers are responsible for management of the studying of a pupil and his promotion.
4. Teachers systematically think about their work and learn from experience.
5. Teachers who are members in study communities in their professional area[108, p.125], [142].

Mathematics teaching efficacy. One of the characteristics of school efficacy is pupils' achievements [60]. The most common means by which it is possible to determine the level of pupils' success or achievements, in contents or acquired skills in a school, is an achievements' test and alternatives in achievements' evaluation. Especially, it is important to find out the situation with Mathematics teaching, for mathematics has a unique status due to its role in the society and its difficulties for pupils at all the educational levels [102], [118].

J.H. Strong, T.J. Ward and L.W. Grant [180] have found in a comprehensive study examining effective teachers' ways of teaching in class as opposed to less effective teachers, that teachers' ranking was based on pupils' achievementsf in reading and math. *It has been found that the most effective factors are: teachers who encourage pupils to take responsibility for learning, lesson organization in class by teachers, caring and positive relationship with pupils.*

Therefore, we hypothesize hypotheses 9a and 10a (See details in appendix 2).

The examination of outcomes, products and efficacy constitute a vital tool for constant learning and improvement of production and service procedures of an organization. The question of job efficacy is discussed by many researchers, with an attempt to indicate the factors that might increase the production improvement and persistence in the implementation of the continuous improvements of the system over time.

A way to study job efficacy is the systematic approach - one of the key factors that increasesthe chances of change acceptance in any organization, in general, and in educational organizations, in particular[79, p.163]. In recent years, the use of benchmarking studies spreads around organizations for the purpose of evaluatingefficacy or their operational systems as compared

toefficacy or operational systems of other advanced organizations that operate in the same domain.

B. Cicerone, F. Richard and M. Sassaman John [50] consider that job efficacy can be predicted because there are correlations between some factors like job satisfaction, feeling of belonging, and job efficacy itself.

Therefore, we hypothesize hypotheses 9 and 10 (See details in appendix 2).

Anyway, job efficacy depends on all its components, including working methods. It is noticed that using the same teaching methodsdifferent teachers have different results.The effective teachers reachthe scores with 52 points higher than the scores of the ineffective teachers;the effective teachersalso have a long-term effect on pupils' functioning and their achievements [195]. It means that teachers' success or failure depend not only on the teaching methods they use, but on other factors, for example, wish and readiness to work and invest efforts in job efficacy and its success[60]. The most important factors influencing job efficacy are related to motivation (motives and motivators).

D.C. McClelland [132]selects out three types of motives reflecting various needslevels: achievement orientation, motive of belonging, and the need for power motive.

Achievement orientation motiveis typical of teachers who take personal responsibility for their success or failure, teachers who are mission-oriented andmotivated by high achievements. These teachers prefer to work with achievement-oriented classes andto be subjects of the inspection methods that encourage initiative, target setting, and marking o achievements (such as the individual inspection).

Motive of belongingis identified with people who maintain a kind of the social involvement and enjoy working in a group and havingreciprocal activity with others[34],[47],[127],[173]. Motive of belonging to a social group is linked with organizational reputation and for these people the reputation and prestige of their group or organization is very important. Many researchers developthe tools for measuring organizational reputation and perceived external prestige of organizations [42].There are studies that reflect connections between all three organizational reputation aspects. ThusV.M. Iyer, E.M. Bamber and R.M. Barefield [109] and J. Oswald [144]examinethe correlations between perceived external prestige, organizational identification, and organizational image. J.M. Dukerich, B.R. Golden and S.M. Shortell [63] establish correlation between perceived external prestige and identification. M. Bergami and R.P. Bagozzi [34]confirmthe correlation between the two variables - perceived external prestige of organization and behavior influenced by themediators of organizational identification and commitment.

M. Tranberg, S. Slane and S.E. Exeberg [184] state that there should be congruence between man-work and his satisfaction. Thus, the fact that a person identifies himself with his work is not a trivial thing. Professional commitment has been found in the research literature as the key and significant factor in the life of an employee.

A. Carmeli [44] presents the correlation between the variables - perceived external prestige, effective commitment (as a mediator), and civil behavior (as the dependent variable). The sense of belonging is reflected in commitment of employees to work in the organization and this commitment can be characterized by three factors: *the faith in the organization and accepting its values and purposes, the motivation to make efforts for it, and the desire to belong i.e.,to be a part of the organization*.The decision to be a part of an organization and contribute to raise productivity has created the need of organizations to cultivate organizational commitment on the part of employees and thus to promote the organization's purposes [171].

A. Smidts, A. Pruyn, H. Th and C.B.M. Van Riel [173] explainthe correlation between organizational identification as a dependent variable and perceived external prestige (as an independent variable).

In the field of education, high commitment and identification with the teaching profession indicate that the teachersare devoted to their occupation, have a strong sense of identification with the colleagues and the values that guide the profession. Such an employee would invest great personal resources in order to promote his field of occupation [174].

According to the *social identity theory*, H. Tajfel [181] states that the fact of belonging to a certain social group invokes preferences of belonging to a group or to be out of it. Thus, organizational de-identification is motivated by the need of an individual to be distinguished from a negative identity with the organization and to be identified with a positive one. Through this feeling, employees distinguish themselves from the negative values, similes, and stereotypes and try to criticize the organization or to at act against it.

From the studies of B. Caldwell and J. Spinks [41, p.141], it is seen that there are several critical components that create a sense of belonging to an organization, among them there is planning as an integrative process that encompasses the entire team and is long-term-oriented.

The need for power motive characterizes teachers who wish to affect others and therefore would like to fill a position of inspection and supervision.Teachers with a strong need to influence can be as productive and effective as teachers with different motives.

Therefore, we hypothesize hypothesis 4 (See details in appendix 2).

An effective professional development is possible in the work environment that encourages individuals or groups to try to resolve organizational problems [104, p.19]. The approach that

views employees' professional development through partnership in development needs to be anchored according to the following aspects as a part of an overall program in the organization:

1. A professional activity that is conducted at three needs level(the needs of each employee, needs of the team, and the common needs of all organization members).
2. The organization needs analysis and an effective management of the professional development that considers and incorporates the priorities of each of the three levels in order to achieve anoptimal personal and organizational development.
3. The need for a direct relation of collaboration between the individual and the organization that considers the individual's needs, at different organization levels, by this creating effective development [128, p. 4].

Therefore, we hypothesize hypothesis 5a (See details in appendix 2).

Enhancement of motivation and identification.R. Hackman and G.R. Oldham [84] diagnose the potential of identification with an organization and motivation of occupation, and develop a quantitative approach called "occupation characteristics model". To their opinion, there are five principal characteristics according to which actions for enhancement of motivation and identification can be created:

1. Skill variety - the extent to which skills are required for the purpose of performing an employee's job;
2. Task identity - the commitment and extent to which an employee is required, in line with his occupation, to complete a task from beginning to end;
3. Task significance - the extent to which the job occupation has an effect on the life of an employee, who works in and outside the organization;
4. Autonomy - the extent to which the job occupation allows an employee independence and judgment;
5. Feedback - the extent to which an employee learns about the quality of hisefficacyin the job, from the level of hisefficacy and functioning, without needing a feedback given by external mediators

Belonging to a group is linked with identification. B. Shamir and R.A. Kark [168]examined the reliability of the level of identification in an organization and developed the tools that allow receiving visually graphic representations that represent, on one hand, attitudes towards the characteristics of an employee's personal identification, and, on the other hand, his attitudes towards the organization.

Therefore, we hypothesize hypothesis 4a (See details in appendix 2).

The theory of motivation of F. Herzberg [101], known all around the world as *the motivational factors theory stipulates that a motivation factor is a positive action as a preliminary and*

*necessary condition for execution of any action which comes into being in the process prior to execution itself.*This theory confirms the correlations between work environment and motivation –a sense of satisfaction/dissatisfaction of employees with their workdue to several aspects: the correlation between an employee's sense of satisfaction and absence from work, leaving it, and personnel turnover in an organization; a low but positive relation between job satisfaction and efficacy ; consideration of employee's welfare; rewards as mediators in the relation betweenefficacy and employee's sense of satisfaction with his work.

The theory also distinguishes between motivational and hygienic factors.Motivational factors are internal factors of work an employee relates to. *Thesubstance of work such as ambitiousness, work appreciation, responsibility, growth and progress in the job and in the organizationcreate satisfaction, motivation and fine achievements.*Hygienic factors arethe factors external to work itself, such as organizational and management policy, interpersonal relations, communication, work conditions (amongst other things there are design and convenience at the work place), inspection, pay, and rewards.Herzberg adds that hygienic factors are independent on motivational factors: when an individual reaches an extreme lack of satisfaction, he would attempt to escape the work environment, by being late, absent, and even resigning; however these factors do not affect the production level of an individual. On the other hand, the motivational factors directly affect the production level of an employee, although they do not tend to affect the factors such as being late, absent, and turnovers.

In the scientific literature, Herzberg's model is somehow criticized. P.F. Wernimont [189] negates the claim that there are two different sequences in Herzberg's theory and that both can cause satisfaction or lack of satisfaction and effect upon jobefficacy equally[89].

D. Schwab and L. Cummings[163]study job efficacy approaches and indexes in terms of correlations between satisfaction and job efficacy . L. Porter and E. Lawer [148, p. 271-278]also revealeda strong correlation between employee's satisfaction and job efficacy and designed a model of this correlation. This model offers conditions and ways in the environment of an organization that affect the sense of job satisfaction and a higher production of efficacy or the lack of job satisfaction leading to lack of efficacy .

Some authors deal with so called the internal motivation. Thus, T.M. Amabile [16], state that the internal motivation is a personal and positive motive. Such employees tend more towards innovation, challenges and creativity that have a positive effect upon their job efficacy .

We can underline the following moments of these theories:

1. In the common theory, there is a direct correlation between job satisfaction and efficacy level, meaning that employees are more satisfied with their job when/if theirlevel ofefficacy is higher;

2. Job efficacy is a kind of variablesthat affects satisfaction with job;
3. There exists a correlation between mediators and job efficacy through general efficiency or effectiveness of an organization, fitting the skilled required by job, working atmosphere, and motivation.

This information has two critical components: the first component emphasizes the importance of foreknowledge of an employee required by his job and the second component emphasizes the importance of continuous information that an employee receives,the information from which he learns whether his efforts are successful, what activities he has to perform to have better results, and which behavior leads him to achieve a certain level of hisefficacy.*Knowledge of efficacy level allows forwarding to employees a feedback with the purpose of making a change in their behavior, so that it fits the expectations of the organization[114]*.

Investment of effort by an employee is defined as willingness of the employee to invest in his work: a bigger effort in relation to rewards he receives and what is expected, the greater effect upon effectively targeted attainment, and organizationalefficacy.

Production increasing and its effectivenessare dependent upon the relation betweenefficacy, achievements level, and an employee's rewards. The need for feedback of the outcome of efficacy assists in the process of behavioral change and motivation. This behavior of employees in an organization is important for success and promotion of achievements of the organization [60].*In relation to an organization like school, it has been found that the factor that has the utmost effect upon pupils' achievements and teachers' activity efficacy is the teachers' image*[179].

Organizationalidentification and prestige.The assumption is that people tend to classify themselves and others into a variety of social categories such as congenital attributive components: religion, gender, color, ethnicity, and acquired components - organizational membership, profession, and citizenship[19], [181].

Organizational identification (OI) is "the recognition of an individual as belonging to a certain social group together with emotions and values that are significant to them as group members"[63],[181].Organizational identificationis related tothe social identity theoriesthat examine how an individual defines his perception of self in relation to the social group he belongs to. It is proved that, as positive social identity creates social opportunities for self-satisfaction, it enhances the social prestige and assists social interactions within and outside the organization[19].The term *organizational identification* has many explanations in the research literature. The most common is that of C. Read [151] who describes identification of an individual and an organization in terms of partnership in values and purposes, or in other

words,identification based on values. It means that a congruency would be found between the values of an organization and an employee and his involvement in the organization.B.E. Ashforth and F. Mael [19]*define organizational identification as a specific form of social identity that relates to belonging as it is perceived by an individual towards his organization and expressed when its members assimilate the attributes of the organization as their own, meaning that they would see themselves as personifying the organization*.The organizational identification is a way an individual perceives his belonging to an organization.

An organization from the field of education is a social system with a distinct group identity of its members, acting according to some specific an action plan, and procedures. It is expected that an employee would identify with the organization;in fact, it is a demand of psychological involvement of an employee in the organization, who identifies himself with the organization[19], [63].

In the last decades, the subject of organizational identificationhas been extensively studied in order to understand what makes employees be consent to the organizational policy, take part in the organization, and contribute to the collective effort of an organization.It has been found that employees who identify themselves with the organization to a large degree would invest their time, skills and ability to act to the benefit of the organization and contribute to its success, feel united with the organization, exhibit loyalty, responsibility, caring, belonging, commitment and appreciation, the likelihood of these employees of not leaving the organization will increase, and their contribution would get larger and motivate for betterefficacy and benefit to the organization[19],[107]. The more an individual is identified with and attributes himself to a social group, the more components of the group identity are expressed in his personal identity and make him to behave in terms of his being a member of the group and therefore the social identification supplies a partial answer to the question of who and what he is [66].

A. Carmeli and G. Gilat [45] indicate that organizational identification has a positive effect upon job efficacy, raising its productivity, organizational citizenship behavior (OCB), turnover, absenteeism, stress, work-family conflict, and a cooperative team behavior such as sharing personal knowledge for promotion oforganizational purposes [45].

On the contrary, as A. Van Knippenberg and N. Ellemers[188]state, belonging to a group with a low external status has a negative effect upon the social identity of an individual and the group.When an inside group is distinctly perceived as having a low status,the group of belonging becomes limited. A group with a low status would aspire to change its condition and gain a positive social identity.

As we can see, there is a correlation between organizational identification and perceived external prestige of the organization. The higher are the prestige and the image of an organization, the

more it delivers a message of quality and team spirit to employees within the organization and outside of it. A good organizational image is conceived as an organization that is worthwhile to work in,[63],[127],[144],[173]. A good organizational image expresses a positive perception of an individual regarding the actions and achievement in an organization, the feeling of belonging, pleasure of respect, because the organizational awards are significant to employees and enhance their self-image, and identification with the organizational members, [109], [173].

J.D. Dutton, J.M. Dukerich and C.V. Harquail [63] state that when organization members perceive the external prestige as important and attractive, it means that they believe that this image has elements apparently appreciated by the elements outside the organization and therefore see their belonging to the organization as a positive social identity. There is a correlation between the satisfaction of employees' belonging to an organization, mainly due to a relation between the perceptions of an organization as distinguished from other organizations, having a prestigious image, and sources of organizational identification. These sources reinforce the identification of an individual with the organization by creating a positive cognitive relation to the organization[47],[109], [127],[151],[173].

A. Smidts, A. Pruyn, H. Th and C.B.M. Van Riel [173] found that there is a stronger correlation when members of an organization believe that stakeholders outside the organization see the organization in a positive light. And in the opposite direction, identification can also have a negative effect upon an employee when he perceives the external prestige as unpopular; he might experience negative emotions and stress, and therefore his identification with the organization decreases[127].

Therefore, we hypothesize hypotheses 6 and 7(See details in appendix 2).

Team Identification (TI): Different groups of people that are organized together according to the needs, purposes, and structure of an organization are the main pivots around which and by which an organization operates for achievement of its purposes. These groups can be found in all echelons of management, whereas their way of operation has a significant impact on the level of efficacy and ability of an organization to achieve its purposes. Therefore, one of the important focal points for improvement of organizational functioning is an improvement of the work of teams that creates a better identification with the organization [54],[190].The character of teamwork as a group of people working together is determined on the basis of a common goal, common ideas, agreed-upon processes, obligations, cooperation, and resolution of disagreements through open discussions. Teamwork is more than just group meetings; a team that operates on the basis of common purposes is obligated to achieve goals, cooperate, and put in an effort to achieve these goals. Teamwork increases the competitiveness ability of the organization throughimprovement of productivity, the product quality, motivations, organizational

identification, employees' commitment, and motivation to find advantages in utilizing opportunities stemming from the technological progress as well as through encouraging innovation [137, p.244].

Team identification is defined as a sense of partnership in mutual experiences of the members of the same team[63], the extent to which the people attribute themselves to a certain social group, determine their tendency to behave in terms of their being members of the group [66].A team is an entity that is comprised of people who are dependent upon each other for attainment of a common mission in the most effective way, while cooperating, committing, and taking collective responsibility for the mutual purposes and targets of the organization, where the personal success depends upon the success of others. Therefore, one of the important focal points for improvement of an organization is improvement of teamwork and in creation of team identification[54], [103],[137, p.244],[190].

H. Steven Appelbaum and G. Frederic [178] have written as well, that from the different models developed in the research literature it has been diagnosed that crises in a team delay success; nonetheless, a supportive management promotes the team and makes it function efficiently and successfully.

J. West-Burnham [190, p. 119] underlines that an organization is interested in its teams becoming effective tools for getting desired outputs and should cultivate and develop them.The contribution of a team member is required to be qualitative and at a high level, but an individual's contribution depends upon the team and would not be expressed without the support of the rest of the team members [190]. There are also differences between the function an employee holds outside the team and the function he performs within the team because a function in a team relates to his behavior and ability to contribute and communicate with others[31, p. 25].

Anyway, effectiveness of a team and responsibility for assembling an efficient teammainly dependon the managers and the leaders of the organization - L. Bell [32, p. 45].*Team meetings are a preliminary condition for any cooperation and there is a correlation between the frequencies of team meetings and the level of efficacy in the team. The higher is the frequency of the team meetings, the more effective are motivation and commitment of the team members to put in their effort to achieve goals and improvetheirefficacy[185]*.

D. Hen [93], claims that the first important conclusions that arise from statistical findings are that team identification affects effective teamwork;effectiveness and work methods areat a low level of order amongst team effectiveness components; employees have a higher tendency to identify themselves with teams than the organization as a whole.

Therefore, we hypothesize hypotheses 5, 5a, 6, and 7 (See details in appendix 2).

Organizational prestige: In recent years, there have been many different studies on organizational prestige and reputation[63]. The terms “prestige” and “reputation” are linked by meaning, but are not the same. Prestige is a high status or a good reputation achieved through success, influence, wealth, etc. Organizational reputation is the overall evaluation of an organization over time by stakeholders that is based upon the direct interest of the stakeholders in the organization and communication that supply information of this organization in comparison with competitors [81, p.25].G. Gilat [205]analyzes various definitions and distinguishes between close concepts of the organizational prestige related to the corporate reputation, the perceived external prestige (PEP), and the organizational identity. A clear distinction has been made between the corporate or the organizational reputation that relates to perception of outside public towards the organization as opposed to perceived external prestige that presents perceptions and attitudes of the organizational members towards their organization[63].

School as an organization: School is an administrative organization, an open and complex system which operates in a dynamic environment where pedagogical and social processes take place in.In the complex and competitive reality, a school is perceived as an organization which is managed according to the organizational culture, with social and study-targeted fields, organizational structure, management, and management methods of its system of contacts with the community.*It is approved the perception that school must be managed as an organization with rules of the organizational management.*There are five unique characteristics of this perception: functioning as an autonomous organization, a distinct pedagogical leadership,a planned and organized academic program for short- and long-terms, defining targets and success indexes, and professional development of teachers in two circles of the organizational and individual needs. This perception assists in understanding the nature of school functioning in its efforts to improve its image, management style, and principals’ pedagogical leadership, ways of team communication, decision making process, connections with environment, teaching methods and evaluation of study and social achievements,[224, p.81-103].T.J. Sergiovanni [167, p. 104] distinguishes between schools that operate as organizations and schools that operate as professional communities according to the cooperative model. In fact, schools should be perceived as established professional organizations.

Thus, school is a transition to a study place and a framework, a cultural environment that cultivates teachers and pupils. Graduates of the educational system are required to be adjusted to changing conditions of the world, and*a school,as a traditional organization,must be focused on delivery of knowledge that cannot be stable and permanent in the society*; that is why a

schoolmust be relevant, occasionally examine its values, and the level of its compatibility with the community [79].

Public attitudes towards the educational system and towards teachers affect the status of schools and teachers.The profession of teaching is under a constant criticism of pupils, parents, the public at large and members of the school itself(the teachers, principals, and inspectors). The public points at the teachers as the primary factor in failures of their children and thus express their lack of satisfaction with the educational system [207, p.157-159].

Therefore, we hypothesize hypotheses 11 and 12 (See details in appendix 2).

Organizational Identity and External Image: Talking of organizational identity, we cannot avoid the subject of external image. To understand the subject better, we apply to the study of J.D. Dutton, J.M. Dukerich and C.V. Harquail [63]that suggests a distinction between Organizational Identity and Construed External Image.The construed external image is reflection of the public attitudes, and it provides more than just information about what outsiders think about the organization andits members. *The construed external image, perceived by the public, is a construed image of the organization, as well as a feedback to the organization members, as to how they are perceived outside the organization[63, p. 248-249]*.

N. Markwick and C. Fill [129] make a distinction between the organizational image (which is a component of the organizational identification based on the way an individual perceives his organization) and *the construed external image (that is based on importance that the members inside the organization assign to what the outsiders assign to the same organization), meaning that the way the organizational identity is designed by the organizational members and by the external factors comprise the total of interactions, experiences, beliefs, feelings, knowledge, and impression that the stakeholders outside the organization hold in relation to the organization*. An organization has a variety of stakeholders, while each of them has his personal motive, background, andlevel of dependency; therefore, it is not possible to expect a unified and consistent organizational image, but a different understanding of the stakeholders[34],[173].

R. D. Gatewood, M.A. Gowan, and G.J. Lautenschlager[72]created the term “mutual organizational image” as a mutual determination of the internal and externalfactors to the organization, which together constitute the whole complex of the perceptions regarding the organization whether the organization has achieved its purposes and serves the external environment.Organizational reputation reflects the level of stability of the organization, the quality of its outcomes, products, and its positioning as a service provider in relation to competitors as viewed by customers and external factors [63].

Organizational reputationindicates four key characteristics in describing and analyzing organizations: size and its structure;strategy - purposes and policy;available technology at its disposal - variety of tools, skills, and human resources; and the management philosophy.

A common tool for measurement of organizational reputation is the annual survey of Fortune magazine. This survey, that encompasses thousands of respondents, examines the most admired companies as perceived by top executives, CEOs, Deputy CEOs, external directors and financial analysts, in their respective industrial sector. The survey ranks the top-ten companies in the subjects of financial targets and abilities, strategic resources, and vision. C. Fombrun and M. Shanley add an additional dimension to the definition of organizational reputation that is long-term stability "representing the accumulated judgment of public regarding firms, over time"[68, p. 235].

Themphasis on time stresses the distinction between corporate reputation and organizational image, whereas corporate image is considered as stable overtime and relates to the external image in the eyes of others who are not members of the organization, when thecorporate reputation is considered to be less stable, more responding to changes along the way, and mainly including the internal evaluation of the organizational members [81].N. Markwick and C. Fill [129] state that the concepts are interrelated and a positive corporate reputation is a fundamental and necessary condition for positive prestige and reputation.

Perceived External Prestige (PEP) of the Organization: P. J. Brown and T. Golembiewski[36]explain the organizational image in terms of comparative perceptional patternsthat an individual develops in order to compare his organization or department with other departments or organizations. This image is used as a mediator between organizational incentive for behavior attitudes and employees' efficacy. The factors affecting the development of organizational image include: employees' common experience, mutual knowledge, job expectations, commitment, and mutual interaction.J.D. Dutton, J.M. Dukrich and C.V. Harquail [63] developeda model that explains the effect of an individual's organizational identification through the perceived external prestige, and the correlation between perceived external prestige and civil behavior with the mediator of organizational identification. G. Gilat [205],A. Carmeli and A. Freund [46] examine the correlation between the variable of Perceived External Prestige and the attitudes and perceptions of the organization members regarding the organization they belong to, the profession or job, and the working place.

It can be expected that the members of the same organization would have different opinions on different subjects. These standpoints of employees are not necessarily compatible with the way the organization is perceived by outsiders, meaning that the perceived external prestige is not necessarily identical with the organizational reputation. It is common to consider the variable

of perceived external prestige as an individual variable created from exposure of the information about the organization[63],[173]. J.D. Dutton and J.M. Dukerich [63] explain the correlation between organizational reputation and perceived external prestige by the fact that the reputation originally cultivated for outsiders comes to the knowledge of the organizational employees through an external communication, the family and friends, and this communication designs the perceived external perception. A. Carmeli [42] examines the variable of the perceived external prestige as a variable that is explained by the organizational communication and the industrial relations climate. In another work [44], Carmeli states that measurement of the perceived external prestige is a function of several criteria that together represent the overall behavior of an organization; therefore, it is necessary to separate between the perceived economic prestige and the perceived social prestige within and outside the organization.

After analyzing the scientific literature on the subject, we can say that there are two principal approaches to this concept: one is based on economics and marketing and focuses on the extent to which an organization positions itself as an entity that succeeds in achieving its purposes and that has an advantage over other organizations, over time; another approach is based on the organizational behavior - introspection of the organizational members upon themselves. In our experiment, we use both of these approaches.

Therefore, we hypothesize hypothesis 7a (See details in appendix 2).

Perceived External Prestige (PEP) of a Team: External prestige of an organization has been studied as perceived external prestige of a team. H. Tajfel and J.C. Turner[181] indicate that according to the social identity theory, a certain social belonging is used to achieve a positive identity sense through the process of a social comparison as people perceive theout-group;on the other hand, a group's status is different.

In the study of B. Doosje, N. Ellemes and R. Spears [61], the variable of the level of identification has been examined as a dependent variable inthe perceptionof groupstability and status. From the findings, it appears that the level of identification rises and gets stronger as the status of the team is higher. Additionally, the members who strongly identify with a group would exhibit loyalty for the group and they would not leave the team at times of distress even if this membership might damage the personal benefit. The level of identification in the studies where the perceived status of a group is low, meaning that a threat of harming the team image or the team status depends upon the level of the team identification. A negative group identity encourages the inter-group competition, as long as the level of belonging is maintained.Therefore, the source of the perceived external prestige of the group comes frompromotion, public opinion, and opinions of the employees in the organization.

B. Mullen, R. Brown and C. Smits [136] examine effect of the external status ofthe inside group. The meta-analysis findings show that the group with astatus highly perceived by outsiders tends to prefer their membership in the group, and on the other hand, the group with a low perceived status by outsiders, prefers to accept an outside group with a higher status than their membership in the group.Social comparisons with similar groups create a threat over the distinction of the group.Therefore, we hypothesize hypotheses 13a and 14a(See details inappendix 2).

In the study of A. Carmeli [43], it has been found that the team identification mediates between the perceived external prestige of the team and the situations of behavior of the team such as team coordination, collaboration, and distribution of the mutual responsibility for the tasks amongst the team members, a target achievement, and a good communication.

J.D. Dutton, J. M. Dukerich and C.V. Harquail [63,p. 259] suggest a theoretical proposal with no empiric confirmation for the variables that explain the perceived external prestige in an organization that is an analogy to a team, changes in the hierarchical structure, culture, organizationalefficacy, limits of the organization, or a competitive strategy of the organization, might convince the members of the organization to update the construed external identity and the perceived external prestige.

Therefore, we hypothesize hypotheses 4a, 11a and 12a (See details in the appendix 2).

Organizational culture: Organizational prestige is also linked withorganizational culture that is "the spirit that characterizes an organization as it is expressed in the norms of interpersonal relations and work relations. These norms are assumptions that are not always expressed, and also sometimes are known without being understood"[183, p.18]. Organizational culture can be measured by its intensity that E. Schein [160, p.197] defines with two parameters:*extent of consensus- to what extent the members of the organization agree upon the same values and what is the level of cooperation; extent of consistency- compatibility and coherency between three layers – premises, values, and behavior.*

Therefore, we hypothesize hypotheses 9b and 10b (See details in the appendix 2).

The organizational culture is vital for professional development intheenvironment in which the team operates. According to K.B. Everard and G. Morris [67, p.143], organizational improvement depends upon getting the individuals and the groups, making the team in the organization, more efficient. A personal growth requires bearing responsibility for personal development;while the organizational growth depends upon bearing the collective responsibility for development of the individuals and groups.

A positive learning culture is considered in the works of T.H. Davenport [57, p.91-108] and J.D. Politis [147]who found a correlation between an employee's ability to create knowledge and

character of the inter-organizational processes.In order to avoid the interruption of change processes,the activities of professional development must encourage development of super-qualities in all stages that surpass the existing requirements; however, that brings about improvement in the abilities to react to professional and administrative changes. A group and organizational development can be found in organizations with a positive learning culture and such a development creates an environment suitable for individual development.

Teachers' professional identification and prestige.Professional Identification: The social identity theory relates to identification as a search for a correlation between self-perception and patterns of behavior in friendship and/or membership in a certain group of belonging [181].The term Professional Identification (PI) relates to extent to which an individual feels a psychological identification with his profession, and this feeling determines the level of involvement, his tendency in his job, and effort he is willing to invest in his work**[53,** p.349-351],**[66].**

People classify themselves and their environment into some groups with social profiling [66],and attribute themselves to more than one social category–social status, membership in an organization, religious group, gender, age group, and more[63]. Some goes for the professional identification.In the sociological view, professional identification and choosing a profession are generally examined in the stratification aspect,organizations and professions being part of the common targets of people's identification [18].

F. Mael and D. E. Ashforth [127] distinguish between the organizational identification that relates to the extent to which an individual defines himself in organizational terms, and the professional identification that relates to the extent to which an individual defines himself in professional terms. Various occupational characteristics have an external image both of an individual and the public.

The studies on teachers' professional identity devote much attention to the processes of professional development and development of professional identity that necessitates teachers' involvement and activity. These works help to understand how professional identity influences job efficacy [30]. Thus, L. Kozminsky [212] states that teachers'professional identity is a continuous process of development that depends upon the way teachersare perceived by others.

F. Elbaz-Luwisch [65] singles out three main aspects of teachers' professional identity development: the teaching methods,dealing with pupils,and evaluation ofresults.

J. Sachs [157]considers that there are many different professional identities (sub-identities) and the teachers' identity should not be regarded as a single definition. For professional identification it is important the subject teachers teach,their position in the school and team, their rank or scientific degree, etc. Theprofessional identification is linked withthe psychological-educational levels that influence on the professional choice from different points of view -

appreciation, respect, social popularity, etc. There are also correlations between the economic advantage/capital,suitable conditions for teaching, and accessibility of prestigious subjects related to better social opportunities.The social capital includes social bonds, political power, and suitable knowledge for paving the way to the desired education and popular professions[53, p. 349-351],the cultural capital includes opinions, tastes, preferences, orientations, style of speech and use of languages, interest in a high culture, and organizational reputation [111]. Unfortunately, nowadays teachers do not have enough respect from society, parents and pupils and teaching as a profession has a low reputation among people. As a result teachers feel lack of appreciation and great frustration [197, p.154-167].

There are three characteristics that characterize the 21st century and affect the professional identification:

1. Changes: frequent and severe, in all life systems with professional and personal mobility, life-long learning, and a need of mastery of computerized and communication technology;
2. Importance of knowledge: accumulation of much knowledge that is excessive and that quickly become obsolete and is used as a substitute to the material capital and development of visual tools as a substitute for the textual tools;
3. Post-modernism: characterized by uncertainty, undermining authority, criteria for judgment and decisions, and requirement of constant change [40, p.7], [198, p.768].

A. Toppler [225, p.45-64; 329-350] indicates that changes are the most permanent factor in our life and states that a career design is a continuous process throughout life under theInfluence of changes that impact on the career development, whereas aspirations of an individual are reaching an optimization between his needs and limited options in the working world.

With the technological development, the increasing rate of enlightened employees requires an extensive knowledge in a single and dynamic field like teaching. This leads to a process in which many employees are identified with the profession prior to joining a specific organization [156].R.Van Dick, U. Wangner and J. Stellmacher [187] show that one of many other characteristics of the teacher's job is a constant improvement of teachers' knowledge.Many studies indicate that the professional identification is a result of many factors influencing teachers: professional identification as a type of work or occupation and the professional identification as opposed to the organizational identification[109],[156],[210, p.47],[187].

Formation of professional identity is related to the job position of a teaching employee. In the reform of "New horizon"(Division A, 2012), one of the conditions for promotion up to the rank levels is accepting life-long learning and development of teacher's knowledge, and it is relevant.The teachers' high ranks (7-9) areconsidered as ranks of an expert. This principle of

professional developmentallowspersonal and functional growing processes in order to upgrade teachers' work in a class and school,the Ministry of Education, the administration of training courses, and Professional Development for the Teaching Personnel [218].

Perceived External Prestige (PEP) of Profession: As an aspect of the belonging-to-a-group motivator,belonging to a certain professional group and its relation to the professional prestige can be considered.V.M Iyer, E.M. Bamber and R.M. Barefield [109] define the term of prestige of a profession as a parallel term for the perceived prestige of an organization.*Discussion on prestige of professions requires a distinction between the following definitions: a professional status, respect, prestige, image, and social appreciation.*

While some definitions of the term "professional status" are focused on a profession comparison, other definitions emphasize the aspect of respect and appreciation. E. Hoyle [105] relates to the professional status as a unit comprised of three components: *occupational prestige*–public perception of the professional status in the gradation of professions; *occupational status* - the way a reference group (such as university members and politicians) relates to professions; and *occupational* or *social esteem* - the way the public perceives the advantages and shortcomings of the profession based on personal qualities characterizing the professionals, such as treatment methods, skills, and devotion to work.

The term "respect" depends on the context, the subject to local interpretation and reflects gender, status, and religious influences, and it can be changed over time due to political and cultural changes. The term "image" is neutral: it describes an object as it is perceived - for better or worse. The term "social appreciation" allows the examination of the term "professional status"; it is appreciation by the public of a professional group as relating to a profession through personal attributes of the members of a profession, and they are perceived as being important and beneficial for the task performing [105].

Occupational prestige refers to the public perception of an individual's social standing based on their professional position, rather than any unique personal attributes the individual holds. The careers that attract the greatest occupational prestige may change over time depending on external events. Public perception of the integrity of an industry can alter the prestige associated with a particular profession [http://www.hrzone.com/hr-glossary/what-is-occupational-prestige].

Thus, one of the significant factors that affect identification of an individual, his values, and beliefs is his work and profession, which constitutes the social environment of his adult life[154, p. 230]. Prestige is appreciation, respect or approval granted by an individual or group, forefficacy or qualities that are considered to be good or above the acceptable level.

The perceived prestige of a profession, as different from prestige of an organization, relates to the personal aspect - to the individual.Assuming that an individual identifies with a profession to

some degree reinforces his self-image: the more an individual perceives his profession as appreciated and prestigious, the more there is an incentive for increasing self-image through this identification, meaning that the employee has a sense of pride due to belonging to an appreciated organization. And reversely, when an employee perceives the external prestige of his profession as not appreciated, he might have negative feelings, depression, and stress thatmeans a lack of identifying with his profession and functioning [63],[109].Therefore, we hypothesize hypotheses 9a and 10a (See details in appendix 2).

L. Sagiv [158]presents a correlation between personality tendencies and values. The values conceptualize life purposes and are focused on willingness or purposes;the tendencies speak of appeal, pleasure of performing, and preferences; people with different tendencies tend to a moral perception that integrates with these tendencies. For example: the social environment characterized by values related to universality and benevolence has a negative relation to the values of power and ambitiousness.The theoretical approaches(the status achieving approach, the human capital approach, and the critical approaches) show how a profession choice depends upon personal resources, background, familial status, gender, and prior study achievements. These considerations can guide the choice of a study field perceived as allowing access to occupations, meeting the perception of the preferred occupation characteristics.

Here are the five dimensions of prestigerankedfrom the most important to less important:skills and knowledge, standard of living, power and influence, initiative and autonomy, and value to the society (They represent prestigeas not contributing or significantly contributing).The social perception, that is common in relation to any occupational choice, assumes that it is a rational process of making decisions. In addition to personal skills and tendencies, there are considerations of the professional status (such as prestige and progress), and working conditions (the working hours, travels, etc).

Thus, we hypothesize hypotheses 11b, 12b, 13b, 14b 15b, and 16b (See appendix 2).

Teaching as a Profession: The status and stratified position of a profession is determined according to the level of prestige, wealth, income, and employees' authority. The professional status of teachers is considered to be relatively low in comparison with other academic professions and different from other populations and professions in relation to the relative classification of the teaching profession in the hierarchy of other professions. The criteria reveal a variance regarding the importance attributed to the teaching profession in different countries and the social appreciation that relates to perceptions and feelings of people upon their examination of the profession [204, p.28-29].

The teaching profession is often considered as not-demanding a high professionalism and is perceived by the public as a profession within reach. Every average person believes that he can

teach and even better than one or another teacher, while the occupation of an engineer, a doctor or a lawyer is considered to be respectful due to the fact that an average person does not presume to be an expert in their fields of expertise. Additionally, the fact that a teacher has no promotional opportunities,as workers of other economic sectors have, contributes to disrespect of this profession[207, p.39].

Another factor is that this profession is considered as a female profession, and this fact contributes to an inferior status of the profession that damages the prestige of the teaching profession, because a big part of peopleare sure that women's occupation does not require much expertise. The general opinion is that the women do not bear the main responsibility for livelihood of their families, and therefore, the women are considered to be the secondary providers that can be satisfied with less.

The composition of the current job of a teacher does not allow him to perform his job properly because, being a professional, he must concurrently perform the actions that are not included in his working hours and, therefore, are not paid: elaboration of the lessons, collaboration with colleagues, participating in guiding the school by making decisions and solving problems, maintaining personal-individual relations with pupils and parents and more. Beyond all this, there is the low payment of teachers, a situation which lowers teachers' status and deprives the Ministry of Education of good forces.

There is also an indirect effect of the profession perceived external prestige in the processes of implementing changes in a class and pupils' achievements.The teachers tend to examine opportunities for an alternative occupation, must manage themselves, locate themselves in a way that would allow them to contribute to their professionalism while undergoing self-development throughout their professional life [96], [203, p.11-37]. D. Inbar [208] emphasizes that without turning teaching into a prestigious profession, there will be no improvement in the professional status of the teachers.*Three theories explain the difference between the status of teaching and other professions:*

1. *The functional theory deals withthe analysis of the social status and contribution to society, recognition of importance and necessity of professionsby society;*
2. *Social bargaining theory studies teachers and teaching profession contribution to society by using unique knowledge and skillsto prepare pupils for integration into society;*
3. *The ecological (environmental) theory shows that the character of teaching work is dynamic and influenced by political, economic and technological innovations[201].*

B. Schneider and J.L. Schneider [161] indicate extremely big differences in the perceived identification in the publicof various professions and specializations. The specialists working in public and private sectors or at different institutions and organizations are viewed differently:the

school teachers have a different professional status depending on their working place, andthe university or college lecturers have a higher professional status thanthe school and kindergarten teachers [89].Anyway, P.L. Grossman and S.S. Stodosky [83] indicate a higher status and a privileged position for the Mathematics teachers anda bigger importance and a higher status of mathematics as a subjectin comparison with other subjects [102]. (To complete)

Organizational Commitment and Behavioral Integration.Many researchers [27],[92]attempt to investigate, understand and predict the employees' commitment in an organizational environment. In this domain, there are three research schools:

1. Behavioral/personality school: examination of effects of personality's aspects such as attributes, abilities, motivation, and values of employee's behavior in the organizational environment [92];
2. Situation school: examination of the working environment effect, dynamics of the external environment, leadership, and employees' behavior;
3. Interactional school:as researchers had realized examination of a single parameter is too simplistic, further studies deal with relationship between employees, working environment (organization), and the general view of interaction and character of the employees-organization relations, etc.

There is a disagreement regarding commitment, its scope, and the way it affects employees' behavior in order to identify with the organization[34].In some definitions, the organizational commitment is seen as a normative commitment. Other researchers [85],[151]use the term *organizational commitment* as a synonym of identification: the value-based identification takes place when there is correspondence between the individual and organizational purposes, and the organizational commitment describes intensity of the employee's identification with the organization. Employee's involvement is related to the relative linkage of his active identification with the organization he works in[82]. This commitment is related to two identification processes that are parallel: one done by the organization, and the other by the employees.The terms commitment and identification involve values as targets and purposes that serve in a person's life as guiding principles while choosing and justifying the daily life activity, in order to estimate themselves and events in the organization life[164].

P.H. Siegel and S. Sisaye [170] as well as M. Longinnos and R. Salvador [125, p.71] identify a correlation between an employee who feels vital for the organization, belonging, commitment, and a higher identification. G.E. Harris and J.E. Cameron [90] rise questions of to what extend employees are identified and to what extent they are committed to the organization. The fact of asking these questions is a reflection that clarifies the employees' attitudes.*It is proved that the organizational commitment is positively related to the indexes of effort at work, and to the*

objective indexes of job efficacy [149]:employees with a high organizational commitment perform their jobs beyond the formal requirements[82],[106], [134].The importance of an effective commitment to the organization makes the employees more emotionally involved in the organization, have a higher identification with the organization,effectively exhibit a betterefficacy, and thus assist in achieving the organizational purposes [165, p.38].

Thus, we hypothesize hypothesis 7 (See details in appendix 2).

C. SowHup [176]considers that there is a human evolution from being an ordinary member in an organization to a member having identification and commitment.J. P. Meyer and H. Lynne [134] develop a model which examines factors that are most influential upon the organizational commitment and is defined as a force that binds a person to the way of achieving purposes.Different types of commitment are described in the Three Components Model of Organizational Commitment[171]:

1. Emotional commitment or value commitment reflects a positive, emotional approach towards an organization, the desire to act. Its motives are: feeling of belonging, common values, and emotional involvement;
2. Continuance commitment to the organization reflects the importance of incentives, expresses the cost of not attaining a goal or being dismissed from an organization. Its motives are: reward of investments or betting regarding the achievement of a purpose;
3. Normative commitment reflects the norms that commit a person to reach his goals. Its motives are: assimilation of norms or a psychological contract.

Other researchers base upon these dimensions and relate them to the principles of the theory ofhuman resource management and organizational culture [137, p.244], [151]. Thus, the commitment model of L.J. Mullins [137, p.244] relates to commitment in relation to identification at three levels:

1. Compliance: involvement for achieving exterior rewards, superficial involvement related by cost-benefit relations to an employee;
2. Identification: involvement based on the desire to belong, the desire for human relations, affection, and appreciation;
3. Internalization: involvement based on congruence between attitudes and values of an employee, the commitment based on identification with the values of the organization and its goals, mission, and purposes.

Thus, we hypothesize hypotheses 13 and 14 (See details in appendix 2).

According to H.A. Simon [171],the organizational identification preferred by all organizations is perception of compliance of an employee with the organizational policy without rewards, and partnership in values and purposes of both –the individual and the organization[149]. An

opposite definition of the personal identity is by the way of negation, meaning, through what it is not. This is a personal concept based on separation between the personal and the organizational identity and negative relations between the organizational and personal identities.

Some researchers make difference between commitment and identification. Thus, E. Schein [160, p.125], one of the leading researchers in the field, indicates two differences. Creation of a sense of identification of organizational members: the more values are clear and common, the easier to follow the will of the organization;when identification is high, the desire to leave the organization is low. And the second moment that invokes commitment to the purposes of the organization: identification of people with the organization creates a sense of togetherness, andthe thing that drives the basis of reasoning is the organizational, not a personal, interest.

*Behavioral integration (*BI): It is also needed to consider the correlation between teachers' activity efficacy (exertion of teachers' effort at work) and the behavioral integration in an organization or a team.D.C. Hambrick [87] says that the mechanism of behavioral integration is of great importance to the organization, in order to develop human resources in the organization and create an effective teamwork.The behavioral integrationis one of three structures of reciprocal relationships of employees; two others are the team collaborative behaviors [103] and the high-quality connections[62].The reciprocal relationships amongst the employees include the components of information sharing, cooperative behavior, mutual assistance, and collective/mutualdecision making. The author of the theory makes a clear distinctionbetween the term of behavioral integration and others related to other types of integration: the social integration - the extent to which members of the senior management communicate with each other and become dependent upon one another; interpersonal communication - the extent to which each member of the senior management communicates with each other; and informal communication - the extent to which the team members communicate in informal frameworks, outside the official framework of the organization. *D.C. Hambrick [87] defines the terms of behavioral integration in a team and/or an organization according to three dimensions: reciprocal relations between members, information sharing, and mutual decision making*.

The behavioral integration moderates the correlation betweenthe organizational and team identification and perceived external prestige of the organization/ team.Z. Simsek, M.H. Lubakin, and J.F. Veiga [172] found a correlation between the behavioral integration and organizational functioning. This study is based on the study of D.C. Hambrick [87]that examinesthe behavioral integration in which the characteristics of leading teams have been isolated by the optimal behavioral integration. Based on those characteristics, a multi-level model had been developed and the behavioral integration had been examined atthree organizational levels: the management and CEO (Chief Executive Officer) level, the team level

and the firm level, out of understanding that *a positive behavioral integration in a team has a direct impact on the entire organization.*The meaning of this is that behavioral integration focuses on the level of teamwork and the organizational work, describes the relationships of individuals in the team with their tasks and the working relationships amongst them, and this is considered as common when communication includes all the team members.The behavioral integration in a team is also in the centre of attention of Z. Simsek, M.H. Lubakin, andJ.F. Veiga [172].

Teams are parts of any organization, and one of the focal points for improvement of functioning of any organization is improving the team work. The groups in which there is a continuous behavioral integration indicatean effective cooperation between the team members; an effective team is a united team, whose members support each other; its success is measured by the achievement of the goals set forth before it, the level of efficacy , the outputs it manages to accomplish, and satisfaction of its members[103]. An efficient teamwork is the work when the results mean more than a sum of the outputs of the individuals,i.e. synergy [31, p.120].Such a team is required to learn working together, get familiar with the mutual needs, sharerelevant information and mutual resources with each other, and deal with the problems[103].

A mandatory condition for significant teamwork is the existence of the common purpose (clear and agreed-upon) to all members, with effort of the team members routed towards it forefficacyimprovement [103], [111],[186]. The team undergoes a process of behavioral development, and a positive relation develops in the group, only if the lessons and thoughts of all of its members are taken into consideration, meaning an action that obligates the organization to make changes and cooperative feedback based on openness and consideration[32, p.13],[62],[87],[110],[186].Improvement of the team'sefficacy depends upon the way it is managed [17].

A. Smidts, A. Pruyn, H. Th and C.B.M. Van Riel [173]state that these terms are based on the psychological theories that explain the correlation between an individual and the group, while the focus is on the individual’s viewpoint, his feelings and interpersonal communication. Anyway, behavioral integration in a team and/or an organization focuses on the reciprocal relations between its members, knowledge and information sharing, collaborative behaviors, mutual assistance and decision making. Thus, in order to develop the quality of human resources and an efficient teamwork in the organization, it is needed behavioral integration in the team and organization [87]. Any team consists of different people, and therefore there are different types of its members’ behavior.

To assess teams, R. Chaudhry-Lawton, R. Lawton and K. Murphy developed the team management index that focuses on the group dynamics, which takes place between an individual

and the team in relations with each other, the way he gets information and puts itinto use, and the way of making decisions in the team and the organization [48, p.137]. A. Carmeli and G. Gilat [45] consider the individual's contributionto behavioral integration, with a partial mediation of identification contribution toefficacy, mediated by the behavioral integration.

2.2. Characteristics of variables related to teachers' activity efficacy

Teaching efficacy is influenced by lots of variables, that being correctly managed can ensure success. We consider a variable as something that is subject to variation under certain conditions. After having studied the factors associated to teachers' professional efficacy, we identified the variablesthat might be of assistance in supplying the answer to our research question of how to improve teachers' activity efficacy: educational economic indicators,job efficacy , inspector's leadership style, team and professional identification, behavioral integration, teachers' exerting effort at work.

Educational economic indicators: Education, with all its components, is considered by us as an economic product that can be produced, incentivized, subsidized, marketed, and distributed. The indexes of educational inputs are the rendition of financial inputs into educational inputs such asacademic hours, class sizes, teaching and administration employees' payment, educational programs, study environments, physical infrastructures, research, and development [209]. That is why we have chosen the variable of Economic Educational Indicators as a *moderator in our study*.The educational indicators are to be processed, and a statistical summary of a series of data - comprising an index of some educational phenomena - is to be described.

Our analysis of various factors that affect the expenditure on education shows that the expenditure on education is a function of four primary parameters: *teachers' payment, number of academic hours for teaching mathematics, number of teaching hours per teacher,and the size of classes*. In Israel, the low payment of teachers and big classes decrease costs of education, but, on the other hand, a high number of teaching hours and the number of teachers operate in the opposite direction and increase costs of education. We think that not only the level of expenditures, but an efficient and effective use of existing resources defines the level of results and their quality.

The organizationalreputation and identification help to understand what makes employees consent to the organizational policy, take part in the organization, and contribute to the collective effort of the organization. We accept the statement that employees who identify with the organization to a large degree, would invest their time, skills, and ability to act to the benefit of the organization and contribute to its success, feel united with the organization, exhibit loyalty, responsibility, caring, belonging, commitment, and appreciation. The likelihood of these

employees of not leaving the organization is high, and their contribution would get larger and motivate for betterefficacy and benefit to the organization [19],[107].A study on behalf of PwC (**P**rice**w**aterhouse**C**oopers)[150], from 2007, revealed that leaders of schools in England consider a managerial position as a privilege and prestige. School perception depends on organizational culture, the fields of social and study mission, the organizational structure, ways of managing and managing a system of contacts with the community.There are 5 unique characteristics of this perception: functioning as an autonomous organization, prominent pedagogical leadership, planned and organized short and long termstudy programs, defining purposes and indexes of success and teachers' professionaldevelopment, in two circles – for organization and individual's needs .

The decision to be a part of the organization and contribute to productivity risecreates the need to cultivate organizational commitment on the part of employees and thus to promote organization's purposes[171]. Organizational commitment and organizational identity are different things, and there arecorrelations between them [160, p.125]:

1. Creation of the organizational members' sense of identification depends on the values of the organization: the more values are clear and common, the easier it is to follow the will of the organization and thedesire to leave such an organization is low;
2. Identification of people with the organization creates a sense of togetherness (i.e. the sense of belonging to a group) that provokes an organizational, not a personal, interest, as well as invokes commitment to the organization purposes;
3. Identification creates behavior standards and maintains stability of behavior increasing highefficacy.

Basing on the research of B. Shamir and R.A. Kark [168], we should examinethe reliability of the level of identification using tools that allow receiving a visual, graphic representationof an employee's personal identification characteristics and his attitudes towards the organization.

The studies [27],[92]of three different schools are useful for our understanding and predicting employees' commitment to the organizational environment: Behavioral/personality school that allows examiningpersonality aspects effects such as attributes, abilities, motivations and employees' behavior values in the organizational environment;Situation schoolthat deals with examination of employee's environment and his behavior effect onthis environment;Interactional school that studies the employee's personality aspects, while considering the employee's environment and a general view of interaction and the character of the employee - organizational relation – that is very important for working with people.

Inspector's Leadership style: The focus of authority and responsibility for promoting pupils' achievements should be cast upon the leader - the school principal. Educational leadership is

perceived as a source of influence over study achievements[64]. The character of such a leadership is called teaching-learning improvement leadership[139].*In our opinion, a preliminary condition for meeting the targets of education is the improvement of teachers' status and one of the ways to do that is to change the inspectors' attitude toward teachers and provoke the teachers' activity efficacy*. The educational leaders, among them the school inspectors, are responsible for the promotion of teaching, supervision of learning effectiveness and setting the targets and purposes and priorities within the school [59], [76, p.277]. Even the leader's charisma plays a big role in employees' efficacy gradation[28]. To improve the personalefficacy, it is useful to introduce the elements of transformational leadership. Therefore, we hypothesize hypotheses 2, 2a, 3, and 3a(See details in appendix 2).

To make leadership more efficient, it is necessary to elaborate all the functions: planning, organizing and creation of possibilities for changes, and raising employees' motivation [75]. Certain behaviors and skills that are dictated from the above-saying have to be reinforced in teachersand the dialogue approach, the study program and team development which would assist teachers to find out and formulate professional knowledge and skills should be created. Therefore, we hypothesize hypothesis 5a(See details in appendix 2).Among leaders, the managers with a high integrating management style (a part of the transformational leadership attributes) work more efficiently and their groups reach a very high level of efficacy ability, initiative and creative solutions, the working environment being supportive, the manager's satisfaction focusing on the process, noton the outcomes, whilethe manager with a low integrative style focuses mainly on the outcomes [213]. The correlation between the managerial leadership style and workers'efficacy is directly linked: the more efficient is the integrative management style, the higher are the organizational products.Therefore, we hypothesize hypotheses 3 and 3a(See details in appendix 2).

We accept the point of view that people are motivated not only by one type ofinspection and management style, but by different motivators. All motivators work well, and we should pay attention to all of them [132]:

1. *Motive of achievement orientation is related to teachers who wish to take personal responsibility for their success or failure; such teachers are obligated to build achievement-oriented classes and prefer the inspection methods that encourage initiative, setting targets, and marking achievements, the inspection type suitable for them is individual inspection;*
2. *Motive of belonging is identified with people who maintain a high social involvement and enjoy working in a group and havingreciprocal activities with others; the inspection type suitable for them is peer inspection;*

3. *Need for power and inluence motive characterizesthe teachers who wish to affect others and like to fill the position of inspection and supervision. These teachers can be productive and effective as much as the teachers with a strong need for achievement.*

Therefore, we hypothesize hypotheses 4 and 5b (See details in appendix 2).

We also accept the educational system of the US, where, in order to improve schoolefficacy,the focus has been puton educational achievements and the refusal of detailed instructions for schools. The inspectors offer to schools some resources (or take resources from schools) according to their characteristics: to flow into schools resources that function well and withdrawfrom schools resources that perform poorly [49, p.224-225].

In our research, we rely on the approaches of teaching-improvement leadership such as democratic, collaborative, and the developmental approaches based on human resources, the transformational leadership based on the principles of equality (instead of hierarchy), reflection and growth (instead of compliance),and theinspection and control that are still dominant in the professional practice and can be efficiently used [80].

Implementation of a successful leadership relates to four practices: setting targets and directions, professional development of the educational team, re-planning of the organization, an excellent management of the teaching-learning program supporting the people being led and an effective long-runingefficacy[123, p.20].

Considering the effective leaders' behavior oriented towardsteaching improvement and their effect upon teachers, we lean on the disruption of such leaders given in chapter 1[169]; one of them is the study of K. Leithwood, D. Jantzi and R. Steinbach[121, p. 67-90] who consider the transformational directing leadership, improvement of teachers' behavior in classes and the approaches aimed at pupils' achievements.We also use the studies of P. Hallinger and R.H. Heck [86] proving that principals can work as teaching-improvement leaders, and a manager can be the transformational leader in participating leadership within decentralized decision making process,but it is a complicate field, difficult to put to empiric verification.*Teaching-improvement leadership, termed inspection, is considered a moral framework in which teachers work together with their colleagues in teamwork, by means of inspection and inspector's functioning, this leadership being very efficient and necessary in school practice[166, p.44]*.

Leadership, identification, and teachers' activity efficacy: In our research we study correlationsbetween leadership and identification of the relevant leadership style that promotes pupils' learning, the pedagogical leadership impact on school improvement, and the transformational leadership efficiency as a style that rises the organization ability to continually improve its results[121, p.17]. So far the correlations between the study-improvement leadership and pupils' achievements have not yet been studied [120]. The correlation between pupils'

achievements and the principal's leadership is indirect,and thus in order to promote the pupils' achievements, the teachers and pupils need to be motivated to achieve the mutual purposes by designing an organizational culture[71, p.102].The principal's leadership influences the pupils' achievements, butthe teachers have the strongest effect upon pupils' achievements and are directly responsible for pupils' studying [122].We do not agree with the opinion that *teaching-learning improvement leadership is not just the principals' province and that it can be expressed in direct or indirect actions[193]. We include all this in the principal' functions. We see a positive effect of leadership on motivation of people they lead for the taskefficacy over time [135].We emphasize the free will of people to perform their task, rather than performing it by force of coercion.*

The effective leaders in schools should know what takes place inclasses and amongst pupils and be sure that efforts of all the team members in school are focused on studying; they stimulate collecting of information data, including different types of communication, and analyze it.

Three powerful techniques affectingthe learning-focused leadership [175]are useful for us:

1. *Inspectors' personal example;*
2. *Inspection that includes observations, sample, documentation, and review in ways that exhibit commitment to the practices backed up by evidences;*
3. *Dialogue in a form of discussions on studying - in orderly and informal meetings.*

Therefore, we hypothesize hypotheses 15 and 16(See details in appendix 2).

Another approach emphasizes thesystem leadership that affects improvement of teaching-learning processes out of the entire educational system orientation, where the managers want and are ableto accept upon themselves the system duties for pupils' success in additional schools. This leadership emphasizes the commitment for improvement of the teaching-learning process by creation of a mutual pedagogical vision, consolidation of the purposes for professional development, learning encouragement, establishment of a reflective teachers' community, and distribution of leadership amongst the position holders in school[121, p.67-90],[123, p.20].

The system leaders are able to rise achievements, reduce gaps, and improve theteaching-learning process in other schools that the system leaders apprentice or accompany; they create commitment amongst the team of their school as well as of other schools for improvement of the teaching-learning process; these leaders manage relations between what takes place in class, in school, and the educational system out of understanding that a change at one level is affected by other levels and also affects them.

To assess improvements, we use the following arguments of a successful school leadership:

(1) School leadership, in correlation to affecting pupils' achievements, is ranked second after teaching in class; (2)Almost all successful leaders employ basic and similar leadership methods; (3) Their leadership method is responding to the working environment rather than coercion;
(4) Teaching-learning improvement is indirectly performed by affecting motivation of the team and its commitment; (5) School leadership has greater influence over school and pupils when it is widely distributed; where some distribution patterns are more effective than others; (6) A handful of personality attributes explains a large portion of variance in effectiveness of leadership.

Additionally, we use in our research the statement that leaders have a positive and powerful central influence over improvement of teachers' activity efficacy derived from motivation, commitment to teaching and implementation of strategies aimed at improving teachers' mathematical comprehension[122].Therefore, we hypothesize hypotheses 2 and 2a (See details in appendix 2).

Behavioral integration: hereafter, we consider the correlations between teachers' activity efficacy (exertion of teachers' effort at work) and behavioral integration in a team or organization. Behavioral integration in a team or organization moderates the correlation between the team and organizational identification and the perceived external prestige of a team and organization, the correlation between the behavioral integration and organizational functioning.

Basing on the study of D.C. Hambrick [87] that examines behavioral integration, in which the characteristics of the leading teams have been isolated by the optimal behavioral integration, it is possible to develop a multi-level model and examine the behavioral integration at three organization levels: the management and CEO level, the team level, and the firm level. *A positive behavioral integration in a team has a direct impact on the entire organization.*

We analyzed abovethe correlation between the perceived external prestige of an organization and the organizational identification that can be used in our experiment. The higher are the prestige and the image of an organization, the more it delivers messages of quality and team spirit to the employees within and outside the organization. A good organizational image is conceived as an organization worthwhile working in [63], [127], [144], [173]. Creation of a good organizational image expresses a positive perception of an individual regarding the actions and achievement in the organization, the feeling of belonging, pleasure of respect that the organization awards are significant to the employees, it enhances their self-image and identification of organization members with their organization - while individuals are more identified with groups [109], [173].

It is also important to strengthen the employees' belief that the stakeholders outside the organization see the organization in a positive light because this belief works as a

motivator[173]. But identification can have a negative effect upon an employee when he perceives the external prestige of the organization as unpopular; he might experience negative emotions and stress, and therefore his identification with the organization decreases[127]. It has been found that as a positive social identity creates social opportunities for self-satisfaction, enhances the social prestige, and assists social interactions within and outside the organization[19],[63]. When the organization members perceive the external prestige as important and attractive, they believe that this image has elements apparently appreciated by elements outside the organization, and therefore see their belonging to the organization as a positive social identity. In our research, we accept that there is a correlation between satisfaction of employees belonging to an organization, mainly due to the relationships between the perceptions of an organization as distinguished from other organizations and having a prestigious image and sources of the organizational identification. These sources reinforce the identification of an individual with the organization by creating positive cognitive relations to it[47],[109],[127],[151].Therefore, we hypothesize hypotheses 6 and 7 (See details in appendix 2).From all the aforesaid, it is assumed that there is a positive correlation between the variables, and to improve the workefficacy, it is necessary to motivate people and one way for that is promotion of his field of occupation [174]. Therefore, we hypothesize hypotheses 15a and 16a (See details in appendix 2).

There are differences between the values in the same professional field and therefore it is important to adjust the values in an organization, such measures are related to the organizational culture. *Talking of teachers, it is necessary to support their high status and the privileged position for the teachers who teach math [83], [102]*.We should study the correlation between teachers' professional image and the indirect effect of profession perceived external prestige on the processes of changes implementation in a class and pupils' achievements.

Teachers' exerting effort at work: The literature review reveals that working in a team or in an organization is more efficient than working as a single person[31, p.84]. A team requiresto learn working together, get familiar with mutual needs, sharing relevant information and mutual resources with each other, and deal with problems[103]. A mandatory condition for significant teamwork is existence of a common purpose that is clear and agreed-upon to all members with effort of the team members routed towards workefficacyimprovement [103],[111], [186].The improvement of team'sefficacy depends upon the way it is managed [17].

Many studies indicate a positive relation that takes place in a group, only if the lessons and thoughts of all of its members are taken into consideration, meaning an action that obligates the organization to make changes and cooperative feedback based on openness and consideration [32, p.13], [62], [87], [110], [186].We accept the statement that a school principal has a crucial

effect upon the functioning of the organization and teachers. The standpoints of the principals and their expectations affect the managerial behavior, teachers learn in covert and overt ways what the principals expect of them, and adjust their behavior to their expectations [226]. Therefore, we hypothesize hypotheses 9 and 10(See details in appendix 2).

We take into consideration the next aspects related to the role and behavior of the team leading: fully executingthe tasks, team and individual development. These fields are interrelated and integrated: if the team does not function well, it would damage the completion of the task. Whereas all the team members bear some responsibility for each of the fields, the team leader has a special status and responsibility for both reporting to the authority above him and working with his team. The decision to assign the team leader involves "organizational culture, familiarity of team members with the work and complexity of the team's purpose"[48, p.144]. In teams, operating in a collegial environment, the most important thing is specialty rather than the managerial status of the organization [190].Therefore, we hypothesize hypothesis 4a (See details in appendix 2).The variable of the identification level is the dependent variable related to perception of group stability and status; the level of identification rises and gets stronger as the status of the team is higher, and the members who strongly identify with a group would exhibit loyalty for the group (even if this membership might damage the personal benefit), and they would not leave the team at times of distress. Social comparisons with similar groups create a threat over the distinction of the group.Therefore, we hypothesize hypotheses 13a and 14a(See details in appendix 2).

2.3. Conclusions on chapter 2

1. Efficacy is defined as the extent to which an employee has achieved the targets related to his job. These targets determine the question of what the components of an employee's occupation are and how they should be processed into dimensions for describing behavior relevant to his job. As related to education, *efficacy is one of the criteria ensuring the quality of the educational process. Teachers' activity efficacy is a powerful construct with real implications on student achievements and success. It is one of the most predictive factors of teachers' success because it affects their motivation, teaching style, approach and support for diverse students.*
2. The construct of teaching efficacy has been derived from locus of control theory and social cognitive theory. Locus of control refers to the extent that a person believes that events are determined by his or her actions [234]. Ssocial cognitive theory, [apud.], emphasizes the concept of self-efficacy as the primary motivational force behind an individual's actions. Self-efficacy is viewed as one of the most relevant motivational constructs [138]. In our study we adopt both theories and emphasize that teaching efficacy is affected by environmental factors as well as by an individual conviction in his/hers skills to perform certain activities. Efficacy beliefs have four sources: mastery experiences, vicarious experiences, verbal persuasion, and physiological arousal.
3. Educational system efficiency in the OECD countries is assessed at the level of two basic subjects-mathematics and science. The average expenditure per pupil in the world is by 23% lower as compared to the expenditure in Israel. Despite the fact that the real investment in education has risen, pupils' achievements have not risen accordingly, yet there are still ways to improve teachers' activity efficacy and pupils' achievements without additional subsidies.
4. The inspector's role is affected by the trends, documents, and processes taking place in the educational system: the Mandatory Education Law, system decentralization, strengthening the status of local authorities, transformation of authorities and budgets to the local authorities and schools directly, educational standards, attempts to standardize educational targets and purposes. All these aspects set complicated challenges that require changes in the role of inspection and in evaluation of the educational system [214], [217, p. 117].
5. Teachers' professional efficacy is determined by lots of factors among which the most significant are considered: job efficacy motivators,organizational identification and prestige, professional identification and prestige, organizational commitment and behavioral integration.
6. A variable is something that is subject to variation under certain conditions. Considering the factors related to teachers'professional efficacy, we chose as variables with impact on teachers'professional efficacy the educational economic indicators, behavioral integration, inspector's leadership style, organizational identification and prestige, teachers' exerting effort at work etc. Being correctly managed, professional efficacy variables can ensure success.

3.VALUATING INSPECTORS'LEADERSHIP STYLES IN IMPROVING TEACHERS'EFFICACYIN TEACHING MATHEMATICS

3.1 Ascertaining the correlation between a school inspector's leadership style and teachers' activity efficacy

3.1.1. Interpretation of the structural model of hypotheses

The pedagogical experiment was organized in three steps: ascertaining experiment, formative experiment and control experiment.The objectives of the first experimental step**,** *ascertaining experiment,* were*:*

- to interpret the structural model of hypotheses;
- to examine thecorrelations between the research variables;
- to check the level of indicators related to mathematics teachers' activity efficacy.

Considering the above mentioned objectives, *ascertaining experiment* was organized in three stages. The 1-st stage examined the structural model of hypotheses, the 2-nd concentrated on the study of variables associated to mathematics teachers' activity efficacy and the 3-rd reflected the level of indicators related to mathematics teachers' activity efficacy.

Research population included Jewish and Arab education personnel in the primary schools of the Central district, teachers, subject coordinators and instructors of math teaching, principals and inspectors in the primary schools.According to the report of the Bureau of Statistics, the teaching corps of the primary education in the Jewish sector counts 51.2% and in the Arab sector it consists 14.3% - out of all the teachers' population in Israel [219].

The studied population is a sample of teachers, coordinators, and instructors of mathematics in schools, chosen to represent teachers' population in training apprenticeships' frameworks in eight different PISGA (Teaching Staff Development, in Hebrew acronym) centers that are strewn throughout the Central district.The study is focused on the Central district which is the biggest district in Israel. Distribution of schools by sectors- According to the same ratio, the research populations of the instructors, teachers and coordinators of the subject of math in the Primary schools have been sampled; (See details in appendix 3. Table A3.1-A3.2).

Research Periods: Four periodsof our research had beenfulfilledbetween 2010 -2016: The first period(2010 – 2011) –orientational: The researcher, in her duty as an inspector of math teaching, had led implementation of the specialization process. Since the academic year 2002, there is a gradual process in the activity of reinforcing the study of mathematics in Primary schools, the first step in the multi-year process being the training of general teachers of math in all Primary schools of Israel;

The second period (2011-2013) – modeling/design: elaboration of the research methods and tools - structured and closed questionnaires, choosing the research population, data analysis, and examination of hypotheses;

The third period (2013-2015) – experimental (ascertaining and formative experiments): elaboration of the program and approbation of the model of correlation between inspectors and teachers during the experimental research.

The program purposes:

- raising pupils' achievements,
- training general teachers that work in a team, for professional mastering in the field of mathematical knowledge, according to the study programs and required acheivements,
- development of mathematics teaching and evaluating pupils,
- extending the study hours in math for each pupil (Knesset Research and Information Center- professionalization [211], [218];

The fourth period (2014-2016) – the control experiment**:** analysis, generalization, systematization and description of the experimental research results; the correction of the theoretical and empirical conclusions, the perspective directions of further scientific research in this domain.

Research methods: The principal research method is quantitative and the research design is descriptive. *The questionnaire*is a method of quantitative approach used for gathering information. It allowed studying the main essence of this study - the location of correlations for teachers' activity efficacy. The questionnaire is one of the most effective research means to estimate results of a certain practical situation that characterizes the largest research population. The gathered data are quantifiable and measurable and give a picture of the studied situation. This method helps to predict behavior and examine the correlations between the variables and hypotheses exposed above.

M. Birenboim [202, p. 41-42], states that information collection can be done fast and easily, despite the large amount of information; moreover, it allows anonymous information collecting that increases objectivity and ensures a better cooperation. Other advantages of the method are low cost, schedules shortening, an easy approach of many respondents, easiness for making analyses, and prevention of deviation [159, p. 55-62].

In this study, two types of questionnaire have been used - structured and closed. The variables of this research had been determined on the basis of structured questionnaires; the questionnaire consists of 102 questions which measure the research variables (See the appendix 4). In order to examine the level of reliability of the questionnaire, the indexes of Cronbach's Alpha (α) have been calculated to verify expectations and confirm the working theory regarding the structure of

the data and items for each variable in the questionnaire, the Confirmatory Factor Analysis (CFA) has been performed (See details in appendix 5, Table A5.1).

The sampling method allows avoiding encumbering the experiment conduct. For our research the best modification of the method is the non-probabilistic quota sampling method due to the following considerations: its cheapness, easiness, practicality, lack of national sampling frame, and convenience. It permits to deal with the most accessible research subjects.

M. Saunders, P. Lewis, and A. Thornhill [159, p. 55-62] indicate some shortcomings of the sample method, but A. Bryman and E. Bell [39] consider that this method is "almost as good as a probabilistic sampling" [39, p. 104]. A sample gives representation of a variety of the population components and is described as the non-probabilistic method equivalent to the layer sampling [20, p. 175]. The inclusion ability (external validity) of the study would be good and a compromise in correlation to the probabilistic sampling is not big.The quota sampling corresponds to our study's purpose and represents all groups of people with the quota of 30 teaching employees each, that allows making comparisons between different variables by position: the education personnel, principals, and inspectors. Our wish to examine the phenomena in many cross-sections (job: the general teacher who teaches math, the professional math teacher, the subject coordinator, the instructors, the principals, and the inspectors) necessitates the access to a large number of sampled subjects. In the qualitative research such an approach to a large number of sampled subjects would make the study more costly and longer (the sample characteristics and the research populationare shown in appendix 7).

Confirmatory Factor Analysis (CFA) is used to verify the expectations and confirm the previous theory regarding the structure of the data and the items for each variable. To calculate the level of congruency between the indexes and correlations between the variables, the factor analysis is a technique that necessitates large samples that have preference over the small samples [130].

The reliability of the index has been examined through Cronbach's α and the final items to comprise each index have been determined. The results of the Factor Analyses would be presented regarding each index (See details in appendix 6).

Descriptive statistics: The complete descriptive analysis of the research variables is conducted withthe ordinal measurement of independent and mediator variables.. The ordinals had been upgraded so that they would be related to as intervals. For these variables and the dependent variable of teachers' activity efficacy (achievements) and their investing at work, the center and distribution indexes have been performed and calculated in correlation to the independent, mediator, and dependent variables with their size: average, standard deviation, and the coefficient of variation (C.V.), the minimum and maximum values. Additionally, incidences

and distribution of variable values had been presented in tables. Except the dependent variable of teachers' activity efficacy (achievements), incidences had also been calculated. The variables values had been determined regarding each respondent as average of given responses to all the variables items.

After elaborating the research questionnaire, its testing has been performed in the pilot study, with the purpose of examining the reliability level of the research tools and receiving a feedback from the examinees regarding the clarity of the questionnaires. An emphasis had been put on the fact that there would be a variance in subjects' characteristics (age, job, and working place) in order to adequately represent the examined population.

Distribution of questionnaires: After coordinating with the PISGA center managers in the district, several groups of teachers training apprenticeships in each PISGA center according to the population cross-sections had been selected: math teachers for grades 1-2, math teachers for grades 3-6, math subject coordinators, and math instructors in the Jewish (state and state-religious) and Arab sectors. The participants filled out the questionnaires anonymously, fact that stimulated their frankness. The questionnaires had been sent to the participants in sealed envelopes by mail, keeping all conditions of anonymity.

Data collection process had been performed in three stages:

1. Examination of teacher's questionnaire validity and adjusting the original instructions regarding different educational personnel had been done. The questionnaires were elaborated for all groups of participants: the inspector's questionnaire is related to all schools under his supervision; the principal's questionnaire is related to the school he manages; and the teacher's questionnaire is related to the school he teaches in. Before distribution of research questionnaires to the research population, the questionnaires have been randomly distributed to 50 respondents from various schools
2. Random distribution of research questionnaires to 50 respondents teaching in different schools had been made. The data of the pilot study have not been included in the research analyses, and later the research population had been divided in 2 focus groups: 1. teachers, coordinators, and math instructors; 2. inspectors
3. The final correction of the questionnaires had been done.

Interpretation of the structural schemaof hypotheseshad been done by the structural equation modeling (SEM) – the research model of the mediators and moderators, the body of hypotheses regarding the impact of the mediating relation between the behavioralintegration and leadership style. The*path model* has been structured according to our theoretical schema for predictingefficacy and teachers' exerting effort at work.

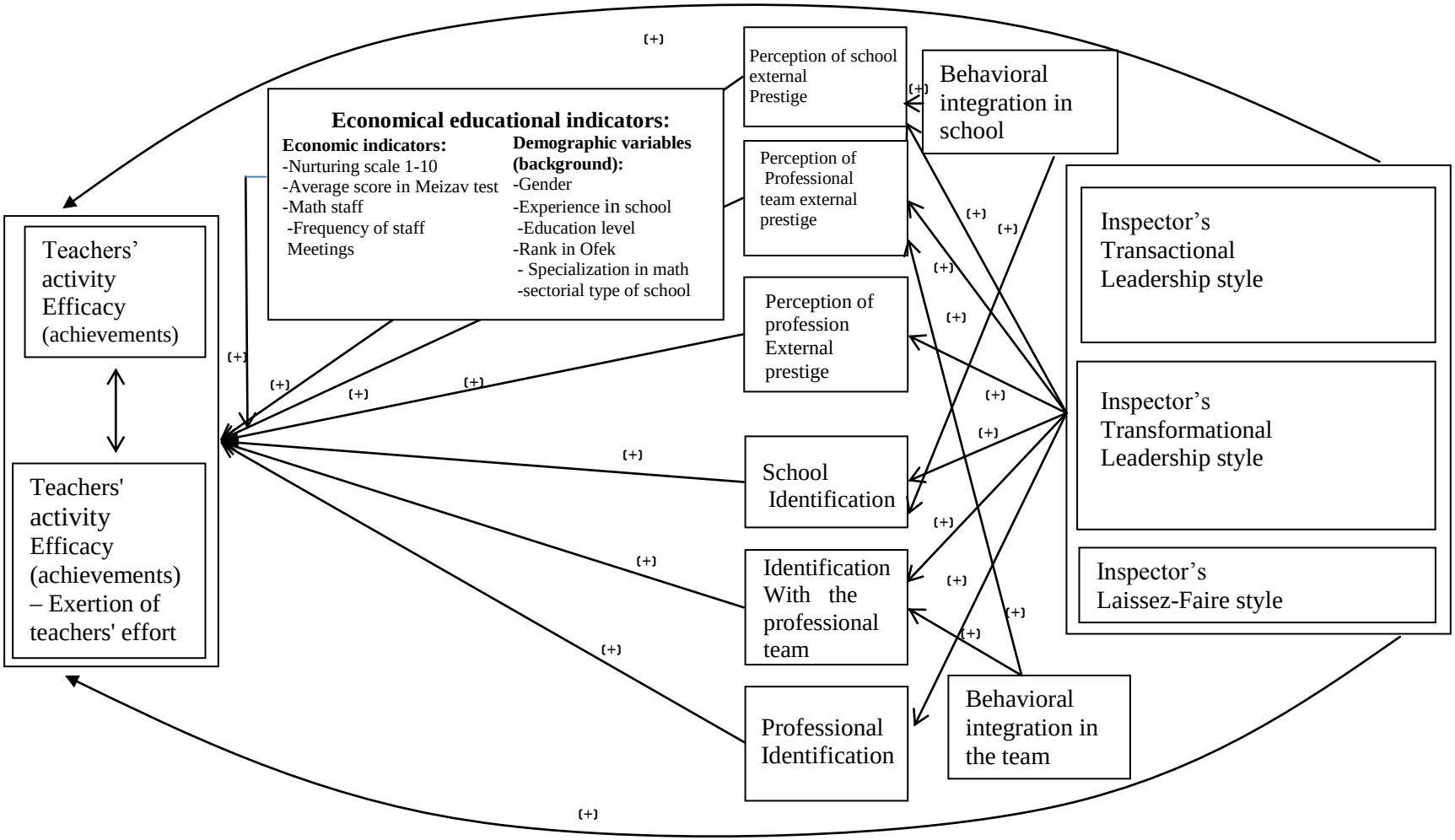


Figure 3.1. The theoretical hypotheses schema

Variables associated to teachers' activity efficacy in teaching mathematics:

*Step1:*Weetestedthe correlationat the level of bi-variables: between the independent variables and the mediator variable, between the mediator variable and the dependent variable, and between the independent and dependent variables.The Pearson-correlation-coefficient test had been conducted and the correlations, direction, intensity, reliability, and the Correlation index had been calculated. The correlation matrix that presents the Pearson correlation coefficient between the research and control variableshad been used.

*Step 2***:** Themultivariate analysis had been performed, in which the hierarchical linear regression is performed through a series of equations used for examination and employment of the linear Correlations between two or more variables. The following control variables are examined: age, gender, marital status, experience in the Ministry of Education, experience in school, job, education, number of resources in class, frequency of professional team meetings, and the average of the national Meizav test.

There is mediation between the variables that explain the Correlation between the independent and dependent variables by means of themediator variable, i.e. the independent variable operates the mediator variable, and the latter operates the dependent variable. We use the technique of R.M. Baron and D.A. Kenny [26] that later had been confirmed by D.A. Kenny, D.A. Kashy, and N. Bolge [112], according to which the existence of a mediating correlation can be determined according to the dependence stating that if there is a full mediation, there is a significant correlation.

It was possible to see the correlation between the flowing variables by using mediation of a series of three regression analyses: the correlation between the independent and dependent variables, between the independent variable and the mediator variable, and between the mediator variable and the dependent variable.But we consider that it is not enough to examine the correlation between the mediator variable and the dependent variable because such a correlation can result under the influence of the independent variable. Therefore, the regression has to be performed when the correlation between the independent variable, the mediator variable, and the dependent variable is examined.

The next step was establishing themediation correlation. We singled out two types of mediation: full and partial. The full mediation happens when the conditions in the first and the second steps of mediation examination are met and in the regression between the dependent and independent variables with the mediation of the mediator variable, the received correlation between the dependent and independent variablesis not significant,while the correlation between the mediator variable and the dependent variable is found to be significant. One talks of partial mediation when in the regression between the dependent and independent variables with the mediation of

the mediator variable, the resulted correlation between the dependent and independent variables remains significant, but, however, gets less intense (β gets lower and a significance decreases), and the correlation between the mediator variable and the dependent variable is found to be significant. Further, we used themultivariate analysis in order to examine the theoretical model describing the system of direct and indirect correlations, and this analysis had been conducted through the structural equations path modeling, by AMOS,2013 information system[113,p.181-197], all the variables being observed.

Data analysis of the study indexes and reliability of variables: To determine the study indexes with the Confirmatory Factor Analysis (CFA) and reliability of variables, two tests had been performed - that allowed the final formulation of the items to be considered in the variable calculation. If an item in the Confirmatory Factor Analysis had a low loading factor, its removal would be considered; to prove the variable reliability, we used the criteria of internal consistency and Cronbach's Alpha.The correlations between the research and demographic variables of the quotient order have been examined (experience in school, teaching experience, the nurturing scale 1-10, number of teachers in the staff, frequency of the team meetings, study years) by means of the Pearson's correlation coefficient. The correlations between the research variable and demographic variables of the quotient rank order have been examined (job, rank in the new OFEK, the average score in the "Meizav" test) by means of the Spearman Rank-Order-Correlation coefficient.

Identification of moderating (interfering) variables: An interaction happens when the effect of the independent variable upon the dependent variable depends upon the values of the moderator variable. The analysis of respondents' integration behavior discovered the existence of two groups: the low and high behavioral patterns of integration. The moderating variables: correlation between leadership styles, inspector's identification, and perceived external prestige (in all three dimensions) were tested with Split File in SPSS (Statistical Package for the Social Sciences). The differences between the research variables had been tested with MANOVA (Multivariate analysis of variance for job) and the Tukey test in SPSS.

Reliability of independent variables

Perceived External Prestige: The factor analysis has been conducted on 24 items of the perceive- external-prestige questionnaire (Table A6.1). The items had been loaded according to the questions character, regarding three factors as different: one factor for the items that deal with School Perceived External Prestige, another - for the items that deal with math teaching teamperceived external prestige and the third - for the items that deal with teaching professionperceived external prestige. The firstfactor includes 7 PEP items on math teaching profession, the second - 5 PEP items on professional math team, and the third - 5 PEP items on

school. Although 5 items have been loaded with a relatively low loading factor for school and team PEP, they didn't seem necessary to be removed. Our conclusion in this case is that we face three, very well distinguishable, indexes; examination of each dimension separately (whose findings exhibit a high loading factor for an index, each one separately) reinforces this claim.

After determining these three factors, the index of reliability had been examined and the results had been received (Table A6.2). In general, it can be said that high values of the loading factor, alongside with high reliability indexes (α), confirm the research tools quality.

Organizational Identification and Identification with team and profession: The factor analysis, performed on 18 identification items (Table A6.3), allowed us to make the following conclusion: there are three entirely distinguishable indexes, and examination of each index separately indicates a high loading factor for an index, which reinforces the claim of 3 distinguishable factors. After determining these three factors, it had been examined the dimensions reliability (Table A6.4). In general, a high loading factor of dimensions values have been received that alongside with high-reliability indexes (α) indicate the quality of the chosen research tools.

Behavioral Integration: From the factor analysis, performed on 18 behavioral integration items (9 items of behavioral integration in a team and 9 items of behavioral integration in the school/organization), two factors that are not compatible with our expectations had been identified (Table A6.5). Our conclusion in this case is that we are facing two distinguishable dimensions; the examination of each dimension separately indicates a high non-loading factor for an index (each one separately) and reinforces this claim; therefore this variable has been united and shall be examined as general behavioral integration. After choosing these two factors thereliability of the dimensions had been examined again.

The analysis of moderator reliability while studying behavioral integration in the team and in school (Table A6.6),shows that the loading-factor values had been received for thetwo dimensions of behavioral integration, which are not distinguishable, and high-reliability values that indicate the quality of the chosen research tools.

Teachers' activity efficacy: From the factor analysis (Table A6.7) performed on 11 teachers' activity efficacy items (5 items on teachers' activity efficacyand 6 items onteachers' activity efficacy- teachers' exerting effort at work), two factors have been identified, which indicate two factors that are compatible with our expectations, that is 5-items-of-teachers-performance index and 6-items-of-teachers' activity efficacy (exerting –teachers'effort-at-work index).

Our conclusion in this case is that we are facing two well distinguishable indexes; examination of each index separately indicates a high non-loading factor for an index (each one separately) and reinforces this claim. The reliability of chosen indexes after examination of two

factors had been examined anew. The received results are the following (Table A6.8): high values of reliability indicate the quality of the chosen research tools. High values of reliability of the dependent variable of teachers' activity efficacy- teachers' exerting effort at work (Table A6. 9- A6.10) indicate the quality of the chosen research tools.

Inspector's Leadership Style: The dimensions that had been examined and their results show that the high-reliability values (α) indicate the quality of the chosen research tools. As the reliability of the original MLQ (Multi-Factor Leadership Questionnaire) is compatible with the reliability of the questionnaire in the current study, no factor analysis had been performed.

Sample characteristics of the research populationare given inappendix 7.

Correlation coefficients of independent variables: The analysis of the correlation matrix of independent variables (See details in appendix 8, table A8.1) shows two aspects: one - too high correlation coefficients between the independent variables that can arouse suspicion of multicollinearity or collinearity; the other is that the significance of the correlations would supply support, whose affinitive concerns confirmation of research hypotheses (these data are not compelling at this stage). Eventually, the relative contribution of each variable to prediction of efficacy at two dimensions has been examined.

Examination of hypotheses (See details in appendix 10): The research hypotheses were examined using Inferential Statistics, first through the Pearson correlation coefficient, then through the multiple regression models, and finally through the Path analysis. Appendix 8, table A8.1 presents the correlation matrix of the Pearson correlation coefficient between the research variables: the independent and dependent variables, the mediators, and the moderators. As for background variables, they will be presented later in the study.

Sample characteristics.*Position and sectors***:** Table A7.1-A7.2 presents the sample according to division of positions and sectors. There is a proper representation of each position holder in the sample according to the sectors: Jewish state sector (64%), Jewish state - religious sector (24%) and Arab sector (11%). These data are compatible with the ratio of distribution of the number of primary schools in the Central district according to the sectors: the state sector (61%), the state – religious sector (28%), and the Arab sector (11%)[218].

This sample appropriately represents a variety of teachers' population and in order to meet the "rule of thumb" of 10 examined subjects for each item [58], the position holders have been united: the professional and ordinary class teachers, the coordinators and instructors, and the vice principals, the principals, and the inspectors.

Managerial position:44% of the respondents to the position item reported that they hold a managerial position, while 56% reported that they hold a position of an ordinary teacher, a class teacher, or a math subject teacher (Table A7.3-A7.4).

Gender: Table A7.5 presents the findings on the subject of gender(that are not surprising):94%respondents are women.It is a predictable datum in the light of gender distribution as the teachers in the primary schoolsare, as usual, women(89.7% out of all teachers) [218].

Marital status: Table A7.6 findings on the subject of marital status indicate that 87% of the respondents are married; this is confirmed by the Bureau of Statistics [219](81% of the population in Israel is married).

Respondents' age: Table A7.8- A7.9and figure A7.1 show that the average age of respondents is 44.13 years - with the standard deviation of 8.9. The mode is 50 years;the youngest respondent is 23, and the oldest is 65; the highest age in the sample is over 50.

Education: Table A7.14 shows that 55% of teachers of the sample have a Master's degree(an expected datum in light of distribution of the rate of academy graduates in the Primary education; in the last decade), that is 67% of all the primary schools teachers[218].

The length of teachers' study: Table A7.15 showsthat the majority of Israeli teachers have studied 15-18 years, which means that they have at least a Bachelor's degree. As mentioned above, these data are expected in the light of the rate of academy graduates of Israel. TableA7.16 shows the sample center and the dispersion indexes according to education duration. The average educational respondents is 17.22 years with the standard deviation equal to 1.91. The least duration of education is 15 years and the highest is 30 years. This datum corresponds with the table of sample characteristics – according to the education duration.

Experience in school: Table A7.10-A7.11 and Figure A7.2 represent the data of sample distribution according to the length (number of years) of working at school. The average school experience respondents is 12.7 years - with the standard deviation of 8.75; the mode is 10 years; the lowest school experience is 1 year, and the highest is 44 years.

Experience inteaching: Table A7.12- A7.13 and Figure A7.3 represent the average length of teaching experience respondents that is 19.18 years - with the standard deviation of 9.35; the mode is 30 years;the shortest length of teaching experience is 1 year, and the longest is 46 years.

Training apprenticeships: TablesA7.17, A7.18and figure A7.4show the results of the sample wherethe average number of the training apprenticeships respondentsinMath during the last 3 years is 2.14 - with the standard deviation of 2.11. The mode is at 0 training apprenticeships;the lowest number of training apprenticeships is 0, and the highest is 9.

Pupils' age: Distribution of the sample according to the age group they teach: Table A7.7 shows that, in primary school classes, there is a representation of each age group and that there is no proper division between primary education and junior high school and, correspondingly, between grades 1-3 and grades 4-6. 80% of the teachers working with 4-6-grade children also

work with older children from higher grades, while the teachers working with children of grades 1-3 cannot do that because they do not have a necessary qualification for that.

Research variables: We expose below the center variable and the dispersion variables of independent and dependent research variables and the mediators, worked out with descriptive statistics. The purpose is to get an impression of their behavior and receivethe general data on the researched subjects and then to compare, upon requirement, the variables values (See details in appendixes 9)**.**

Perceived external prestige: In Table A7.18, the average, center and dispersion indexes of the variable of perceived external prestige of school, professional Math teaching team, and Math teaching profession are presented as expressed in the research questionnaires.

From Table A9.1, it appears that the respondents demonstrate a higher perceived external prestige as regards theprofessional team (M=4.11) compared to the perceived external prestige of Mathematics as a school subject (M=3.89) and to the school perceived external prestige (M=3.97). The consensus regarding the perceived external prestige of the math teachers' team is stronger (CV=0.12), meaning that dispersion around the average in the variable of the perceived external prestige of the math team is less than in school perceived external prestige (CV=0.15) and in the professionperceived external prestige (CV=0.19).

It can beseen that dispersion around the average in the variable of the profession perceived external prestige is high and therefore the examined group is more heterogeneous in this variable than in the subject teamperceived external prestige and the school perceived external prestige The opposite is regarding the subject of math perceived external prestige as it has a lower estimation and the lowest consensus.An explanation of the fact that the consensus regarding team perceived prestige is the lowest is,probably, the fact that the teaching profession has a low power and influence, low authority, and low living standards.

Identification with a school, team and profession: Table A9.2 presents the average, center and dispersion indexes of identification variable as itis expressed in the distributed research questionnaires. The results show that the respondents demonstrate a higher Identification with school (M=4.46) on the scale of 1-5, in comparison with Identification with team (M=4.39) and Identification with profession (M=4.17). The consensus regarding identification with school is stronger (CV=0.44), meaning that the dispersion around the average in the variable of identification with school is low and therefore the examined group is more heterogeneous in correlation to Identification with team (CV=0.52) and profession (CV=0.72). It is seen that the dispersion around the average in the variable of identification with profession is high and therefore the examined group is more heterogeneous in this variable than in identification with

team and school. The opposite is regarding identification with profession, it has been estimated with a lower estimation and the lowest consensus.

Behavioral integration in a team and school: The center and dispersion indexes of the mediator of behavioral integration in the professional team and in the school (organization) are exposed in Table A9.3. The respondents demonstrate an identical pattern of behavioral integration atteam and organizationallevels (M=5.87); additionally, the consensusatteam level and at school level is identical (CV=0.13), and, oppositely, the standard deviation of the patterns of behavioral integration in the team is higher (0.77), meaning that dispersion around the average is higher.The meaning of these findings is that even if the education personnel do not distinguish between the patterns of behavioral integration in a team and school, there is a distinction in behavioral integration in the internal operational subjects and therefore this variable has been united with the total behavioral integration. Later, the relations of each pattern of integration shall be examined separately and in total. The education personnel do not perceive normative behaviors within a school as different to that of a math-teaching team.

Teachers' activity efficacy:the center and dispersion indexes of the variable of teachers' activity efficacyare presented in Table A9.4. The respondents demonstrate a higher teachers' activity efficacy (M=4.03), as compared toteachers' exerting effort at work (M=3.01). The consensus regardingteachers' activity efficacyis stronger (CV=0.15), meaning that the dispersion around the average in the variable of teachers' activity efficacyis lower than that of teachers' exerting effort at work (CV=0.35).It is seen that dispersion around the average of the variable of teachers' exerting effort at work is high and therefore the group of examined subjects is more heterogeneous in this variable than in teachers' activity efficacy.

Exerting teacher's effort at work has been evaluated as relatively low. It can be explained by a person's ability to work as his ability depends upon the personal components of his education, experience, and practice, and its improvement is a slow process. To have higher results, the teachers should be highly motivated.

Inspector's leadership style: Thecenter and dispersion indexes of the variable of inspector's leadership style and its dimensions are presented in Tables A9.5- A9.6. The overall average of an inspector transactional leadership style is at (M=2.67) and constitutes a relatively high average on the scale of 1 to 5.The average of the index "inspectors' transactional leadership style builds differentially" is the highest amongst the variable dimensions (M=3.3), being compared to the corrective active leadership style (M=2.83),the laissez-faire leadership style (M=2.18), and the passive intentional leadership style (M=2.39). This datum indicates the most preferable index of the four dimensions of the Inspector's transactional leadership style that builds differential reward.The consensus regarding the inspector's transactional, corrective, and active leadership

styles is stronger (CV=0.27), meaning that the dispersion around the average of the variable of corrective active leadership style is lower than in the corrective passive leadership style (CV=0.35), and the laissez-faire leadership style (CV=0.42). The dispersion around the average of the variable laissez-faire leadership style is high, and therefore the group of the examined subjects is more heterogeneous in this variable than in the rest of the variables of the transactional leadership style.

The average, center and dispersion indexes of the variable of transformational leadership style and its indexes are presented in Tables A9.7- A9.8 as expressed in the research questionnaires. The overall average of transformational leadership style is at (M=3.56) and it constitutes a relatively high average - both in correlation to the scale of 1 to 5 and in correlation to the overall average of transactional leadership style (M=2.67).

The average of the index of transformational leadership style, inspirational motivation vision is the highest (M=3.76), and next to it the index of theimitation leadership style model and behavioral identification with the average of M=3.69 in comparison with indirect leadership style (M=3.54), intellectual stimulation (clinical) leadership style (M=3.52), the lowest average is that of individualized consideration (differential) leadership (M=3.42).

These data indicate the most preferable dimensions amongst five dimensions of transformational leadership style. The consensus regardingtransformational leadership style, the model of behavior, is stronger than the coefficient of variation (CV=0.25), meaning that dispersion around the average in the variable of the Inspector's Leadership Style, the behavioral imitation model, is lower than intellectual stimulation (clinical) and indirect leadership style (CV=0.26), and intellectual stimulation (clinical) leadership style (CV=0.27). The dispersion around the average in the inspector's leadership style variable, the individualized consideration (differential) (CV=0.3) is high and, therefore, the groups of the examined subjects are more heterogeneous in this variable than in the rest of transformational leadership style variables.

Correlation coefficients of independent variables: To see if the real situation in the educational field is corresponding to our expectations and demands, we used our research hypotheses that had been built on the basis of literature analysis - in the ascertainingexperiment. The correlation coefficients of independent variables had been studied with the correlation matrix.

The body of hypotheses regarding the correlation between the inspector's leadership style and teachers' activity efficacyis shownin hypotheses1 and 2(See details in appendix 8, table A8.1). From Table A10.1, it appearsthat there is a negative and not significant relation between teachers' activity efficacy and inspectors' transactional leadership and laissez -faire styles (*r*=-.078). In the transactional leadership style in the index of corrective passive-intentional a

significant negative correlation has been found (*r*=-.140). Therefore, hypothesis 1 has been partially confirmed.

A positive correlation has been found only between the dimensions of transactional leadership style,the corrective passive – intentional, and teachers' activity efficacy, but on the opposite direction, a negative significantas related to what we have assumed.The more corrective passive (intentional) leadership style characteristics an inspector has, the worseteachers' activity efficacy is. The restof transactional leadership style dimensions have not been found to be related to teachers' activity efficacy. According to hypothesis 2, there is a positive correlation between an inspector's transformational leadership style and teachers' activity efficacy.

From Table A10.2, given above, it appears that there is a positive significant correlation between teachers' activity efficacy and an inspector's transformational leadership style, in which the index of the individualized consideration (differential) is at (*r*=.311) and, therefore, hypothesis 2 has been partially confirmed.

A strong correlation has been found between the transformational leadership dimensions, the individualized consideration (differential), and teachers' activity efficacy: the more characteristics of transformational differential leadership style an inspector has, the higher teachers' activity efficacyis. Finally, the relative contribution of all inspector's leadership style dimensions to predict teachers' activity efficacyis seen in two dimensions - the findings of the regular regression examiningthe correlation between the Inspector's leadership style and teachers' activity efficacy.From Table A10.3, given above, it appears that out of all predictors, the inspector'sdifferential transformational leadership style is the most powerful predictor of teachers' activity efficacy.In addition, the imitation transformational leadership style and the intentional transactional leadership style predict less teachers' activity efficacy.

The body of hypotheses regarding the correlation between the inspector's leadership style and teachers' activity efficacy,teachers' exerting effort at work are seen in hypotheses 1a and 2a.From Table A10.4, given above, it appears that there is a significant negative correlation between teachers' activity efficacy- teachers' exerting effort at work, and the inspector'stransactional leadership in the corrective passive (intentional) index, that is (*r*=-.144*), and, therefore,hypothesis 1a has been partially confirmed.

A high correlation has been found between the dimensions of transactional leadership style, the corrective passive (intentional), and exerting teachers' efforts at work, but in an opposite direction to what we had assumed: the more characteristics of the corrective passive (intentional) leadership style an inspector has, the lower is teachers' exerting effort at work. The rest of the dimensions of transactional leadership style have not been found to be related to teachers' activity efficacy.From Table A10.5 given above, it appears that there is a significant positive

correlation between teachers' exerting effort at work and an inspector'stransformational leadership style in the individualized consideration (differential) index,that is (*r*=.314), and, therefore, hypothesis 2a has been partially confirmed. A high correlation has been found between the dimensions oftransformational leadership style, individualized consideration (differential) and exerting teachers' efforts at work: the more characteristics of differential leadership style - individualized consideration an inspector has, the higheris teachers' exerting effort at work is. Eventually, the relative contribution of each index of the inspector's leadership style to predict teachers' exerting effort at work has been examined.

The regular regression findingsconcerning theexamination of the correlation between the inspector's leadership style and teachers' activity efficacy - teachers' exerting effort at work are obvious.From Table A10.6, it appears that out of all predictors, the inspector'sdifferential transformational leadership style is the most powerful predictor of teachers' exerting effort at work. In addition, the imitation transformational leadership style and the intentional transactional leadership style predict lessteachers' exerting effort at work.

The correlation between the perceived external prestige at three dimensions (school, professional team, and profession of math teaching) and the inspector's leadership style is shown in hypotheses 4, 4a, and 4b.From Table A10.7, it is seen that there is a significant positive correlation between the transformational differential leadership style - individualized consideration of an inspector and the team perceived external prestige (*r*=.263**), school perceived external prestige (*r*=.165**),and teaching profession perceived external prestige (*r*=.168**). The more characteristics of transformational differential leadership style an inspector has, the higher is perceived external prestige of school, team and profession. Other dimensions of an inspector's transformational leadership stylehave not been found to be related to perception of prestige.

Oppositely, fromTable A10.8, it can be seen that there is a significant negative correlation between an inspector's transactional (intentional) leadership style and team perceived external prestige (*r*=-.192**), and therefore, hypotheses 4, 4a and 4b have been partially confirmed.

An opposite correlation to what had been expected is found: the more characteristics of intentional transactional leadership style an inspector has, the lower are perceived external prestige of school and profession, and the more characteristics of laissez-faire transactional leadership style an inspector has, the lower is the team perceived external prestige. Other dimensions of an inspector'stransactional leadership style have not been found to be related to perception of prestige.

The correlation between identification with school, professional team, and math teaching profession and the inspector's leadership style is described with hypotheses 5, 5a, and 5b. From

Table A10.9,it is seen that there is a significant positive relation between an inspector's transformational leadership style in the differential index and all the identification dimensions: identification with profession (*r*=.220**), identification with team (r=.221**), and identification with school (*r*=.178**). We have discovered 4 significant positive correlationsbetween:

1. The inspector's transformational leadership style in the index of motivation and identification with school (*r*=.126*)
2. The inspector's transformational leadership style in the index of imitation and identification with school (*r*=.112**)
3. The inspector's transformational leadership style in an indirect index and identification with school (*r*=.158**)
4. The inspector's transformational leadership style in the clinical index and identification with school (*r*=.122*).

Therefore, we can make the conclusion that hypotheses 5, 5a and 5b have been partially confirmed. The more characteristics of differential transformational leadership style an inspector has, the higher is identification with school, team and profession, and the more characteristics of transformational leadership style (in all dimensions) an inspector has,the higher is identification with school, while other dimensions of an inspector's transformational leadership have not been found to be related to identification.

From Table A10.10, it is seen that there is a significant positive correlation between an inspector's transactional leadership style in thedifferential index and identification with school (*r*=.155**), and a significant positive correlation between an inspector'stransactional leadership style in the active index and identification with school (*r*=.165**), as well as a significant positive correlation between an inspector'stransactional leadership style in the laissez-faire index and identification with team (*r*=.117**).Therefore, hypotheses 5 and 5A have been partially confirmed:the more characteristics of transactional leadership style in the differential and active dimensions an inspector has, the higher is identification with school, and the more characteristics of laissez-faire transactional leadership style an inspector has, the higher is identification with team. Other dimensions of an inspector's transactional leadership style have not been found to be related to identification.

The correlation between identification with school, professional team and math teaching profession and teachers' activity efficacyare shown with hypotheses9, 9a, and 9b. From Table A10.11, it is seen that there is a significant positive correlation between teachers' activity efficacy and identification with profession (*r*=.692**), Identification with team (*r*=.605) and Identification with school (*r*=.320**). Therefore, hypotheses 9, 9a and 9b regarding the correlation between identification with profession, team and school and teachers' activity

efficacyhave been confirmed. Thus, the more the educational personnel are identified with school, team and profession, the higher is teachers' activity efficacy.

Finally, a relative contribution of each of the three identification dimensions tothe prediction of teachers' activity efficacyin two dimensions has been examined, and fromTable A10.12, it appears that, out of all the predictors,identification of the educational personnel with profession and team are the strongest and they predict the teachers' activity efficacy.

The body of the hypotheses regarding the relation between identification with school, professional team and math teaching profession and teachers' activity efficacy - teachers' exerting effort at work are described in hypotheses 10, 10a, and 10b. From Table A10.13, one can see that there is a significant positive correlation between teachers' exerting effort at work and identification with profession (*r*=.693**), identification with team (*r*=.603**), and identification with school (*r*=.312**). Therefore, hypotheses 10,10a and 10b, regarding the correlation between identification with profession, team and school and teachers' exerting effort at work have been confirmed. Thus, the more theeducational personnel are identified with school, team and profession, the higher is teachers' exerting effort at work.

Finally, the relative contribution of each of the three identification dimensions to the prediction of teachers' activity efficacy - teachers' exerting effort at work, in two dimensions, has been examined.We have found a regular regression for the examinationof the correlation between Identification in three dimensions and teachers' activity efficacy - teachers' exerting effort at work. FromTable A10.14, it is seen that out of all predictors, identification of educational personnel with profession and team are the strongest, and they predict teachers' activity efficacy - teachers' exerting effort at work.

The correlation between the perceived external prestige of school, professional team and math teaching profession and teachers' activity efficacyis shown in hypotheses 11, 11a, and 11b. From Table A10.15, it is seen that there is a significant positive correlation between teachers' activity efficacy and the perceived external prestige with profession (*r*=.641**), the perceived external prestige with team (*r*=.624**), and the perceived external prestige with school (*r*=.581**). That means that hypotheses 11, 11a and 11b have been confirmed: the higher is the perceived external prestige of the educational personnel in all three dimensions (school, team and profession), the higher is teachers' activity efficacy. Finally, a relative contributionin all three dimensions of the perceived external prestige to the prediction of teachers' activity efficacy in two dimensions has been examined. It was found theregular regression for examination of the correlation between identificationin the three dimensions and teachers' activity efficacy**.** From Table A10.16, it appears that all the predictors of the educational personnelperceived external

prestige variable in all three dimensions (school, profession and team) predict teachers' activity efficacy.

The relation between perceived external prestige of school, professional team and math teaching profession and teachers' activity efficacy - teachers' exerting effort at workis shown by hypotheses 12, 12a, and 12b. From Table A10.17, it is seen that there is a significant positive correlation between teachers' activity efficacy - teachers' exerting effort at work and profession perceived external prestige (*r*=.640**), team perceived external prestige (*r*=.625**), and schoolperceived external prestige (*r*=.582**). Therefore,hypotheses 12, 12a and 12b have been confirmed: the higher is perceived external prestige of the educational personnel with school, team and profession, the higher is teachers' exerting effort at work.

Finally, a relative contribution of all three dimensions of perceived external prestige to the prediction of teachers' exerting effort at work has been examined. The findingsproved the existenceof aregular regression as related tothe examination of the correlation between identification in three dimensions and teachers' activity efficacy - teachers' exerting effort at work. From Table A10.18, it appears that, out of all the predictors, perceived external prestige of the educational personnel in all three dimensions (school, profession and team) predictsteachers' exerting effort at work.

Further findings: Among the additional findings, some correlations, differences and interactions regarding the research hypotheses have been received. They reflecta moderating correlation between the educational- economic indicators (the demographic variables and the educational-economic indicator variables), the teachers' activity efficacyexplained variable and teachers' exerting effort at work that have been examined (See hypotheses 8 and 8a). Table A10.19 presents the Pearson's correlations coefficient between the economic-educational indicators sampled and our research variables of teachers' activity efficacy and teachers' exerting effort at work.

From these data, it can be concluded that there are no significant positive relations, except for a significant negative correlation between frequency of the staff meetings and teachers' activity efficacy (*r*=-.199***) and a significant negative correlation between the average Meizav test score and teachers' activity efficacy(*r*=-.126*). A significant negative correlation has been found between the frequency of the staff meetings and teachers' exerting effort at work (*r*=-.195*)and a significant negative correlation between the average of Meizav test score and teachers' exerting effort at work(*r*=-.130*). Thus, the higher is the frequency of staff meetings, the lower is teachers' exerting effort at work, and the higher is the average score in Meizav test, the lower is teachers' exerting effort at work.

In order to examine whether the effect of the background variable alters the correlations between the inspector's leadership style and teachers' activity efficacy and teachers' exerting effort at work, multiple hierarchy regressions have been performed, as well as multivariate models of stepwise regression, while in step 1 the moderating background variables have been introduced (the economic-educational indicators), their impact on the variables has been examined too (Tables A10.20- A10.21).

The impact of moderating background variables (the economic-educational indicators) on teachers' activity efficacy and inspector's leadership style are described in hypothesis 8. Table A10.20 presents the regressions of the impact between the background variables (the economic-educational indicators),the inspector's leadership style, and the independent variables with the variable of economic-educational indicators. Analyzing the information, one can see that the extent of inspector's leadership style adds (18%) to the statistically explained variance of teachers' activity efficacy, the explained variance is negligible. But we can say that the model is not significant and the economic-educational indicators have no impact onefficacy.

The impact of the moderating background variables (the economic-educational indicators) on teachers' activity efficacy- teachers' exerting effort at work and inspector's leadership stylecan be seen in the hypothesis 8a. Table A10.21 presents the regressions of the impact between the background variables and the inspector's leadership style, and the independent variables with the variable of the economic-educational indicators. From reviewing the table it can be seen that the extent of inspector's leadership style (18%) explains the statistical variance of teachers' exerting effort at work, but the explained variance is negligible as the model is not significant, and the economical-educational indicators have no impact on teachers' activity efficacy- teachers' exerting effort at work and therefore they do not serve as moderating intervening variables.

The correlation between Behavioral Integration in the team and school and perceived external prestige and identification are shown in hypotheses 6, 6a, 7, and 7a. From the data given in the Table A10.22, it is seen that there are significant positive correlations between the differential transformational leadership style - individualized consideration and patterns of behavioral integration in team, school etc. Thus, the more characteristics of differential transformational leadership style - individualized consideration an inspector has, the higher is behavioral integration in team and school. Other dimensions of transformational leadership style have not been found to be related to behavioral integration patterns.

Significant positive correlations have been found between the active transactional leadership style and the patterns of behavioral integration in team, etc, and, oppositely, between the intentional transactional leadership style and the patterns of behavioral integration in a team. It is proved that the more characteristics of active transactional leadership style an inspector has, the

higher are the patterns of behavioral integration in a team, and, oppositely, the more s characteristics of intentional transactional leadership style an inspector has, the lower are the patterns of behavioral integration in a team. Other dimensions of transactional leadership style of an inspector have not been found to be related to the patterns of behavioral integration.

Positive correlations have been found between perceived external prestige in all three dimensions and patterns ofbehavioral integration in a team etc. Thus, the higher is perceived external prestige of the educational personnel (in all three dimensions: team, school and profession), the higher is behavioral integration in a team. A positive correlation between behavioral integration (in team, school and general) and identification (with a team and profession), and significant positive correlations have been found,thus the hypothesis being confirmed. This is not the case with the patterns of behavioral integration in a team and identification with school. The findings say that the higher is identification with a team and profession, the higher are the patterns ofbehavioral integration in a team. Oppositely, behavioral integration in a team has not been found to be related to identification with school; the higher is identification with school, the higher are patterns of behavioral integration in school and in general only.

Differences between the research variables according to position. The differences between the research group according to position (inspectors, teachers) and research variable are shown in hypotheses 3 and 3a.Table A11.1(See details in appendix 11**)** presents the MANOVA analysis results, meaning the effects and interaction regarding each dependent and independent variable, moderator and mediator, separately. For us,the value of F and its significance is relevant. As stated above, the significantvalue is lower than 0.05, which indicates significant differences. The tables present (in the comment column) the differences in the "position type" which have been examined with the Tukey test.

The findings presented indicate a lack of significant differences between our research variables according to the position level.

Multivariate models(mediation): In order to find outthe mediation and the moderation correlations, this fact necessitates an operation of procedures of multiple regressions and hierarchies. In this section, the hypotheses have been examined through a series of linear regression equations which considered the background variables of the economic-educational indicators: experience in school, education, average score in Meizav test, schoolfostering index and number of teachers in the professional team (Tables A10.23- A10.24). For theexamination of the hypotheses concerningmediation between variables, a series of three regression equations have been used[26] (for a detailed explanation see the chapter of methodology, the method of analysis section). The body of hypotheses regarding moderation will be examined in our research

model. The mediation correlation of perceived external prestige (school, team and profession), teachers' activity efficacy and inspector's leadership style are shown in hypotheses 15, 15a, and 15b. Table A10.23 presents the entirety of the correlations of the equation that establishes the correlation between perceived external prestige and inspector's leadership style, and the independent variables with perceived external prestige variable.

From reviewing the table given above, it is seen that the perceived external prestige is statistically explained in percent(57.6%) of teachers' activity efficacy variance. A partial mediation has been found within perceived external prestige (in all three dimensions) and the correlation between inspector's leadership style and teachers' activity efficacy, so that when the variable of perceived external prestige enters the model, the contribution of intentional transactional leadership style and transformational leadership style of imitation disappears and only the contribution of differential transformational leadership style remains significant upon entering all three dimensions of perceived external prestige. That means that a partial mediation has been found. It can be predicted that the more characteristics of differential transformational leadership style - individualized considerationand less characteristics of intentional transactional leadership style and transformational leadership style of imitation an inspector has, the higher teachers' activity efficacy can be; the perceived external prestige in all three dimensions also rises, and therefore the hypotheses have been partially confirmed.

The mediation correlation of perceived external prestige (school, team, and profession) between teachers' activity efficacy- teachers' exerting effort at work andinspector's leadership style are described in hypotheses 16, 16a, and 16b. Table A10.24 presents the entirety of the equation correlations that establishes the correlation between perceived external prestige and inspector's leadership style, and the independent variables with the variable of perceived external prestige. From observing the table mentioned above, it is seen that perceived external prestige is statistically explained by percentage (55.6%) of teachers' activity efficacy variance, a partial mediation of perceived external prestige has been found (in all three dimensions) as well as the correlation between the inspector's leadership style and teachers' exerting effort at work, so that when the variable of perceived external prestige enters the model as a mediator, the contribution of intentional transactional leadership style and transformational leadership style (imitation) disappears and only the contribution of differential transformational leadership style - individualized consideration significantly remains as affecting upon entering all three dimensions of perceived external prestige. The meaning of the findings is that teachers' exerting effort at work rises.

The more characteristics of differential transformational leadership style -individualized consideration an inspector has, the more intense is the effect; the more characteristics of

transformational leadership style - imitation an inspector has, the less intense is the effect; the more characteristics of intentional transactional leadership style an inspector has, the weaker the impact and intensity are – the weakest than all others. There is not a full mediation; there is a change in the pattern, meaning a partial mediation. It can be predicted that an inspector with characteristics of differential transformational leadership style would predict a higher teachers' exerting effort at work, whenperceived external prestige in a team, profession and school rises, meaning that the hypotheses have been partially confirmed.

The mediation correlation of identification (school, team and profession) with teachers' activity efficacy and the inspector's leadership style are seen in hypotheses 13, 13a, and 13b.Table A10.25 presents the complex of correlations of the equation that establishes the correlation between identification and inspector's leadership style and the independent variables with the variable of identification. From reviewing the table above, it is seen that the extent of identificationhelps to understand (27.5%) the statistically explained teachers' activity efficacy variance, but its contribution does not change the patterns of leadership type's impact. The introduction of identification dimension leaves the impact of differential and imitation transformational leadership styles and the intentional transactional leadership style in place, in predictingteachers' activity efficacy. The same pattern is retained when identification is introduced as affecting, and therefore the level of identification does not mediate the correlation between leadership styles and teachers' activity efficacy.

Our research has shown that only identification with profession and team positively predict teachers' activity efficacy; no significant contribution to the impact of identification with school has been found to predict teachers' activity efficacy.The mediation correlation of identification (school, team and profession) between teachers' activity efficacy - teachers' exerting effort at work and the inspector's leadership style are seen in hypotheses 14, 14a,and 14b. Table A10.26 presents the complex of correlations of the equation that establishes the correlation between the identification and the inspector's leadership style, and the independent variables with the variable of identification.

From reviewing the table above, it can be seen that identification adds (46%) explanation to the statistically explained variance of teachers' exerting effort at work, but its contribution does not change the patterns of leadership styles impact, the introduction of identification dimensions leaves the impact of differential leadership style- individualized consideration and imitation and the intentional transactional leadership style in place, in predicting teachers' exerting effort at work. This pattern is retained when the variable of identification mediates between the variables and therefore the level of identification does not mediate the relation between leadership styles and teachers' exerting effort at work. Thus, identification with school has no impact at all while

identification with team and profession does have an impact.The meaning of the findings is that exerting teachers' effort rises. The more characteristics of differential transformational leadership style an inspector has - individualized consideration, the stronger can intensity be. Oppositely, the more characteristics of intentional transactional leadership style and the transformational leadership style of imitation an inspector has, the less intensive impact would be. In terms of dimensions of identification, no significant contribution with school has been found, for predictingteachers' exerting effort at work.

3.1.2 Examination of correlations between the researchvariables

In order to examine the compatibility of the theoretical model and the system of correlations between the complexes of research variables, as a part of the current study, to the variables, the structural equation modeling (SEM) has been performed by the means of AMOS 2013 software, the multivariate data analysis in graphic environment. The intensity of correlations between the variables in the model has been examined, as well as the level of their significance and adjustment or non-adjustment indexes of the model. The measurement model describes the correlations between the hidden and overt variables, through the SEM software; the path model has been structured according to the theoretical model of the study for predicting teachers' activity efficacy and teachers' exerting effort at work.

Is has been hypothesized that the variable of leadership styles would be an independent variable to the variables of teachers' activity efficacy and teachers' exerting effort at work and that the extent of perceived external prestige and identification (in all three dimensions) would serve as mediators between inspector's leadership style and teachers' activity efficacy. Oppositely to what has been hypothesized, the path analysis indicates that the variables of perceived external prestige and identification are independent variables inefficacyprediction. They are not mediators and there is no direct correlation between leadership style and teachers' activity efficacy. *After examination of all variables, it has been found that the characteristics of inspector's leadership style have to be introduced into the model in two dimensions only –the laissez-faire transactional leadership style and the intentional transactional leadership style*.

Whereas the inspector's transformational leadership style remains being comprised of all five dimensions: motivation, imitation, differential - individualized consideration, indirect, and clinical. Amongst dimensions of perceived external prestige and identification, strong correlations have been found and each of them has been considered separately in the model.

A significant and extremely intense correlation has been found between teachers' activity efficacy and teachers' exerting effort at work and therefore retained the model with theteachers' activity efficacy

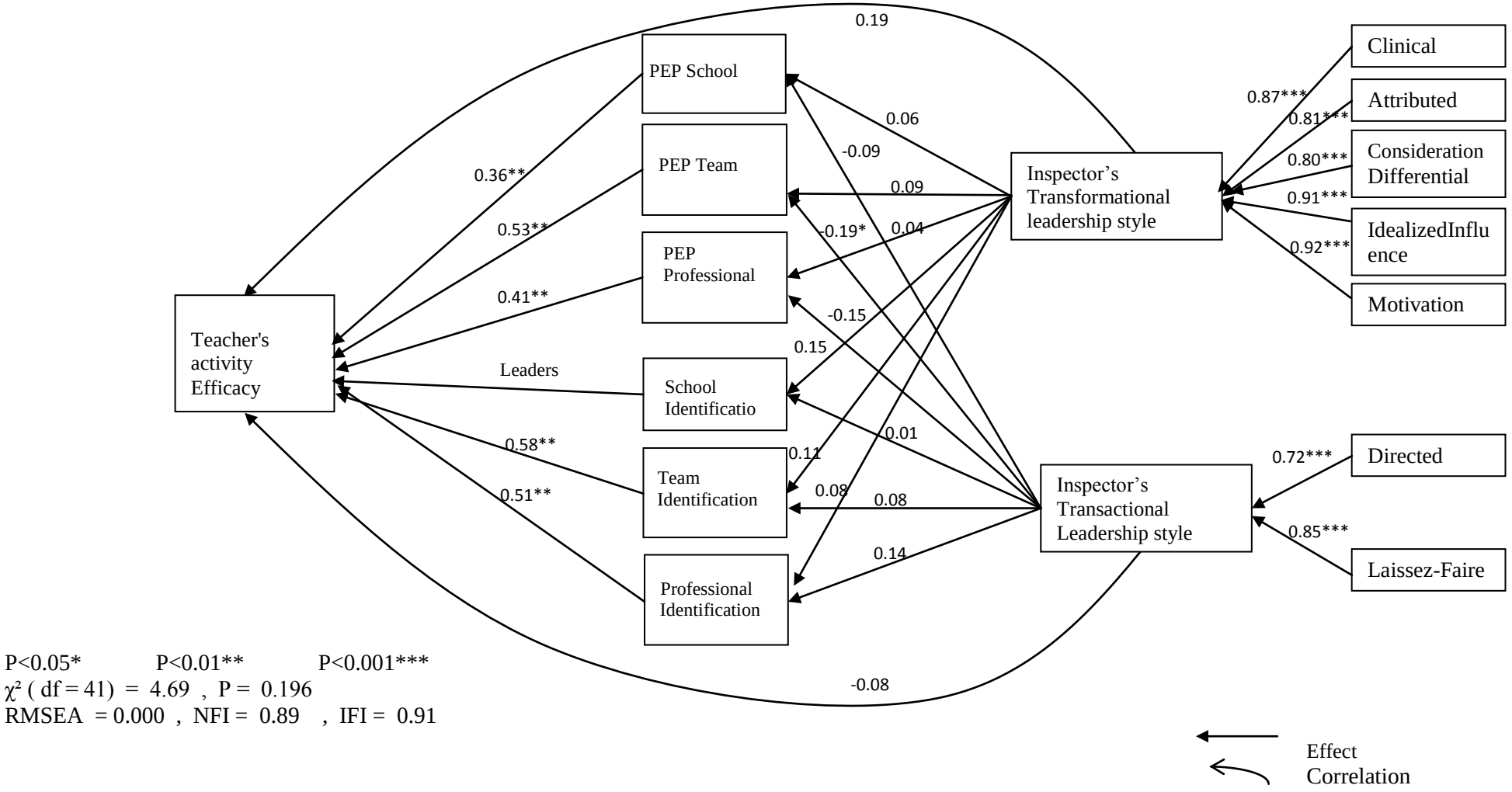


Figure 3.2.Path analysis of the structuralcorrelations between the research variables - Leadership Style, Perceived External Prestige, Identification and Teachers'activity efficacy

variable only. In parallel, all variables of economical-educational indicators have been examined. It has been found that they have no impact on teachers' activity efficacy and thus have been removed from the model. Thus, it has been found that the model has met all the criteria of compatibility level as a condition to running the structural model, in the research sample of examined subjects.

In examination of the structural model it has been performed the estimation of causal correlations between variables, as well as the intensity of correlation between variables, their level of significance and the indexes of suitability or unsuitability of the model. The common suitability indexes: the Chi Square index, the comparison of remainder of variance between mutual variance matrixes and the common model (covariance) of the original data.

The 0 hypothesis is that there is no difference between the matrixes, meaning that the model is compatible with the data. Further compatibility indexes that range between 0 and 1 are: the Comparative Fit Index (CFI), the Relative Fit Index (RFI), and the Normated Fit Index (NFI). A value above 0.9 is considered as a fine fit index, but the non-compatibility index of the Root Mean Square Error of Approximation (RMSEA) with value lower than 0.1 [113, p. 181-197], [126].Therefore, two separated models have been designed for each integration levels

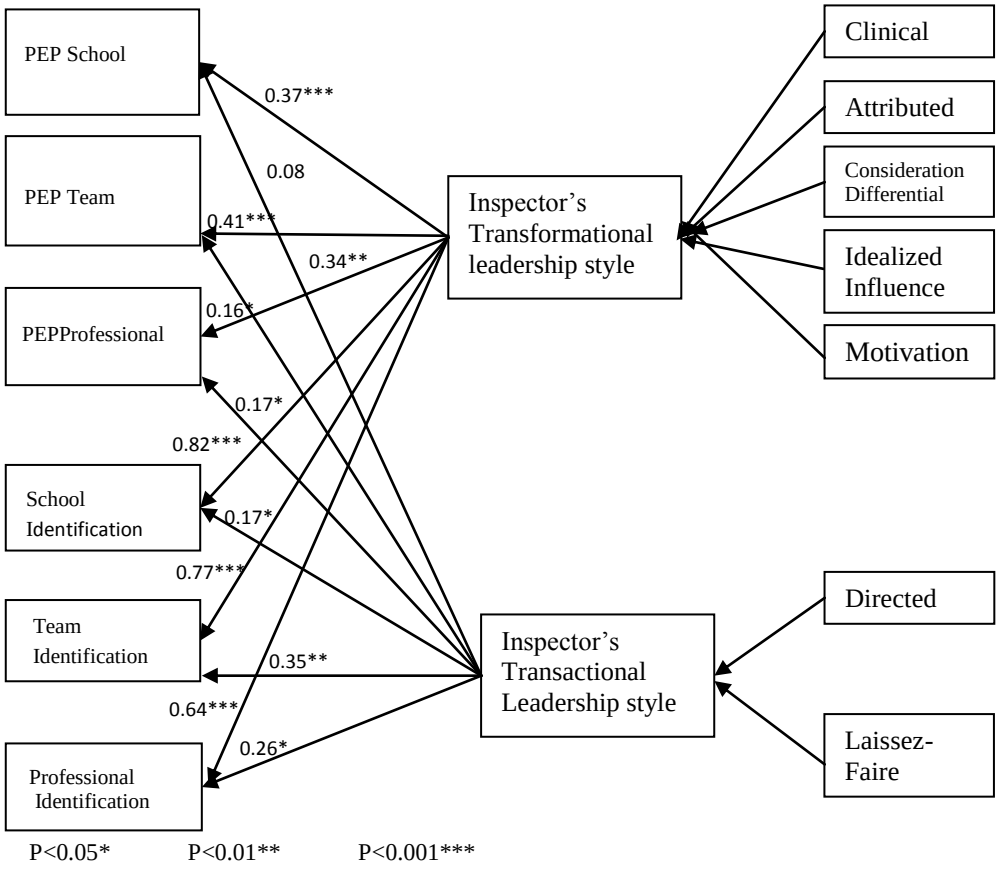
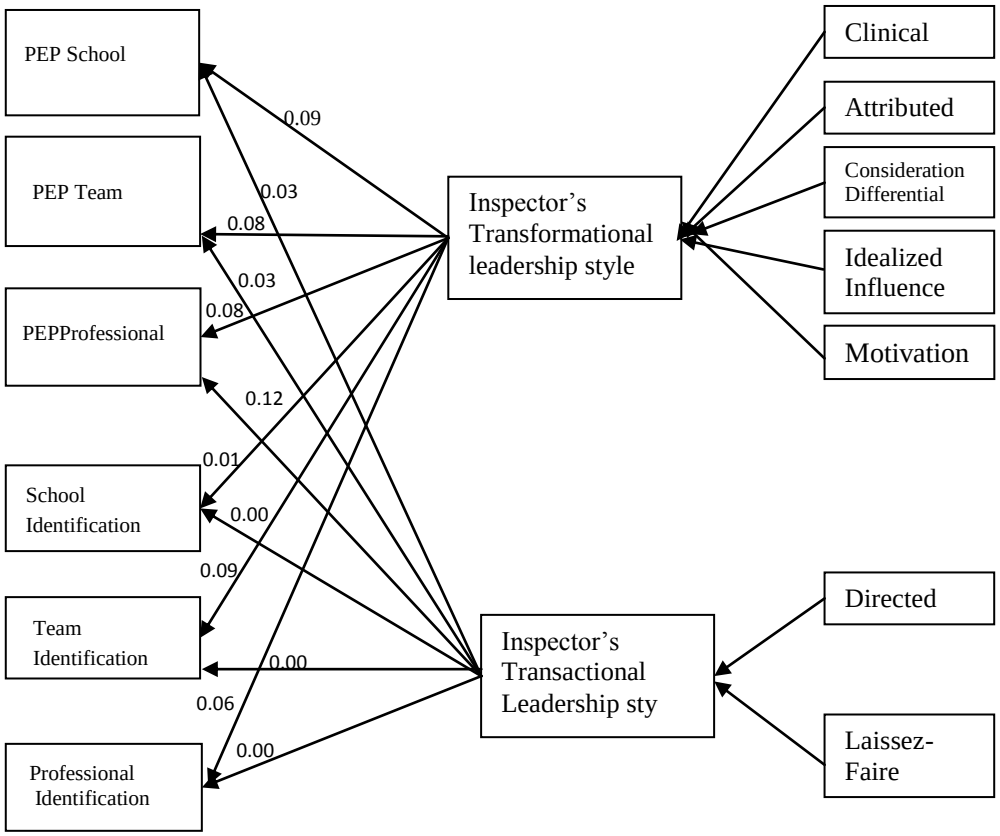


Figure 3.3.Path analysis of the structural correlations between the research variables and the moderators of high Behavioral Integration

Figures 3.3 and 3.4 present the model of the path analysis for them. In light of the previous statistical processing, the mutual variable of behavioral integration in an organization and in a team has been created, and therefore the variable has been divided into 2 levels according to the median index – the high behavioral integration and the low behavioral integration.



P<0.05* P<0.01** P<0.001***
χ^2 (df = 116) =3.19, P = 0.182
RMSEA = 0.08, NFI = 0.83, CFI = 0. 871

Figure 3.4.Path analysis of the structural correlations between the research variables and the moderators of low behavioral integration

Model compatibility indexes in the variable of high behavioral integration: We have found good compatibility indexes in the model concerning the variable of high Behavioral Integration as moderator.From the model, it can be seen that amongst the educational personnel who sense high behavioral integration in team and school, there are significant correlations between transformational and transactional leadership styles and the sense of prestige perception and identification. The meaning of these findings is that the more characteristics of transformational leadership style an inspector has, the higher is the sense of perceived external prestige and identification in all three dimensions of the educational personnel; the more characteristics of transactional leadership style an inspector has, the higher is the sense of perceived external prestige and identification in all three dimensions of the education personnel, except for

perception of prestige with school. When the education personnel sense a low feeling of behavioral integration, both in organization and in team, no significant correlations have been found between inspector'sleadership style and between perceived external prestige and identification (in all three dimensions).

Structural model findings analysis: Our study explainstheefficacy of math teachers through the variables of school inspector's leadership,the complex of mediating correlation of identification with school, profession, and the professional team. The variables of perceived external prestige of math teams, math teaching profession, and school play the role ofmediators, and the patterns of behavioral integration in team/school and the economic-educational indicators, the role of moderators.This study managed to explain the correlation between teachers' activity efficacy and inspector's leadership style through the mediators of identification and perceived external prestige of school, profession and team;thus the research questions have been answered.

Research Variables

Examination of research hypotheses:*Teachers' activity efficacyand teacher's exerting effort at work and inspector's leadership style*are described in hypotheses 1, 1a, 2, 2a, 3, and 3a.The research findings indicate the potential hidden in the contribution of inspector's leadership style characteristics tothe improvement of teachers' activity efficacy (achievements) and teacher's exerting effort at work.In general, the correlation between the research variables and theinspector's leadership style has been partially confirmed. An explanation of these findingscomes from the fact that certain relations of the dimensions of inspector's leadership style are not linear, that means that,at a low level of leadership style, the relation is nonexistent or has a statistically significant intensity, but,at higher levels, the relation corresponds toour theory.

An inspector with differential transformational leadership style is the most powerful predictor of teachers' activity efficacy and teacher's exerting effort at work. An inspector is perceived by the educational employees as significantand his leadership contributes to promotion of efficacy .On the contrary, an inspector with intentional rewarding (passive) transactional leadership style does not contribute to promotion of achievements in a school andteachersefficacy is even lower.

*Correlation between perceived external prestige of staff, profession and school and teachers' activity efficacy and teacher's exerting effort at work*the research variables of teachers' activity efficacy and teacher's exerting effort at workork and perceived external prestige have been confirmed.

Another prominent datum of ourstudy that was found in a regular linear regression is that the correlation between school perceived external prestige and efficacy is weaker than the

correlation between perceived external prestige of a team and profession while profession perceived external prestige is higher amongst these three.

Perceived organizational prestige, which stems from a school, is smaller (33%) as opposed to the perceived external prestige ofa team and profession that means that there are other efficient dimensions.

The explanation lies in a different perception of the three dimensions. An individual identifies with the organization, to some extent, in order to reinforce his self-image:when an individual perceives his organization as prestigious, an incentive and motivation are created and accordingly production in the organization increases. Then affiliation to that organization creates a positive social identity, which reinforces the congruence between the way an employee defines himself and the organization that means both identification and production.

The findings confirm that affiliation to an organization with a high prestige reinforces the congruence between the way an employee defines himself and the way he defines the organization, and the more an individual perceives his organization as prestigious, the stronger incentive and increase in the self-image are created. Ourfindings have operative meaning: if perception of prestige of an organization, team and profession affects teachers' activity efficacy and teacher's exerting effort at work, then principals and inspectors should invest in improving school image, aimed at improvement of perceived external prestige.

*Correlation between identification with the team, profession and school, teachers' activity efficacy and teacher's exerting effort at work*are shown in hypotheses 9, 9a, 9b, 10, 10a, and 10b.In general, all correlations between research variables of teachers' activity efficacy and teacher's exerting effort at workand identification have been confirmed.

When employees are identified with their organization, they deliver a better service, which causes a better loyalty of a customer towards the organization. The institutional platform guides the activity and creates agreement amongst the team members regarding the purposes and means to their achievements, cultivates an approach of school identification. When a school has a clear policy, the strategies for improvement of efficacy in school are more effective.

Another prominent datum in our study was found in the findings of the regular linear regression.It is that correlation between identification with a school and efficacy is weaker as compared with the correlation of identification with team and profession, while identification with profession is the highest amongst the three. The variance is explained by organizational identification that stems from a school being smaller (10%), meaning that there are other dimensions that affect identification. The explanation lies in a different perception of educational employees between the three dimensions of identification; the teachers in a school of the same discipline create social norms that affect the types of discourse between them.

Correlation between perceived external prestige of a team, profession and school and the inspector's leadership style(See hypotheses 4, 4a, and 4b).In all aspects of perceived external prestige in all three dimensions (team, school, and profession) and of inspector's transformational leadership style in the differential dimension, the hypotheses have been confirmed. This is not the case with correlation between perceived external prestige of a professional team and school, and inspector's transformational style (in the clinical, indirect, imitation, behavioral identification and motivation dimensions). The findings show that only inspectors with characteristics of transformational differential leadership style rise perception of prestige; other leadership styles have not any effect.

In all aspects of perceived external prestige in two dimensions (team and profession) and of transactional intentional- passive leadershipstyle, a negative significant correlation has been found, and the hypothesis has been partially confirmed.

*Correlation between identification with a team, profession and school and the inspector's leadership style (See hypotheses 5, 5a, and 5b).*The *c*orrelation between identification in three dimensions (team, school, and profession) and the inspectors' transformational differential leadership style has been confirmed by the hypotheses, but not in all cases of relation between identification with a team and profession and inspectors' transformational leadership style in clinical, indirect, imitation, behavioral identification, and motivation dimensions. That means that the more characteristics of transformational differential leadership style an inspector has, the stronger the sense of identification in all three dimensions (school, team and profession) is.In addition, all dimensions of inspectors'transformational leadership style rise only the sense of identification with school as compared with identification with team and profession.

In all aspects of correlation between identification with school and inspectors' transactional leadership style in differential and corrective active dimensions, a positive significant correlation has been found, and the hypothesis has been partially confirmed. The same is with identification with a team and inspectors'transactional laissez-faire leadership style. A positive significant correlation has been found, and the hypothesis has been partially confirmed. That means that the more characteristics of transactional leadership style in differential and active dimensions an inspector has, the more identification with school is positively reinforced, and the characteristics of inspectors' transactional laissez-faire leadership style positively reinforce identification with team.

Identification as a mediator between the variables ofinspector's leadership style, teachers' activity efficacy and teachers' exerting effort at work are shown in hypotheses 13, 13a, 13b, 14, 14a, and 14b.These research hypotheses state the existence of a mediating relation between the inspector's leadership style, teachers' activity efficacy, and exerting effort at work, with the

mediators of identification (with a team, profession and school). Identification in all three dimensions (team, school and profession) is not mediated.

It is found that transformational leadership style in differential and imitation dimensions - organizational identification and the transactional leadership style in the intentional dimension predict teacher'sefficacy and teachers' exerting effort at work. The more characteristics of transformational differential leadership style an inspector has, the higher is the intensity of effect of an inspector onefficacy; the more characteristics of transactional intentional leadership style and transformational imitation leadership style - organizational identification an inspector has, the weaker is intensity of inspector's effect onefficacy.

This pattern is maintained when the variable of identification mediates between the variables, i.e. identification does not mediate between inspector's leadership style and teachers' activity efficacy, identification with school has no effect at all, but identification with team and profession doesaffect. Teacher's exerting effort at work rises if inspectors have characteristics of transformational differential leadership style of a strong intensity. Oppositely, the morecharacteristics of transactionalintentional-passive leadership style and transformational imitation – behavioral leadership style inspectors have, the less intensity is.This pattern is retained when the variable of identification mediates between the variables, thusidentification does not mediate between inspector's leadership style and teacher's imitation - behavioral efforts at work. Identification withschool has no effect at all, butidentification with a team and profession does have.

Perceived external prestige as mediating between the variable of leadership style and teachers' activity efficacy and teacher's exerting effort at work(hypotheses 15, 15a, 15b, 16, 16a, and 16b).The research hypotheses state existence of a mediating relation between the inspector's leadership style and teachers' activity efficacy an teacher's exerting effort at work with the mediators of perceived external prestige (of a team, school, and profession);perceived external prestige is partially mediated.

The transformational leadership style of inspectors in the differential dimension has been found as significantly positive; imitation - behavioral identification has been found as significantly negative, and the intentional-passive transactional style as significantly negative. These styles predict teachers' activity efficacy and exerting teacher's effort at work. The more characteristics of transformational differential leadership style an inspector has, the less characteristics of transactional intentional-passive leadership style, and even less characteristics of transformational imitation – behavioral leadership style identification, the higher are teachers' exerting effort and teachers' activity efficacyand achievements.This pattern is observed when the variable of perceived external prestige mediates between the variables. That means that between the

inspector's leadership styles, teachers' activity efficacy, and teacher's exerting effort at work there is no full mediation.

The contribution inthe inspector'stransformational differential leadership style significantly predicts teacher'sefficacy and teacher's exerting effort at work, while the mediator is perceived external prestige in all its three dimensions.That means that a partial mediation has been found. It happens because employees compare their department or organization with others. The image mapping serves as a mediator between the organizational incentive for employees'behavior and theirefficacy. *The factors of developingprestige perception arethe core of commitment, mutual human interaction between the organization superiors and the employees, mutual employees' experience, shared information, and duty expectations*. Without an image mapping in a comparative matter within the education employees, no mediation can be found.

Behavioral integration in a team and school as moderating the correlation between the variables of identification with a team, team perceived external prestige, and the inspectors' leadership style(hypotheses 6, 6a, 7, and7a).In all aspects of correlation between the patterns of behavioral Integration (in a team, school, and total) and the inspectors'transformational differential leadership style, a positive and significant correlation has been found, and the hypotheses have been partially confirmed. The correlation between behavioral integration patterns andthe inspectors' transactional active leadership style, a positive significant correlation has been found, and the hypotheses have been partially confirmed. Moreover, the inspectors' intentional transactional passive leadership style has a negative significant correlation with behavioral integration in a team. The more characteristics of transactional intentional-passiveleadership style inspectors have, the lower are the patterns of behavioral integration in a team, and the more characteristics of transformational differential and/or active transactional leadership style inspectors have, the higher is the level of behavioral integration patterns- both in a team and school.

The outcomes of our study show the complexity of behavior patterns, that is that a school leadership and a management style have direct implications on the school climate that affects teachers' and pupils' behavior.The results demonstrate that a supportive style of the school leader, who encourages, gives positive reinforcements, and appreciates his followers, has a positive effect on the school teachers'commitment.

In all aspects of a positive relation between the behavioral integration patterns (in a team, school, and on the whole) and perceived external prestige (of team, school, and profession), positive significant correlations have been found, thus the hypothesis has been confirmed. That means that the higher is perceived external prestige, the higher are the behavioral integration patterns - both in a team, school, and total.A positive significant relation between the behavioral integration

patterns and identification (with a team and profession) has been found, and the hypothesis has been confirmed. The picture of behavioral integration patterns in a team and identification withschool is different, i.e. the higher is identification with a team and profession,the higher are the behavioral integration patterns(in a team and school) and the total integration patterns.

On the other hand, behavioral integration in a team has not been found to be correlated to identification with school, i.e.the higher is identification with a school, the higher are the behavioral integration patterns (in school and on the whole). The findings of our study indicate that behavioral integration in a team is not correlated with identification with a school, and these findings are in contradiction with the researches of other scientists. It is possible that the education employees do not see in a team a personal identity that is expressed in the patterns of the behavioral integration in a team.Another possible explanation of the findings is that the case of a team is not the case of a group and teachers tend to be isolated from one another and they should be taught to work as a group to achieve better results.

The economic-educational indicators as moderators of the correlation between the variables of teachers' activity efficacy, teacher's exerting effort at work, and inspectors' leadership style(hypotheses 8 and 8a). Generally speaking, in all aspects of economic-educational indicators, it has been found that they do not affect or interfere with teachers' activity efficacy and teacher's exerting effort at work, except for two indicators which have been found to be negatively significant: an indicator of frequency of team meetings and an indicator of the average score in the national math test.

The meaning of the findings is that the higher is the frequency of professional team meetings, the lower is the quality of teachers' activity efficacyand the higher is the average score in the Meizav test, the weaker is teacher's exerting effort at work. Our findings are opposed to the findings of other studies where it has been found that one of the ways to increaseefficacy at work is relying on the team work.We consider that the first important conclusion is that effect on effective teamwork, effectiveness, and work method is in a descending order amongst the team effectiveness components.

Thus, it might be that a systematic judgment in choosing the team members has not been exercised and purposes, targets, and expected tasks have not been defined for the teams. In the meetings, the teams occupy with work on the procedures and instructions in the teachers' common room, instead of working inside the class, and therefore the educational employees do not see any added value in the high frequency of these meetings.

Another possible explanation is that 56% of the sample in our study are in the position of teachers, the rest of the research sample are the coordinators, instructors, principals, and inspectors (with a managerial position rank, in the entire span). Thus, a large part of them is not

directly assigned to the school teams and therefore it may be that they do not see in frequency of team meetings in school a direct effect upon teachers' activity efficacy. Thus, it might be that there are further variables involved in this correlation.

In our study it is has been found that the higher is the average Meitzav test score, the weaker is teacher's exerting effort at work. These findings are opposed to the findings of other studies. We consider that pupils' positive attitudes and values towards the subject of mathematics in the primary school are valuable in the promotion of achievements.Therefore, a possible explanation for these unexpected findings is that pupils' learning is affected by many factors, not necessarily related to teachers.

From the review of 500,027 meta-analyses of the research, it has been found that the explanation of pupils' achievementsvariance (50%) lies in pupils' ability and only 30% ofthe effect is explained by teachers' influence [91, p.189].

D. Hen [94] adds that pupils' positive attitudes and values towards the subject of mathematics in primary schoolare valuable in the promotion of achievements.

3.1.3 The level of indicators related to mathematics teachers' activity efficacy

To generate the picture of the interconnections existing between a school inspector's leadership style and teachers' activity efficacyand to create a clearer idea about elaborating an efficient program for developingteachers' activity efficacy, we advanced 12 working hypotheses, subsequently tested over a sample of 103 pupils (5-thgrade) and 111 education workers.

Considering the validity of the hypotheses tested above, we chose as indicators of teachers' activity efficacy the next factors: internal and external motivation, inspector's leadership style, effective teamwork, identification with a team and behavioral integration in a team, perceived external prestige (PEP) of the team, and teachers' exertingeffort at work.

Before implementing the formative program, we assessed these indicators at the level of both the experimental and control groups, on a sample of 51 educational workers and 51 fifth-grade primary school pupils (28 boys, and 23 girls) that made the control group; and60 educational workers and 52 fifth-grade primary schoolpupils(30 boys, and 22 girls) that made the experimental group. In this context, in order to gather data for this study, on a sample of 111 educational workers,there were distributed questionnaires with the following sections:

1. Leadership style;
2. Identification with the team;
3. Behavioral integration in the team;
4. Perceived External Prestige (PEP) of the team;
5. Exertion of teachers' effort at work.

In order to validate, reinforce and receive support from the quantitative findings of the questionnaires (educational workers), the triangulation method had been employed - crossing up the tools and the sources of the information collected from the pupils using Meitzav Test.

The pupils of the both groups were given a series of tests to examine Mathematics skills (Meitzav Test (National Assessmentsin Israel) - 2013):

1. Computing, estimating or approximating with the whole numbers, concepts of fractions, and computing with fractions;

2. Geometry skills (geometric properties of angles and geometric shapes - triangles, quadrilaterals. To fulfill the experiment, the theoretical (12 hypotheses) model of this correlation had been elaborated (it is shown in figure3.1; see details in appendix 2, hypotheses: 1, 1a, 2, 2a, 3, 3a, 6, 6a, 8a, 10, 11, 11a).

Research methodsare presented infigure 3.5:The experiment has been performed by means of the Cross-lagged regression analysis according to which the values of the variables were measured in two points each time (time 1 and time2).

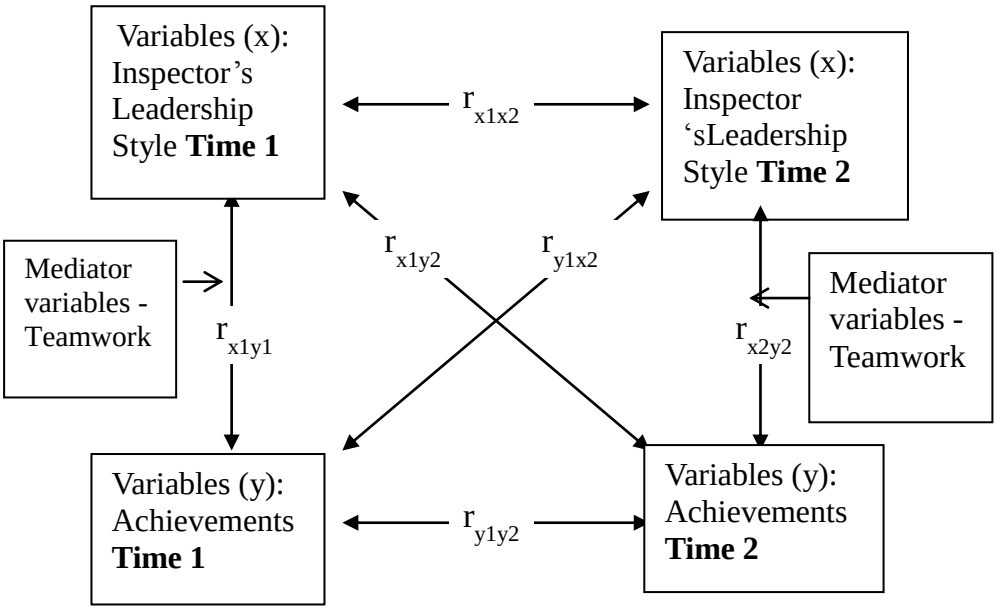


Figure 3.5. Description of the studied correlations

Choosing the Cross-lagged regression analysis has advantages for the causal research design. The variable measurement in two different points also serves as testing the model and the research-tool reliability of the test-retest process, and consistency of the results between the two different times. When correlation between the variable x in Time 1 and the variable y in Time 2 is significantly bigger than the correlation between the variable y in Time 1 and the variable x in Time 2, it provides some evidences for the fact that the variable x explains the variable y (a causal correlation) and this correlation can explain stability of the correlation over time

The variables of this research had been received with the structured questionnaires; the questionnaire consists of 102 questions, which measure the research variables (See the appendix 4). In order to examine the level of reliability of the questionnaire, the indexes of Cronbach's Alpha (α) have been calculated; to verify expectations and confirm the working theory regarding the structure of the data and items for each variable in the questionnaire, the Confirmatory Factor Analysis (CFA) has been performed (see details in appendix 5, Table A5.1)

Educational workers filled questionnaires with the following sections:

Team identification: In the questionnaire of team identification, an index of F. Mael and D.E. Ashforth [127] is employed. The questionnaire includes 6 items. The questions are graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree"). The original reliability of the questionnaire is (α = 0.87); reliability of the questionnaire in our study is (α =0.81).

Behavioral integration in the team: In this study, the teacher's contribution to behavioral integration in a team had been examined by an index (questionnaire) of nine items based on the index of Z. Simsek, M.H. Lubakin and J.F. Veiga [172]. There were used 7 items that express three dimensions: behavioral integration (the items 4, 5, 6 and 8), the level of information transferring and its quality (the items 1, 7 and 9), and the level of mutual decision making (the items 2 and 3). As the residents had not been asked at the personal level, there is no significance in presenting original reliability. Reliability of the questionnaire in our study: (α =0.85)

External prestige of a team: The index (questionnaire) on perceived external prestige is based on a questionnaire of F. Mael and D. E. Ashforth [127]. The questionnaire includes 8 items. The questions had been graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree"), and the teachers were asked to say what they thought of other people's opinion on their school prestige. In order to prevent a deviation of preference in their answers, some questions had been phrased in a way of negation (the opposite questions: 4, 6, 7, and 8).

The original reliability of the questionnaire: (α = 0.66); reliability of the questionnaire in this study: (α =0.75).

Personnelefficacy: Evaluation of personnelefficacy had been made by an index (questionnaire) of 5 items, based on the index of J.S. Black and L.W. Porter [37]. The questions had been graded according to the Likert's scale from 5 ("much above most teachers") to 1 ("much below most teachers") in order to state their attitude towards theirefficacy - in correlation to their co-workers. The criteria of this questionnaire: employees' efficacy and the quality level: the items 1 and 4;

meeting organizational targets: the item 5. Original reliability of the questionnaire: (α = 0.80). Reliability of the questionnaire: (α =0.88)

In addition, teachers' activity efficacy (achievements) is studied by the economic- educational indicators variables: the average score in the Meizav test of the school. The scale goes from "much above the national average" to "much below the national average"

Personnelefficacy - teachers' exerting effort at work: The personnelefficacy had been examined from the perspective of teachers' exerting effort at work through the index (questionnaire) of 6 items that is based on the index of B.M. Bass and B.J. Avolio [29]. The questions had been graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree") to study how teachers treat inspector's leadership that makes them make effort at work to improve achievements: the items 1-5; improvingefficacy: the item 6.

The original reliability of the questionnaire: (α = 0.90); reliability of the questionnaire in our study: (α =0.94).

Leadership style: Then index (questionnaire) used to assess leadership style is based on the study of B.M. Bass and B.J. Avolio [29].The questions had been graded according to the Likert's scale from 1 ("not at all") 5 ("very often"). (See details in appendix 5)

Economic-educational indicators as variables: The Economic - educational indicators as variables are examined with the following criteria: Gender: level of measurement - nominal scale: female=1; male=2. Age: level of measurement - ratio scale: current age in years' experience of teaching: level of measurement - ratio scale: number of work years in the same school; The average score on the Meizav test: level of measurement -ordinal scale: way above the national average=1; above national average=2; national average=3; below national average=4.

In order to conduct a more detailed examination of the differences between the two groups, first we requested the Inspectors who participated in the experiment to give their *personal note*. We explained the goal and the commitment it requires of them in training apprenticeships, workshop program and peer learning – visits in schools, and that the experiment results would assist in advancing tools for improvement of feelings of the teaching staff and futureefficacy of the school.The opinions of Inspectors before the experiment:

"…I am doing a great job anyway…"

"… I enjoy working with the school…"

"...I will think about it..."

"...I am very busy..."

"...Really interesting..."

"...I am very skeptical..."

"... I bought every word…"

"...I think it is very important to integrate theory and practice at school..." (See details in appendix 16, table A16.1).In general, there was an agreement amongst the group of Inspectors.

Background variables of pupils and educational workersare presented infigures 3.6-3.9:

In order to examine, the background variables of pupils and educational workers, we usedan Excel program.

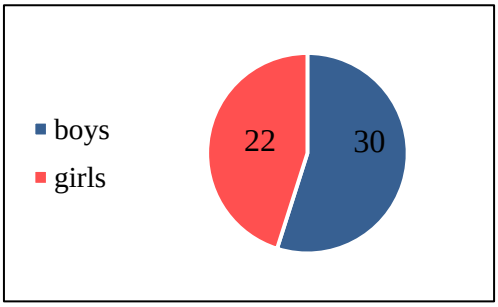


Figure 3.6. Experimental group - Pupils' background variables (52)

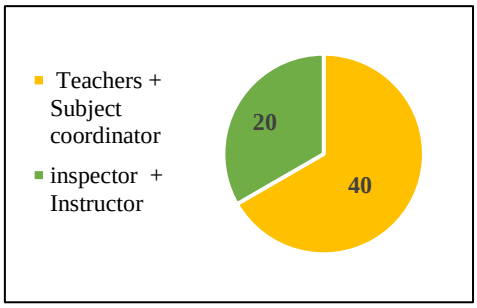


Figure 3.7. Experimental group - Background variablesof educational workers (60)

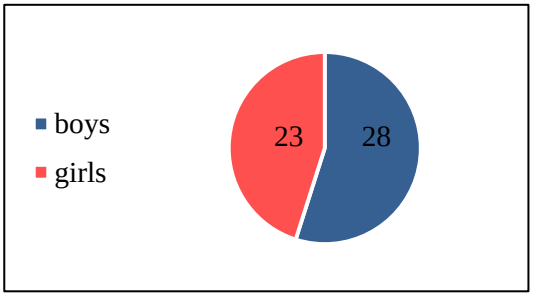


Figure 3.8. Control group - Pupils' background variables (51)

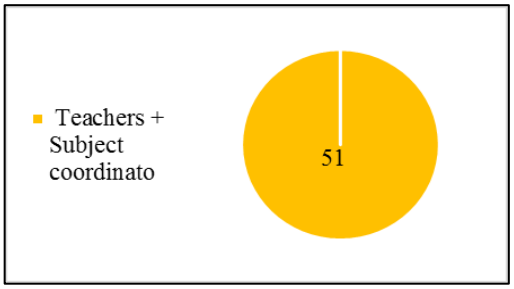


Figure 3.9. Control group - Background variablesof educational workers (51)

The control-sample population includes 51 educational workers and 51 fifth-grade pupils (28 boys, and 23 girls),and the Experimental sample population includes 40 educational workers; 20 inspectors, and 51 fifth-grade pupils (30 boys, and 22 girls).

Before using the program (the time 1), the pupils of both groups were given a series of tests to examine their Mathematics skills (computing, estimating or approximating with the whole numbers, concepts of fractions, and computing with fractions) and Geometry skills (geometric properties of angles and geometric shapes - triangles, quadrilaterals, and other common polygons).

Descriptive statistics: a complete descriptive analysis of the research variables has been conducted. Amongst the participants of the two sample groups of teachers and subject coordinator with similar demographic characteristics, there is a great resemblance in terms of

education, all woman, teaching experience, schools, age and the teaching subjects. The experimental group includes additional general school inspectors (See details in appendix 12, table A12.1).

Table 3.1 presents the data of sample distribution according to group: experience in school, age, teaching subjects.

Table 3.1. Distribution of sample according to group

		Age	Teaching experience	Teaching subjects
Categories Position		M	MODE	MODE MATE
Experimental group	Teachers +Subject coordinator	40	20	100%
	Inspector+ Instructor	56	35	0
Total		**47 (mode=45)**	**23 (S.D=8.9)**	
Control Group	Teachers+ Subject coordinator	40	22	100%
Total		**42 (mode=39)**	**20 (S.D=8.75)**	

The average of school experience of the 60 respondents ofthe experimental group who have answered the item that discusses experience in school and/or Ministry of Education organization is 23 years with standard deviation of (8.9); (control group) who have answered the item that discusses experience in school and/or Ministry of Education organization is (20) years with standard deviation of (8.75).According to table 3.1, average age of the Experimental group: is 47 years old, the mode is 45 years old. In the control group: average age is 42 years old, andthe mode is 39 years. *Teaching subjects*: In both Experimental and control groups, 100% teaching subjects is math. Exception experimental group Inspector (0%).

Below we expose data analysis procedures. Teachers' activity efficacy, and tests examining Mathematics skills, were found to be approximately similar in both groups. To find out the differences,a MANOVA test was conducted, as seen in table 3.2. The teachers' activity efficacy is higher (M=4.21) in comparison to teachers' exerting effort at work between the two times. The consensus regarding teachers' exerting effort at work is more intense, the variation coefficient is relatively high (CV=0.27) that means that distribution around the average in the variable of teachers' exerting effort at work is higher than in teachers' activity efficacy (CV=0.11), and

therefore the group of examined subjects in the variable of teachers' exerting effort at work is more heterogeneous than in the variable of teachers' activity efficacy.

Table 3.2.Center and dispersion indexes of teachers' activity efficacy andteachers' exerting effort at work (experimentalgroup)

	Index	n	SD	MEAN	MAX	MIN	CV
Control Group	Teachers' activity efficacy	51	0.46	4.21	5	3	0.11
	Teachers' exerting effort at work	51	1.03	3.56	5	2	0.29
Experimental group	Teachers' activity efficacy	60	0.57	4.05	5	3	0.14
	Teachers' exerting effort at work	60	0.97	3.54	4	1	0.27

An inspector with differential transformational leadership style is the most powerful predictor of teachers' activity efficacy and teacher's exerting effort at work. An inspector is perceived by the educational employees as significant and his leadership contributes to promotion of efficacy. On the contrary, an inspector with intentional rewarding (passive) transactional leadership style does not contribute to promotion of achievements in a school and teachersefficacy is even lower. Pupils of both groups were given a series of tests to examine Mathematics skills (computing, estimating or approximating with the whole numbers, concepts of fractions, and computing with fractions) and Geometry skills (geometric properties of angles and geometric shapes - triangles, quadrilaterals, and other common polygons). The differences between the average test score in the control and the experimental groups are negligible.

Table 3.3. The pupils' grades

Average score in the test	Number: Computing	Number: Concepts of fractions and computing with fractions	Geometric: geometric properties of angles and geometric shapes
Control Group (51 fifth grade pupils)	70	52	48
Experimental Group (52 fifth grade pupils)	69	50	51

The measures interpreted above prove the necessity of conducting an intervention that could ultimately urge the development of teachers' activity efficacy under the impact of school inspector's leadership style, empower the studies of mathematics and by this guarantee meeting the targets of the Ministry of Education.

3.2. Improving teachers' activity efficacy inteaching mathematics under the impact of inspectors' leadership styles

The main objectives of the formative experiment were:

1. Checking effectiveness of leadership styles and teachers' activity efficacy
2. Creating partnership amongst different groups of people –inspectors and teachers;
3. Building foundation supporting study for pupils and teachers;
4. Improving quality of teaching and achievements.

Since the findings in the theoretical research model managed to supply an explanation for the correlation between teachers' activity efficacyand teachers' exerting effort at workand between the characteristics of inspector's leadership style (transformational differential), through the variables of behavioral integration in a team and identification with a team, the theoretical meaning of the model is that when an inspector with characteristics of transformational differential leadership style has a high effect on the patterns of behavioral integration in a team, identification rises and teachers' activity efficacy rises too. In addition, it has been found in the study that the economic educational indicators have no effect on intervention in teachers' activity efficacy and teachers' exerting effort at work, with the exception of two indicators, which have been found to be negatively significant: the indicator of frequency of team meetings and the indicator of average score in national test. The meaning of the surprising findings is that the higher is the frequency of professional team meeting, the less good is teachers' activity efficacy and the higher is the score in the meizav test, the less good are teachers' activity efficacy and teachers' exerting effort at work, and therefore, there is a need for pedagogical intervention and isolation of further variables that would contribute to the explanation of the dependent variable of teachers' activity efficacy.

In the light of the study findings, it has been elaborated a Pedagogical Model whose purpose is to provide schools with a framework of practical tools. The model is built on the background basis rationale, and the findings of the theoretical study and theoretical model (chapter 3, Figure 3.1), and in the light of the model received by the Path analysis (chapter 3, Figure 3.2) of research subjects that describe the relationships between the research variables. According to the publication of the TIMSS international tests, there are multiple studies of environments opened for teachers: training apprenticeships and professional training on teaching mathematics where the theory plays the main role. The entire study of environment has been intended mainly for teachers and leaders in the math educational field. Therefore, for the purpose of application and verification of the pedagogical model, a unique program for training the position holders had been designed, with emphasis on the tools for leadership development, teamwork of teachers, and improvement of efficacy.

The model stipulates:

- A non-threatening environment for learning;
- A caring and committed staff who accept personal reasonability for pupils' success;
- A school culture that encourage staff achievements.

The *general objectives* of the Pedagogical Model are:

1. To create a stimulative educational environment for students by promoting student- teacher; inspector - teacher cooperation; maintaining motivation; increasing staff accountability; promoting attractive learning;
2. To raise awareness among inspectors about the correlation between school inspector's leadership style and teachers' activity efficacy;
3. To increase the coverage of teachers' activity efficacy (achievements).

The *specific objectives* include a series of actions addressed to all subjects concerned by the correlation between teachers' activity efficacy and inspector's leadership style:

01. Elaborate a plan of actions to increase the coverage of teachers' activity efficacy/achievements;

02. Creating partnership amongst different groups of people–inspectors and teachers;

03. Building foundation supporting study for pupils and teachers.

04. Identify and promote "good practices"for developingteachers' activity efficacy (achievements)

Components of the Pedagogical model of teachers' activity efficacy and pupils' achievements improvement, figureA3.1: There are 4 primary components in the model: 1. goals and targets (marked with orange color); 2. methodology (marked with green color); 3. series of actions (marked with pink color); 4. scheme of the applied pedagogical model (in the center: marked with white color and delineated by a broken red line). All 4 components are coherent and each stage leads to the next.

Theapplied pedagogical model (in the center: marked with white color and deliniated by a broken red line) comprises 4 parts and each part leads to the next, each of the 4 parts is based on the research findings:

Part 1 – relates to inspector's leadership style in two categories: transactional or transformational, each of these styles leads to an effective impact (such as: demonstrating skills through personal example, a study-focused dialogue, improvement of motivation, promotion of study culture, personal example, managing a study program, etc.) or non-effective impact which does not promote teachers' activity efficacy.

Part 2 – relates to teachers and inspectors' effective mutual teamwork in workshops and in

schools (such as: setting a mutual goal, setting mutual targets, mutual commitment for task execution, motivation, open communication between participants, decision-making, updates, sense of support, coordination and management supervision. This dimension is aimed at the achievement of outputs that allows for "maintenance" of current organizational activity).

Part 3relates to teachers' exerting effort in school, meaning, and teachers' extent of willingness of to invest greater effort in their work, in relation to the rewards they receive and what is customary and expected of them.

Such as:

1. Teachers committed to pupils and their learning;
2. Teachers knowing the material of the subject of their teaching and the ways of teaching this material to pupils;
3. Teachers who are members in study communities in the area of their subject.

Part 4:The spiral is presented (planning versus execution), intended to promote an ongoing-repeated process and to allow performing-corrective actions before meeting the target, by control and evaluation [97]. The planning versus execution control tool is comprised of 4 parts: planning, execution, control and evaluation.

Planning – definition of what is planned (what is the action to be executed, for example: stages of learning of the subject of geometry, or planning of staff workshops in which teachers and inspectors take part, planning obligates setting a time-table for execution).

Execution – performing in actuality the action set in planning.

Control – the purpose is a continuous process at the end of each stage, to examine the evaluation of existing situation and drawing conclusions prior to reaching the final target.

Intersection of **control and supervision**:

1. Is there congruency between planning and execution / if not done – when will it be corrected / did it meet the planned time table?
2. Is there congruency between targets and outputs / how many pupils did not manage to meet the target?
3. Renewed evaluations of teachers / inspectors that allow for meeting the final target.
4. Constant supervision of pupils' achievements in any subject.

Evaluation:

1. Determining the extent to which goals have been achieved, such as: quality of the process of mutual teamwork of inspectors and teachers / promotion of pupils' achievements in mathematics exam.
2. Summarizing evaluation of pupils' study achievements in math, according to national / international standards and criteria.

3. Effective professional development program.
4. Isolation of specific study needs, in order to fulfill them during teaching.

List of available tools for effective execution of the model:

- A permanent study frame for teachers and inspectors. In these frames teachers and inspectors discuss their work collaboratively.
- Experts' hours: as part of the support and accompanying shell given to workshops for teachers and inspectors, a variety of experts were chosen for this matter in the implementation stage. Such as in subjects of: leading change, teamwork etc. (30 hours totally).
- Support, tutoring and mutual accompanying of teachers and inspectors in the school.
- Resources for development of suitable conditions for teachers and pupils and for cultivating a physical environment: during visits, the school allocates resources for cultivating suitable conditions for learning, such as: constructing a time-table for peer learning, a room for meetings, hosting and refreshments, purchasing of study and teaching aids for teaching mathematics.
- Evaluation and supervision mechanisms – decision-making is done based on data.

In order to test the efficacy of the model proposed, it was tested over the experimental group (the group of 103 5-th grade pupils', previously divided in 2 groups: Experimental group and Control group and 111 educational workers, previously divided in 2 groups: Experimental group and Control group).

The model supposes a series of appropriate interactions among inspector and teachers. These interactions maximize achievements in Math test. The practical meaning of the theoretical pedagogical model is that the inspectors are to be actively integrated in various activities of school's life, so as to be in proximity of the educational personnel. Thus, one of the success conditions is a collaborative teamwork. For this purpose, the educational personnel are required to conduct a series of systematic actions through workshops, learning, and creation of group cohesiveness in order to achieve an effectiveefficacy and see benefits in the team meetings - both pedagogically and in terms of raising achievements [73].

Principles of the formative experiment design: The principles for the control group sample: no intervention in the teaching process, delivering a questionnaire in the beginning and the end of the process (elaboration of questionnaires for 111 education workersand a Math test for 103 pupils). The experimental group: we organized a social support for this group (meetings and workshops with management consulting and practice for all inspectors that worked with this group).

Formative experiment design: The permanent study framework for theoretical study and application had been formed. The detailed contents of the training apprenticeships in two groups and the number of academic hours allocated for various fields are shown in appendixes 13-14. Additionally, in the experimental group, 5 annual meetings had been held as a part of the mutual visits in schools (experimental group - fifth grade pupils) that include the Inspectors with the purpose to learn (The rationale for these meetings and an example of workshops are described in appendixes 14-15).

Inspectors' actions explored during intervention:

- Professional dialogue around data analysis resulting in an updated data record being in place, showing who is on track for end of year targets, on track for age related attainment targets and on track for end of key stage targets.

-Asking searching questions about the validity and accuracy of its assessment procedures. The key to school improvement is knowing where the pupils are now and where they need to be after a set period: Supporting Questions; How often are the assessments carried out? Does timing support dialogue about progress at key points throughout the year? Is it embedded in the whole school calendar?; Are the assessments telling us what we need to know?; Is the impact of any intervention assessed appropriately?; How is the data analysed? ; Do school systems support teachers in analysing their own data? etc...(See details in appendix 14, A14.3).

- Identification of barriers and planning of suitable actions to reduce achievement gaps.
- Definition of tasks and setting targets as a means of increasingefficacy;

The most effective meetings are planned for and have an agreed agenda in place beforehand andare shared with all staff involved. This will allow all involved to prepare for the meeting and have a clear understanding of the discussion points, the intended outcomes and the resulting actions. Current pupil tracking data; Examples of pupils' work that shows progress.

Suggested prompts for teachers to consider before the meeting and for discussions during the meetings: What is the percentage of pupils now working at age-related expectations in math?; For the pupils who have made good progress what has made the difference?; Which pupils do you feel now need intervention? How will this be organised and what will the planned programme include?

- Observation of lessons, documentation, information processing.
- Identify trends of progress in vulnerable groups.
- Searching questions about the action plan for each class - what is going to happen next to tackle any underachievement or risk of underachievement?

Monitoring and evaluation evidence demonstrates that teaching and learning has improved.This is shown by monitoring records, pupils' progress, meeting outcomes and school data.

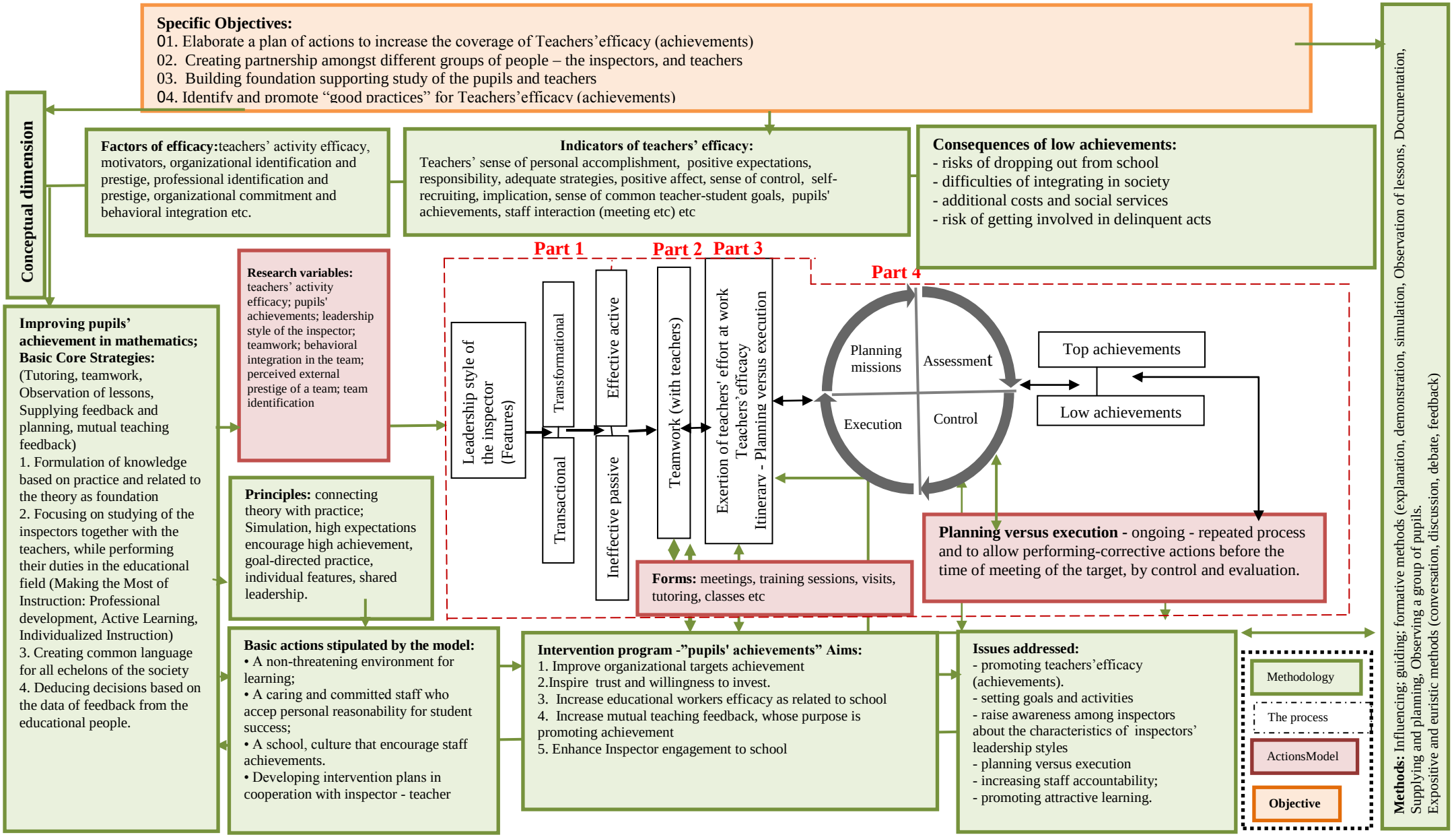


Figure 3.10.Pedagogical model for enhancingmathematics teachingactivity efficacy in Israeli primary schools

We designed a one-year program focused on two groups of samples with many differences in the study contents and workshops between the two groups. In the experimental group, the emphasis was on:

1. Formulation of knowledge based on practice and related to the theory as foundation;
2. Focusing on studying performed by inspectors, coordinators, and instructors, while carrying out their duties in the educational field (the inspectors, together with teachers, coordinators, instructors, and principals, study, observe lessons, analyze the lessons documents, and supply a mutual learning feedback that promotes achievements);
3. Formulating the mutual vision of the instructors, coordinators, and inspectors expressed during discourses;
4. Creating common language for all echelons of society;
5. Deducing decisions based on the data of feedback from the educational people.

Table 3.4.Activities stipulated by the formative program (inspector/ teachers);

Specific Objectives	**Actions-Strategy**	
	District Actions	**School Actions**
01. Elaborate a plan of actions to increase the coverage of teachers' activity efficacy (achievements).		
1.Form a working group for school, inspectors together with the teachers 2. Establish agreed rules of behaviour to provide a safe and productive environment 3.Create a climate of creative learning that encourages initiative 4. Organize workshops for development of team- work instruction skills: Processes of leading change at individual and organizational levels. 5. Fulfillment of personal potential, on the way to achieving organizational targets; 6. Development of teamwork by tutoring	1. Create structures allowing the principal and school leadership teams to devote more time to leading improvement in curriculum and instructional practices 2. Provide the criteria for Mutual teaching feedback, whose purpose is promoting achievement in mathematics, following up on learning processes 3. Provide the criteria for assessing each outcome prior to students undertaking each assessment task 4. Constant and strategy monitoring to determine how best to respond to the class. 5. An action plan for each class - what is going to happen next to tackle any underachievement or risk of underachievement? **planning:** target-setting; selection of strategies; implementation of strategies; impact and progress	
02. Creating partnership amongst different groups of people –inspectors and teachers		
1. Define boundaries in which inspectors/teachers and their staff have greater autonomy and flexibility and receive district support. 2. Improve communication and collaboration across human resources and curriculum, and instruction in providing support to school leaders. 3. Develop a system to hold inspectors accountable for working collaboratively	1. Establishing agreed rules of behaviour to provide a safe and productive environment 2. Involve students by sharing their data with them from standardized test data to classroom data. 3. Analyze Data - Everyone involved must use data analysis; from administration to teachers. Celebrate your strengths, keep the focus on improvement and draw up plans on how you're going to improve on your weaknesses and	

Specific Objectives	Actions-Strategy	
	District Actions	**School Actions**
with school teachers in order to implement the strategic plan. 4. Develop effective teamwork workshops: tools for building interpersonal compassionate communication; Contents and processes of consolidation of ways of operation for team development and fulfillment of its abilities; Ssolution of team conflicts		implement it. 4. Structure feedback to support further learning 5. Provide an explicit list of learning outcomes at the outset of a unit of work
03. Building foundation supporting study for pupils and teachers		
1. Restructure the role of the inspector to emphasize instructional leadership, and improveteachers' activity efficacy. 2. Establish a leadership team to ensure delivery of high-quality instruction. 3. Provide instructional coherence and support. 4. Incorporate research-based teaching and learning strategies 5. Invest in instruction-related professional learning for principals, teacher-inspectors and district staff. 6. Ensure that school leaders have the training and the capacity to lead change and are not held accountable for doing things they have never been trained to do. 7. Embed ongoing, faculty-led professional learning into a culture of continuous improvement achievements.		1. Create opportunities for teachers to work collaboratively to develop and deliver relevant and rigorous instruction, and ensure that they maintain personal connections with students. 2. Hold schools accountable for: (a) identifying students who are failing to meet standards and developing a system of responsive interventions aimed at closing the gap; (b) supporting guidance and advisement programs that connect every student with a caring adult; and (c) leading the staff in aligning curriculum and instruction to college- and standards. 3. Engage the faculty in offering a curriculum aligned to grade-level
04. Identify and promote "good practices" of teachers' activity efficacydevelopment		
1. Establish a clear focus and a strategic framework of core beliefs, effective practices and goals for improving student achievement. 2. Organize and engage the school board and district office to support each school. 3. Provide instructional coherence and support. 4. Optimize the use of resources to improve student learning. 5. Develop a succession pipeline in collaboration with a teacher and inspector 6. Provide high-quality data that link students' achievement to school and classroom practices, and assist schools to use data effectively.		1. Analyze a variety of sources of data and work with the faculty to use that information to improve instruction for all groups of students. 2. Ensure that schools receive a variety of data to identify challenges and determine root causes. 3. Use a range of data to identify students who are not achieving at grade-levelstandards or who are on the point to fail or drop out, and develop tiered interventions to get students back on a trajectory for success 4. Develop multi-level intervention systems capable of providing intensive support to students. 5. Create organizational structures through which the teams of teachers can work together to increase the percentage of students making successful achievements. 6. Construct feedback that promotes learning - models for teacher-pupil and teacher- teacher discourse

The experiment had been divided into three primary stages:

1. The control and the experimental groups of education workers (111 participants)had to fill in the questionnaires and 103 pupils had to pass through a Math test;
2. The education workers were divided into two groups, the intervention sample (experimental) and controlsample. Theexperimental group participated in discussions, investigated and looked for inspector's leadership style affecting achievements and better ways to work more efficiently as a team, tried to improve students' achievements. The participants elaboratedstrategies of making solutionsusing differentworking methods. The control group worked independently, without our intervention and recommendations
3. Collection of feedbacks through internet (GoogleDocs) during workshops and training apprenticeships (See details in appendix 14), and providing the participants with additional questionnaires.

Our intervention into the experimental group's workwas performed with the Design-Based-Research approach[24] that allowed us to make the research more profound and efficient. The research products are the improved and consolidated model of intervention andthe detailed information of this process. The Design-Based-Research took place in several operation iterations where improvement is the key component. During and after each iterationthe data and evidences of the intervention had beencollected, a primary analysis of the findings had been conducted,and necessary changes and improvements had been made.

Training process characteristics: The training process had been based on several *principles*: to support consolidation with the world point of view, use theoretical and practical knowledge required for optimal work leading, and to provoke the need for teamwork. The intervention subjects were linked with several fields of knowledge: mathematics, psycho-pedagogy, leadership, team.

Leader's skills, and teamwork efficiency (See details in appendix 15). The proposed model - (figure 3.10) has the potential to create conditions for an effective teamwork and achievements due to several factors – integration of inspectors in everything they had been involved into, among them: purposes and target correction, and consolidation of applicable work methods ("Pygmalion behavior" and others) [97].

The operational plan comprised of 4 circularstages, presented in figure3.11:

1. Familiarity with the theoretical issues;
2. Active workshops on the subjects of teamwork, instructor's and leadership skills development;
3. Practical experience in schools, observation, feedback, and analysis of math lessons;
4. Verification of the working methods.

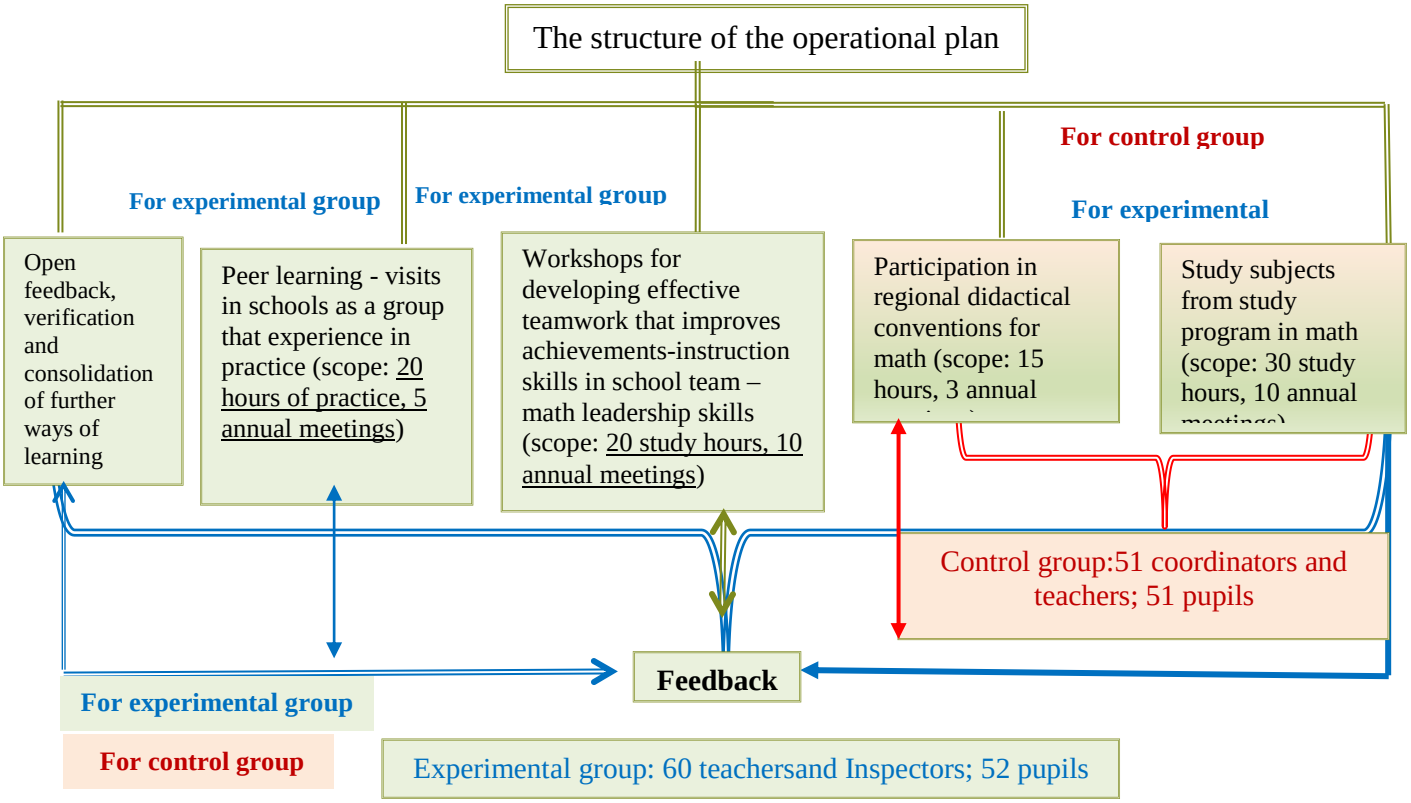


Figure 3.11.The structure of the operational plan (control and experimental groups)

The control group had undergone a training apprenticeship on the mathematics syllabus, 10 meetings (30 academic hours) and participated in three regional-study meetings of 15 academic hours. The members of this group did not receive, beyond this studying, any further support. The experimental group (the intervention group, where significant changes had been introduced), in addition to the study program of Mathematics including 10 meetings of 30 academic hours and 3 regional study meetings of 15 academic hours (as conducted in the control group), received a support consisting in workshops on the subjects of leadership development and effective teamwork including 10 meetings (30 academic hours) and, in addition, a mutual practice experience in schools. Pupilsof the experimental group also received additional training, they attended 20 academic hourswithin 5 meetings that included an active participation of some inspectors (see details in appendixes 12-14).

The main research toolwas the questionnaire. The information had been collected twice (times 1 and 2). Each time identical questionnaires were distributedin order to avoid deviation of instrumentation threat. Processing of the findings was performed in the quantitative part (See details in appendix 14).Thus, the intervention program was organized as a nonformal activity addressing several issues: Training apprenticeship program by courses, Delineation of training apprenticeship meetings and Visits in schools.

The progress of meetings within the school and the intervention program for inspectors and teachers

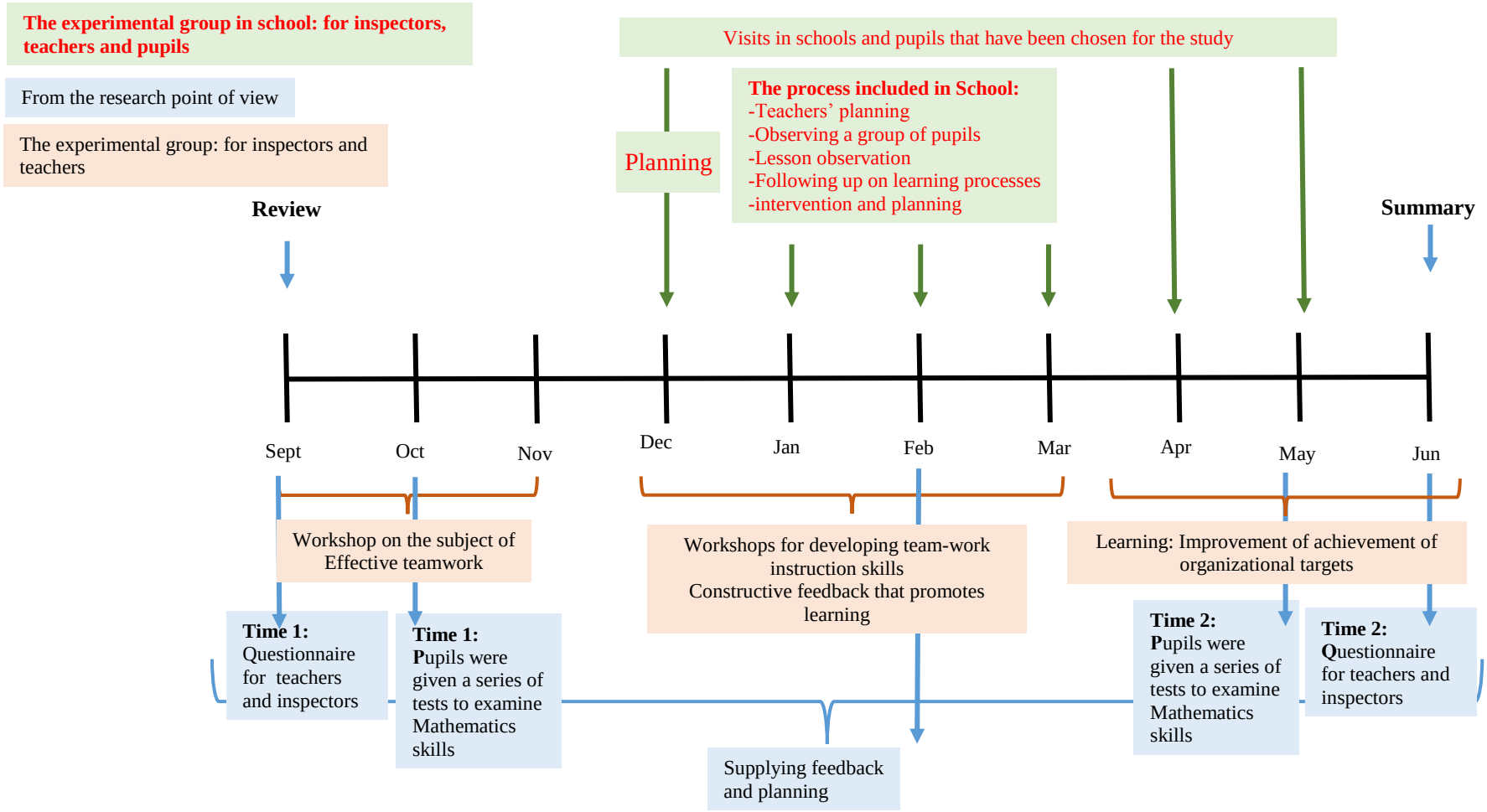


Figure 3.12.The progress of meetings - calendar

To be more effective it requires involvement of all members of the school community in order to deal with the following:

- Identification of barriers and planning of suitable actions to reduce achievement gaps;
- School leaders' responsibilities for system strategic development to support all pupils.

Meetings 1-3, included 10 study hoursof workshops on the subject of effective teamwork that promotes schoolachievements (for inspectors and teachers).

Meeting 1 (September): Sharing motivation for participating in the program: A direct encounter between teams. The uniqueness of a regional community seminar, in difference from a school seminar, is in a direct encounter between people from different "fields". This kind of an encounter enriches the experience, cultivates thinking and practices that support the development of teachers. During the first meeting all educational workers were introduced to one another, while every educational worker shared with his/her friends the main reasons and motivations to participate in this program. All group (inspectors and teachers) expressed their wish to succeed in Mathematics. In addition, it was organized a workshop on the subject of effective teamwork (learning relevant theories relating to practice, urging effective teamwork that promotes achievements.). The workshop was instructed by a specialist in the field of instruction skills; During the introduction meeting, the study staff gathered the questionnaire for the first measurement point.

Meeting 2 (October) mostly focused on tools for building interpersonal compassionate communication (for inspectors and teachers).Therefore, together, we defined ways to promote engagement to teamwork. Several Instructors described their difficulties in this area and said: *... I came with many doubts... pondered… and in general, I was not sure where all this would lead to. The thinking about my work put me in a new place, in the place of a trainee, one who thinks and explores her work and not only executes it…*

Regional conventions(**no. 1**: for both groupsof teachers): Significant learning in geometry - integration of geometry and origami. Before using the program (time 1), the pupils of both groups were given a series of tests to examine the Mathematics skills (computing, estimating or approximating with the whole numbers, concepts of fractions, and computing with fractions) and the Geometry skills (geometric properties of angles and geometric shapes - triangles, quadrilaterals, and other common polygons).

Meeting 3(November) concentrated on the contents and processes of consolidating team development and fulfillment of its abilities: encouraging, setting and achieving targets, to develop trust and willingness to invest,and to set challenges.

Meetings 4-7, (10study hours) included workshops for developing team-work instruction skills, constructive feedback that promotes learning (for inspectors and teachers); Visits in schools (for inspectors, teachers and pupils: 4 meetings, 12 study hours on the whole).

In the fourth meeting we focused on constructive feedback that promotes learning - models for teacher-pupil and teacher- teacher discourse. During the meeting we concentrated on peer learning (for inspectors, teachers and pupils). Examples of participants' opinions: *We have much*

to learn from each other, and it is very exciting that a platform had been provided for the way we go through and our considerations on this way…

The schedule of the process included:

1. Meetings, review and presentation of an Inspector and principal's school to be visited
2. Teacher planning and observing group of pupils
3. Lesson observation and documentation (analysis of lessons on basis of the data through navigators)
4. Mutual teaching feedback, whose purpose is promoting achievemens in mathematics
5. Workshop on the subject of effective teamwork (learning relevant theories relating to practice. The workshop was instructed by a specialist in the field of instruction skills)
6. Following up on learning processes (participants' reports on various implementations in schools)
7. Planning the next meetings, on the basis of the analysis and insights that have arisen

M**eeting 5**(January) focused on learning, namely on the processes of leading change at individual and organizational levels. We elaborated and developed the following components: *Filed events analysis; Sub-team meetings (planning meetings, visits in school) and Mutual learning visits (for a whole day) in schools, whose pupils participated in the program(no. 1): Observation of lessons; Documentation. We also focused on information processing.*

The most effective meetings are planned for and have an agreed agenda shared with all staff involved. This will allow all involved to prepare for the meeting and have a clear understanding of the discussion points, the intended outcomes and the resulting actions:

- Current pupils' tracking data'
- Intervention/support provided with evaluations of impact'
- Examples of pupils' works that show progress;
- Annotated examples of short term planning;
- Outcomes of monitoring and evaluation e.g. lesson observation, pupil discussions

Regionalconventions(**no. 2**: for both groupsof teachers): Models of learning verbal problems.

M**eeting 6**(February) was directed towards the fulfillment of personal potential, on the way of achieving organizational targets. The rationale of the course of workshops in the clear tasks: Definition of time-limited, applicable and realistic targets for execution. Review: Monitoring at all times between planning and actualefficacy and mutual learning visits in schools whosepupils have been chosen for the study (no. 2).Openness: The operation is done openheartedly and honestly.

M**eeting 7** (March)focused on learning, namely on the development of teamwork by tutoring. We focused on professional commitment and development,structuring feedback to support further learning andmutual learning visits (for a whole day) in schools, whose pupils participated in the program (no.3): Observation of lessons; documentation.

Meetings 8-10, comprised 10 study hours directed towards learning: improvingthe achievement of organizational targets (for inspectors and teachers), visits in schools (for inspectors, teachers and pupils - 2 meetings, 8 study hours on the whole):

(1)Workshops on mathematical leadership skills development including:

1. Improving achievement of organizational targets - definition of tasks and setting targets as a means of increasing efficacy ;
2. Leadership patterns and management techniques that develop and preserve motivation amongst those being led;
3. Strategies in the process of decision- making by a principal/leader subjects particularly emphasized following the Design-Based-Research feedback.

(2)Improvingthe achievement of organizational targets: We started by explaining why "goals setting" is important: goals provide clarity; goals help improve efficacy; goals increase the motivation to achieve; goals reflect what the goal setters consider important. The project has declared indexes of success: visibility of change leading in schools, upgrading a lesson and promoting learning achievements by developing a professional community of educational leadership in the subject of mathematics, developing innovative pedagogy and up-to-date study program, combination of practice and theory, combining I.T., learning environments, learning and deepening in contents and in strategies to promote advanced mathematics among pupils.

The assignments that teachers participating in the project received were:

- Experience in research assignments from high order of thinking in mathematics, solution of strategies as a way of professional development of mathematics teachers;
- Planning, execution and estimation in classes aimed at activating pupils in classes, reporting it in anthologies for submission;
- Developing a program promoting the project in the school at a system level.

(3)*Mutual learning visits* (for a whole day) in schools, whose pupils participated in the program (no.4); and *Regional conventions*(no. 3:for both groupsof teachers): Mathematics surrounding the environment - mathematics in daily life.

Duringmeeting 9(may) we focused on leadership patterns, management techniques and information processing. The key mission of a school principal or inspector is to deliver educational leadership at a high professional level that would guarantee success and constant improvement of school functioning, a high quality education for all and an improved level of

studies and achievement.Managerial leadership refers to a leader, who focuses on tasks and behaviors, relates to the technical aspects of the principal's work related to daily planning, such as: coordination, control over schedule, budgeting and operating a school, for the realization of effective teaching - learning processes in classes.

It also includedMutual learning visits (for a whole day) in schools, whose pupils participated in the program (no. 5)aimed at: observation of lessons; documentation.The pupils of both groups were given a series of tests to examine Mathematics skills (time 2).

Meeting 10 (June) -**Summary**. We summarized the program and asked them for future plans.

Suggested prompts for teachers to consider before the meeting and for discussions during the meetings:

- What is the percentage of pupils now working at age-related expectations in math?
- What is the percentage of pupils making good/expected/no progress per year?
- What actions have taken place since the last meeting?
- What impact have these actions had on attainment and progress?
- What evidence is there to support the reported impact?
- For the pupils who have made good progress what has made the difference?
- For pupils who have not made enough progress, what core barriers are preventing them from moving on and how can we intervene?
- Which pupils do you feel now need intervention? How will this be organised and what will the planned programme include?

The questionnaires were gathered for the summary measurement point.

3.3. Formative value of the *Pedagogical model for enhancing mathematics teaching efficacyin Israeli primary schools*

After implementing the model above, we used the same research toolsas those used during the first experimental step to test the differences between the level of our research variables in both the experimental and control group. Below we expose data analysis procedures, presented together with results by goals order (tables, diagrams, analysis).

The statistical analysis of the repeated questionnaires results allowed the identification of some differences between keyefficacy indicators of the experimental group and those of the control group before and after the implementation of the Pedagogical Model. The intervention also contributed to the improvement of indicators related to pupils' achievements and educational workers'efficacywhich were inferior to those of the control group.The control experiment has been performed through the Cross-lagged regression analysis according to which the values of variables were measured in two points each time (time 1 and 2). This experimental procedure is a

longitudinal study of a before-and-after type, a study group, and a test group, quasi experimental, and of the sample of the pretest - posttest control group design. Thus, confirmation of the data includes two comparison groups of 111 educational workers and 103 pupils: the controlgroup and the experimental group. *The experimentalgroup* included 60 participants (40teachers and subject coordinator and 20inspectorsand instructors) and 52 fifth-grade pupils (30 boys, and 22 girls). *The control group* included51 participants (teachers and subject coordinator) and 51 the-fifth-grade pupils (28 boys, and 23 girls). .

The pupils of both groups were given a series of tests to examine Mathematics skills (computing, estimating or approximating with the whole numbers, concepts of fractions, and computing with fractions) and Geometry skills (geometric properties of angles and geometric shapes - triangles, quadrilaterals, and other common polygons). Then the second test (time 2) had been offered.

Below we expose the values of keyefficacy indicators of both groups before and after intervention.

Goal 1. Checking effectiveness of leadership styles and teachers' activity efficacy

In order to examine the correlation between the inspector's leadership style and teachers' activity efficacy, teachers' exerting effort at work. Tables 3.5 and 3.6 present the center and distribution indexes of the experimental study variables. The data are presented in 2-time points: Time 1 and Time 2. From table 3.5 it is seen that the research subjects in the control sample helped to estimate teachers' activity efficacy and teachers' exerting effort at work between the two times equally. To see rhe differences,a MANOVA test was conducted.

Descriptive statistics

Table 3.5. Center and dispersion indexes of teachers' activity efficacy and teachers' exertingeffort at work (control group)

Control Group	Index	n	SD	MEAN	MAX	MIN	CV
Time 1	Teachers' activity efficacy	51	0.46	4.21	5	3	0.11
	Teachers' exerting effort at work	51	1.03	3.56	5	2	0.29
Time 2	Teachers' activity efficacy	51	0.46	4.21	5	3	0.11
	Teachers' exerting effort at work	51	0.96	3.56	5	2	0.27

Teachers' activity efficacy is higher (M=4.21) in comparison to teachers' exerting effort at work (Control Group). Teachers' exerting effort at work (M=0.27) in comparison to teachers' activity efficacy (Experimental group).The consensus regarding teachers'exerting effort at work is more intense, the variation coefficient is relatively high (CV=0.29) -Control Group, and (CV=0.27) -

Experimental group that means that distribution around the average in the variable of teachers' exerting effort at work is higher than in teachers' activity efficacy. The first goal was confirmed.

Table 3.6. Center and dispersion indexes of teachers' activity efficacy and teachers' exerting effort at work (experimental group)

Experimental group	Index	n	SD	MEAN	MAX	MIN	CV
Time 1	Teachers' activity efficacy	60	0.57	4.05	5	3	0.14
	Teachers' exerting effort at work	60	0.97	3.54	4	1	0.27
Time 2	Teachers' activity efficacy	60	0.40	4.24	5	4	0.09
	Teachers' exerting effort at work	60	0.40	4.25	5	3	0.09

One can see that in the experimental group, at Time 1, the differences between the variable of teachers' activity efficacy and exerting effort at work is negligible; on the other hand, at Time 1, the coefficient of variation is relatively high in the variable of teachers'exerting effort at work (CV=0.27), that means that distribution around the average is bigger and the research subjects' group is more heterogeneous.

In the experimental group at Time 2, the research subjects provided a higherefficacy and effort exerting, in comparison with Time 1, and the variation coefficient is relatively low (CV=0.09) that means that the distribution around the average in the variables of teachers' activity efficacy and teachers' effort at work is lower and the research-subject group is more homogeneous. The first goal was confirmed.

Hypotheses regarding the correlation between the inspector's leadership style and teachers' activity efficacy, teachers' exerting effort at work are seen in the hypotheses 1, 1a, 2, 2a, 3 and 3a/

Tables 3.7 and 3.8 present the statistical correlations between the the inspector's leadership style and teachers' activity efficacy, teachers' exerting effort at work.

Table 3.7. Pearson's correlations between teachers' activity efficacyand inspector's transactional leadership style and team identification, behavioral integration in a team

Variable		Experimental group		Control Group	
		r		**r**	
Teachers' activity efficacy	Inspector's Transactional Leadership style	**Time 2**	**Time 1**	**Time 2**	**Time 1**
	Directed passive	.304	.005	.063	.008
	Laissez-Faire	-.406*	.037	.243	. 268
	Inspector's Transformational Leadership style				
	Motivation	.682***	-.001	.320	.320
	Differential	.430*	-.148	.051	.050
	Identification with a team	.709***	.250	.495*	.495*
	Behavioral integration in a team	.360*	.241	.438	.430
	PEP Team	.389*	-.169	.286	.286
	Average score in the test	.438*	.095	.289	.289
	Frequency of staff meeting	.282	.251	-.008	-.085

$p<0.001^{***}$ $p< 0.01^{**}$ $p < 0.05$*

At Time 2, in the experimentalgroup, after intervention, significant positive correlations had been found in almost all indexes. The correlation between teachers' activity efficacy and inspectors' transactional leadership style in the index of corrective intentional passive leadership style had been found in the experimental group at Time 1 (*r*=.005) and atTime 2 (*r*=.304). That means that, although no significant correlation had been found, there is a rise, and, on the other hand, in the correlation between teachers' activity efficacy and inspectors' transactional leadership style in the index of the laissez faire style, a significant negative correlation had been found between the two times, at Time 1 (*r*=.037) and at Time 2 (*r*=-.406*).

The results after interventions in the experimental group show that the more characteristics of the transactional laissez faire leadership style an inspector has, the lower is teachers' activity efficacy.Oppositely, in the correlation between teachers' activity efficacy and motivational transformational leadership style, a significant positive correlation was found between the measures - at Time 1 (*r*=-.001) and at Time 2 (*r*=.682***).

Considering the index of differential style, a significant positive correlation was found between the measures - at Time 1 (*r*=-.148) and at Time 2 (*r*=.430*). That means that after intervention in the experimental group the results reflect dependence: the more characteristics of the

transformational motivational and differential - individualized consideration leadership stylean inspector has, the higher is teachers' activity efficacy. In the control group, in the relation between teachers' activity efficacy and team identification, a significant positive correlation was found (*r*=.495*), and, oppositely, a difference was found between the times - in the experimental group, at Time 2, a rise and a significant positive correlation had been found (*r*=.709***).

That is the higher is team identification, the higher is teachers' activity efficacy.In the control group, in the relation between teachers' activity efficacy and behavioral integration in a team, a positive correlation was found (r=.430*); oppositely, a difference was found between the times in the experimental group: at Time 2, a rise and a significant positive correlation was found (r=.360*). That is the higher is behavioral integration in a team, the higher is teachers' activity efficacy. No significant positive correlation was found between teachers' activity efficacy and team perceived external prestigein the control group; oppositely, in the experimental group, a change had occurred between the two times: at Time 1 (*r*=-.169) and at Time 2 (*r*=.389*). That means that the higher is team perceived external prestige, the higher is teachers' activity efficacy.

On the other hand, in the experimental sample table 3.7, there were found differences between Time 1 and Time 2.

In the control sample, at Time 1 and Time 2, no significant correlations were found between teachers' activity efficacy and inspector's leadership style, perceived external prestige, frequency of team meetings, and test scores. In the experiment sample, the differences found between the two times are big; the exception is a significant positive correlation between teachers' activity efficacy and team identification at Time 1. No significant correlations had been found except for a significant positive correlation between team identification, teachers' activity efficacy and teachers' exerting effort at work (*r*=.411*) as well as a significant positive correlation between frequency of team meetings and teachers' exerting effort at work (*r*=.497*).

The formative experiment helped to examine the differences regarding the correlation between economic educational indicators and achievements in the Meizav test (above and below the average) and between the indicator of frequency of team meetings, the explained variable of teachers' exerting effort at work and teachers' activity efficacy (See details in table 3.8 - 3.10 and figure 3.13). The first goal was confirmed. Eventually, the relative contribution of each index of inspector's leadership style to predict teachers' exerting effort at work has been examined. It appears that all the predictors of the variable (experimental group - time 2) of educational personnel foretell teachers' activity efficacy.

Table 3.8. Pearson's correlations between teachers' exerting effort at work, inspector's transactional leadership style, team identification and behavioral integration in a team

Variable		Experimental group		Control Group	
		r		**r**	
Teachers' exerting effort at work	Inspector's Transactional Leadership Style:	**Time 2**	**Time 1**	**Time 2**	**Time 1**
	Directed Passive	.240	.055	.002	-.005
	Laissez-Faire	-.402*	. 098	.017	. 016
	Inspector's Transformational Leadership style:				
	Motivation	.424*	.022	.038	.038
	Differential	.324	-.262	-.285	-.285
	Team Identification	.666***	.411*	-.007	-.007
	Behavioral Integration in a team	.444*	.318	.238	.005
	PEP Team	.292	.298	-.214	-. 214
	Average score in the test	.621***	.096	.290	.290
	Frequency of staff meetings	.725***	.497**	-.244	-.244

$p<0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$

Considering the above facts we expose in table 3.9 a synthesis of Inspector's leadership styles approached under the aspect of effectiveness.

Table 3.9. Comparison between Effective / Ineffective Inspector's leadership styles

Inspectors' leadership style			
Inspector's Transformational leadership style			
Effective instructional leadership		**Ineffective instructional leadership**	
full	partial	full	partial
Consideration Differential			
	Inspirational motivation		
	Idealized leadership (termed "charisma")		
	Model for emulation and idealized influence		
	Intellectual stimulation - encouragement of creativity and innovation		
Inspector's Transactional Leadership style			
Effective instructional leadership		**Ineffective instructional leadership**	
full	partial	full	partial
Contingent reward	Laissez-Faire		
		Management by exceptions (passive)	

Goal 2. Creating partnership amongst different groups of people –inspectors and teachers.

In order to examine the efficacy of economic-educational indicators as moderators of the correlation between the variables of teachers' activity efficacy, teacher's exerting effort at work,andteam meetings frequency, a MANOVA test was conducted, the results being exposed together with Pearson coeficient in figure 3.13.

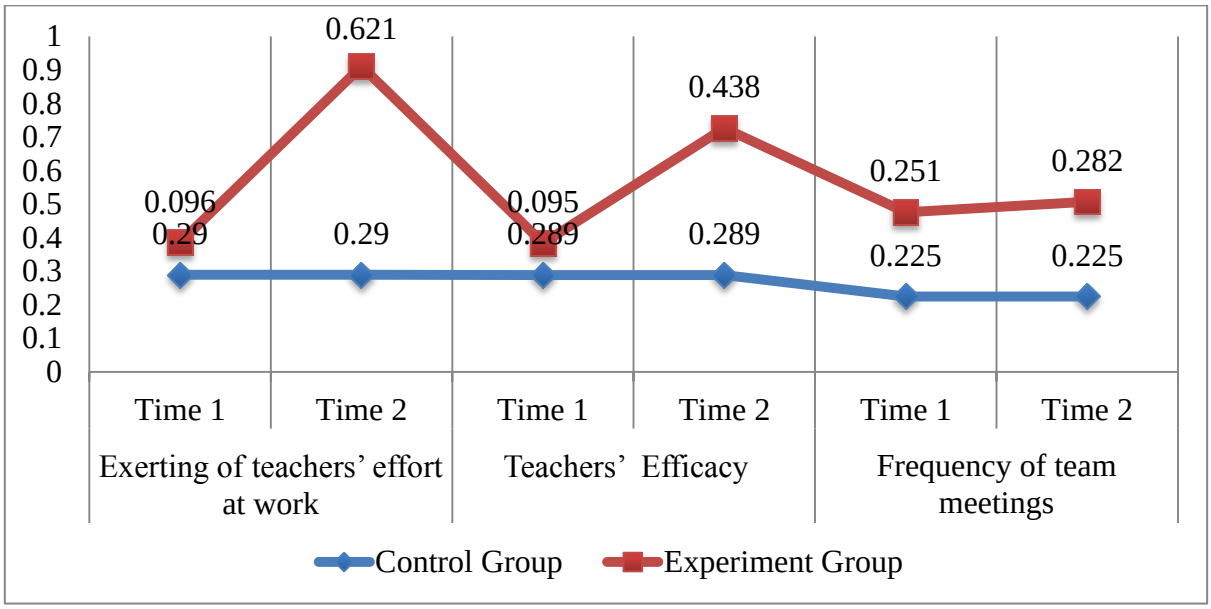


Figure3.13. Correlations between achievements in Meizav test and Experimental variables

From the data given above, it appears that in the control sample, no significant correlations were found during the two measures and the differences are negligible. On the other hand, in the experimental sample, there had been found differences and a significant correlation between the **two times**. At Time 1, no significant correlations were found;at Time 2, significant correlations were found: the higher arethe scores in Meizav test, the higher is teachers' activity efficacy(*r*=.438*) and teachers' exerting effort at work (*r*=.621***). No significant correlations were found between frequency of team meetings and the scores in Meizav test, teachers' activity efficacy, and teachers' exerting effort at work. That means thatfrequency of professional team meetings does not affect teachers' activity efficacy and teachers' exerting effort at work. In the experimental group, negligible differences were found between the two times: at Time 1 (*r*=.251) and at Time 2 (*r*=.282).Nonetheless, a positive rising trend is apparent at Time 2 after intervention. Consequently, the second goal was confirmed.

Goal 4. Improving quality of teaching and its achievements

In order to examine, the average score in the national math test, pupils' results were processed in Excel and SPPS programs,and presented in figure 3.14 and table 3.10.

Table 3.10. Pupils' grades

Average score in the test (Time 1 (01/10/2013), Time 2 (13/05/2014))						
	Number: Computing		Number: Concepts of fractions and computing with fractions		Geometric: geometric properties of angles and geometric shapes	
	Time 1	**Time 2**	**Time 1**	**Time 2**	**Time 1**	**Time 2**
Control Group (51 fifth grade pupils)	70	79	52	65	48	59
Experimental Group (52 fifth grade pupils)	69	87	50	74	51	72

We had two tests for pupils: Time 1 (01/10/2013) and Time 2 (13/05/2014).**Both groups showed a certain rise but** in the control sample, the differences between the average test score and the times are negligible. In the experimental sample, these indicators are significant (See details in appendix 12, table A12.1), and at Time 2, the test scores are higher. **Issues** in the experimental group (**52 pupils 30 boys, and 22 girls)**:Number: Computing (+18 poinst); Number: Concepts of fractions and computing with fractions (+24 points); Geometric: geometric properties of angles and geometric shapes (+21 points).Issuesin the Control group (**51 pupils 28 boys, and 23 girls)**:Number: Computing (+9 points); Number: Concepts of fractions and computing with fractions (+13 points); Geometric: geometric properties of angles and geometric shapes (+9points)..

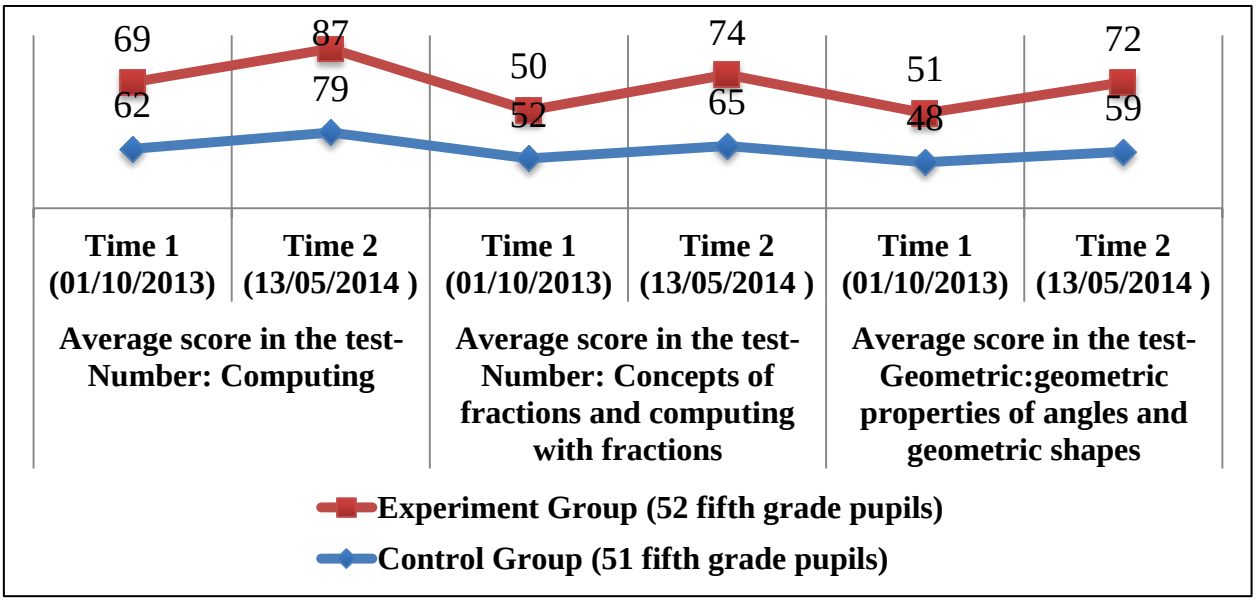


Figure 3.14. Pupils' achievements in the test

In the experimental sample, pupils' achievements in all test issues - number, geometric properties of angles and geometric shapes and concepts of fractions and computing with fractions - improved.

According to the values of the variables measured at two-time points by means of the*Cross-lagged regression analysis* (See details in appendix 12, Figure 3.14), the correlation between the variable of Inspector's leadership style (x) atTime1 and the variable of teachers' activity efficacy and teachers' exerting efforts at work (y) at Time 2, (*r*=.860***) is significantly greater, than the correlation between teachers' activity efficacy and teachers' exerting efforts at work (y) at Time 1 and the variable of the inspector's leadership style (x) at Time 2 (*r*=-.006), (the confirmation of the figure 3.5 is exposed inappendix 12, figure A12.1). That means that the variable of inspectors' leadership style explains teachers' activity efficacy and teachers' exerting efforts at work by a causal correlation through the mediator variables of identification with a team and the patterns of behavioral integration in a team, the objective being thus confirmed.

Goal 3.Building foundation supporting study for pupils and teachers

In order to validate, reinforce and receive support from the quantitative findings of the questionnaires, the triangulation method had been employed - crossing up the tools and the sources of information collected from the research subjects using feedback. We used the inductive analysis of feedback statements with the categories and subcategories of effective teamwork and leadership. The primary findings (presented in figures 3.15-3.16) were related to attitudes, perceptions, and opinions of teachers, coordinators, instructors, and inspectors participating in our experiment. The conclusion from this analysis is that all the predictors of the variable (experimental group - time 2) of educational personnel predict teachers' activity efficacy.

Here is the summary of the collection-analysis process in both -the control and experimental groups:

1. Perception of school inspector'sduty: He is a representative of the Ministry of Education-critical and authoritative; consulting and guiding;not contributing;encouraging specialization, professional development, and motivation for target achievements

2. The factors encouragingteachers' activity efficacy: satisfaction withefficacy,organization and enrichment of educational environment,adjustment with pupils,commitment to pupils and their learning process,specialization and professional development,motivation for optimalefficacy, and creation of reputation and identification with a team.

Category 1"Perception of school inspector'sduty" (See details inappendix 16, Table A16.1):

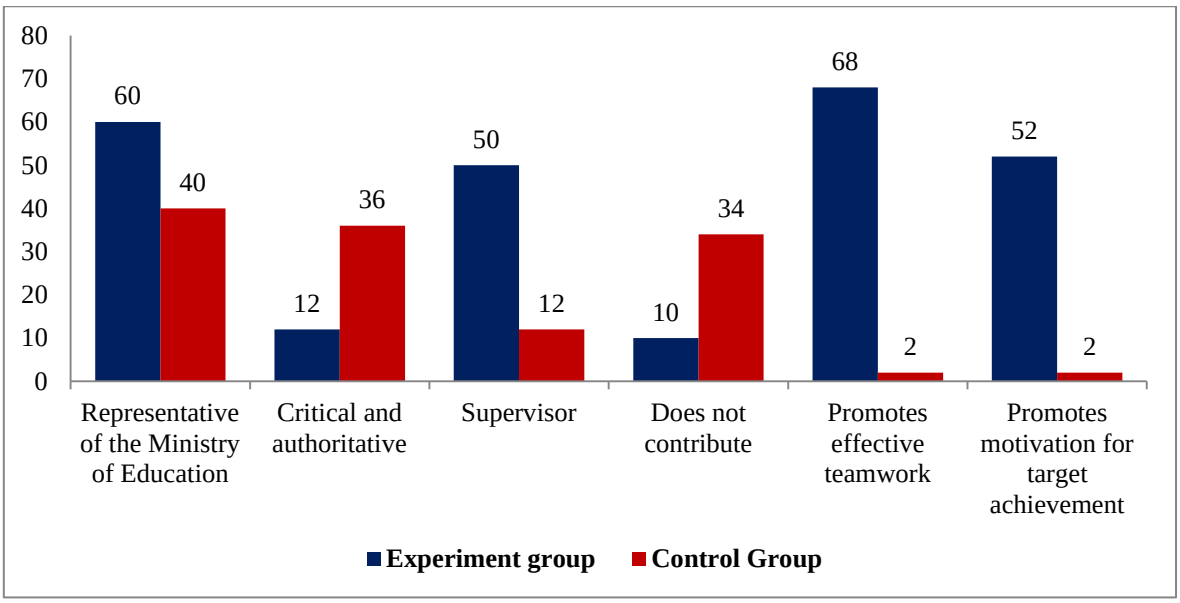


Figure3.15.Perception of school inspector's duty

The findings of figure 3.15 show that in both control and experimental groups, an Inspector is perceived as a representative of the Ministry of Education. At the same time, in the experimental group, most of the participants consider an inspector as a person encouraging specialization and professional development, motivation for target achievements, and as a person consulting, guiding and encouraging effective teamwork;while in the control group,an inspector is perceived as not contributing.

Category 2: Factors that encourage teachers' activity efficacy:

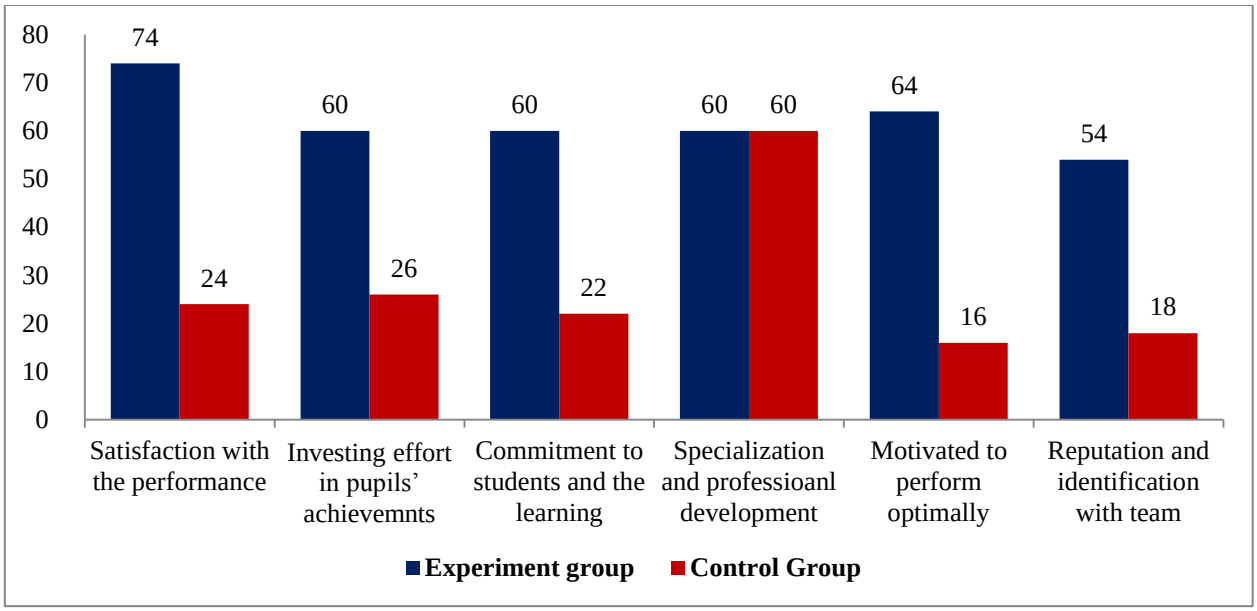


Figure3.16.FactorspromotingTeachers' activity efficacy

In the questionnaires for feedback discussion, there are topics of importance for organizing the study environment, people adjustment, reputation, professional development, and teamwork

within schools.They refer tosatisfaction, organizing, and enrichment of study environment, meaning the purpose of pupils' adjustment, commitment to pupils and their learning, aspiring for specialization and professional development, motivation for optimalefficacy, culture of cooperation, responsibility, openness of evaluation, reputation, and team identification.

The findings (appendix 16, Table A3.79and figure A3.16) show that the participants of the control and experimental groups perceive specialization and professional development as a factor promotingefficacy. Most statements of the experimental group in the category ofefficacy, exerting effort at work, reputation, and team identification reflect our hypotheses more than in the control group.Summary of research findings and the meaning thereof: table A17.1 (see details in appendix 17).

Consequently the intervention program succeeded in:

1. improving the achievement of organizational targets - definition of tasks and setting targets as a means of increasing efficacy ;

2. increasingtrust and willingness to invest;

3. in increasing the quality of observation and documentation (analysis of lessons on the basis of data through navigators);

4. inincreasing efficacy aspects of educational workers as related to school - learning motivation, and also the sense of belonging to teamwork;

5. in increasingmutual teaching feedback, whose purpose is promoting achievement in mathematics

The statistic values derived from the pedagogic experiment confirmed **theresearch hypothesis**: Mathematics teaching will be efficient if:

a) inspectors, on the one hand, exhibit greater personal attention towards teachers, one of the characteristics of transformational differential leadership style, by expressing appreciation, support of their ability and contribution to school;

b) inspectors integrate in various activities of school life to be in proximity to teachers and principals;

c)it is emphasized the development of mutual teaching and learning frameworks;

d) inspectors avoid adopting the characteristics of laissez-faire and passive intentional transactional leadership style, such as avoiding taking a stand, indifference and concession.

3.4.Conclusions on chapter 3

1. The formative experiment proves that the characteristics of inspectors' leadership style play an important role in improving teachers' activity efficacy and their exerting effort at work. The more characteristics of transformational differential leadership style an inspector has, the higher are teachers' activity efficacy and teacher's exerting effort at work.
2. Identification with profession is positively correlated with teachers' activity efficacy and teacher's exerting effort at work and that it is the highest amongst the three dimensions of identification. Identification with team and profession, as perceived by teachers, is different than identification with school. On the part of teachers, it is possible for them to be identified separately with school, math teaching team and the profession, and there is a distinction between the various identifications.
3. In terms of research hypotheses, it appears that amongst the three dimensions of perceived external prestige, the index of profession is the highest and has a positive correlation with teachers' activity efficacy and their exerting effort at work.
4. The contribution of the pedagogical experiment is expressed at two levels: as a part of the theoretical background, confirmation of the model received by the Path analysis, and at the practical level, implementation of the practical pedagogical model based on the theory. The pedagogical model concentrates onteachers' activity efficacy, teamwork, and characteristics of inspectors' leadership style that focuses on four dimensions of different styles: the transactional style – the laissez- faire, the intentional passive, and the transformations style – inspirational, and motivation differential.
5. The training apprenticeship included the implementation of the pedagogical modelthat determinesa better understanding of Inspector's leadership style patterns, teachers' activity efficacy, and components of an effective teamwork.
6. The experiment findings help to realize the pedagogical potential of the theoretical model received throughPath analysis.The findings of the Design-Based Research indicatetheneed to clarify experience in the workshops in two primary subjects - development of effective teamwork with emphasis on resolving conflicts in teams and tools for building an interpersonal compassionate communication and development of leadership skills with emphasis on achievements. In the experiment sample, the differences and significant correlations are found between the two times. At Time 1, no significant correlations werefound; at Time 2 therewere found, i.e. the higher arethe scores in Meizav test, the higher is teachers' activity efficacy and teachers' exerting effort at work.The findings of the experimentwith pupils have proven the correlation between the test achievements and the experimental variables, andthat the

intervention program for stage 3 guides the practical experience, observation, feedback and insights from the math lessons.

7. The study confirms that there is a correlation between school inspectors' leadership styles and teachers' activity efficacy (achievements). The feedback findings show that in the experimental group, the inspector's duties are perceived as factorsfor encouraging effective teamwork and motivation for target achievement.The findings assist the educational system in understanding andchoosing the way of building workshops and training methods.
8. The leadership style of a transformational inspector increasesteachers' activity efficacy and exerting effort at work, in the meanwhile mediating identification and perceived external prestige, behavioral integration in school and in the professional team aswell as economic-educational indicators. Among all the characteristics of inspectors' leadership style, the most effective dimension is the transformational differential leadership style.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The theoretical approach and the experimental valuation of inspectors' leadership styles in the development of mathematics teaching efficacy in Israeli primary schools have confirmed the relevance of the theme, the research hypothesis, certifying the scientific innovation, theoretical and practical value thereof, and the statements offered for defense.

Substantiating the theoretical and practical functionality of the *Pedagogical model for enhancing*mathematics teaching efficacy in Israeli primary schools through the valuation of school inspectors' leadership style represents the **scientific problem solved** in our research.The synthesis of the researchrevealed the following significant aspects:

1. It has been proved theoretically and practically that educational leadershipis a process focused on the consolidation and extension of teachers' professionalism by authorizing them to display and exercise their leadership skillsdirected towards influencing pupils to achieve their academic goals.Education leaders have a positive and strong influence overthe improvement of teachers' activity efficacy, derived from motivation, commitment to teaching, and implementation of strategies for developing their efficacy. Current interpretations of educational leadership styles point out the tendency of accrediting the differential transformational leadership style that implies support and care towards didactic staff and enhances teachers' activity efficacyand exerting effort at work.
2. A preliminary condition for meeting the targets of education is the improvement of teachers' status and one of the ways to do that is to change leaders and managers' attitude towards teachers, to urge them invest in the function they hold by getting closer to teachers' needs, by getting more involved in the educational process. Learning environment is the most appropriate environment for improving an educational employee's efficacy. In this frame it has been actualized the concept of educational leadership aimed at innovating, developing, motivating and inspiring mathematics teaching so as to ensure pupils' achievements.
3. The synthesis of theoretical aspects related to educational leadership, teachers' activity efficacy and school inspectors allowed us to determine the indices of teachers' activity efficacy in teaching mathematics:a sense of personal accomplishment, positive expectations for student behavior and achievement, personal responsibility for student learning, strategies for achieving objectives, positive affect, sense of control, sense of common teacher/student goals, democratic decision making, selfrecruiting, exchange of resources and information, the sense of commn teacher/school goals etc. In the same context there have been determined the variables of mathematics teaching efficacy

divided into: dependent variables- teachers' activity efficacy and exerting effort at work; independent variable -inspector's leadership style and mediating variables –identification, perceived external prestige and behavioral integration.

4. It has been proved that among all educational leadership styles, the most efficient is differential transformational leadership style. The characteristics of the differential transformational leader are those of a leader displaying understanding, flexibility and interest in stimulating teachers' hidden potential. Differential transformational leadership style leads to a behavior that enhances teachers' activity efficacy and exerting effort at work, at the same time mediating identification, perceived external prestige and behavioral integration.The less characteristics of passive-intentional transactional leadership style an inspector has, the higher is teachers' activity efficacy. The more characteristics of passive-intentional transactional leadership style an inspector has, the lower is teachers' exerting effort at work.
5. The implementation of the *Pedagogical model for enhancing mathematics teaching efficacy in Israeli primary schools* confirmed the stability of the correlation between the researched variables over time. The variable of inspectors' leadership style explains teachers' activity efficacy in teaching mathematics and exerting effort at work by the causal correlation through the mediating variables of team identification and patterns of behavioral integration in a team.

The **directions of solving the problem** of mathematics teaching efficacy through the valuation of inspectors' leadership styles are:

1. to promote a school culture that encourages staff achievements;
2. to createpartnerships amongst schools, inspectorsand teachers;
3. to raise awareness among the correlation between a school inspector's leadership style and teachers' activity efficacy;
4. to create adequate conditions for the development of a caring and committed staff who accept personal reasonability for students' success;

The findings of the current study might constitute a basis for discussions on the subject of inspector's leadership style effectiveness in improving teachers' activity efficacy and exerting effort at work.

Recommendations for inspectors:

Leadership practices that affectefficacy have the characteristics of transformational differential leadership style stipulating:

- leaders' active participation in the daily practice, encouragement and support of teaching quality, good communication with educational employees and pupils, and a supportive and safe environment for all the partners;
- improvement of cooperation between the educational employees of all levels. It is recommended to choose the central motives linked with teamwork and reinforcement of identification with school and profession;
- teachers' activity efficacy and exerting effort at work will be more efficient, if the leaders invest in improving the dimensions of identification through workshops, learning, and support;
- the inspectors are to allocate more time and energy in creatinga safe and open space in the teachers' team as well as trust and openness among educational employees;
- the inspectors should maintain a balance in integrating in the school actualities and not to spend most of their time in executing procedures; they should learn to manage their time well and guarantee a sufficient and continuing support for teachers.

Recommendations for Managers:

- to improve teamwork, it is required to conduct a systematic series of actions that create a group consolidation and help to achieve efficacy and see benefits for the team;
- to promote a clear practical vision based on the fact that intelligence-results intelligence;
- to establish an agreement among all parties concerning managerial purposes and the means of achieving them;
- to formulate clear inwardand outward policies, so as to improve educational outputs and reach congruence between the various activities within and outside the school.

Recommendations for the Ministry of Education:

- as the transformational differential leadership style has a positive effect upon perceived external prestige, it would be correct for the inspectors to adopt the transformational leadership style with its differential characteristics;
- to develop mutual teaching and learning frameworks for principals, inspectors, teachers, coordinators, and instructors that focus on the subjects of development, definition, and improvement of prestige, identification image, andefficacy;
- to check perceived external prestige and identification in all three dimensions as a diagnosis tool in order to reveal the extent to which they affectteachers' activity efficacy and exerting effort at work;
- to use brainstorming to find out which criteria should be considered in choosing inspectors.

Recommendations for teachers:

- to improve relationships with pupils;
- to promote a psycho-pedagogical discoursedirected to thedevelopment of pupils' positive attitudes and values towards mathematics, subsequently improving their achievements;
- to develop school nurturing and empowerment programs that lead to the development ofpupils' personal capability.
- to improve constantly personal and professional skills.

Research limitations.The educational system lives a period of uncertainty and permanent changes and this fact might have provoked uncertainty among the teachers who had participated in the research, thus determining them to give answers with a diminished objectivity.The entire study is based on teachers' self-reporting onefficacy, identification, perception of prestige and inspectors' leadership style and it might be that some of the sampled subjects could nave been wrongly or with exaggeration described to arouse attention to some problems.Our study did not allow learning such variables of identification as non-identification or ambivalent identification, but it is possible that their characteristics could give life to additional viewpoints.

Recommendations for further researches.The research was conducted only on the teachers' population of one district of Israel; other districts would have had different characteristics, and it would be interesting and useful to compare them or to make our findings more reliable.

The study had examined the math teachers and inspectors in the primary schools, but it is necessary to execute the same experiments in the junior high and high schools.

The study had examined the teachers, principals and inspectors from the primary schools in relation to the subject of mathematics, but it would be interesting to examine the situation with other school subjects. It is worth examining the factors motivating teachers to become inspectors and their preferences in adopting different leadership styles. Such a research would providea full picture on leadership style.The rate of explanation of the dependent variables model is negligible and thus indicates the need of isolatingthe additional variables that would contribute to the explanation of dependent variableat a higher rate.

It is necessary to study differences between attitudes, beliefs, and behaviors of various streams of teacher population (education in the state, Jewish/Arab/Christian religions, state-religious, Biblical, democratic, and private education).

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APPENDIXES

Appendix 1

Conceptual framework: research variables

Organizational identification is a mediator variable. The measurement level is ordinal. The nominal definition: an organizational identification is "the recognition of an individual as belonging to a certain social group along with the significant feelings and values as a member of the team" [63], [181]. The operational definition: an organizational identification is examined through a questionnaire for the educational personnel, which determines the attitudes in correlation to the teachers' level of perceiving school belonging and identification.

Team identification is a mediator variable. The measurement level is ordinal. The nominal definition: team identification is defined as a sense of partnership in mutual experiences of the members of the same team [63]. The operational definition: identification with the team is measured through a questionnaire for the education personnel, which studies the attitudes of the examined teachers in correlation to the extent to which they perceive their belonging to the team.

Professional identification is a mediator variable. The measurement level is ordinal. The nominal definition of this variable: a feeling of partnership in the mutual experience of the team-mates of the same profession and with the same characteristics [63]. The operational definition: the professional identification is measured through a questionnaire that studies several items linked with the attitudes of the examined teachers in correlation to the extent to which they perceive their belonging to the teaching profession (math).

Behavioral integration in a team is a moderator variable between team identification and perception of external prestige of the team and teachers' activity efficacy and exerting effort at work. The measurement level is ordinal. The nominal definition focuses on the reciprocal correlations amongst the team employees, in terms of information sharing, behavior of cooperation, mutual help, and mutual decision making [87]. The operational definition: the work in a team is measured through a questionnaire elaborated for the educational personnel, which examines according to several details, the perceived contribution of the teachers to work in the team, such as degree of information transferring, sharing of knowledge, and decision making.

Behavioral integration in an organization is a moderator variable between school identification and perception of external prestige of the school and teachers' activity efficacy and their exerting effort at work. The measurement level is ordinal. The nominal definition focuses on the reciprocal correlations amongst its employees, in terms of information sharing, behaviour of cooperation, mutual help, and mutual decision making [87]. The operational definition:

behavioral integration in an organization is measured through a questionnaire elaborated for the education personnel, which examines, according to several details, the perceived contribution of the teachers to work in a team, such as degree of information transferring, sharing of knowledge, and way of making decisions.

Perceived External Prestige (PEP) of a school is a mediator variable. The measurement level is ordinal. The nominal definition: perception of external prestige of an organization is based on thoughts of the organization's members of how their organization is evaluated by external people [34]. The operational definition: perception of external prestige of an organization is measured through a one-dimensional questionnaire, which examines subjects'attitude in correlation to what is being considered in the social environment of the school they work in.

Perceived External Prestige (PEP) of the team is a mediator variable. The measurement level is ordinal. The nominal definition: perceived external prestige stems from diverse sources of information, such as opinions of the reference group, word of mouth information, advertising, as well as internal communication on the way the organization of the team is perceived by those external to it [173]. The operational definition: perceived external prestige of the team is measured through a questionnaire, which examines through eight items the attitude of the examined teachers in correlation to what is being considered in the social environment about the team.

Perceived External Prestige (PEP) of the profession is a mediator variable. The measurement level is ordinal. The nominal definition: the term professional identification relates to the extent to which an individual has a psychological identification with his profession, which determines the level of involvement, his tendency on the job, and the effort he is willing to invest in it[53, p.349-351], [66].

Operational definition- perceived external prestige of the profession is measured through a questionnaire for education personnel, which examines through eight items the attitude of the examined teachers in Correlation to what is being considered in the social environment about the teaching profession.

Economical educational indicators is a moderator variable. The measurement level is ordinal / ratio order. The nominal definition: planning and management of the educational system are research and evidence based; a tool with structured characteristics named indicators [209]. The operational definition: analysis of various factors that affect the educational expenses, such as the teachers' salary, training, scope of employment, type of supervision, number of pupils, class size, infrastructure, fostering index, and the achievement average. The demographic variables of the ratio order (such as age, school experience, teaching experience).

In our study, a relatively long list of personal background variables have been used (such as age, gender, teaching experience, education, number of training apprenticeships, rank in Ofek).
The new Ofek reform (Hebrew for horizon) has created the salary scale of nine ranks and eight promotion steps. In this scale, the employees receive a salary increment upon transition from one rank to another (the rank is determined according to adjusted calculation of education, experience, professional training, status, number of training apprenticeships position) [218].
We use the educational-economic indicators and educational-economic variables (such as number of resources in a class, number of teachers in the school, frequency of meetings, number of pupils in a class, number of pupils in the school, fostering index) as these variables have significance in the process of data analysis and assist in evaluating the sample characteristics.
The sample characteristics:
Gender: level of measurement - nominal scale: female=1; male=2
Marital status: level of measurement - nominal scale: married=1; single=2; divorced=3; widow/widower=4
Age: level of measurement - ratio scale: current age in years
Length of service in the Ministry of Education: level of measurement – ratio scale: number of work years
Length of service in school: level of measurement - ratio scale: number of work years in the same school
Scope of job: level of measurement - ratio scale: number of work hours
Education: level of measurement - ordinal scale: senior teacher=1; bachelor's degree =2; Master's degree and above=3
Experience of teaching: level of measurement - ratio scale: number of work years in the same school. Number of training apprenticeships in the last 3 years: level of measurement - ratio scale: number of work years in the same school
Occupation: level of measurement - ordinal scale: professional teacher=1 professional teacher + class teacher=2; professional coordinator=3; instructor=4; principal=5; inspector=6
Teaches in: primary school grades 1-3 = 1; primary school grades 4-6 = 2; junior high school=3
Sector: level of measurement - nominal scale: state=1; state-religious=2; Arab sector=3; other=4
School fostering index: level of measurement - ratio scale 1-10
The average score on the Meizav test: level of measurement -ordinal scale: way above the national average=1; above national average=2; national average=3; below national average=4; way below national average=5Number of math teaching hours: level of measurement - ratio scale. Number of pupils in a class: level of measurement - ratio scale
Number of pupils in the school: level of measurement - ratio scale

Percentage of pupils with difficulties/advanced/integrated: level of measurement - ratio scale
Technical means of teaching used in the class: level of measurement - nominal scale: computer=1; projector=2; internet connection=3; teaching aids for math as a subject =4
Presence of a math team in the school: level of measurement - nominal scale: yes=1; no=2
Number of teachers in the team: level of measurement - ratio scale
Frequency of team meetings: level of measurement - ordinal scale: every week=1; every 2 weeks=2; every month=3; occasionally=4

Inspector's leadership style is an independent variable. The measurement level is ordinal.

The nominal definition: "most of the definitions reflect the assumption that leadership entails a process of social influence in which a person or a group affect purposely people or other groups with the purpose of structuring the activities and relationships within the group or the organization"[196, p.3]. The operational definition: inspector's leadership style is examined through a questionnaire that differentially examines the leadership style of an inspector: the **transformational leadership** that motivates by inspiration and invokes identification to invest beyond what is required, the **transactional leadership** that motivates by external rewards and up to no leadership that abstains from taking a stand.

Teachers' activity efficacy (achievements) is a dependent variable. The measurement level is ordinal. The nominal definition: job efficacy is defined as to what extend and which level an employee has reached the targets related to his job. These targets are crucial in the question of what the occupational components would be and they would be processed into dimensions of describing behavior and relevant and effective behavior results for job efficacy [35, p.229].

Teachers' activity efficacy: teachers' exerting effort at workis defined as the level of willingness of an employee to invest more effort in his work in correlation to the reward he receives and what is expected or/and customary [28]. The operational definition: Teachers' activity efficacy is examined through an anonymous questionnaire that examines the level of achievement of the organizational targets and the level of efficacy achievements and their quality.

Appendix A1.1

The role of Chief General Inspector in schools

(As defined in the Director General circular document in Ministry of Education) [215].

These are the matters the Chief General Inspector is authorized to deal in, regarding any institution under his supervision:

(1) Representing the Ministry of Education, Culture and Sports before the principal and liaising between the institution, Ministry of Education and Local Education Authority;

(2) Authorizing education and instructions policy of the Ministry in an institution, as well as verifying the execution thereof, including in matters of execution of study programs, complementing programs, additional programs, allocation of complementary hours and instructions of the Ministry and its educational policy in matters of fitting teachers and service personnel to the requirements of the Ministry and the common standard in same field;

(3) Performing evaluation and supervision of an institution and supplying feedback in following fields:

   a) Quality of management in field of education and field of organization;
   b) Plotting the educational policy of an institution;
   c) The extent of persistence and rate of success of pupils;
   d) Level of achievements on an institution;
   e) Educational and social climates in an institution;

(4) Instruction and guiding of an institution principal in planning of resources, pooling and allocation thereof for the purpose of achieving of educational and organizational targets;

(5) Assisting in development processes of an autonomous principal in an institution;

(6) Assisting an institution principal in encouraging pedagogical initiatives, in preparing study programs in an institution and in ways of instilling innovations, instruction and guiding of an institution principal in field of improving teaching and learning processes;

(7) Participation and involvement in processes of hiring an institution principal, in evaluation of his work and cessation of his term as an institution principal due to pedagogical reasons;

(8) Evaluation of teachers according to a request of an institution principal or Inspector, and recommending approval or denial of requests of an institution principal or Inspector for dismissal of an education employee;

(9) Reception of public and handling applications relating to an institution under his supervision, that come in from teaching employees, parents, pupils and public officials;

(10) Coordinating activities of the instruction array and of other Inspectors operating in an institution as part of their duty;

(11) Performing any other actions according to instruction of his superiors (District Inspector, District Director, Director General or the Minister).

Definition of the duty of Chief General Inspector in Primary schools in Israel

(As defined in Northern District document on Ministry of Education website) [230], [http://cms.education.gov.il/EducationCMS/Units/tzafon/DiglayHamachuz/agdarattafkidim.htm]

Mission of General Inspection

- Implementation of Ministry policy
- Promotion of study and educational-values achievements in schools
- Pooling of resources for purpose of supplying a proper response to schools according to their needs
- Representing the needs of school principals before the Ministry
- Promoting education for values
- Education for excelling
- Improvement of education work processes in schools
- Empowerment and development of school leadership

General knowledge

- Regulations, rules and Director General circulars, "New Horizon".
- Familiarity with study structure in various age-group departments
- Familiarity with study programs in various age-group departments
- Familiarity with programs of Psychological and Counseling Service, Society and Youth Administration, Department of Education and Welfare
- Additional programs: study-day frame
- Special education
- Familiarity with organizational structures
- Organizing of study and schedule
- Study and educational-values sequence

- Methods of teaching and evaluation
- Budget management
- Components of work program
- Programs approval procedure of Ministry of Education
- Evaluation and measurement (achievements and position holders)
- Experimental schools
- Meizav tests analysis (internal and external and five-year tests)
- Intervention entities – third sector
- Work with chains and Authorities in communities

Knowledge of Primary education

- Standards (study programs, climate)
- Work program – the cover and the book
- Education for life in a society – programs for cultivation of social involvement
- School feedback – bank of assignments in Hebrew, math, geography, homeland and society, science
- Studying in IT environment
- Road safety
- Division of 1st, 2nd grades
- Long school day
- School libraries
- Excelling – Amirim program, gifted and excelling
- Special education – integration hours, promoting classes, study impairment
- Children rights – Convention on the Rights of a Child
- Education for health
- Environmentalism – green school
- Junior-High schools

Components of duty of Chief General Inspector in Ministry of Education

Duty components	**Functions**
Pedagogical development	School diagnosis
	Personal meetings with principals for the purpose of development of pedagogical programs
	Implementation of pedagogical programs and work according to standards
	Partnership in formulation of social study sequence
	Assistance in supplying a response to population of pupils with special needs
	Internal and external test results analysis
	Assisting in development of school initiatives
	Assisting in development of school work programs
	Holding principals forum in area of inspection
	Participation in school staff meetings
Feedback, follow up, monitoring and evaluation	Personal meetings with principals for the purpose of monitoring educational work
	Monitoring results of external and internal tests
	Monitoring implementation of study programs
	Monitoring implementation of school work program
	Monitoring the supplying of response to unique needs of pupils
	Monitoring absences of teachers
	Monitoring the functioning of a new teacher
	Monitoring the functioning of new principals
	Monitoring a "failing" teacher
	Observing teachers' lessons and producing a report
	Evaluation of principals
	Monitoring regular attendance of pupils and assignment committees
	Evaluating the effectiveness of instruction
	Monitoring school infrastructures
	Monitoring safety and security in schools
	Self-evaluation
Organizing and management	Representing policy of the Ministry and passing of information
	Formulation of work program for an Inspector
	Acceptance and assignment of new teachers
	Mobilization of teachers
	Dismissal of teachers
	Approval of study and social programs and of educational initiatives
	Examining complement and manpower
	Planning of instruction according to school needs
	Recruiting of resources and the allocation thereof for development of pedagogical programs for improvement of school appearance
	Isolation of difficulties and problems and assisting in resolution thereof
	Handling applications and complaints of parents, teachers and principals

Duty components	Functions
	Assistance in consolidation of a marketing program for schools
	Reception of public
	Documenting of meetings and processes
	Accompanying the visits of official guests
Development of human resource	Instruction of acting principals and accompanying them
	Accompanying of new principals and instruction thereof
	Isolation of needs for development of teaching staffs and principals
	Planning of training apprenticeships for principals
	Partnership in planning of training apprenticeships for teaching staffs
	Maintaining meetings with the Community/Regional principals' forum as a learning community
	Participation in personal and professional development processes of an Inspector (Inspector training apprenticeships)
	Participation in development processes of teaching staffs in area of Inspection
Work with colleagues in District, headquarters, Authority and community	Participation, in conventions and seminars
	Participation in school events
	Participation in private events of position holders
	Holding meetings with intervention entities for the purpose of planning and leading of pedagogical subjects
	Holding meetings with Inspectors according to fields of interest
	Holding meetings with instructors for the purpose of planning of instruction processes, feedback and control
	Holding meetings with personnel/treasury/complement/professional supervision employees for purpose of assigning of teachers
	Holding meetings with school parents committees

Appendix 2.Research hypotheses

Hypothesis 1: There is a positive correlation between the inspector's transactional leadership style of and teachers' activity efficacy (achievements).

Hypothesis 1a: There is a positive correlation between the inspector's transactional leadership style and teachers' activity efficacy (achievements) - teachers' exertingeffort at work.

Hypothesis 2: There is a positive correlation between the inspector's transformational leadership style and teachers' activity efficacy (achievements).

Hypothesis 2a: There is a positive correlation between the inspector's transformational leadership style and teachers' activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 3: There is a difference in the perception between the inspector's transformational leadership style and teachers' activity efficacy (achievements).

Hypothesis 3a: There is a difference in the perception between the inspector's transformational leadership style and teachers' activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 4: There is a positive correlation betweenthe perception of school external prestige and the inspector's leadership style.

Hypothesis 4a: There is a positive correlation between theperception of the teaching team external prestige of and the inspector's leadership style.

Hypothesis 4b: There is a positive correlation between perception of the teaching profession external prestige of and the inspector's leadership style.

Hypothesis 5: There is a positive correlation between school identification and the inspector's leadership style.

Hypothesis 5a: There is a positive correlation between identification with the teaching team and the inspector's leadership style.

Hypothesis 5b: There is a positive correlation between identification with the teaching profession and the inspector's leadership style.

Hypothesis 6: Behavioral integration in the team between educational personnel and the professional team moderates the correlation between the inspector's leadership style and team identification. The more intense is behavioral integration of the educational employee in the

professional team, the stronger is correlation between inspector's leadership style and team identification.

Hypothesis 6a: Behavioral integration in the team and the professional team moderates the correlation between the inspector's leadership style and perception of teamexternal prestige. The more intense is behavioral integration of the educational employee in the professional team, the stronger is correlation between inspector's leadership style and teamperceived external prestige.

Hypothesis 7: Behavioral integration in the school and in the school team moderates the correlation between the inspector's leadership style leadership style and school identification. The more intense is behavioral integration, the stronger is correlation between inspector's leadership style and school identification.

Hypothesis 7a: Behavioral integration in the school and in the school team moderates the correlation between the inspector's leadership style and perception of schoolexternal prestige. The more intense is behavioral integration of the education employee in the school, the stronger is correlation between inspector's leadership style and school perceived external prestige.

Hypothesis 8: The economical-educational indicators moderate the correlationbetween the inspector's leadership style and teachers' activity efficacy. The more intense is correlation between the economic- educational indicators and the educational employee and the inspector, the stronger is the correlation between inspector's leadership style and teachers' activity efficacy.

Hypothesis 8a: The economical-educational indicators moderate the correlation between the inspector's leadership style and teachers' activity efficacy- teachers' exerting effort at work. The more intense is the correlation between the economic-educational indicators, educational employees and the inspector, the stronger is correlation between the inspector's leadership style and teachers' activity efficacy –teachers' exerting effort at work.

Hypothesis 9: There is a positive correlation between identification with the professional team and teachers' activity efficacy (achievements).

Hypothesis 9a: There is a positive correlation betweenprofessional identification and teachers' activity efficacy (achievements).

Hypothesis 9b: There is a positive correlation between school identification and teachers' activity efficacy (achievements).

Hypothesis 10: There is a positive correlation between identification with the professional team and teachers' activity efficacy (achievements) -teachers' exerting effort at work.

Hypothesis 10a: There is a positive correlation between professional identification and teachers’ activity efficacy (achievements) -teachers’ exertingeffort at work.

Hypothesis 10b: There is a positive correlation between school identification and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 11: There is a positive correlation between perception of school external prestige and teachers’ activity efficacy (achievements).

Hypothesis 11a: There is a positive correlation between perception of professional team external prestige and teachers’ activity efficacy (achievements).

Hypothesis 11b: There is a positive correlation between perception of profession external prestige and teachers’ activity efficacy (achievements).

Hypothesis 12: There is a positive correlation between perception of the school external prestige and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 12a: There is a positive correlation between perception of external prestige of the professional team and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 12b: There is a positive correlation between perception of professionexternal prestige and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 13: School identification mediates the correlation between inspector's leadership style and teachers’ activity efficacy (achievements).

Hypothesis 13a: Identification with the professional team mediates the correlation between inspector's leadership style and teachers’ activity efficacy (achievements).

Hypothesis 13b: Professional identification mediates the correlation between inspector's leadership style and teachers’ activity efficacy (achievements).

Hypothesis 14: School identification mediates the correlation between inspector's leadership style and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 14a: Identification with the professional team mediates the correlation between inspector's leadership style and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 14b: Professional identification mediates the correlation between inspector's leadership style and teachers’ activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 15: Perception of external prestige of school mediates the correlation between inspector's leadership style and teachers' activity efficacy (achievements).

Hypothesis 15a: Perception of external prestige of the professional team mediates the Correlation between inspector's leadership style and teachers' activity efficacy (achievements).

Hypothesis 15b: Perception of external prestige of the profession mediates the correlation between inspector's leadership style and teachers' activity efficacy (achievements).

Hypothesis 16: Perception of external prestige of school mediates the correlation between inspector's leadership style and teachers' activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 16a: Perception of external prestige of the professional team mediates the correlation between inspector's leadership style and teachers' activity efficacy (achievements) - teachers' exerting effort at work.

Hypothesis 16b: Perception of the profession external prestige mediates the correlation between inspector's leadership style and teachers' activity efficacy (achievements) - teachers' exerting effort at work.

Appendix 3

School Distribution by sector

Table A3.1. School distribution by sectors

Total: schools in the district	Number of primary state schools	Number of primary state-religious schools	Number of primary schools in the Arab sector
391	(61%) 240	(28%) 108	(11%) 43

According to the same ratio, the research population of instructors, teachers, and coordinators of the subject of math in the primary schools have been sampled. The questionnaires had been given out to:

201 principals, instructors, coordinators, and teachers from state schools

76 principals, instructors, coordinators, and teachers from state-religious schools

35 principals, instructors, coordinators, and teachers from the Arab sector schools

Table A3.2. Inspector distribution by sectors

Total: inspectors in the district	Number of inspectors in state schools	Number of inspectors in state-religious schools	Number of inspectors in the Arab sector
19	(64%) 12	(26%) 5	(10%)2

In order to get a wider and better perspective, the number of the questionnaires filled out by the inspectors and principals from various sectors (state, state-religious, and Arab) had been increased according to the ratio (For example, according to the original ratio, the questionnaires had to be delivered only to 1-2 inspectors in order to represent the researched population and, therefore, the number of questionnaires filled out by the sample population had been increased): 39 inspectors from state schools; 21 inspectors from state-religious schools; 15 inspectors from the Arab sector schools, and56 instructors from all sectors (as the population is limited, the questionnaires were delivered to the general instructors in the district).

Questionnaires

Goal of the questionnaires: to study teachers' attitudes on various issues related to our research towards their schools (See the table given below).

Conditions of filling the questionnaires out: The questionnaires are anonymous, i.e. the names and function of the residents should not be indicated. The information gathered with these questionnaires cannot be used for other purposes. The estimated time for filling out the questionnaires is about 15 minutes.

Table A4. 1.Attitudes of educational workers towards school

Number	**The statement:** Your attitudes towards **the school you work in:**	**Totally disagree**	**Quite disagree**	**Not sure**	**Quite agree**	**Totally agree**
1	The success of my school is considered my success as well.	1	2	3	4	5
2	When I speak of my school I usually say "us" and not "they".	1	2	3	4	5
3	When someone criticizes my school, I feel personally insulted.	1	2	3	4	5
4	When someone praises my school, I accept it as a personal compliment.	1	2	3	4	5
5	If a critique about my school would be published in the media, I would feel embarrassed.	1	2	3	4	5
6	I am very interested in knowing what other people think of my school.	1	2	3	4	5

Table A4. 2. Attitudes of the public towards school

Number	**The statement** Attitudes of the public towards **the school you work in**:	**Totally disagree**	**Quite disagree**	**Not sure**	**Quite agree**	**Totally agree**
1	People in my social environment think well of the school I work in.	1	2	3	4	5
2	In the eyes of others, it is considered most prestigious to be employed in the school I work in.	1	2	3	4	5
3	The school I work in is considered to be one of the best.	1	2	3	4	5
4	Teachers from other school look positively at the school I work in.	1	2	3	4	5
5	Teachers would be proud to be employed in the school I work in.	1	2	3	4	5
6	The school I work in does not have a good image in my social environment.	1	2	3	4	5
7	A person who wishes to promote his career will retire from the school I work in.	1	2	3	4	5
8	The authority of other schools do not want to employ teachers from the school I work in.	1	2	3	4	5

Table A4. 3. Attitudes of educational personal towards professional team (math teachers)

Number	**The statement** Your attitudes towards the professional staff (math) in the school you work in:	**Totally disagree**	**Quite disagree**	**Not sure**	**Quite agree**	**Totally agree**
1	The success of my professional team (math) is my success as well.	1	2	3	4	5
2	When I speak of my professional team (math) I usually say “us” and not “they”.	1	2	3	4	5
3	When someone criticizes my professional team (math), I feel personally insulted.	1	2	3	4	5
4	When someone praises my professional team (math), I accept it as a personal compliment.	1	2	3	4	5
5	If a critique about my professional team (math) would be published in the media, I would feel embarrassed.	1	2	3	4	5
6	I am very interested to know what others think of my professional team (math).	1	2	3	4	5

Table A4. 4. School employees' attitudes towards professional math team

Number	**The statement** Attitudes of your school's employees towards the professional team (in the field of math) you work with:	**Totally disagree**	**Quite disagree**	**Not sure**	**Quite agree**	**Totally agree**
1	People in my school think positively of the professional team (math) I work in.	1	2	3	4	5
2	In the eyes of school people, it is considered prestigious to be employed in my professional team (math).	1	2	3	4	5
3	The professional team (math) I work in is considered to be one of the best.	1	2	3	4	5
4	Teachers from other teams in the school look from an altitude at the math professional team I work in.	1	2	3	4	5
5	Teachers would be proud to be employed in the professional team (math) I work in.	1	2	3	4	5
6	The math professional team I work in does not have a good image in my social environment.	1	2	3	4	5
7	A person who wishes to promote his career will retire from the math professional team I work in.	1	2	3	4	5
8	Schools or other professional coordinators do not want to employ teachers from the math professional team I work in.	1	2	3	4	5

Table A4. 5. Attitudes towards profession (specialization in math)

Number	**The statement** Your attitudes towards the profession (specialization in math) you work in	**Totally disagree**	**Quite disagree**	**Not sure**	**Quite agree**	**Totally agree**
1	The success of those who practice the math teaching profession is my success as well.	1	2	3	4	5
2	When I speak of the math teaching profession, I usually say "us" and not "they".	1	2	3	4	5
3	When someone criticizes the profession of math teaching, I feel personally insulted.	1	2	3	4	5

Number	**The statement** Your attitudes towards the profession (specialization in math) you work in	**Totally disagree**	**Quite disagree**	**Not sure**	**Quite agree**	**Totally agree**
4	When someone praises the profession of math teaching, I accept it as a personal compliment.	1	2	3	4	5
5	If a critique about the profession of math teaching would be published in the media, I would feel embarrassed.	1	2	3	4	5
6	I am very interested in knowing what others think of the profession of math teaching	1	2	3	4	5

Table A4. 6. Attitudes of the general public towards profession (math teaching)

Number	**The statement** Attitudes of the general public towards the profession (math teaching) you work in.	Totally disagree	Quite disagree	Not sure	Quite agree	Totally agree
1	People in my social environment think positively of the math teaching profession.	1	2	3	4	5
2	In the eyes of others, it is considered most prestigious to be employed at the school I work at.	1	2	3	4	5
3	The school I work at is considered to be one of the best.	1	2	3	4	5
4	In my social environment, the school I work at is looked positively.	1	2	3	4	5
5	People would be proud to be employed at the school I work at.	1	2	3	4	5
6	The school I work at does not have a good image in the eyes of the general public.	1	2	3	4	5
7	A person who wishes to promote his career will retire from the math teaching profession.	1	2	3	4	5
8	When other schools recruit new personnel, they do not want teachers from the math teaching profession.	1	2	3	4	5

Table A4. 7. Inspector's leadership style

Number	My inspector:	Not at all	seldom	Some times	Often	Very often
1	Assists those he/she leads in return for their efforts.	1	2	3	4	5
2	Reexamines key assumptions to make sure they are appropriate.	1	2	3	4	5
3	Avoids interfering until the problems turn serious.	1	2	3	4	5
4	Focuses on exceptional issues, mistakes and deviations from what is required.	1	2	3	4	5
5	Avoids interfering even when important issues arise.	1	2	3	4	5
6	Talks to those he/she leads about values and beliefs that are important for him/her.	1	2	3	4	5
7	Is not near when he is needed.	1	2	3	4	5
8	Looks for different viewpoints in solving a problem.	1	2	3	4	5
9	Talks optimistically about future.	1	2	3	4	5
10	Imbues those he/she leads with pride for the mere fact of our relations.	1	2	3	4	5
11	Ensures that those he/she leads are properly rewarded for achievements of the goals.	1	2	3	4	5
12	Takes an action only when the things go wrong.	1	2	3	4	5
13	Talks enthusiastically about what needs to be accomplished.	1	2	3	4	5
14	Stresses importance of something by a strong sense of destiny.	1	2	3	4	5
15	Devotes time to apprenticing those he/she leads and to their instruction.	1	2	3	4	5
16	Is able to clearly explain to teachers his expectations of how they should meet requirements.	1	2	3	4	5
17	Shows that he/she believes in the statement "there is no need to mend what is not broken".	1	2	3	4	5
18	Ignores personal interests in favor of the group.	1	2	3	4	5

Number	My inspector:	Not at all	seldom	Some times	Often	Very often
19	Personally relates to those he/she leads, but not as an ordinary team member.	1	2	3	4	5
20	Begins acting only when she/he sees that the problems do not finish.	1	2	3	4	5
21	Inspires by his actions respect towards him from those he/she leads.	1	2	3	4	5
22	Spends his/her time in “coping with emergencies”.	1	2	3	4	5
23	Thinks of the moral, ethical, and aesthetics aspects of his/her decisions.	1	2	3	4	5
24	Follows the mistakes of those he/she leads.	1	2	3	4	5
25	Exhibits sense of power and security.	1	2	3	4	5
26	Describes an exciting vision of the future.	1	2	3	4	5
27	His/her attention is focused on the failures of those he/she leads in order to meet standards.	1	2	3	4	5
28	Avoids making decisions.	1	2	3	4	5
29	Treats each one of those he/she leads as an individual with personal needs, abilities, and aspirations.	1	2	3	4	5
30	Makes those he/she leads to look at the problems from many different perspectives.	1	2	3	4	5
31	Focuses those he/she leads on development of their ability and capability to work well.	1	2	3	4	5
32	Offers new ways to observe the way we perform our work.	1	2	3	4	5
33	Delays at responding to urgent matters.	1	2	3	4	5
34	Stresses importance of mutual missions.	1	2	3	4	5
35	Expresses satisfaction when those he/she leads do a good job.	1	2	3	4	5
36	Expresses confidence in the fact that teachers can and will achieve the goals.	1	2	3	4	5

Table A4. 8. Self-statements on workefficacy

Number	The statement: Myefficacy at work:	**Much worse than of others**	**Worse than of others**	**Just like of other employees**	**Better than of others**	**Much better than of others**
1	Myefficacy in general	1	2	3	4	5
2	My ability to get along with others	1	2	3	4	5
3	I complete my assignments on time	1	2	3	4	5
4	The quality of myefficacy	1	2	3	4	5
5	Reaching targets and goals at work (raising of pupils' achievements)	1	2	3	4	5

Table A4. 9. Inspector's stimulation of teachers' effort at work

Number	**The statement:** My inspector makes me put in effort in my work:	**Totally agree**	**Quite agree**	**No opinion**	**Quite disagree**	**Totally disagree**
1	To invest in my work more than I initially planned to.	1	2	3	4	5
2	To put in more time than what had been planned.	1	2	3	4	5
3	To require more of me in relation to the level of my professionalism in math	1	2	3	4	5
4	To enhance my motivation to succeed at work	1	2	3	4	5
5	To do more than I thought I could	1	2	3	4	5
6	To improve myefficacy	1	2	3	4	5

Table A4. 10. Attitudes towards work with the team

NO.	**The statement:** Your attitudes towards your work with the team you are assigned to:	**Totally disagree**	**Disagree**	**Quite disagree**	**Neither agree nor disagree**	**Quite agree**	**Agree**	**Totally agree**
1	In the team, we exchange good ideas amongst us.	1	2	3	4	5	6	7
2	The dialogue between me and my team-mates brings about formulation of valuable solutions	1	2	3	4	5	6	7
3	The dialogue between me and my team-mates begets creativity, innovation, and achievements	1	2	3	4	5	6	7
4	When a team-mate is very busy, I will almost always be there to volunteer in assisting him	1	2	3	4	5	6	7
5	The fact that I want to take or assign responsibility to my team-mate makes it easier	1	2	3	4	5	6	7
6	I want to assist my teammates to meet the assignments	1	2	3	4	5	6	7
7	I almost never inform my team-mates regarding actions that might affect any of us	1	2	3	4	5	6	7
8	Every one of us understands the occupational difficulties and needs of his fellow team-mate	1	2	3	4	5	6	7
9	I usually discuss with my team-mates the expectations of one another	1	2	3	4	5	6	7

Table A4. 11. Attitudes towards work with teachers of the school

NO.	**The statement:** your attitudes towards your work with teachers of the school you work in:	**Totally disagree**	**Disagree**	**Hardly disagree**	**Neither agree nor disagree**	**Hardly agree**	**Agree**	**Totally agree**
1	In the school team, we exchange good ideas amongst us	1	2	3	4	5	6	7
2	The dialogue between me and my school-mates brings about the formulation of valuable solutions	1	2	3	4	5	6	7
3	The dialogue between me and my school-mates begets creativity, innovation and achievements	1	2	3	4	5	6	7
4	When a school-mate is busy I will almost always be there to volunteer in assisting him.	1	2	3	4	5	6	7
5	The fact that I want to take and assign responsibility to my school-mates makes it easier	1	2	3	4	5	6	7
6	I want to assist my school-mates in order to meet the assignment.	1	2	3	4	5	6	7
7	I almost never inform my school-mates regarding actions that might affect either of us	1	2	3	4	5	6	7
8	Everyone of us understands the occupational difficulties and needs of his fellow school-mate	1	2	3	4	5	6	7
9	I usually discuss with my school-mates the expectations of one another	1	2	3	4	5	6	7

Personal details

Gender: 1. Female; 2. Male

Age (years):

Marital status: 1. Married; 2. Single; 3. Divorced; 4. Widow/widower

Teaching Experience:

Teaching hours:

Experience:

1. In management (for the principals) (in years):
2. Experience in supervision (for the inspectors) (in years):

Your education level is:

1. Post-high school (teacher's seminary graduate) or partially academic
2. Bachelor's degree
3. Bachelor's degree in math teaching
4. Master's degree
5. Doctorate
6. Other

State your number of years of study (“formal” education)

Specialization in mathematics: yes no

Rank in the new OFEK reform:

Training: number of training apprenticeships you have undergone in the field of math teaching in the last three years

My job:

1.Professional teacher

2.Professional teacher + class teacher

3. Subject coordinator

4. Instructor

5. Deputy

6. Principal

7. Inspector

I teach in:

1. Primary school grades 1-3
2. Primary school grades 3-6
3. Junior High school

Sector:1. State; 2. State-religious; 3. Arab sector; 4. other.

The schoolI teach in, is on a fostering index scale 1-10 at _____

(In case you don't know you can state the city or area of the school)

The average score in the "Meizav" testof the school I teach in:

1. Much above the national average
2. Above the national average
3. At national average
4. Below national average
5. Much below national average

*** Meitzav Test**: National Assessments in Israel 2013**Average score in the test**:

1. Computing, estimating or approximating with the whole numbers: ___
2. Concepts of fractions, and computing with fractions: ___
3. Geometry skills: ___

***This question intended for experiment group**

Number of study hour in math:

Number of pupils in my school:

Percentage of pupils in your class:

1. Having problems with math
2. Advanced in math
3. Number of those integrated in math (target 12 of Ministry of Education, integration and inclusion of pupils with difficulties).

Availability of the technical means in your class:

1. Computer
2. Projector
3. Internet connection
4. Teaching aids for the teaching of eh subject of math

Number of teachers in the staff:

Having math staff meetings held in the school you work in: yes/no

Frequency of the staff meetings:

1. Weekly
2. Two-weekly
3. Monthly
4. Occasionally

Reliability of questionnaires

In order to examine the reliability level of the questionnaire, that deals with variables, the indexes of Cronbach's Alpha (α) had been calculated.

Organizational identification: In the questionnaire of organizational identification, the index of F. Mael and D.E. Ashforth [127] is employed. The questionnaire includes 6 items. The questions are graded according to the R. Likert's scale of 5 points from "totally disagree" to "totally agree". The original reliability of the questionnaire is (α = 0.87); reliability of the questionnaire in our study is (α =0.75).

Team identification: In the questionnaire of team identification, an index of F. Mael and D.E. Ashforth [127] is employed. The questionnaire includes 6 items. The questions are graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree"). The original reliability of the questionnaire is (α = 0.87); reliability of the questionnaire in our study is (α =0.81).

Professional identification: In the questionnaire of professional identification, an index of F. Mael and D.E. Ashforth [142] had been employed. The questionnaire includes 6 items. Originally, the index examined professional identification [23]. The questions had been graded according to Likert's scale from 1 ("totally disagree") to 5 ("totally agree"). The educational personnel had been asked to answer questions of different items that express professional identification. The original reliability of the questionnaire as reported by [23]: (α = 0.80); reliability of the questionnaire in our study: (α =0.89).

Behavioral integration in the team: In this study, the teacher's contribution to behavioral integration in a team had been examined by an index (questionnaire) of nine items based on an index of Z. Simsek, M.H. Lubakin and J.F.Veiga [172]. There were used 7 items that express three dimensions: behavioral integration (the items 4, 5, 6 and 8), the level of information transferring and its quality (the items 1, 7 and 9), and the level of mutual decision making (the items 2 and 3). As the residents had not been asked at the personal level, there is no significance in presenting of original reliability. Reliability of the questionnaire in our study: (α =0.85)

Behavioral integration in the organization (school): In this study the teacher's contribution to behavioral integration in a school had been examined by an index (questionnaire) of nine items, based on an index of Z. Simsek, M.H. Lubakin and J.F.Veiga [172]. In order to prevent a

deviation of preference in answers, the item 7 had been phrased in a way of negation. The items express three dimensions:

1. Behavioral integration: the items 4, 5, 6, and 8.
2. The level of information transferring and its quality: the items 1, 7 and 9.
3. The level of mutual decision making: the items 2 and 3.

The questionnaire does not have questions at a personal level, and there is no significance in presenting of the original reliability; it has been tested in the study. Reliability of the questionnaire in this study: (α =0.86)

External prestige of the organization: Theindex (questionnaire) of perceived external prestige questionnaire is based on the study of F. Mael and D.E. Ashforth [127]. The questionnaire includes 8 items. The questions are graded aording to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree"), and the teachers were asked to say their opinion on how other people perceive their school (positively as having a prestige or negatively). In order to prevent a deviation of preference in answers, some questions had been phrased in a way of negation (the opposite questions: 4, 6, 7, and 8). The original reliability of the questionnaire: (α = 0.66); reliability of the questionnaire in this study: (α =0.77)

External prestige of theteam: The index (questionnaire) of perceived external prestige is based on a questionnaire of F. Mael and D. E. Ashforth [127]. The questionnaire includes 8 items. The questions had been graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree"), and the teachers were asked to say what they thought of other people's opinion on their school prestige. In order to prevent a deviation of preference in their answers, some questions had been phrased in a way of negation (the opposite questions: 4, 6, 7, and 8).
The original reliability of the questionnaire: (α = 0.66); reliability of the questionnaire in this study: (α =0.75).

External prestige of profession: The index (questionnaire) on perceived external prestige is based on the questionnaire of F. Mael and D.E. Ashforth [127]. An adjustment of the index of external prestige of the math profession had already been done by us earlier [23]. The questionnaire includes 8 items. The questions had been graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree"), and the teachers had to tell their opinion on other people opinion on prestige of their profession. In order to prevent a deviation of preference in the answers, some questions had been phrased in a way of negation (the opposite questions: 4, 6, 7 and 8). The original reliability of the questionnaire:
(α = 0.66); reliability of the questionnaire in our study: (α =0.84).

Personnelefficacy: Evaluation of personnelefficacy had been made by an index (questionnaire) of 5 items, based on the index of J.S. Black and L.W. Porter [37]. The questions had been graded according to the Likert's scale from 5 ("much above most teachers") to 1 ("much below most teachers") in order to state their attitude towards theirefficacy - in correlation to their co-workers. The criteria of this questionnaire: employees' efficacy and the quality level: the items 1 and 4; meeting organizational targets: the item 5. Original reliability of the questionnaire: (α = 0.80). Reliability of the questionnaire: (α =0.88)

In addition, teachers' activity efficacy (achievements) is studies by the economic- educational indicators variables: the average score in the Meizav test of the school. The scale goes from "much above the national average" to "much below the national average"

Personnelefficacy - teachers' exerting effort at work: The personnelefficacy had been examined from the perspective of teachers' exerting effort at work through the index (questionnaire) of 6 items that is based on the index of B.M. Bass and B.J. Avolio [28]. The questions had been graded according to the Likert's scale from 1 ("totally disagree") to 5 ("totally agree") to study how teachers treat inspector's leadership that makes them to make effort at work to improve achievements: the items 1-5; improvingefficacy: the item 6.

The original reliability of the questionnaire: (α = 0.90); reliability of the questionnaire in our study: (α =0.94).

Leadership style: Then index (questionnaire) used to assess leadership style is based on the study of B.M. Bass and B.J. Avolio [29] The questions had been graded according to the Likert's scale from 1 ("not at all") 5 ("very often").

Inspector's transformational leadership style is studied through:

1. Attributed Idealized Influence model (Indirect) is reflected in questions 10, 18, 21 and 25. The original reliability of the questionnaire: (α = 0.77); reliability of the questionnaire in our study: (α =0.75).
2. Behavior Idealized Influence model (Imitation) is reflected in questions: 6, 14, 23 and 34. The original reliability of the questionnaire: (α = 0.75); reliability of the questionnaire in our study: (α =0.82).
3. Inspirational Motivation is reflected in questions: 9, 13, 26 and 36. The original reliability of the questionnaire: α = 0.82; reliability of the questionnaire in our study: (α=0.87).
4. Intellectual Stimulation (Clinical) is reflected in questions 2, 8, 30, and 32. The original reliability of the questionnaire: (α = 0.77); reliability of the questionnaire in our study: (α =0.84).

5. Individualized Consideration (Differential). Expressed in questions: 15, 19, 29 and 31. Original reliability of the questionnaire: (α = 0.76). Reliability of the questionnaire in our study: (α =0.88).

Transactional Leadership style is studied through:

1. Contingent Reward (Differential) is reflected in questions 1, 11, 16, and 35. The original reliability of the questionnaire: (α = 0.79); reliability of the questionnaire in our study: (α =0.81)
2. Management by Exception – Active in reflected in questions 4, 22, 24, and 27. The original reliability of the questionnaire: (α = 0.67); reliability of the questionnaire in our study: (α =0.59)
3. Management by Exception - Passive (Intentional) is reflected in questions 3, 12, 17 and 20. The original reliability of the questionnaire: (α = 0.70); reliability of the questionnaire in our study: (α =0.82)
4. Laissez-Faire is reflected in questions: 5, 7, 28 and 33. The original reliability of the questionnaire: (α = 0.75); reliability of the questionnaire in our study: (α =0.78)

Economic-educational indicators as variables: The Economic-educational indicators as variables are examined with the following criteria: number of study years, number of training apprenticeships, rank in Ofek, the average score in Meizav test, pupils' population's characteristics, the fostering index, number of pupils in a class, number of teaching hours, number of hours on teaching math, resources in class (such as computer, projector, and teaching aids). One of the sources is the fostering index with dimension of 1-10 scales that is used as a tool for distribution of various resources to schools and for enhancement of weak population. This index is calculated at the pupil's level. The index expresses the level of educational deprivation of a school: the higher is the index value, the lower is the socio-economic background of the pupils' belonging to the school and the school's allocated budgets are bigger. The components of the fostering index in Jewish education:

1. The economic index – the rate of the families with low income (20%)
2. The parents' educational index (40%)
3. The country of the origin index – distresses the country and new immigrants (20%)
4. The periphery index – a distance from three major cities (20%).
5. In addition, in the Arab sector education, the rate of the pupils from "unfamiliar", mixed and distant cities have been calculated [218].

Demographic variables (background)

The following demographic variables are examined in the questionnaires: gender, age, marital status, experience in school, education, position, and sectorial type of school.

Table A5.1. Reliability of questionnaires

Variables	Cronbach's alpha (α) Original reliability of the questionnaire	Cronbach's alpha (α) Reliability of the questionnaire in the current study
Organizational identification	α = 0.87	α =0.75
Team identification	α = 0.87	α =0.81
Professional identification	α = 0.80	α =0.89
Behavioral integration in the team	-	α =0.85
Behavioral integration in the organization (school)	-	α =0.86
External prestige of an organization	α = 0.66	α =0.77
External prestige of a team	α = 0.66	α =0.75
External prestige of profession	α = 0.66	α =0.84
Personnelefficacy	α = 0.80	α =0.88
Personnelefficacy - teachers' exerting effort at work	α = 0.90	α =0.94
Inspectors' Transformational leadership style		
Indirect- attributed idealized influence model	α = 0.77	α =0.75
Imitation-behavior idealized influence model	α = 0.75	α =0.82
Inspirational motivation	α = 0.82	α =0.87
Clinical- intellectual stimulation	α = 0.77	α =0.84
Differential- individualized consideration	α = 0.76	α =0.88
Transactional leadership style:		
Contingent reward	α = 0.79	α =0.81
Management by exception - active	α = 0.67	α =0.59
Management by exception - passive (intentional)	α = 0.70	α =0.82
Laissez-faire	α = 0.75	α =0.78

Results of Factor Analyses

Perceived External Prestige (PEP)

The factor analysis had been conducted on 24 items of the Perceived External Prestige questionnaire, while the items had been loaded according to the character of the questions, regarding three factors perceived as different. One factor is for the items that deal with the Perceived External Prestige of a school; another factor - for the items that deal with the Perceived External Prestige of the math teaching team; and the third factor - for the items that deal with the Perceived External Prestige of the teaching profession.

Table A6.1. Findings of the Factor Analysis on Perceived External Prestige

Rotated Component Matrix[a]			
	Component		
Perceived External Prestige (PEP)	Factor 1-PEP School	Factor2-PEP Team	Factor 3-PEP Profession
People in my social environment think well of the school I work in.			
In the eyes of others, it is considered most prestigious to be employed in the school I work in.			
The school I work in is considered to be one of the best.			
Teachers from other schools have a positive altitude to the school I work in.	.425		
Teachers would be proud to be employed in the school I work in.	.400		
The school I work in does not have a good image in my social environment.	.655		
A person who wants to promote his career will retire from the school I work in.	.647		
When the authorities of other schools recruit a new personnel, they do not want teachers from the school I work in.	.654		
People in my school think well of the professional team (math) I work in.		.698	
In the eyes of people in the school, it is considered most prestigious to be employed in professional team (math) I work in.		.816	
The professional team (math) I work in is considered to be one of the best.		.737	
Teachers from other teams in the school have a positive altitude to the professional team (math) I work in.			
Teachers would be proud to be employed in the professional team (math) I work in.		.738	
The professional team (math) I work in does not have a good image		.441	

in my social environment.			
A person who wishes to promote his career will retire from the professional team (math) I work in.			
When other schools or other professional coordinators recruit a new personnel, they do not want teachers from the professional team (math) I work in.			
People in my social environment think well of the math teaching profession.			.792
In the eyes of others, it is considered most prestigious to be employed in the school I work in.			.833
The school I work in is considered to be one of the best.			.843
In my social environment the school I work in is looked at from an altitude.			
People would be proud to be employed in the school I work in.			.815
The school I work in does not have a good image in the eyes of the general public.			.780
A person who wishes to promote his career will retire from the math teaching profession.			.704
When other schools recruit new personnel, they do not want teachers from the math teaching profession.			.612
Eigenvalues	5.630	3.348	2.627
% of Variance	23.460	13.951	10.945
Cumulative %	23.460	37.410	48.356

Extraction method: the Principal Component Analysis.
Rotation method: Varimax with Kaiser Normalization.
[a]Rotation converged in 5 iterations.

From the factor analysis performed on 24 PEP items, three factors are identified: one includes 7 PEP items in the math teaching profession, the second - 5 PEP items of professional math team, and the third - 5 PEP items in a school.

Although 5 items are loaded with a relatively low loading factor for PEP in a school and in a team, they are not seemed necessary to be removed.

The researcher's conclusion in this case is that we face three indexes that are very well distinguishable; examination of each dimensions is made separately, which findings exhibit a high loading factor for the indexes (each one separately) and reinforces this statement.

After determining these three factors, the reliability index had been examined and the results had been received as follows:

Table A6.2. Reliability of the Perceived External Prestige dimensions after Unification of dimensions

Index-Perceived External Prestige - PEP	Cronbach's (α)	Number of items
PEP School	0.77	8
PEP Team	0.75	8
PEP Profession	0.84	8

In general, it can be said that the high values of the loading factor have been received that, alongside with the high reliability indexes (α), indicate quality of the chosen research tools.

Organizational Identification (OI), Identification with profession and team

The factor analysis has been conducted on 18 items of the Identification items of three factors, while the items have been loaded according to the character of the questions: one factor - for the items that deal with Identification with a school, another - for the items that deal with Identification with math teaching team, and the third – for the items that deal with Identification with the teaching profession.

Table A6.3. Findings of factor analysis of organizational identification

	Rotated Component Matrix[a]		
		component	
Identification	Factor 1- I School	Factor 2- I Team	Factor 3- I Profession
The success of my school is considered as my success as well.	.597		
When I speak of my school, I usually say "us" and not "they".	.576		
When someone criticizes my school, I feel personally insulted.	.702		
When someone praises my school, I accept it as a personal compliment.	.726		
If a critique about my school would be published in the media, I would feel embarrassed.	.595		
I am very interested to know what others think of my school.	.618		
The success of my professional team (math) is my success as well.		.687	
When I speak of my professional team (math), I usually say		.709	

"us" and not "they".			
When someone criticizes my professional team (math), I feel personally insulted.		.794	
When someone praises my professional team (math), I accept it as a personal compliment.		.767	
If a critique about my professional team (math) would be published in the media, I would feel embarrassed.		.608	
I am very interested to know what others think of my professional team (math).		.511	
The success of those who practice the teaching profession (math) is my success as well.			.755
When I speak of the profession of math teaching, I usually say "us" and not "they".			.742
When someone criticizes the profession of math teaching, I feel personally insulted.			.792
When someone praises the profession of math teaching, I accept it as a personal compliment.			.796
If a critique about the profession of math teaching would be published in the media, I would feel embarrassed.			.781
I am very interested in knowing what others think of the profession of math teaching.			.782
Eigenvalues	7.799	2.418	2.120
% of Variance	37.138	13.896	10.097
Cumulative %	37.138	51.034	61.131

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 5 iterations.

Table A6.4. Identification dimensions reliability

Index-Identification	Cronbach's alpha (α)	Number of items
School Identification	0.75	6
Team identification	0.81	6
Professional identification	0.89	6

Behavioral integration

The factor analysis is performed on 18 Behavioral Integration items of two factors, while the items are loaded according to the character of the questions: one factor for the items that deal with Behavioral Integration in a school, second factor - for the items that deal with Behavioral Integration in a math teaching team.

Table A4.5. Findings of factor analysis of behavioral integration

Rotated Component Matrix[a]		
Behavioral integration	Component	
	Factor 1-BI Team	Factor 2-BI School
We, in the team, exchange good ideas amongst us.	.780	
The dialogue between me and my team-mates brings about formulation of valuable solutions.	.784	
The dialogue between me and my team-mates begets creativity, innovation and achievements.	.799	
When a team-mate is very busy, I am almost always there to volunteer in assisting him.	.733	
The fact that I want to take or assign responsibility to my team-mate makes it easier.	.728	
I want to assist my team-mates to meet the assignments.	.656	
I almost never inform my team-mates regarding the actions that might affect any of us.		.773
Each of us understands the occupational difficulties and needs of his fellow team-mate.	.670	
I usually discuss with my team-mates the expectations of one another.	.760	
We, in the school team, exchange good ideas amongst us.	.752	
The dialogue between me and my school-mates brings about the formulation of valuable solutions.	.740	
The dialogue between me and my school-mates begets creativity, innovation and achievements.	.740	
When a school-mate is busy, I am almost always there to volunteer in assisting him.	.654	.462

The fact that I want to take and assign responsibility to my school-mates makes it easier.	.599	.505
I want to assist my school-mates in order to meet the assignment.	.576	.600
I almost never inform my school-mates regarding the actions that might affect either of us.		.813
Each of us understands the occupational difficulties and needs of his fellow school-mate.	.591	
I usually discuss with my school-mates the expectations of one another.	.646	
Eigenvalues	8.471	1.944
% of Variance	47.063	10.800
Cumulative %	7.0634	57.863

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 3 iterations.

From the factor analysis performed on 18 Behavioral Integration items (9 items of Behavioral Integration in the team and 9 items of Behavioral Integration in school (organization), two factors have been identified, which indicate two factors that are not compatible with our expectations.

Our conclusion in this case is that we are not facing two distinguishable dimensions; examination of each dimension separately indicates a high non-loading factor for the indexes that reinforces this statement. Therefore, this variable has been united and examined as the general Behavioral Integration. After that, reliability of these dimensions had been examined once again.

Reliability of behavioral integration in a team and school as a moderator

The received results are the following:

Table A4.6. Reliability of the moderator of Behavioral Integration

Index-Behavioral Integration:	Cronbach's Alpha (α)	Number of items
Behavioral Integration in team	0.85	9
Behavioral Integration in school	0.86	9

In general, it can be said that the loading factor values have been received for two dimensions of Behavioral Integration, which are not distinguishable, are high reliability values, that indicate quality of the chosen research tools.

Teachers' activity efficacy

The factor analysis has been performed on 11 questions in the variable of Teachers' activity efficacy: 5 items of teachers' activity efficacy and 6 items of teachers' activity efficacy – teachers'exerting effort at work.

Table A6.7. Findings of factor analysis of Teachers' activity efficacy

	Rotated Component Matrix[a]	
	Component	
Teacherseffica cy	Factor 1- Teachers' activity efficacy	Factor 2- Exerting of teachers' effort atwork
Myefficacy in general.	.842	
My ability to get along with others.	.774	
My ability to complete my assignments on time.	.760	
The quality of myefficacy.	.891	
Reaching targets and goals at work (rising of pupils' achievements).	.828	
My ability to invest in my work more than I initially planned.		.827
My ability to put in more time than it had been planned.		.861
My ability to require more from me in correlation to the level of my professionalism in math.		.895
My ability to enhance my motivation to succeed at work.		.903
My ability to do more than I thought I could.		.919
My ability to improve myefficacy.		.870
Eigenvalues	4.685	3.335
% of Variance	42.592	30.316
Cumulative %	42.592	72.908

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 3 iterations.

From the factor analysis performed on 11 teachers' activity efficacy items (5 items of teachers' activity efficacy and 6 items of teachers' activity efficacy – teachers' exerting effort at work), two factors, that are compatible with our expectations, have been identified: 5 items of teachers'

activity efficacy index and 6 items of teachers' activity efficacy – teachers' exerting effort at work index. Our conclusion in this case is that we are facing two well distinguishable indexes; examination of each index separately indicates a high non-loading factor for an index (each one separately) and reinforces this statement. Reliability of the chosen indexes, after examination of two factors, has been examined anew.The results are the following.

Reliability of the dependent variable of teachers' activity efficacy (achievements)

Table A6.8. Reliability of Teachers' activity efficacy index

Index-Teachers efficacy	Cronbach's alpha (α)	Number of items
Teachersefficacy	0.88	5

High values of reliability indicate the quality of chosen research tools.

Reliability of the dependent variable of Teachers' activity efficacy - teachers' exerting effort at work

Table A6.9. Reliability of Teachers' activity efficacy - Exerting effort at work index

Index- Teachersefficacy - **Teachers' exerting** effort at work	Cronbach's alpha (α)	Number of items
Investing effort at teachers' work	0.94	5

Very high values of reliability indicate the quality of chosen research tools.

Reliability of the independent variable of Inspector's Leadership Style

The dimensions that have been examined and the results are as follows:

Table A6.10. Reliability of Inspector's Leadership Style index

Index-Transactional Leadership Inspector's style	Cronbach's alpha (α)	Number of Items
Contingent Reward (Differential)	0.81	4
Management by Exception – Active	0.57	4
Management by Exception – Passive (Intentional)	0.82	4
Laissez-Faire	0.78	4
Attributed Idealized Influence model (Indirect)	0.75	4
Behavior Idealized Influence model (Imitation)	0.82	4
Inspirational Motivation	0.87	4
Intellectual Stimulation (Clinical)	0.84	4
Individualized Consideration (Differential)	0.88	4

High reliability values (α) indicate the quality of chosen research tools.As the reliability of the original MLQ questionnaire (Multi-Factor Leadership Questionnaire) is compatible with the reliability of the questionnaire in the ccurrent study, no factor analysis has been performed.

Appendix 7

Research population: Sample characteristics

Distribution of the sample according to sectors (TableA7.1)

Table A7.1.Distribution of the sample according to sectors

Categories	Relative Frequency
	$f_{(x)}/_n$
State	.65
State-religious	.24
Arab sector	.11
Total	100%

Sample characteristics distribution according to position and sector (Table A7.2)

Table A7.2. Distribution of the sampleaccording to position and sector

Category-Job	**Arab Sector** Relative Frequency	**State-Religious** Relative requency	**State** Relative Frequency
	$f_{(x)}/_n$	$f_{(x)}/_n$	$f_{(x)}/_n$
Professional teacher	.03	.05	.06
Professional + class teacher	.26	.21	.35
Subject coordinator	.23	.34	.17
Instructor	.06	.12	.22
Deputy	----	.01	.02
Principal	.34	.20	.12
Inspector	.08	.07	.06
Total	100%	100%	100%

Sample characteristics distribution according to managerial position (**Table**A7.3)

Table A7.3. Distribution of the sampleaccording tomanagerial position

Categories	Relative Frequency
	$f_{(x)}/_n$
Professional teacher + class teacher	.34
Managerial position: coordinator and Instructor	.41
Managerial position: Inspector	.25
Total	100%

Position: Distribution of sample according to position (the highest between them)

(Table A7.4)

Table A7.4. Distribution of the sampleaccording to position

Categories	Relative Frequency
	$f_{(x)}/_n$
Professional teacher	.05
Professional teacher + class teacher	.30
Subject coordinator	.21
Instructor	.19
Principal	.18
Inspector	.07
Total	100%

Genderdistribution (Table A7.5)

Table A7.5. Gender distribution

Categories	Relative Frequency
	$f_{(x)}/_n$
Female	.94
Male	.06
Total	100%

Marital status (Table A7.6)

Table A7.6. Indexes of sample according to marital status

Categories	Relative Frequency
	$f_{(x)}/_n$
Married	.87
Single	.07
Divorced	.05
Widow/er	.01
Total	100%

Age groups in which the sample population are teaching (Table A7.7)

Table A7.7.Indexes of sample according to age group they teach

Categories	Relative Frequency
	$f_{(x)}/_n$
Primary school grades 1- 3	.13
Primary school grades 3-6	.80
Junior High school	.07
Total	100%

Age (Table A7.8)

Table A7.8. Indexes of sample according to age

Categories - Age (Years)	Relative Frequency $f_{(x)}/_n$
23-29	.06
30-39	.25
40-49	.37
50-59	.30
60-65	.02
Total	100%

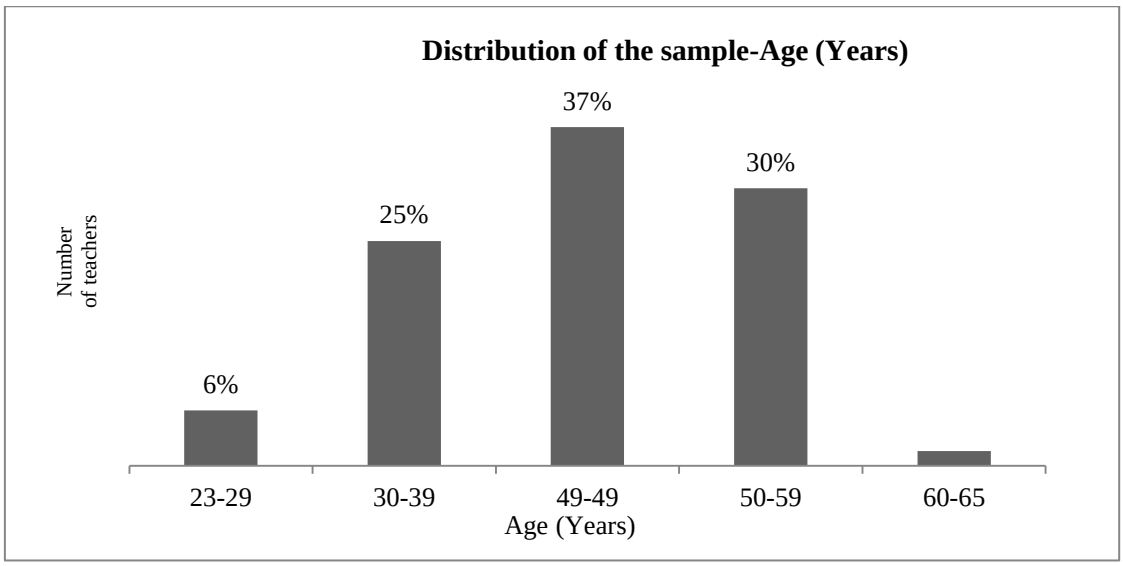


Figure A7.1.Distribution of sample according to age

Center indexes and dispersion indexes of the sample according to age are as follows:

Table A7.9.Indexes center and dispersion indexes of sample employees' age

MIN	MAX	M	SD	MODE	MEDIAN
23	65	44.13	8.9	50	44

Experience in school (Table A7.10)

The following table presents the data of sample distribution according to experience (number of years) in school.

Table A7.10.Indexes according to experience

Categories –Experience in teaching in school (years)	Relative Frequency $f_{(x)}/_n$	
5-0	.25	
10-6	.25	
15-11	.2	
20-16	.15	
25-21	.05	
30-26	.05	
Over 31 experience	.05	
Total	100%	

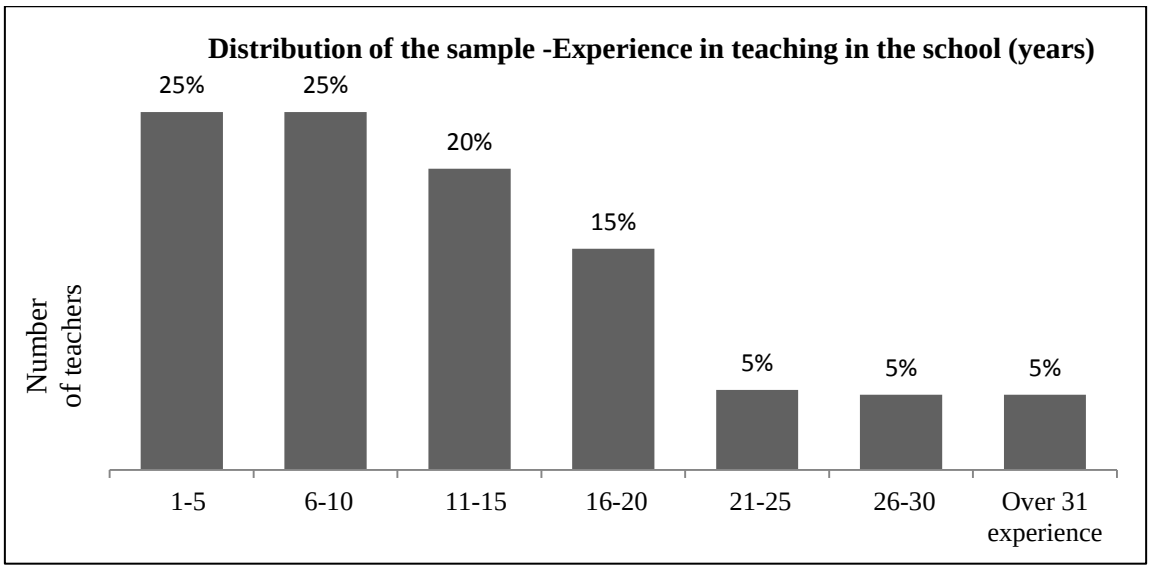


Figure A7.2. Sample distribution according to experience in school

Center indexes and dispersion indexes of the sample according to experience in school (Table A7.11)

Table A7.11. Indexes according to experience in school

MIN	MAX	M	SD	MODE	MEDIAN
1	44	12.7	8.75	10	11

Experience in teaching (The Table A7.12)

The following table presents the data of sample distribution according to experience in teaching.

Table A7.12. Indexesaccording to experience in teaching

Categories -Experience in teaching	Relative Frequency $f_{(x)}/_n$	
5-0	.10	
10-6	.10	
15-11	.17	
20-16	.10	
25-21	.33	
Over 31 Experience in teaching	.12	
Total	100%	

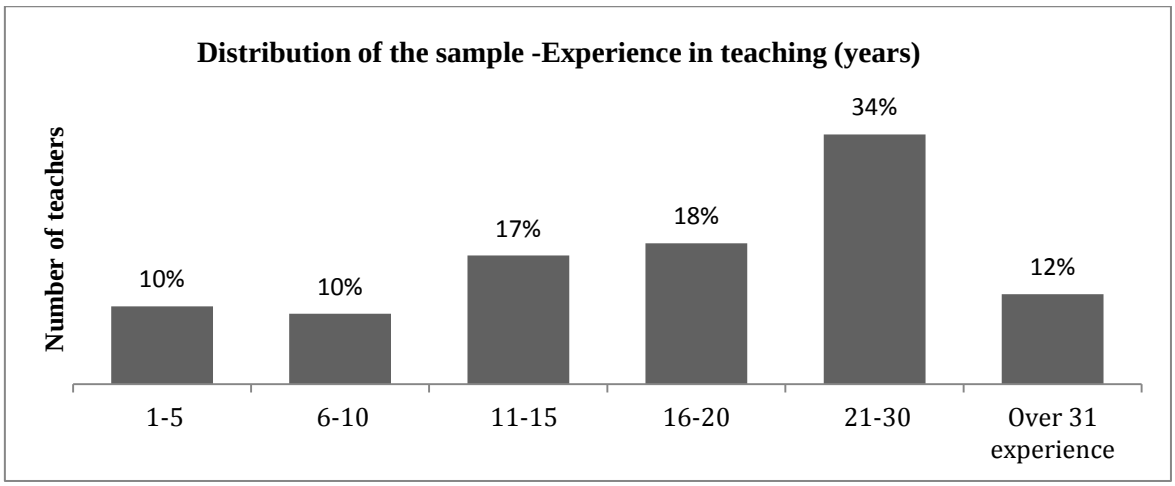


Figure A7.3. Sample distribution according to experience in teaching

Center indexes and dispersion indexes of the sample according to experience in teaching are as follows:

Table A7.13. Indexes according to experience in teaching

MIN	MAX	M	SD	MODE	MEDIAN
1	46	19.18	9.35	30	19

Education (Table A7.14)

The following table presents the data of sample distribution according to education.

Table A7.14. Indexes according to education

Categories	Relative Frequency
	$f_{(x)}/_n$
Post-High school (teacher's seminary graduate)	.03
Bachelor's degree	.30
Bachelor's degree in math teaching	.12
Master's degree +	.55
Total	100%

Sample characteristics - according to number of school years (Table A7.15)

The following table presents the sample distribution according to number of study years.

Table A7.15. Indexes According to number of study years

Categories - years of study ("formal education")	Relative Frequency $f_{(x)}/_n$
16-15	.43
18-17	.42
21-19	.13
Over 22	.02
Total	100%

Sample center and dispersion indexes according to number of study years are as follows:

Table A7.16. Sample center and dispersion indexes according to number of study years

MIN	MAX	M	SD	MODE	MEDIAN
10	30	17.22	1.91	18	17

Sample characteristics: number of training apprenticeships undergone in the last 3 years

Table A7.17.Sample distribution according to the number of training apprenticeships undergone in the last 3 years.

Categories -Training: number of training apprenticeships you have undergone in the field of math teaching in the last three years	Relative Frequency $f_{(x)}/_n$
0	.36
2-1	.21
3	.20
Over 3	.23
Total	100%

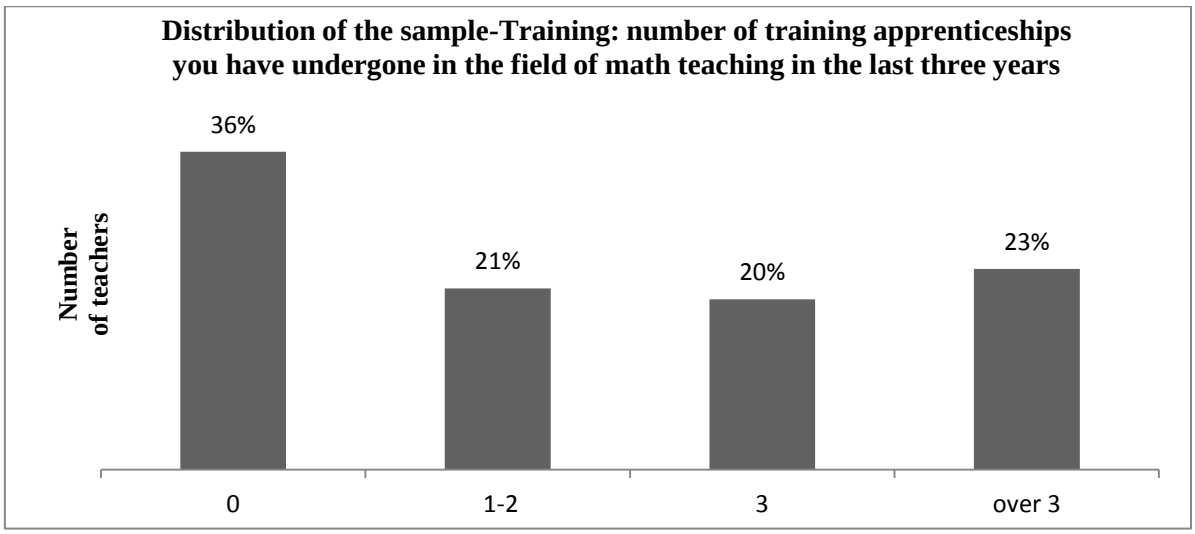


Figure A7.4. Sample distribution according to number of training apprenticeships undergone in the last 3 years

Sample center and dispersion indexes according to number of training apprenticeships undergone in the last 3 years are as follows:

Table A7.18. Sample center and dispersion indexes according to Number of training apprenticeships undergone in the last 3 years

MIN	MAX	M	SD	MODE	MEDIAN
0	9	2.14	2.11	0	2

Table A8.1. Matrix of correlations (Pearson correlation)

	identification			Perceived External Prestige			Teachers' activity efficacy	Exertion of teachers' effort at work	Behavioral integration		Transformational leadership style					Transactional Leadership style			
	School	Team	Professional	School	Team	Professional			BI Team	BI school	Motivation	Imitation	Differential	Indirect	Clinical	Contingent Reward	Active	Laissez-Faire	Intentional
Mediator variable																			
School Identification	1																		
Team identification	.421**	1																	
Professional identification	.285**	.438**	1																
PEP School	.127*	.220**	.104	1															
PEP Team	.103	.292**	.200**	.421**	1														
PEP Professional	.088	.078	.325**	.199**	.224**	1													
Dependent variable																			
Teachers' activity efficacy	.320**	.605**	.692**	.581**	.624**	.641**	1												
Teachers' exerting effort at work	.312**	.603**	.693**	.582**	.625**	.640**	.998**	1											
Moderator variable																			
Behavioral integration (BI)Team	.057	.168**	.239**	.179**	.316**	.220**	.353**	.356**	1										
BI school	.177**	.266**	.273**	.226**	.346**	.220**	.414**	.412**	.711**	1									
Independent variable																			
Motivation	.126*	.103	.077	.062	.058	-.007	.087	.090	.028	-.023	1								
Imitation	.112*	.078	.035	.005	.040	-.017	.040	.043	-.036	-.076	.827**	1							
Differential	.178**	.221**	.220**	.165**	.263**	.138*	.311**	.314**	.574**	.532**	.770**	.727**	1						
Indirect	.158**	.061	.048	-.015	.018	-.012	.031	.034	.011	-.051	.762**	.750**	.621**	1					
Clinical	.122*	.034	.000	.064	.068	-.051	.029	.031	.005	-.054	.793**	.824**	.662**	.696**	1				
Contingent Reward	.155**	.096	.067	.049	.089	.001	.090	.093	.103	.045	.886**	.937**	.814**	.875**	.910**	1			
Active	.165**	.099	.076	.061	.103	.007	.104	.107	.145*	.083	.882**	.892**	.821**	.893**	.913**	.994**	1		
Laissez-Faire	.038	.117*	-.020	-.058	-.191**	-.098	-.078	-.083	-.072	-.016	-.381**	-.377**	-.348**	-.288**	-.356**	-.384**	-.376**	1	
Intentional	-.021	.081	-.077	-.090	-.192**	-.151**	-.140*	-.144*	-.133*	-.065	-.004	-.074	-.099	-.186**	-.048	-.114*	-.123*	.398**	1

$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$

Descriptive statistic of research variables

Perceived External Prestige

Table A9.1. Descriptive statistics of the variable of - Perceived External prestige

Perceived External Prestige - PEP	MIN	MAX	MEAN	SD	CV	Number of items	Scale
PEP School	1.38	5	3.97	0.58	0.15	8	INTERVAL SCALE 1-5
PEP Professional	2.75	5	4.11	0.51	0.12	8	
PEP Team	1.75	5	3.89	0.74	0.19	8	

Identification with school (organization), the professional team, and the teaching profession

Table A9.2. Descriptive statistics of the variable of Identification

Index	MIN	MAX	MEAN	SD	CV	Number of items	Scale
Identification with school	3	5	4.46	0.67	0.44	6	INTERVAL SCALE 1-5
Identification with team	2	5	4.39	0.46	0.52	6	
Identification with profession	1.67	5	4.17	0.76	0.72	6	

Behavioral integration in team and school (the organization)

The center and dispersion indexes of the mediator of behavioral integration in the professional team, and the school (the organization) have been examined. Table A9.3 presents the findings of the examination.

Table A9.3. Center and dispersion indexes of behavioral integration in the team

Index	MIN	MAX	MEAN	SD	CV	Number of items	Scale
Behavioral Integration in team	2.78	7	5.87	0.77	0.13	9	INTERVAL SCALE 1-5
Behavioral Integration inschool	3.44	7	5.87	0.74	0.13	9	

Teachers' activity efficacy

The center and dispersion indexes of the variable of teachers' activity efficacy and teachers' activity efficacy - teachers' exerting effort at work are presented in the Table A9.4.

Table A9.4. Center and dispersion indexes of teachers' activity efficacy and Teachers' activity efficacy - teachers' exerting effort at work

Index	MIN	MAX	MEAN	SD	CV	Number of items	Scale
Teachers' activity efficacy	2	5	4.03	0.6	0.15	5	INTERVAL SCALE 1-5
Teachers' exerting effort at work	1	5	3.01	1.06	0.35	5	

Inspector's leadership style and its indexes

Center and dispersion indexes of inspector's leadership style variable and its dimensions are presented in tables A9.5-A9.6.

Table A9.5. Overall descriptive statistic of inspector's transactional leadership style variable

Index	MIN	MAX	M	SD	CV
Transactional Leadership Total	1	5	2.67	0.54	0.2

Table A9.6. Descriptive statistic inspector's transactional leadership style variable

Index- Inspector's Transactional Leadership style	MIN	MAX	MEAN	SD	CV	Number of items	Scale
Contingent Reward (Differential)	1	5	3.30	0.93	0.28	4	INTERVAL SCALE 1-5
Management by Exception-Active	1	5	2.83	0.78	0.27	4	
Management by Exception - Passive (Intentional)	1	5	2.39	0.83	0.35	4	
Laissez-Faire	1	5	2.18	0.92	0.42	4	

Table A9.7. Descriptive statistic of inspector's overall transformational leadership style variable

Index	MIN	MAX	M	SD	CV
Inspector's Transformational leadership style –Total	1	5	3.56	0.87	0.24

Table A9.8. Descriptive statistics of the variable indexes of Inspector'stransformational leadership style

Index- Inspector's Transformational Leadership Style	MIN	MAX	MEAN	SD	CV	Number of items	Scale
Attributed Idealized Influence model (Indirect)	1	5	3.54	0.90	0.26	4	INTERVAL SCALE 1-5
Behavior Idealized Influence model (Imitation)	1	5	3.69	0.92	0.25	4	
Inspirational Motivation	1	5	3.76	0.98	0.26	4	
Intellectual Stimulation (Clinical)	1	5	3.52	0.94	0.27	4	
Individualized Consideration (Differential)	1	5	3.42	1.03	0.30	4	

Inferential Statistics-Examination of hypotheses

Body of hypotheses regarding the correlation between inspector's leadership style and between teachers' activity efficacy

Hypothesis 1: There is a positive relation between an inspector's transactional leadership style and teachers' activity efficacy.

Table A10.1. Pearson's coefficients between an inspector's transactional leadership style and teachers' activity efficacy

Variable	Index- inspector's Transactional Leadership Style		r
Teachers' activity efficacy	Contingent Reward (Differential)		.090
	Management by Exception – Active		.104
	Laissez-Faire		-.078
	Management by Exception – Passive (Intentional)		-.140*
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$			

Table A10.2. Pearson's correlations between inspector's transformational leadership style andteachers' activity efficacy

Variable	Index - Transformational Leadership Style of an Inspector	**r**
Teachers' activity efficacy	Attributed Idealized Influence model (Indirect)	.031
	Behavior Idealized Influence model (Imitation)	.040
	Inspirational Motivation	.087
	Intellectual Stimulation (Clinical)	.029
	Individualized Consideration (Differential)	.311**
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$		

Table A10.3.Regular regression related to thecorrelation between inspector's leadership style and teachers' activity efficacy

	Index	Teachers' activity efficacy Step 1		
		b	β	(t)
	Constant[(1)]	2.837		12.720
Inspector's Transactional leadership style	Contingent Reward (Differential)			
	Management by Exception - Active			
	Laissez-Faire	.012	.027	.432
	Management by Exception - Passive(Intentional)	-.060	-.128*	-2.118
Inspector's Transformational leadership style r	Inspirational Motivation	-.027	-.069	-.581
	Behavior Idealized Influence model (Imitation)	-.094	-.222*	-1.992
	Individualized Consideration (Differential)	.442	.642**	7.642
	Attributed Idealized Influence model (Indirect)	-.048	-.110	-1.241
	Intellectual Stimulation (Clinical)	-.033	-.079	-.807
	Adjusted R^2	.177		
	Standard Error	.353		
	F	10.523		
p<0.001*** *p*<0.01** *p*<0.05*, [(1)]b=Non-standard coefficient β=stand				

Body of hypotheses regarding the correlation between inspector's leadership style and teachers' activity efficacy - teachers' exerting effort at work

Hypotheses 1a: There is a positive correlation between ani transactional leadership style and teachers' activity efficacy - exerting effort at work.

TableA10.4. Pearson's correlations between an inspector's transactional leadership style and teachers' activity efficacy - teachers' exerting effort at work

Variable	**Index-** Transactional Leadership style		r
Teachers' activity efficacy – Teachers' Exerting effort at work	Contingent Reward (Differential)		.093
	Management by exception – active		.107
	Laissez-Faire		-.083
	Management by exception – passive (Intentional)		-.144*
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$			

Hypotheses a: There is a positive correlation between an inspector's transformational leadership style and teachers' activity efficacy - exerting effort at work.

Table A10.5. Pearson's correlations between an inspector's transformational leadership style and teachers' activity efficacy - teachers' exerting effort at work

Variable	**Index - Inspector's Transformational Leadership Style**	**r**
Teachersefficacy-Teachers' exerting effort at work	Attributed Idealized Influence model (Indirect)	.034
	Behavior Idealized Influence model (Imitation)	.043
	Inspirational Motivation	.090
	Intellectual Stimulation (Clinical)	.031
	Individualized Consideration (Differential)	.314**

$p< 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$

Table A10.6.Regular regression of thecorrelation between an inspector's leadership style and teachers' activity efficacy - teachers'exerting effort at work

	Index	Teachersefficacy – teachers'exerting effort at workStep 1		
		b	β	(t)
	Constant(1)	2.841		12.695
Inspector's Transactional Leadership Style	Contingent Reward (Differential)			
	Management by Exception – Active			
	Laissez-Faire	.010	.024	.380
	Management by Exception – Passive (Intentional)	-.062	-.132*	-2.187
	Inspirational Motivation	-.025	-.063	-0.533
	Behavior Idealized Influence model (Imitation)	-.094	-.221*	-1.991
Inspector's Transformational Leadership style	Individualized Consideration (Differential)	.443	.641**	7.638
	Attributed Idealized Influence model (Indirect)	-.049	-.113	-1.268
	Intellectual Stimulation (Clinical)	-.033	-.080	-0.825
	Adjusted R^2	.178		
	Standard Error	.354		
	F	10.643		
p<0.001*** *p*<0.01** *p*<0.05*, (1)b=Non-standard coefficient β=stand				

Body of hypotheses regarding the correlation between perceived external prestige in three dimensions (school, professional team, and profession of math teaching) and inspector's leadership style (4, 4a, 4b)

Hypothesis 4: There is a positive correlation between school perceived external prestige and inspector's leadership style.

Hypothesis 4a: There is a positive correlation between perceived external prestige of teaching team and inspector's leadership style.

Hypothesis 4b: There is a positive correlation between perceived external prestige of teaching profession and inspector's leadership style.

Table A10.7. Pearson's correlations between inspector's transformational leadership style and perceived external prestige (team, profession and school)

Index –Inspector's Transformational Leadership Style	**r** **Perceived External Prestige - PEP**		
	Profession	School	Team
Inspirational motivation	-.007	.062	.058
Behavior idealized influence model (imitation)	-.017	.005	.040
Individualized consideration (differential)	.138*	.165**	.263**
Attributed idealized influence model (indirect)	-.012	-.015	.018
Intellectual Stimulation (clinical)	-.051	.064	.068
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05$*			

Table A10.8. Pearson's correlations between an inspector's transactional leadership style and perceived external prestige (team, profession and school)

Index - Transactional leadership style	**r** Perceived external prestige - PEP		
	Profession	School	Team
Contingent reward(differential)	.001	.049	.089
Management by exception – active	.007	.061	.103
Management by exception – passive (intentional)	-.151**	-.090	-.192**
Laissez-Faire	-.098	-.058	-.191**
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05$*			

Hypothesis 5: There is a positive correlation between identification with school and inspector's leadership style.

Hypothesis 5a: There is a positive correlation between identification with teaching team and inspector's leadership style

Hypothesis 5b: There is a positive correlation between identification with the teaching profession and inspector's leadership style.

Table A10.9. Pearson's correlations between transformational leadership style and identification (team, profession and school)

Index –inspector's transformational leadership style	**r** Identification		
	School	Team	Profession
Inspirational motivation	.126*	.103	.077
Behavior idealized influence model (imitation)	.112*	.078	.035
Individualized consideration (differential)	.178**	.221**	.220**
Attributed idealized influence model (indirect)	.158**	.061	.048
Intellectual stimulation (clinical)	.122*	.034	.000
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05$*			

Table A10.10. Pearson's correlations between transactional inspection style and identification (team, profession and school)

Index - transactional leadership style of an inspector	**r** Identification		
	School	Team	Profession
Contingent reward (differential)	.155**	.096	.067
Management by exception - active	.165**	.099	.076
Laissez-Faire	.038	.117*	-.020
Management by exception - passive (intentional)	-.021	.081	-.077
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05$*			

Body of hypotheses regarding the correlation between identification with school, professional team and math teaching profession and between teachers' activity efficacy (9, 9a, 9b)

Hypothesis 9: There is a positive correlation between identification with professional team and teachers' activity efficacy (achievements).

Hypothesis 9a: There is a positive correlation between identification with profession and teachers' activity efficacy (achievements).

Hypothesis 9b: There is a positive correlation between identification with school and teachers' activity efficacy (achievements).

Table A10.11. Pearson's correlations between teachers' activity efficacy and identification

Variable	Variable	R
Teachersefficacy	Identification with profession	.692**
	Identification with team	.605**
	identification with school	.320**
p < 0.001*** p < 0.01** p < 0.05*		

Table A10.12.Regular regression of thecorrelation between identification in three dimensions and teachers' activity efficacy

	Index	Teachers' activity efficacy Step 1		
		b	β	(t)
	Constant(1)	1.651		10.321
Identification	Identification with school	.013	.015	.374
	Identification with team	.274	.368**	8.518
	Identification with profession	.286	.527**	12.894
	Adjusted R^2	.587		
	Standard error	.250		
	F	148.511		
p<0.001*** *p*<0.01** *p*<0.05*, (1)b=Non-standard coefficient β=stand				

Body of hypotheses regarding the relation between identification with school, professional team, and math teaching profession and teachers' activity efficacy – exerting of teachers' effort at work (10, 10a, 10b)

Hypothesis 10: There is a positive correlation between identification with professional team and teachers' activity efficacy - teachers' exerting effort at work.

Hypothesis 10a: There is a positive correlation between identification with profession and teachers' activity efficacy - teachers' exerting effort at work

Hypothesis 10b: There is a positive correlation between identification with school and teachers' activity efficacy - teachers' exerting effort at work.

Table A10.13. Pearson's correlations between teachers' activity efficacy - teachers' exerting effort at work and identification

Variable	Variable	R
Teachers' activity efficacy – Teachers' exerting effort at work	Identification profession	.693**
	Identification with team	.603**
	Identification with school	.312**
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05$*		

Table A10.14. Regular regression of thecorrelation between identification in three dimensions and teachers' activity efficacy - teachers' exerting effort at work

	Index	Teacherseefficacy - teachers' exerting effort at work Step 1		
		b	β	(t)
	Constant(1)	1.668		10.377
Identification	Identification with school	.005	.006	.152
	Identification with team	.275	.368**	8.521
	Identification with profession	.289	.530**	12.972
	Adjusted R^2	.587		
	Standard error	.251		
	F	148.228		

$p<0.001$*** $p<0.01$** $p<0.05$*, [(1)]b=Non-standard coefficient β=stand

Body of hypotheses regarding the correlation between perceived external prestige of school, professional team, and math teaching profession and teachers' activity efficacy (11, 11a, 11b)

Hypothesis 11: There is a positive correlation between school perceived external prestige and teachers' activity efficacy (achievements).

Hypothesis 11a: There is a positive correlation between professional team perceived external prestige and teachers' activity efficacy (achievements).

Hypothesis 11b: There is a positive correlation between profession perceived external prestige and teachers' activity efficacy (achievements).

Table A10.15. Pearson's correlations between teachers' activity efficacy and perceived external prestige

Variable	Perceived external prestige - PEP	R
Teachers' activity efficacy	Profession PEP	.641**
	Team PEP	.624**
	School PEP	.581**
p < 0.001*** p < 0.01** p < 0.05*		

Table A10.16. Regular regression of thecorrelation between identification in three dimensions and teachers' activity efficacy

	Index	Teachersefficacy Step 1		
		b	β	(t)
	Constant[(1)]	1.062		9.908
Perceived external prestige - PEP	School PEP	.217	.324**	10.014
	Team PEP	.287	.378**	11.626
	Profession PEP	.258	.492**	16.347
	Adjusted R^2	.737		
	Standard error	.200		

	F	290.770
p<0.001*** p<0.01** p<0.05*, (1)b=Non-standard coefficient β=stand		

Body of hypotheses regarding the relation between perceived external prestige of school, professional team, and math teaching profession and teachers' activity efficacy - teachers' exerting effort at work (12, 12a, 12b)

Hypothesis 12: There is a positive correlation between school perceived external prestige and teachers' activity efficacy - teachers' exerting effort at work.

Hypothesis 12a: There is a positive correlation between team perceived external prestige and teachers' activity efficacy - - teachers' exerting effort at work.

Hypothesis 12b: There is a positive correlation between profession perceived external prestige and teachers' activity efficacy - - teachers' exerting effort at work.

Table A10.17. Correlations between teachers' activity efficacy - exerting of teachers' effort at work and perceived external prestige

Variable	Perceived External Prestige - PEP	R
Teachers' activity efficacy – Teachers' exerting effort at work	Profession PEP	.640**
	Team PEP	.625**
	School PEP	.582**
p < 0.001*** p < 0.01** p < 0.05*		

Table A10.18.Regular regression of thecorrelation between identification in three dimensions and teachers' activity efficacy - teachers' exerting effort at work

	Index	Teachersefficacy - teachers' exerting effort at work Step1		
		b	β	(t)
	Constant(1)	1.048		9.735
Perceived External Prestige - PEP	School PEP	.219	.324**	10.039
	Team PEP	.289	.379**	11.663
	Profession PEP	.258	.490**	16.290
	Adjusted R^2	.737		
	Standard error	.200		

	F	290.858
p<0.001*** *p*<0.01** *p*<0.05*, [(1)]b=Non-standard coefficient β=stand		

Table A10.19. Correlation between the economic-educational Indicators of the education personnel and the explained research variables

Independent variable	Dependent Variable		**r**
Experience in teaching in the school	Teachersefficacy	-	.013
Experience in teaching		-	.011
Fostering index scale 1-10		-	.028
Number of teachers in staff		-	.036
Frequency of staff meetings		-	.199**
Education level			.033
Average score in the Meizav test		-	.126*
Rank in the new OFEK reform		-	.027
Job			.065
Experience in teaching in the school	Teachersefficacy – Exerting of teachers' effort at work	-	.014
Experience in teaching		-	.006
fostering index scale 1-10		-	.029
Number of teachers in the staff		-	.038
Frequency of the staff meetings		-	.195*
Education level			.030
Average score in the Meizav test		-	.130*
Rank in the new OFEK reform		-	.023
Job			.061
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05^{*}$			

Body of hypotheses regarding the Impact of moderating background variables (economic-educational indicators) on teachers' activity efficacy and inspector's leadership style (hypothesis 8)

Table A10.20.Multiple regressions (standardized values)of the extent of economic- educational indicators impact on the correlation between inspector's leadership style and teachers' activity efficacy (hypothesis 8)

	Index	Teachers' activity efficacy Step 1			Teachers' activity efficacy Step 2		
		b	β	(t)	b	β	(t)
	Constant(1)	4.141		19.010	2.793		9.061
Economic educational indicators	The average score in the Meizav test	-.065	-.146	-2.313	-.032	-.073	-1.233
	number of years of study	.010	.047	.816	.012	.056	1.072
	Experience in management -for principals (in years)	-.001	-.014	-.235	-.001	-.024	-.448
	Number of teachers in the staff	-.003	-.039	-.684	-.004	-.052	-.992
	A fostering index scale 1-10	.003	.020	.310	-.001	-.006	-.106
Inspector's Transactional Leadership Style	Contingent reward (differential)						
	Management by exception – Active						
	Management by exception-Passive (intentional)				-.069	-.148*	-2.446
	Laissez-Faire				.019	.046	.721
Inspector's Transformational leadership style	Inspirational motivation				-.011	-.028	-.234
	Behavior idealized influence model (imitation)				-.091	-.215*	-1.906
	Individualized consideration (differential)				.441	.642**	7.511
	Attributed idealized influence model (indirect)				-.055	-.128	-1.434
	Intellectual stimulation (clinical)				-.047	-.113	-1.132
	Adjusted R^2	.007			.188		
	Standard error	.388			.350		
	F	1.419			6.908		
	ΔR^2				.181		

p<0.001*** p<0.01** p<0.05*, (1)b=Non-standard coefficient β=stand

Body of hypotheses regarding the impact of moderating background variables (economic-educational indicators) on teachers' activity efficacy - teachers' exerting effort at work and inspector's leadership style (hypothesis 8a)

The table A10.21 presents the regressions of the impact between the background variables – the economic-educational indicators, inspector's leadership style, and the independent variables with the variable of the economic-educational indicators.

Table A10.21.Multiple regressions (standardized values) of theextent of economic-educational indicators impact on the correlation between inspector's leadership style and teachers' activity efficacy - teachers' exerting effort at work (hypothesis 8a)

	Index	Teachers' activity efficacy - teachers' exerting effort at work **Step 1**			Teachers' activity efficacy - teachers' exerting effort at work **Step 2**		
		b	β	(t)	b	β	(t)
	Constant(1)	4.149		18.962	2.799		9.053
Economic educational indicators	The average score in the Meizav test	-.065	-.146	-2.320	-.032	-.073	-1.221
	Number of years of study	.010	.046	.809	.012	.056	1.071
	Experience in management – for principals (in years)	-.001	-.015	-.257	-.001	-.025	-.475
	Number of teachers in the staff	-.003	-.041	-.721	-.004	-.054	- .1.028
	A fostering index scale 1-10	.003	.018	.284	-.001	-.008	-.132
Inspector's Transactional Leadership Style	Contingent Reward (Differential)						
	Management by Exception – Active						
	Management by Exception – Passive (Intentional)				-.071	-.152*	-2.516
	Laissez-Faire				.018	.043	.672
Inspector's Transformational leadership style	Inspirational Motivation				-.009	-.022	-.183
	Behavior Idealized Influence model (Imitation)				-.091	-.215*	-1.903
	Individualized Consideration (Differential)				.443	.641**	7.509
	Attributed Idealized Influence model (Indirect)				-.056	-.130	-1.462
	Intellectual Stimulation (Clinical)				-.048	-.115	-1.154
	Adjusted R^2	.007			.190		
	Standard Error	.389			.352		
	F	1.445			6.996		
	ΔR^2				.183		
p<0.001*** p<0.01** p<0.05*, (1)b=Unstandardized coefficient β=stand							

Body of hypotheses regarding the correlation between behavioral integration in the team and school and perceived external prestige and identification (hypotheses 6, 6a, 7, and 7a)

Table A10.22. Correlation between behavioral integration in team and school and between perceived external prestige and identification

Variable		**r** Behavioral integration in:		
		Total	**School**	**Team**
Inspector's Transformational Leadership Style	Inspirational motivation	.003	-.023	.028
	Behavior idealized influence model (imitation)	-.060	-.076	-.036
	Individualized consideration (differential)	.598**	.532**	.574**
	Attributed idealized influence model (indirect)	-.021	-.051	.011
	Intellectual stimulation (clinical)	-.026	-.054	.005
Inspector's Transactional Leadership Style	Contingent reward (differential)	.081	.045	.103
	Management by exception – active	.124*	.083	.145*
	Management by exception – passive (intentional)	-.108	-.065	-.133*
	Laissez-Faire	-.048	-.016	-.072
Identification	Identification with team	.234**	.266**	.168**
	Identification with school	.125*	.177**	.057
	Identification with profession	.277**	.273**	.239**
Perceived External Prestige - PEP	PEP Team	.357**	.346**	.316**
	PEP School	.219**	.226**	.179**
	PEP Profession	.238**	.220**	.220**
$p < 0.001^{***}$ $p < 0.01^{**}$ $p < 0.05$*				

Body of hypotheses regarding mediation correlation of perceived external prestige (school, team and profession) between teachers' activity efficacy and inspector's leadership style (hypotheses 15, 15a, and 15b)

The table A10.23 presents the entirety of correlations of the equation that establishes the correlation between perceived external prestige and inspector's leadership style, the independent variables with the variable of perceived external prestige.

Table A10.23. Multiple regressions (standardized values) of the extent of mediation of perceived external prestige for examination of correlation between inspector's leadership style and teachers' activity efficacy (hypotheses 15, 15a, and 15b)

	Index	Teachers' activity efficacy Step 1			Teachers' activity efficacy Step 2		
		b	β	(t)	b	β	(t)
	Constant(1)	2.837		12.720	.597		3.985
Inspector's Transactional Leadership Style	Contingent Reward (Differential)						
	Management by Exception - Active						
	Management by Exception - Passive (Intentional)	-.060	-.128*	-2.118	.004	.008	.230
	Laissez-Faire	.012	.027	.432	.038	.090	2.580
Inspector's Transformational leadership style	Inspirational Motivation	-.027	-.069	-.581	.009	.024	.365
	Behavior Idealized Influence model (Imitation)	-.094	-.222*	-1.992	-.005	-.012	-.197
	Individualized Consideration (Differential)	.442	.642**	7.642	.120	.174***	3.498
	Attributed Idealized Influence model (Indirect)	-.048	-.110	-1.241	.003	.007	.140
	Intellectual Stimulation (Clinical)	-.033	-.079	-.807	-.037	-.088	-1.635
Perceived External Prestige - PEP	School PEP					.314***	9.910
	Team PEP					.362***	10.850
	Professional PEP					.478***	16.014
	Adjusted R^2	.177			.753		
	Standard Error	.353			.193		
	F	10.523			95.797		
	ΔR^2				.576		
	F for ΔR^2				237.470		

p<0.001*** *p*<0.01** *p*<0.05*, (1)b=Unstandardized coefficient β=stand

Body of hypotheses regarding the mediation correlation of perceived external prestige (school, team and profession) between teachers' activity efficacy - teachers' exerting effort at work and inspector's leadership style (hypotheses 16, 16a, and 16b)

The table A10.24 presents the entirety of correlations of the equation that establishes the correlation between perceived external prestige and between inspector's leadership styles, the independent variables with the variable of perceived external prestige.

Table A10.24. Multiple regressions (standardized values) of the extent of mediation of perceived external prestige for examination of correlation between inspector's leadership style and teachers' activity efficacy- exerting effort at work (hypotheses 16, 16a, 16b)

	Index	Teachers' activity efficacy - teachers' exerting effort at work Step 1			Teachers' activity efficacy - teachers' exerting effort at work Step 2		
		b	β	(t)	b	β	(t)
	Constant(1)	2.841		12.695	.594		3.944
Inspector's Transactional Leadership style	Contingent Reward (Differential)						
	Management by Exception – Active						
	Management by Exception – Passive (Intentional)	-.062	-.132*	-2.187	.002	.003	.104
	Laissez-Faire	.010	.024	.380	.037	.086	2.478
Inspector's Transformational Leadership style	Inspirational Motivation	-.025	-.063	-.533	.012	.029	.448
	Behavior Idealized Influence model (Imitation)	-.094	-.221*	-.1.991	-.005	-.012	-.192
	Individualized Consideration (Differential)	.443	.641**	7.638	.120	.174**	3.489
	Attributed Idealized Influence model (Indirect)	-.049	-.113	-1.268	.002	.005	.093
	Intellectual Stimulation (Clinical)	-.033	-.080	-.825	-.038	-.090	-1.672
Perceived External Prestige - PEP	School PEP				.212	.315**	9.925
	Team PEP				.276	.362**	10.837
	Profession PEP				.251	.476**	15.920
	Adjusted R^2	.178			.753		
	Standard Error	.354			.194		
	F	10.643			95.618		
	ΔR^2				.556		
	F for ΔR^2				237.24		

p<0.001*** *p*<0.01** *p*<0.05*, (1)b=Unstandardized coefficient β=stand

Body of hypotheses regarding the mediation correlation of identification (school, team and profession) between teachers' activity efficacy and inspector's leadership style (hypotheses 13, 13a, and 13b)

The table A10.25 presents the complex of correlations of the equation that establishes the correlation between identification and inspector's leadership style, the independent variables with the variable of identification.

Table A10.25. Multiple regressions (standardized values) of the extent of mediation of Identification for the examination of correlation between Inspector's Leadership Style and Teachers' activity efficacy (hypotheses 13, 13a, and 13b)

	Index	Teachers' activity efficacy Step 1			Teachers' activity efficacy Step 2		
		b	β	(t)	b	β	(t)
	Constant(1)	2.837		12.720	1.433		7.647
Inspector's Transactional Leadership style	Contingent Reward (Differential)						
	Management by Exception – Active						
	Management by Exception - Passive (Intentional)	-.060	-.128*	-2.118	-.049	-.104*	-2.575
	Laissez-Faire	.012	.027	.432	-.029	-.069	-.1.619
Inspector's Transformational Leadership style	Inspirational Motivation	-.027	-.069	-.581	-.030	-.075	-.952
	Behavior Idealized Influence model (Imitation)	-.094	-.222*	-1.992	-.068	-.159*	-2.147
	Individualized Consideration (Differential)	.442	.642**	7.642	.197	.287**	4.888
	Attributed Idealized Influence model (Indirect)	.048	-.110	-1.241	-.039	-.090	-1.521
	Intellectual Stimulation (Clinical)	-.033	.079	-.807	.020	.048	.735
Identification	Identification with School				.014	.016	.412
	Identification with Team				.275	.369**	8.836
	Identification with Professional				.255	.469**	11.865
	Adjusted R^2	.177			.452		
	Standard Error	.353			.235		
	F	10.523			55.298		
	ΔR^2				.275		
	F for ΔR^2				128.800		
p<0.001*** p<0.01** p<0.05*, (1)b=Unstandardized coefficient β=stand							

Table A10.76. Multiple regressions (standardized values) of the extent of mediation of Identification for the examination of correlation between Inspector's Leadership Style and Teachers' activity efficacy - teachers' exerting effort at work (hypotheses 14, 14a, 14b)

	Index	Teachers' activity efficacy - teachers' exerting effort at work Step 1			Teachers' activity efficacy - teachers' exerting effort at work Step 2		
		b	β	(t)	b	β	(t)
	Constant[(1)]	2.841		12.695	1.455		7.738
Inspector's Transactional Leadership style	Contingent Reward (Differential)						
	Management by Exception – Active						
	Management by Exception – Passive (Intentional)	-.062	-.132*	-2.187	-.051	-.108**	2.681
	Laissez-Faire	.010	.024	.380	-.030	-.071	-1.680
Inspector's Transformational Leadership style	Inspirational Motivation	-.025	-.063	-.533	-.028	-.070	-.888
	Behavior Idealized Influence model (Imitation)	-.094	-.221*	-.1.991	-.068	-.160*	-2.154
	Individualized Consideration (Differential)	.443	.641**	7.638	.198	.286**	4.883
	Attributed Idealized Influence model (Indirect)	-.049	-.113	-1.268	-.040	-.091	-1.539
	Intellectual Stimulation (Clinical)	-.033	-.080	-.825	.020	.048	.729
Identification	Identification with School				.006	.007	.169
	Identification with Team				.277	.371**	8.879
	Identification with Profession				.257	.471**	11.951
	Adjusted R^2	.178			.637		
	Standard Error	.354			.235		
	F	10.643			55.571		
	ΔR^2				.460		
	F for ΔR^2				129.077		

p<0.001*** *p*<0.01** *p*<0.05*, [(1)]b=Unstandardized coefficient β=stand

Variance analysis and extent of effect in differences

Table A11.1. Averages, standard deviations, variance analysis and extent of effect in differences according to position and research variables

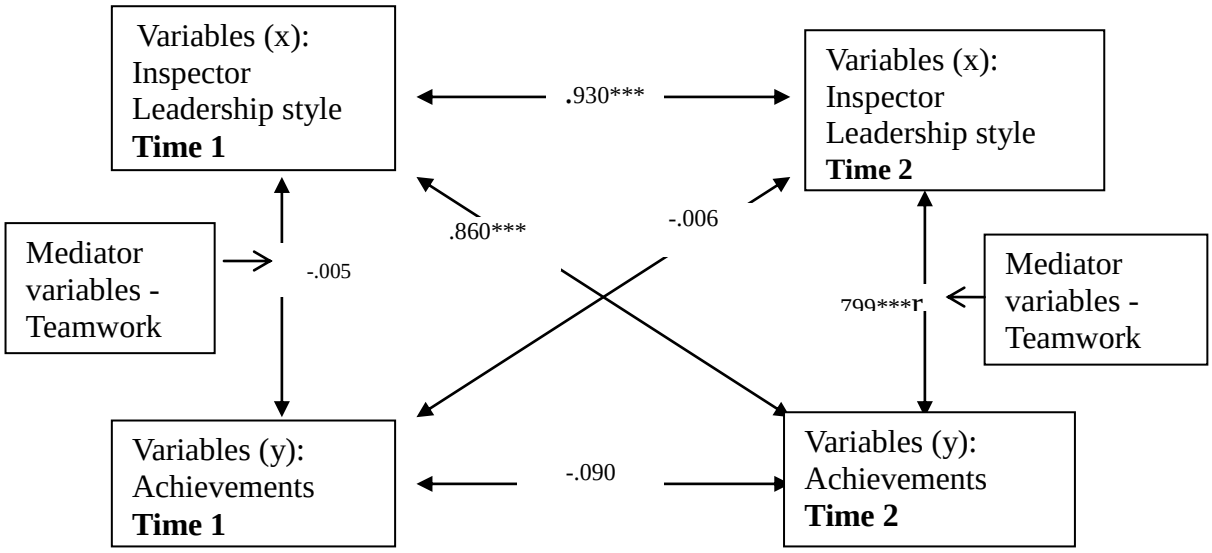
Variable	JOB	Teacher	Inspector	Mean	(S.D)	F	η^2	Comments
Perceived External Prestige - PEP School	Teacher		-.124	3.875	.522	4.014	3.949	**No Significant Difference**
	Inspector	.124		4.000	.671			
Perceived External Prestige -PEP Team	Teacher		.254	4.141	.456	1.627	1.281	**No Significant Difference**
	Inspector	-.254		3.887	.491			
Perceived External Prestige - PEP Profession	Teacher		-.050	3.930	.676	4.206	6.750	**No Significant Difference**
	Inspector	.050		3.981	.600			
Identification with School	Teacher		-.005	4.361	.490	5.195*	2.892	**No Significant Difference**
	Inspector	.005		4.366	.517			
Identification with Team	Teacher		.018	4.293	.566	3.056	2.464	**No Significant Difference**
	Inspector	-.018		4.275	.513			
Identification with Profession	Teacher		-.252	4.147	.725	.825	1.275	**No Significant Difference**
	Inspector	.252		4.400	.536			
Behavioral Integration in team	Teacher		.247	5.908	.803	.691	1.244	**No Significant Difference**
	Inspector	-.247		5.661	.796			
Behavioral Integration in School	Teacher		.195	5.784	.868	3.126	5.159	**No Significant Difference**
	Inspector	-.195		5.588	.657			

Variable		JOB	Teacher	Inspector	Mean	(S.D)	F	η^2	Comments
Teachers' activity efficacy		Teacher		-.034	4.074	.405	1.555	.705	**No Significant Difference**
		Inspector	.034		4.108	.409			
		Teacher		-.031	4.077	.405	1.473	.674	**No Significant Difference**
		Inspector	.031		4.108	.409			
Transformational Leadership Style	Motivation	Teacher		-.004	3.634	1.021	1.436	4.137	**No Significant Difference**
		Inspector	.004		3.637	1.10			
	Imitation	Teacher		-.131	3.531	.950	1.994	5.021	**No Significant Difference**
		Inspector	.131		3.662	.950			
	Differential	Teacher		.077	4.714	.626	2.354	2.241	**No Significant Difference**
		Inspector	-.077		4.637	.580			
	Indirect	Teacher		-.149	3.412	.969	1.183	2.893	**No Significant Difference**
		Inspector	.149		3.562	1.047			
	Clinical	Teacher		.151	3.464	.936	1.980	.745	**No Significant Difference**
		Inspector	-.151		3.312	1.069			
Transactional Leadership Style	Contingent Reward (Differential)	Teacher		-.013	3.780	.792	1.588	2.613	**No Significant Difference**
		Inspector	.013		3.793	.857			
	Active	Teacher		.016	3.843	.767	1.420	2.183	**No Significant Difference**
		Inspector	-.016		3.826	.854			
	Laissez-Faire	Teacher		-.411	2.051	.868	5.125*	12.460	**No Significant Difference**
		Inspector	.411		2.462	1.013			
	Passive (Intentional)	Teacher		.046	2.359	.760	2.855	5.866	**No Significant Difference**
		Inspector	-.046		2.312	.822			

Distribution of sample according to position (Experiment)

Table A12.1.Distribution of sample according to position (Experiment)

		Time 1		Time 2		Age	teaching experience	teaching subjects
Categories Position		Relative Frequency $f_{(x)}/_n$	Frequency $f_{(x)}$	Relative Frequency $f_{(x)}/_n$	Frequency $f_{(x)}$	M	MODE	MODE MATE
Experimental group	Teachers + Subject coordinator	.33	20	.33	20	40	20	100%
	Inspector+ Instructor	.67	40	.67	40	56	35	0
Total		**100%**	**60**	**100%**	**60**	**47**	**23 (S.D=8.9)**	
							(mode=45)	
Control Group	Teachers+ Subject coordinator	1	51	1	51	40	22	100%
Total		**100%**	**51**	**100%**	**51**	**42**	**20 (S.D=8.75)**	
							(mode=39)	
Gender distribution: pupils								
Experimental group pupils	boys	.58	30	.58	30			
	girls	.42	22	.42	22			
Total		100%	52	100%	52			
Control Group pupils	boys	.55	28	.55	28			
	girls	.45	23	.45	23			
Total		100%	51	100%	51			



FigureA12.1. Experiment study variables correlation

The progress of meetings: Training apprenticeship program by two courses, control sample and experiment sample

Table A13.1.Experimental sample delineation of training apprenticeship meetings

Training apprenticeship and workshop program for participants in the control sample (2013 - 2014)						
Meeting number	Study subjects out of the study program from the field of mathematics In total: 10 meetings, 30 study hours	Study contents as emphasizing effective teamwork that promotes achievements In total: 3 meetings, 10 study hours	Workshops for development of work-team instruction skills In total: 3 meetings, 10 study hours	Workshops for development of mathematical leadership skills In total: 3 meetings, 10 study hours	Peer learning – visits in schools as a learning group In total: 5 meetings, 20 study hours	Participation in regional conventions on didactical subjects in mathematics In total: 3 meetings, 15 study hours
.1	**V**					
.2	**V**					
.3	**V**					
.4	**V**					**V**
.5	**V**					
.6	**V**					
.7	**V**					**V**
.8	**V**					
.9	**V**					
.10	**V**					**V**
Total hours - 45: training apprenticeship - 30 hours in mathematical contents and in addition, participation in 3 regional conventions - 15 hours						
Training apprenticeship and workshop program for participants in the experiment sample (2013 - 2014)						
Meeting number	Study subjects out of the study program from the field of mathematics In total: 10 meetings, 30 study hours	Study contents as emphasizing effective teamwork that promotes achievements In total: 3 meetings, 10 study hours	Workshops for development of work-team instruction skills In total: 4 meetings, 10 study hours	Workshops for development of mathematical leadership skills In total: 3 meetings, 10 study hours	Peer learning – visits in schools as a learning group In total: 5 meetings, 20 study hours	Participation in regional conventions on didactical subjects in mathematics In total: 3 meetings, 15 study hours
1.	**V**		**V**			
2.	**V**			**V**		
3.	**V**	**V**			**V**	
4.	**V**			**V**		**V**
5.	**V**		**V**			
6.	**V**	**V**			**V**	
7.	**V**	**V**				**V**
8.	**V**		**V**			
9.	**V**			**V**	**V**	
10.	**V**		**V**			**V**
Total hours - 95: training apprenticeship - 30 hours in mathematical contents + 30 additional hours of workshops of teamwork development, leadership, experiencing in practice, and in addition, participation in 5 peer learning meetings - 20 hours, and in 3 regional conventions -15 hours						

Experimental sample delineation of training apprenticeship meetings

Meeting contents

Meeting number	Meeting contents
Meeting contents: theory and didactics in the field of math teaching on the subject of fractions	
10	1. Meaning of a fraction and the relation to division, inclusion and separation into parts 2. Fraction comparison, representations and erroneous perceptions 3. Adding and subtraction of fractions – characteristics of adding and subtraction 4. Order relation, density 5. Fraction multiplication - meaning of multiplication, preservation of characteristics of multiplication 6. Division - various meanings and resolution of division problems 7. Finite and infinite decimal fractions (cyclic and non-cyclic) 8. Decimal numbers as units of measurement 9. The whole and parts - solving problems 10. Series, investigative problems in fractions
Regional conventions for all teachers	
3	1. Significant learning in geometry - integration of geometry and origami 2. Models of learning verbal problems 3. Mathematics surrounding the environment - mathematics in daily life
Effective teamwork workshops- http://www.avneyrosha.org.il [in 199]	
3	1. Tools for building interpersonal compassionate communication 2. Contents and processes of consolidation of ways of operation for team development and fulfillment of its abilities 3. Resolution of team conflicts **subjects particularly emphasized following the Design-Based-Research feedback**
Workshops for development of work-team instruction skills- http://www.avneyrosha.org.il [in 199]	
4	1. A constructive feedback that promotes learning - models for teacher-pupil and teacher- teacher discourse 2. Processes of leading change at an individual level and organizational level 3. Fulfillment of personal potential, on the way of achieving organizational targets 4. Development of teamwork by tutoring
Mathematical leadership skills development workshops- http://www.avneyrosha.org.il [in 199]	
3	1. Improvement of achievement of organizational targets - definition of tasks and setting targets as a means of increasing efficacy 2. Leadership patterns and management techniques that develop and preserve motivation amongst those being led 3. Strategies in the process of decision- making by a principal/leader **subjects particularly emphasized following the Design-Based-Research feedback**
Peer learning - visits in schools	
5	See expanding in appendix 14

Training apprenticeship program by two courses, control sample, experimental sample

The peer learning - opening the class door – visits in schools as a learning group in the experimental sample (on following dates: 07.01.2014, 25.02.2014, 11.3.2014, 01.04.2014, 27.05.2014).

Purpose - peer learning, getting pedagogy attended, around a table of participants of the training apprenticeship and in addition, inspectors and principals have joined as well.

Study framework of the experimental sample in schools

Monthly or bi-monthly meeting of 4 hours:

1. Filed events analysis
2. Getting updated on new studies and theories
3. Planning reforms and operation moves on an organizational system level
4. Learning and going deeper in contents and strategies
5. Sub-team meetings (planning meetings, visits in school)
6. Mutual learning visits in schools for a whole day
7. Observation of lessons
8. Documentation
9. Supplying feedback and planning

Schedule of the process included:

1. Meeting, review and presentation of an Inspector’s and principal’s school to be visited
2. Observing a group of pupils
3. Observation and documentation (analysis of lessons on basis of the data through navigators)
4. Mutual teaching feedback, which purpose is promoting the achievement field in mathematics
5. Workshop on the subject of effective teamwork (learning of relevant theories and relating them to practice. The workshop was instructed by a specialist in the field of instruction skills)
6. Following up on learning processes (reporting of participants on various implementations in schools)
7. Planning of next meetings, on basis of the analysis and insights that have arisen

Contents and processes of consolidation of ways of operation for team development and fulfillment of its abilities

Example for activity in the experiment group: paper for a teacher-pupil or inspector-teacher focus group instructor

*The instructor will adjust the questions according to theteacher-pupils or inspector-teacher **focus group.**

Opening

1. **Short round of introduction – each participant briefly introduces himself.**
2. **Presenting the purposes of the meeting and the meeting procedure**

Example: the meeting purpose is to learn about **promotion of achievements in mathematics** in school from your viewpoint.

3. Explaining the rules for conducting a conversation in a group:

- It is important to respect the opinions of others.
- You refrain from private conversations during the discussion.
- The meeting is intended to gain a general perspective of the situation on **promotion of achievements in mathematics and therefore it is important to refrain from personal criticism of a pupil or a teacher.**

Example: you are invited in this conversation to tell about studying and teaching of math in school from your viewpoint and to describe them. There is no "right" or "wrong", it is important for us to hear diverse and different voices **during the discussion.**

Discussion procedure

- Each question will be discussed separately, the instructor will manage the time and decide about ending the discussion on one question and moving to the next; it is important to give time for thinking on each question.
- The method is to be adjusted to the age of a pupil or the ripeness of a teacher.
- It is important to use interaction within the group as a resource: it is not advised to have just rounds in which each one expresses his opinion in separate, it is advised to allow and even encourage a discussion.

Guiding questions for a discussion

Opening: describe a good study experience in mathematics which you have experienced in school. Try to explain what is that experience was good.

Another proposal for a first question:

Draw a picture that describes a good study experience in mathematics, after the drawing activity each one will describe and explain the drawn simile.

A selection of questions to choose from and plan the discussion in a group of teachers and a group of pupils:

- Tell about a non-successful study experience in mathematics.
- Which study means you prefer/sense that they contribute to you to study and have understanding in mathematics?
- Which study means encumber you/you sense that you study less mathematics in?
- Who is a good pupil in your eyes?
- Who is a good teacher?
- What can teachers do to make studying of math interesting and pleasurable?
- What motivates you to study math? What is important for you in studies?
- What hinders you in studying math? What encumbers you to learn and understand math?
- What makes a math lesson into a good one? What can teachers do for studying math be more interesting or successful?
- If you could organize and decide on how to study math in school – what would you propose to do?
- Do you receive in school tools for studying math as well? (Learn how to learn math?)

Summary http://www.avneyrosha.org.il [in199]

In this stage each participant will say a closing line

or a round of questions can be made: what did you think about the experience of participating in the discussion group? How did it contribute to you?

In closing the instructor thanks the pupils/teachers for participating in the discussion.

Focus group – summary

*for filling in at the end of the meeting according to the focus group (teachers/pupils)

Date:	**Place of meeting:**
Meeting instructor: Meeting documenting person:	Number of pupils participating: Number of teachers participating:
Participants' characteristics: (background characteristics; classes; gender division…)	Other…
What have you learnt from the meeting on the way pupils/teachers perceive studying and lessons in math, in a school?	
What have you learned in the difficulties of pupils/teachers in studying math classes?	
What is the scene received from the meeting on motivation and interest pupils/teachers have in relation to studying math in school?	
State the statements of pupils/teachers that were interesting; challenging; inspiring of thought?	
What has surprised you?	

Appendix A14.1.Tools for building interpersonal compassionate communication

A14.1. An example for activity in the experiment group on the subject of: **individual and systematic view of focusing on a pupil; teacher**

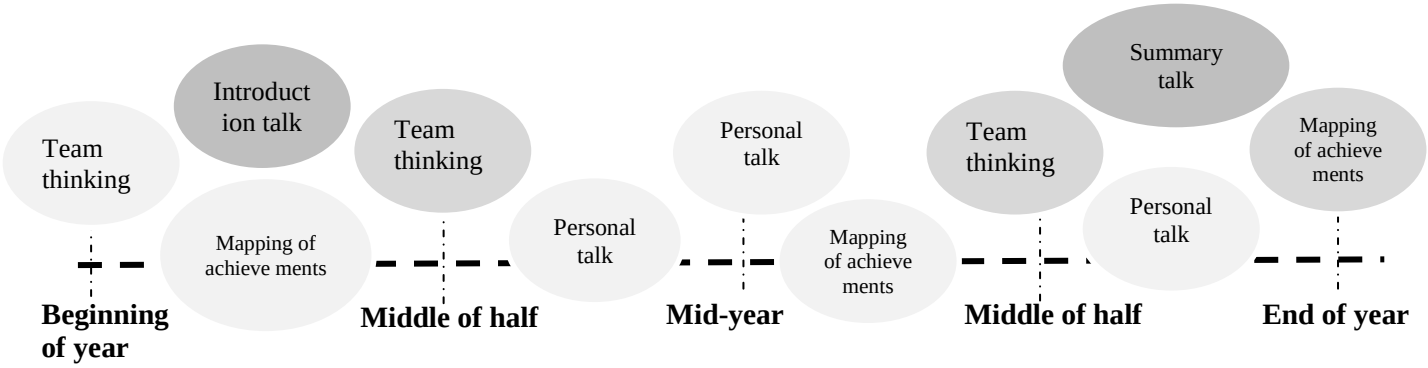
Introduction:

Purpose of experiencing: focusing individually on achievements of pupils; their abilities and needs – on one hand, and systematic observation of the duty of **inspectors**, in professional knowledge and resources of teaching and support existing in school – on the other hand. The frames will be adjusted to support promotion of pupils' achievements, each one according to his needs, and in optimizing the effect of inspectors' team upon teachers.

In this process three circles interweave: personal, team, and class.

1. **Class circle** – mapping of study achievements by math test conducted 2-3 time a year, presents a class scene and made of various components of evaluation in mathematics.
2. **Personal circle personal talks** – between math teacher and a pupil, and between a teacher and an inspector. The principle – open reflective dialogue and setting targets with inclusion of pupil/teacher; teacher/inspector in which **a treaty of improvement in achievements of those studying mathematics** will be phrased and set together.
3. **Team circle** – team thought meetings convened at least three times a year, to discuss various classes and pupils. There may be different components for these classes, but as a rule, the following participate in them: **inspectors,** teachers and math coordinators.

Timeline of the activity:



Appendix A14.1.Class circle:

The extent to which class pupils meet the results expected of them in each stage of the mathematics achievement test:

High relative distribution, score: 85-100	**Medium-high relative distribution, score: 74-84**	**Medium-low relative distribution, score: 57-73**	**Low relative distribution, score: 0-56**
Names of pupils:	**Names of pupils:**	**Names of pupils:**	**Names of pupils:**
Rate of success:	**Rate of success:**	**Rate of success:**	**Rate of success:**

Questions for team of teachers and inspectors for observation purposes of mapping of achievement of a class level:

***** Observation of findings of the class, getting a general scene

- Field of prominent class strength or failure
- Where is the biggest concentration of pupils (in level of achievements: low/medium/high)
- Are there gaps in the class between various subjects in math?
- Are the school resources, invested in mathematics being expressed?
- Are the class findings meet the national standards published on the Ministry of Education website?

Observing the pupils achievements on a pupil level:

* observing the findings of a pupils, getting a personal scene

- The rate of meeting of a pupil of the results expected of him in math according to the model key and the differential formula. Example:

Example: overall average of pupils' achievements in beginning of year test	Target expected of a pupils in end of year test according to the formula of the differential model $\mathbf{10} * \sqrt{\boldsymbol{average\ score}}$
Average in test pupil 1: 81	Target expected of pupil 1 at end of the year – 90 (meaning the pupil must advance by 9 points)
Average in test pupil 2: 36	Target expected of pupil 2 at end of the year – 60 (meaning the pupil must advance by 24 points)

- **Points of strength:** points from which a pupil can be built, that can serve as a starting point, a basis for formulating a work program that promotes achievements in math.
- **Points of weakness:** a gap between the ability of a pupil and his actual achievements, inefficient study habits, absence of motivation, study impairments, social, emotional and behavioral problems…
- Which professional tools are to be mustered up in order to deal with the emotional or functional problems for the purpose of intervention?
- Are the resources invested thus far in each pupil are expressed in their achievements (cost versus utility)?

1. **Personal circle on the level of teacher-pupil (personal talks):**

Part 1: familiarity with the pupil

What does the pupil like in school? What does the pupil like in math classes?

What is easy for him in mass lessons? In which subjects in math does he succeed? What does he want to be when he grows up? (according to age, it is advised to address the way a pupil perceives himself compared to the scene described by the data of his achievements)

Personal circle on the level of teacher-inspector (personal talks):

Familiarity of the inspector with a teacher:

How does a teacher deal with pupils? Whom is he assisted by? What did he handle? What does he need in order to assist him in promoting the achievements of his pupils in math? Which support does he require?

Part 2: formulation of a mutual action plan for achievement of targets

To choose a small task that he will be able to execute and succeed in.

For a pupil with assistance of a teacher: actions that would assist a pupil to succeed and to form a clear and possible frame of support and reporting to the teacher are to be delineated (example: doing homework every day between 16:00 and 16:30, solve multiplication table drills; listen in class and each time I know the answer I will raise my hand in class).

For a teacher with assistance of an inspector: recommending on determining class targets to be set. Formulation an action plan focused on promotion of achievements for a pupil/group/class.

The messages:

- The pupil/teacher is not alone.
- The pupil/teacher is the source – will dictate the pace and targets.
- Long-term dialogue – the conversation is not one-time only but is part of a process that is personally adjusted and everything in it can be changed.
- **The teacher relies on a pupil and his ability** – big and small; **the inspector relies on a teacher and his ability** – big and small.

- **Not being judgmental –** the teacher does not suspect a pupil who is lazy and incompetent but rather strengthens him; the inspector does not suspect a teacher to be lazy and incompetent but rather strengthens him.
- **Transparency –** the pupil needs to be alert to the fact that the teacher is trustworthy; the teacher needs to be alert to the fact that the inspector is trustworthy.

2. The team circle

Purpose: to muster up creatively the majority of resources that can be beneficial to the majority of pupils and on the other hand – to focus on specific needs of pupils

- ✓ Scheduling in advance in the school calendar, meetings for the purpose of team thinking.
- ✓ Observing the delaying factors and promoting factors for promotion of achievements in math, in school/class.
- ✓ In school opening – formulating an action plan according to the mapping of end of last year, at end of year summary and setting targets for next year.
- ✓ Consulting with a professional factor; formulating a program that encourages motivation; reinforcing studies through allocation of individual hours or longitudinal hours; setting class targets and reinforcements.

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Appendix A14.1. Inspectors' and teachers circle:

Suggested prompts for inspectors' and teachers to consider before the meeting and for discussions during the meetings.

In reviewing practice the following questions may support professional dialogue in school:

• Is the assessment system appropriate?

• How much testing is there throughout the year?

• Are the assessments telling us what we need to know?

• Is the impact of any intervention assessed appropriately?

• What is the percentage of pupils now working at age-related expectations in math?

• What is the percentage of pupils making good/expected/no progress towards their end of key stage progress targets in math?

• What is the percentage of pupils making good/expected/no progress in-year?

• What actions have taken place since the last meeting?

• What impact have these actions had on attainment and progress?

• What evidence is there to support the reported impact?

• For the pupils who have made good progress what has made the difference?

• For pupils who have not made enough progress, what core barriers are preventing them from moving on and how can we intervene?

• Which pupils do you feel now need intervention? How will this be organised and what will the planned programme include?

• Is there any additional support in terms of CPD you feel you need to help those pupils?

Sample proforma for Pupil Progress Meetings:

• Some aspects of the proforma will be completed prior to the meeting as part of the preparation by class teachers

• The proforma can then be added to during the meeting to record the agreed outcomes

• Once all the meetings have taken place it is useful to collate all agreed issues and outcomes to support information sharing at all levels

Quality of learning

• What are different groups and individual pupils actually learning as opposed to doing?

• Are pupils consolidating previous skills/knowledge or learning something new?

• Can all pupils make the links between previous/new learning?

• Can pupils talk about what they are learning, as opposed to simply describing what they are doing?

• Do they consistently produce work of a good standard?

• Are pupils working independently? Are they self-reliant – do they make the most of the choices they are given

or do they find it difficult to make choices? To what extent do pupils take responsibility for their own learning?

• How well do pupils collaborate with others? Do they ask questions, of each other, of the teacher or other adults, about what they are learning?

• Adults, about what they are learning?

• Are pupils creative? Do they show initiative?

• How well do pupils follow routines/expectations? Enjoyment of learning and attitudes

Enjoyment of learning and attitudes

• Are pupils engaged, working hard, making a good effort, applying themselves, concentrating and productive?

• Are pupils developing habits of good learning?

• Are pupils happy with their work? Are they proud of it?

• Are pupils interested in their work and in what they are learning? Or are they easily distracted?

• How smooth is the transition from teacher input to group work? Do pupils settle to work easily?

Assessment to support learning

• Are there any significant differences in the learning of different groups of pupils, or of any individuals?

• Are pupils involved in assessing their own learning and progress?

• Do pupils know what they are learning and why?

• Do pupils have targets and do they understand what they mean/what to do to achieve them?[228].

Appendix A14.1.

Table **A14.4.** Comparison between instructional leadership: effective and no effective

Effective instructional leadership	**No Effective instructional leadership**
In order to drive teachers towards internal motivation in execution of tasks, theinspector should:	
Actually, be integrated in various activities of school life to be in proximity to teachers and principals.	Stay only in offices in execution of procedures and forms.
Exhibit greater personal attention towards teachers: by actions of expressing appreciation, support of their ability and contribution to school	Avoid taking a stand, indifference and concession
Use examples and demonstrations	Just be a representative of the Ministry of Education, without details
Use inquiry and soliciting advice and opinions	Does not contribute:avoid making decisions
listen	Be critical and authoritative
Share her experiences	
Recognize teachers' strengths	Avoid interfering until the problems turn serious
Maintain a focus on improving instruction	Focus on exceptional issues, mistakes and deviations from what is required
Be Committed to students and the learning	
Invest effort in pupils' achievements'	
Promote effective teamwork	Avoid interfering until the problems turn serious
Promote motivation for target achievement Supervisor	Avoid taking a stand, represent indifference and concession
Specialize and professionally development	
Look for different viewpoints in solving a problem	Delay at responding to urgent matters
Talk enthusiastically about what needs to be accomplished	Avoids interfering even when important issues arise
Devote time to apprenticing those he/she leads and to their instruction	Not devote time to apprenticing those he/she leads and to their instruction
Offer new ways to observe the way we perform our work	Avoid making decisions

The rationale of the course of the workshops in the experimental group

J. West-Burnham [190] identifies nine vital components that contribute to the team efficiency; on the basis of these components, L.J. Mullins [137, p.244] elaborated and developed the following components:

Clear and common values: As a basic term for the existence of behavioral integration in a team and understanding of the purpose of working in the team. In light of the purpose, defining the targets makes clear what has to be achieved.

Situational leadership: A team that is mature enough is capable of determining the most suitable leader to function as a team leader, based on the skills necessary for the functioning of the team as a complete entity - both in relation to the team members and to other teams within the organization.

Team pride: Commitment and involvement in the team, based on cooperation between different people, evaluation of efficacy , exchanging knowledge and constructive competition make them feel that all has been done concurrently [54], [172], [190].

Clear tasks: Definition of time-limited, applicable and realistic targets for execution.

Review: Monitoring at all times between planning and actualefficacy.

Openness: The operation is done openheartedly and honestly. L.J. Mullins [137, p.244] adds that at this stage the values and norms are created within a group and the flow of information between the team members occurs freely.

Literal communication (multi-channel): The team members communicate with each other without the need for a mediator or team head.

N. Glass [75] distinguishes between 4 communication methods in a team; **"self-management" organization** - everybody speaks with everybody else without inclusion of the manager; **organization in which all communication channels are open** - everybody speaks with everybody else with inclusion of the manager; **imbalanced connection** - everybody speaks with the manager, but not everybody speaks with everyone; **an organization in which everything goes through the manager** - everybody speaks with the manager, but have no interaction amongst them, thus certain cliques are being created in the organization.

Open questionnaire for trainees in the experimental group

An open question asked after each workshop and sent through the internet in a GoogleDocs form:

Hello,

Upon completion of a meeting in the mutual training apprenticeship for the coordinators, instructors and inspectors, we would like to hear from you on various aspects of the meeting. Please, reply honestly, your answers are particularly important, as you are the "pioneers in the field" and your answers will assist us in planning the next part of the activity.

Thanks a lot,

The training apprenticeship team

Name: _____ (no obligation to state) Position: _____

Please state a significant insight you have arrived at from today's meeting:

_____

Further notes, requests, suggestions for improvement….. I would like to say that …..

_____

Examples for opinions of the participants in the experiment sample group:

… The fact of the mutual learning and thinking was really important for me, more than any other process I've been in until today… a success. From my viewpoint, to see that the theory has been implemented in the field (school) and to learn something new and important for me at discourses… in my opinion, this is the only way to promote excelling and achievement.

… Very important to put the promotion of achievements on the agenda, even if there is failure and objection of some teachers…

… Personally, for me, as a mathematics coordinator, this is a new experience to learn together, being equal amongst/with the principals and inspectors… I feel important and also see my inspector in a different perspective… more professional…

… This training apprenticeship was different from others I had participated before! From a professional aspect, it shook me up and made me think about what is a good teaching and of the way of my work as a teacher and instructor of math teaching…

The training apprenticeship put me in confrontation with all my professional ideologies…

… I came with many doubts... pondered… and in general, I was not sure where all this would lead to. The thinking about my work put me in a new place, in the place of a trainee, one who thinks and explores her work and not only executes it…

We have much to learn from each other, and it is very exciting that a platform had been provided for the way we go through and our considerations on this way…

Table A16.1. Summary of statements in the feedback by categories in experiment and control sample groups

Category : Perception of inspector's duty As testified by the following statements from the feedback in sub-categories:	**Experimental sample group**	**Control sample group**
Representative of the Ministry of Education	"…Representing us properly…"	"He represents the Ministry…"
	"… I should sum up this meeting and arrive at a meeting with the local authority as a representative of the Ministry. I leave you with much thinking material…"	"…External figure…" "…An authoritative figure coming from outside…"
Critical and authoritative: at the level of pedagogical supervision	"We had insights regarding mathematics…"	"A new trend… to divide the class into groups by the study subjects…"
	"… The Japanese model of math lesson… I can fit here…"	"Our inspector is very mature, authoritative… we do whatever she tells us, no choice" "… Even if I object to what is told, it must be done…"
Critical and authoritative: at the administrative level	"The inspector examines the standards to study at least 6 hours of math…"	"There is a fear that the authoritative figure would transfer me by an 'initiated transfer' to a different school…"
Consulting, integration and instruction	"For example, the inspector suggested me to work in groups according to the study subjects, thus a solution is provided to study different subjects…"	"Individual work on the material"
	"An inspector that does not come with the attitude of – I know all and you are ignorant. Consulting…"	"To work in a team"
Encouraging teamwork	"You know, let's see the advantages and the shortcomings and see what can be done together in a team…"	"… Application of the Japanese model? ... In our classes, this means to work in a team…"
	"The way she proposed me to do and why it is called-for came not from a place of criticism, but as a result of working together and having discussions, and I bought every word…"	
	"…The entire team should understand where we are aiming at and the purposes and targets in the Ministry to see the whole picture… and then we will	

	examine how to execute…"	
	"… Aim at our mutual purposes and targets in a team…"	
	"Is it important to us? Maybe there is no need for that?"	
	"Let's think what we are doing in a such a meeting".	
	"She is great, every time she sets new challenges for us and inspires us by a motivation… I feel good…" "… The entire team should realize what we are aiming at, the purposes and targets…"	
Encouraging setting and achieving targets	To give trust and willingness to invest… to inspire us with trust and will… to set challenges… to be attentive and collaborative…"	"The ministry set targets for succeeding the test…"

Category 2: Factors that encourage and delay Teachers' activity efficacy As testified by following statements out of the sub-categories' feedback	**Experimental sample group**	**Control sample group**
Satisfaction withefficacy	"… We invest and care beyond what is being asked; this is mutual…"	"I am doing a great job"
	"… I come with the confidence and the desire to succeed in class…"	
	"… All starts with love for the profession… I enjoy working with pupils…"	"… Every teacher returns into the class with three boxes and distributes to the team members…"
Organizing and enriching the study environment, for adjustment to pupils (the feedback revealed that the teachers considered the enrichment of study environment by means of aiding tools and updated materials as a big part of their job)	"It is important to upgrade the study environment… that it is always up-to-date and adjusted to pupils…"	"… There is a learning environment in the class that cultivates a response to difference between pupils, there is personal attention"
		"I see the study environment as supporting of and promoting the learning process" "… Use of the means of illustration for a better understanding of the subjects…"
Commitment to pupils and their learning	"As a math coordinator in school I constantly check the achievements in school and progress in material in classes…"	"… Every lesson is a summary of the essence of the things…"
	"In planning a lesson, setting purposes, targets, and predicting how far we want to reach".	"…All the pupils advance with accordance to the findings of the mapping test and variance of the pupils…"

		"… Use of the means of illustration for a better understanding of the subjects…"
Motivation for an optimal execution	"…We invest and we care beyond what is being asked and it is mutual…"	"… I enjoy working with the pupils…"
	"… We sit with instructor K. when she arrives to the school in order to get better…"	"… One needs to use a lot of materials and means until the material is assimilated by the pupils…"
	"… Using a material until the material is assimilated by the pupils…"	"… When I see difficulties of pupils I give them a personal response in a small group…"
	"… In general, it is a lot of work of follow-up and focused work…"	
Professional commitment and development	"I graduated from a university and have a Bachelor's degree of mathematics…"	"Sign up for every new training apprenticeship in mathematics…"
	"As a coordinator I constantly learn and develop myself professionally…"	"As a coordinator I constantly learn and develop myself professionally…"
	"… I use internet to get a new information, I get assistance, attend training apprenticeships, and always look for innovations…"	"… Undergo a lot of training apprenticeships, always apply new things and notify of them my team …"
Reputation and professional identification	"We have a great teamwork just like in Japan, i.e. we plan together a subject and lesson units, demonstrate the lesson to the team, and then discuss the results and make a conclusion, and, if a failure, repeat the process once again…"	"… There will be professional teams, only if there would be teachers from the academy and parents will pay for it… then we will be very well appreciated …"
	"… Everything together: planning together, deliberating together, help each other, consult… there is no other time…"	"… Yes, there should be created a positive image of the teachers; now, unfortunately, the teachers do not feel the public appreciation…"

Concentrated examination of primary research findings, theoretical and practical meaning

Table A17.1. Concentrated examination of primary research findings, theoretical and practical meaning

Hypothesis	Primary findings	Theoretical meanings	Practical meanings
Correlation between Teachers' activity efficacy and between characteristics of Inspector's leadership Style	In general it can be said that the correlations have been partially confirmed. Transformational differential leadership style has a positive correlation. Transactional leadership style has a significant negative correlation between the transactional intentional dimensions and a positive non-significant correlation in the dimensions of: contingent reward, Laissez-Faire and corrective active, and negative non-significant correlation with Laissez-Faire leadership style. Transformational leadership style has a positive non-significant correlation between the dimensions of: model of initiation, attributive identification, behavioral identification, motivation, inspirational and intellectual stimulation, and a positive significant correlation in the dimension of differential individualized consideration.	The less characteristics of transactional intentional leadership styleanan inspector has, the better is teachers' activity efficacy. The less characteristics of Laissez-Faire transactional leadership style an inspector has, the lower is exerting effort at work. The more characteristics of transformational leadership style in differential dimension an inspector has, the higher is intensity of teachers' activity efficacy. The more characteristics of transactional leadership style in theimitation dimension and transactional leadership style in intentional dimension an inspector has, the lower is intensity of teachers' activity efficacy.	In order to drive teachers towards internal motivation in execution of tasks, investing in work and improvement of achievements, inspectors on one hand, have to exhibit greater personal attention towards teachers, one of the characteristics of transformational differential leadership style, by actions of expressing appreciation, support of their ability and contribution to school. And, on the other hand, inspectors are to avoid adopting the characteristics of Laissez-Faire and passive intentional transactional leadership style, such as avoiding taking a stand, indifference and concession. According to the findings of current study regarding the importance of transformational leadership style of an inspector in dimension of differential, it is appropriate to conduct thinking as to which criteria have to be considered upon choosing of
Correlation between teachers' exerting effort at work and characteristics of inspector's leadership	Transformational differential leadership style has a positive correlation. Transactional leadership style has a negative significant	The more characteristics of transformational leadership style in differential dimension an inspector has, the higher is the intensity of teacher's exerting effort at work, and the more characteristics of transformational leadership	

Hypothesis	Primary findings	Theoretical meanings	Practical meanings
style.	correlation between the dimensions (rewarding intentional) and a positive non-significant correlation between the dimensions (contingent reward, laissez-faire and corrective active) and exerting effort at work.	style in imitation dimension and transactional intentional leadership style an inspector has, the lower is the intensity of teacher's exerting effort at work. That means that the less intentional is inspector's transactional leadership style, the more teachers exert effort at work.	inspectors.
Correlation between inspector's leadership style and between identification (with team, profession and school)	In all matters of correlation between identification in all the dimensions (team, school and profession) and inspector's transformational leadership style in the differential dimension, the hypothesis has been confirmed. The hypothesis has been conformed in correlation between the dimensions ofinspector's transformational leadership style and identification with the school. This is in the clinical, indirect, imitation and motivation dimensions. Additionally, all dimensions ofinspectors' transformational leadership style rise only the sense of identification with school. In all matters of identification with school and inspector's transactional leadership style in the constructive differential and corrective active dimensions, the hypothesis has been confirmed. Regarding identification with a team and inspector's transactional leadership style in the corrective active dimension, the hypothesis has been confirmed.	The meaning of the findings is that transformational differential leadership style rises the sense of identification in all dimensions. Transactional leadership style in differentialand activedimensions reinforce identification with school in a positive manner.	The fact, that differences have been found between the dimensions of identification amongst teachers, makes it necessary for the Ministry of Education to examine the ways of instructing the teachers, principals and inspectors, while the key motives are teamwork and reinforcing identification with the school and profession.
Correlation between characteristics of inspector's leadership	In all matters of correlation between perceived external prestige in all dimensions (team, school and profession) and inspector's transformational leadership style in the	The meaning of the findings is that only transformational leadership style in the differential dimensionrises perceived external	As the transformational differential leadership style affects the positive aspects of

Hypothesis	Primary findings	Theoretical meanings	Practical meanings
style and perceived external prestige (of team, profession and school)	differential dimension, the hypothesis has been confirmed. The hypothesis has not been confirmed between Perceived External prestige with the subject team and school and inspector's transformational leadership style (in clinical, indirect, imitation and motivation dimensions); there is a negative significant correlation between inspector's transactional leadership style in the dimension of intentional and perceived external prestige of the team and school.	prestige; no other style has any effect. The more the leadership style of an inspector is in the dimension of intention, the more team and profession perceived external prestige is adversely affected. When the leadership style of an inspector is transactional in the laissez-faire dimension, only perceived external prestige of team is adversely affected.	perceived external prestige, the inspectors would be correct in adopting for themselves a transformational leadership style with differential characteristics. Development of mutual teaching and learning frameworks is recommended to the principals, inspectors, teachers, coordinators and instructors - that are focused on the subjects of development, definition and implementation of perceived external prestige, identification, image, and efficacy .
Identification as a mediator between the variables of Leadership Style and between Teachers' activity efficacy and Teacher's ExertingEffort at Work.	Identification (with team, school and profession) is not mediated. It has been found that Transformational Leadership style in Differential and Imitation dimensionsand Transactional Intentional-Passive Leadership style, predict Teachers' activity efficacy. It has been found that transformational leadership style in differential and imitationdimensions and transactional intentional-passive leadership style predict teacher's exerting effort at work.	The meaning of the findings is that teachers' activity efficacy and achievements have been found to be in a higher intensity if the inspector'stransformational differential leadership style is higher, and in a weaker intensity, if the inspector has more characteristics of transactional intentional and transformational imitation leadership styles. Rising teachers' activity efficacy –teacher's exerting effort at work have been found to be in a higher intensity, if the inspector has more characteristics of transformational differential leadership style, and in a weaker intensity, if the inspector has more characteristics of	If identification with organization, team and profession affects theefficacy of teachers and Teacher's exerting Effort at Work, then the educational system is to invest in improving the Identification indexes such as: workshops, learning and support. One of the conditions for success of school and teachers' activity efficacy is teamwork. For this purpose teachers and their superiors are required to

Hypothesis	Primary findings	Theoretical meanings	Practical meanings
		transactional intentional and transformational imitation leadership styles.	conduct a series of systematic actions that create group consolidation in order to achieve effectiveefficacy and see benefit in a team.
Perceived external prestige as a mediator between the variables of leadership style and teachers' activity efficacyand exerting effort at work.	Perceived external prestige (of team, school and profession) is partially mediated.	The meaning of the findings is that teachers' activity efficacy – exerting effort at work rises, when the intensity of the transformational differential leadership style of an inspector is higher, and when the transformational imitation leadership style of an inspector and the transactional intentional leadership style of an inspector are in a weaker intensity.	If perceived external prestige of the organization, team and profession affects teachers' activity efficacyand exerting effort at work, then the principals and inspectors are to invest in improvement of the school image.
Correlation between perceived external prestige and teachers' activity efficacy and teacher's exertingeffort at work.	In general, it can be said that all correlations between the research variables of teachers' activity efficacy and teachers' exerting effort at work and perceived external prestige have been confirmed.	The correlation between schoolperceived external prestige and efficacy is weaker in relation to the correlation of team and profession perceived external prestige. Also, the variance that is explained by perception of prestige, whose source is in school, is lower (33%), meaning that there are additional influencing factors.	These findings have operative meaning, if perceived external prestige of the organization, team and profession affects teachers' activity efficacy and teacher's exerting effort at work; then the principals and inspectors are to invest in improvement of school image aimed at improvement of perceived external prestige. The questionnaire of perceived external prestige in all three indexes might serve as a diagnosis tool for schools as to what extent perceived external prestige affects teachers' activity efficacy and teacher's exerting effort at work.

Hypothesis	Primary findings	Theoretical meanings	Practical meanings
Correlation between identification and teachers' activity efficacy and teacher's exertingeffort at work.	In general, it can be said that all correlations between the research variables of teachers' activity efficacy and teacher's exerting effort at work and identification have been confirmed.	Correlation between identification with school and efficacy is weaker being compared with the correlation of identification with the team and profession, while the identification with profession is the highest amongst the three. The variance explained by organizational identification, which source is in school is, is also lower (10%), meaning that there are additional indexes that affect identification.	These findings have operative meaning, if identification with the organization, team and profession affects teachers' activity efficacy and teacher's exertingeffort at work, then the principals and inspectors are to invest in improvement of identification by workshops, learning and support. The questionnaire of identification in all three dimensions might serve as a diagnosis tool for schools as to what extent identification affects teachers' activity efficacy and teacher's exerting effort at work.
Economic-educational indicators moderate the correlation between the variables of teachers' activity efficacy, teacher's exerting effort at work, and inspector's leadershipstyle.	It has been found that economic-educational indicators do not effect or interfere with teachers' activity efficacy and teacher's exerting effort at work, except for two indicators that have been found to be negatively significant: the indicator of frequency of team meetings and the indicator of the average score in the national tests.	The meaning of the findings is that the higher is the frequency of professional team meetings, the worse is teachers' activity efficacy, andthe higher is the average score in the Meizav test, the worse is teachers' activity efficacy and teacher's exerting effort at work.	There is a need in a future research for isolation of additional variables that would contribute to the explanation of the dependent variable.
Behavioral integration in team and school as a moderator of correlations between the variables of identification,	The hypothesis has been partially confirmed in the correlation between behavioral integration in the team, school and total, and the characteristics of the inspector's transformational leadership style in the differential dimension and the characteristics of the transactional	The meaning of the findings is that the more the characteristics of inspectors' leadership style are transactional in intentional dimension, the lower is behavioral integration in the team, and the more the characteristics of the inspectors' leadership style are transformational in	The inspectors are to integrate in actuality in various activities of school life to be in proximity to teachers and principals. and not to stay only in offices in execution of procedure and

Hypothesis	Primary findings	Theoretical meanings	Practical meanings
perceived external prestige, and inspector's leadership style.	leadership style in the active dimension.	differential dimensions and/or transactional active, the higher is the extent of behavioral integration of teachers both in the team and in school.	forms.
	In all matters of high patterns of behavioral integration (in the team, school and total), significant positive correlations have been found between perceived external prestige in all three dimensions of school, team and profession and the transformational or transactional leadership styles; the hypothesis has been confirmed. In all matters of high patterns of behavioral integration (in the team, school and total), positive significant correlations have been found between identification in two dimensions out of three (with the team and profession), and the transactional or transformational leadership styles; the hypothesis has been confirmed. In low behavioral integration, no correlation has been found between identification and perceived external prestige and leadership style.	The meaning of the findings is that the more characteristics of transformational leadership style an inspector has, the higher are perceived external prestige and identification in all three dimensions of the educational employees. And the more characteristics of transactional leadership style an inspector has, the higher are the senses of perceived external prestige and identification in all three dimensions of educational employees, except for school perceived external Prestige of school. If he educational employees are not identified with the team, school and profession or do not sense external prestige of the team, school and profession, then, inspector's transactional or transformational leadership styles have no effect on their behavioral integration in the team and school.	

STATEMENT

I, the undersigned, declare on my own responsibility that the materials presented in the present doctoral thesis are the result of my own researches and scientific achievements. I confirm this fact; otherwise, I will bear the consequences in accordance with the law in force.

Sincerely,

Halfon Hen Dalia

Date: February2016

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