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MUSIC INTEGRATION IN THE TEACHING OF OTHER DISCIPLINES IN PRIMARY EDUCATION

531.01. General theory of education

Doctoral thesis in pedagogic sciences

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CONTENTS:

ADNOTARE

Badarne Belal, ***Integrarea muzicii în didactica altor discipline din educația primară,***
teză de doctor în științe pedagogice, Chișinău, 2021

Structura tezei: introducere, 3 capitole, concluzii generale și recomandări, bibliografie (125 de surse), 140 de pagini de text de bază, 4 anexe, 15 tabele, 22 diagrame, 1 figură.

Publicații la tema tezei: 10 lucrări științifice, trei dintre care au fost publicate în străinătate, 2 articole în reviste naționale de categoria C, 3 articole la conferințe internaționale, 1 articol la o conferință națională și 3 publicații electronice.

Cuvinte cheie: muzică, predare, integrare, învățători, atitudini, metode, școală elementară, cooperativă, educație, pedagogie.

Domeniul cercetării: Pedagogie

Scopul cercetării: elaborarea, implementarea și validarea modelului de integrare muzicală (MIM) în schimbarea atitudinilor și a eficacității învățătorilor față de integrarea muzicală în predare și în îmbunătățirea realizărilor, comportamentului și sentimentelor elevilor. Scopul studiului este, de asemenea, de a atinge caracteristicile și modalitățile de integrare a muzicii utilizate în predare de către învățătorii din școlile elementare.

Noutatea științifică și originalitatea cercetării sunt determinate de fundamentarea teoretică și practică a integrării muzicale în predare, prin demonstrarea corelației pozitive dintre atitudinile și eficacitatea învățătorilor în urma aplicării integrării muzicii în predare, prin stabilirea caracteristicilor programului de integrare muzicală prin care crește eficacitatea (simțul abilității) învățătorului și astfel le schimbă atitudinea față de eficacitatea integrării muzicale, prin elaborarea modelului de integrare muzicală MIM corelând factorii, condițiile și metodele pentru dezvoltarea învățătoriilor care folosesc metode de integrare muzicală în predarea altor discipline.

Fundamentarea funcționalității teoretice și aplicative a modelului MIM pentru dezvoltarea cadrelor didactice care folosesc metode de integrare muzicală în predare prin aplicarea unui model de integrare muzicală (MIM) acesta sporindu-le eficacitatea și schimbându-le atitudinile, care vizează îmbunătățirea competenței profesionale, pentru a asigura calitatea educației în școlile arabe israeliene, constituie **problema științifică soluționată** în cercetarea noastră.

Problema științifică soluționată. (Informație explicativă suplimentară pentru membrii SȘP).

Am lucrat în școlile elementare ca învățător de muzică mai mult de 25 de ani. Pe parcursul acestor ani, învățătorii care au lucrat cu mine s-au plâns că elevii nu se concentrează pe lecții, au multe probleme de disciplină, motivație scăzută, dificultăți în înțelegerea și cunoașterea materialului pe de rost. Am auzit aceste plângeri de la învățători și am comparat situația elevilor la lecțiile de muzică. În calitate de muzician, știu multe despre efectul muzicii asupra creierului, comportamentului și sănătății mintale. Astfel, am sugerat învățătorilor să utilizeze muzica la lecțiile lor. La început, învățătorii nu credeau că muzica poate aduce un efect bun. De asemenea, nu au crezut că o pot face. I-am încurajat să încerce, să înceapă cu tehnici ușoare. De asemenea, i-am ajutat să găsească o tehnică (metodologie) adecvată a muzicii pentru a o integra în lecție în funcție de materialul învățat. Cum ar fi, de exemplu, identificarea unei melodii, care are legătură cu tema sau utilizarea muzicii frumoase sau relaxante pentru a ajuta elevii să se concentreze în timp ce lucrează în clasă. După ce au folosit integrarea muzicală, învățătorii s-au reîntors la mine, relatându-mi reacții (efecte) neașteptate! Au relatat că, în timp ce foloseau integrarea muzicală în clasă, elevii se concentrau mai mult pe lecție, aveau o motivație și o activare mai mari în procesul de învățare și aveau emoții pozitive în timpul lecției. După aceste reacții ale învățătorilor, care au integrat muzica în lecțiile lor, am decis să fac o cercetare despre integrarea muzicii în predare. Bazându-mă pe experiența mea, am construit un model pedagogic MIM de integrare a muzicii în predare, în școlile elementare (primare) din Israel. Rezultatele cercetării indică faptul că atitudinile învățătorilor față de eficacitatea integrării muzicale au fost îmbunătățite. Învățătorii au informat că modelul MIM are un efect benefic asupra nivelului emoțional, al nivelului cognitiv, al nivelului social, al nivelului motivațional, al nivelului comportamental și a contribuit la ridicarea realizărilor elevilor. Mai mult, învățătorii au informat că eficacitatea (simțul abilității) lor de a aplica metodele de integrare muzicală a crescut după intervenție. Ei s-au simțit mai capabili să folosească metodele de integrare a muzicii și au aplicat metodele pe care le-au învățat în cadrul cursului ca parte a modelului MIM. Astfel, cercetarea sugerează că dimensiunea academică a educației (la nivelul formării cadrelor didactice) ar trebui să aibă un curs despre integrarea muzicii în predare. Și acest curs ar trebui să includă aplicații practice în sala de clasă, astfel încât învățătorii stagiari să experimenteze integrarea muzicală și să aibă atitudini pozitive cu privire la eficacitatea acestuia și să se simtă capabili să integreze muzica în predare, urmărind scopul și finalitățile descrie.

Cele menționate mai sus duc la **problema cercetării** care constă în lipsa unui model de organizare, care să sublinieze eficacitatea și atitudinile învățătorilor față de integrarea muzicală în predare. La nivelul conceptualizării și implementării integrării muzicii în domeniul didactic, atitudinile și eficacitatea învățătorului în Israel rămân un aspect încă puțin explorat. În aceste condiții, este foarte necesară elaborarea unui model tehnologic de implementare a acestei metode, care prin Ministerul Educației va fi implementată în procesul de predare a celor cinci discipline didactice principale și va favoriza și stimula inter-înțelegerea. Prin urmare, putem formula principala problemă a cercetării: ***Care ar fi modelul tehnologic de aplicare a integrării muzicii în procesul de predare, acesta având un efect asupra atitudinilor învățătorilor și eficacității în cooperarea muzicală în procesul de predare?***

Semnificația teoretică a cercetării constă în identificarea argumentelor științifice privind importanța dezvoltării eficacității învățătorilor și îmbunătățirea atitudinilor lor față de integrarea muzicii în procesul de predare; în explicarea importanței existenței unui Model de Integrare Muzicală care să îi ajute pe învățători să integreze muzica în procesul de predare în sistemul de învățământ, în elaborarea metodelor și a cadrului de integrare a muzicii care pot ajuta învățătorii să integreze muzica în procesul de predare și să fie în stare să o facă, deși nu sunt experți în muzică și în explorarea metodelor de integrare a muzicii pe care învățătorii le folosesc și au tendință de a nu le folosi.

Valoarea practică a cercetării rezidă în stabilirea dificultăților întâmpinate de învățători în integrarea muzicii în procesul de predare, analiza programelor de inducție care vizează facilitarea integrării muzicii învățătorilor în predarea, elaborarea și validarea unui set de instrumente pedagogice incluse în Modelul de Integrare Muzicală și prin formularea de recomandări practice care abordează conținutul și importanța îmbunătățirii eficacității și atitudinilor învățătorilor față de integrarea muzicală și le oferă un cadru în care se simt capabili și doresc să integreze muzica în procesul de predare. Mai mult, această cercetare recomandă includerea cursurilor de integrare muzicală a viitorilor învățători în timp ce studiază la Universitate. Tratând o gamă largă de probleme, rezultatele cercetării pot îmbunătăți semnificativ procesul de predare.

Aprobarea şi implementarea rezultatelor ştiinţifice: Materialele didactice elaborate în timpul investigației noastre, metodele de integrare a muzicii în predare, cum ar fi utilizarea muzicii de fundal, utilizarea melodiilor de conținut ce se referă la maerialul predat, utilizarea muzicii la începutul fiecărei lecții, utilizarea muzicii la sfârșitul fiecărei lecții, încurajarea creativității sudenților, cum ar fi

compunerea unei melodii în baza unui text învățat sau compunerea unui cântec legat de conținutul lecției, invitarea învățătorilor sau părinților care au talent muzical să cânte sau să interpreteze melodii legate de materialul învățat al lecție, folosirea integrării muzicale în afara clasei, cum ar fi redarea melodiilor în pauza activă sau publicarea melodiilor pe site-ul școlii, solicitarea adresată elevilor să cânte în fața clasei și să interpreteze sau să joace muzică pe tema lecției și folosind combinația de muzică și arte în predarea lecției.

Aceste metode au fost implementate în cadrul seminariilor formative pentru învățători și pentru inspectorii de la ministerul educației din Israel. Mai mult, modelul MIM realizat în timpul cercetării a fost prezentat la seminarul studenților „Educația muzicală" de la Universitatea Tel Aviv și în conferința „Felharmonic" din Ierusalim. Procesul educațional al modelului MIM a fost realizat în școlile elementare arabe israeliene din Galeeli și din Negev.

Mai mult, subiectul utilizării muzicii la lecțiile de religie musulmană a fost implementat în cadrul colegiului Levinsky din Israel la un seminar pentru studenții facultății de educație muzicală din Israel și în „Seminarul pentru muzică și cultură" pentru academicienii din Academia Sebelius din Finlanda. De asemenea, cercetătorul a participat la patru simpozioane internaționale în cadrul colegiului Levinsky.

Publicații: 10 lucrări științifice, dintre care trei au fost publicate în străinătate, 2 articole în reviste naționale de categoria C, 2 articole la conferințe internaționale, un articol la o conferință națională și 3 publicații electronice.

ANNOTATION

Badarne Belal, Integration of music in the didactics of the disciplines in primary education, Doctoral thesis in pedagogic sciences, Chişinău, 2021

Thesis structure: introduction, 3 chapters, general conclusions and recommendations, bibliography of 125 titles, 147 pages of basic text, 4 appendixes, 15 tables, 22 charts, 1 figures.

Publications: 10 scientific papers, three of which has been published abroad, 2 articles in national journals of C-category, 2 articles at international conferences, 1 article at a national conference and 3 electronic publications.

Keywords: music, teaching, integration, teachers, attitudes, methods, elemntary school, cooperation, education, pedagogy.

Field of research: pedagogy

The purpose of the research: elaborating, implementing and validating the music integration model (MIM) in changing teachers' attitudes and efficacy towards music integration in teaching, and in improving students' achievements, behavior, and feelings. The purpose of the study is also to meet the characteristics and ways of integrating music used in teaching by elementary school teachers.

Scientific novelty and originality of the research are objectified by the theoretical and practical substantiation of music integration in teaching, by proving the positive correlation between the teachers' attitudes and efficacy to applying music integration in teaching, by establishing the characteristics music integration program that raise teacher's efficacy (sense of ability) and change their attitudes about the effectiveness of music integration, by elaborating the MIM music integration model correlating the factors, conditions and methods for developing teachers' who use music integration methods in teaching other disciplines.

Substantiating the theoretical and applicative functionality of the MIM model for developing teachers who use music integration methods in teaching through applying a music integration model (MIM) which raised their efficacy and changed their attitudes, aimed at improving professional competence, to ensure education quality in Israeli Arab schools, constitutes the **scientific problem solved** in our research.

The solved scientific problem

I worked in elementary schools as a music teacher for more than 25 years. All along these years, teachers who worked with me complained that students do not concentrate in the lessons, have a lot of discipline problems, low motivation, difficulties in understanding and knowing the material by heart. I heard these complains of the teachers and compared the situation of the students in music lessons. As a musician I know a lot about the effect of music on the brain, behavior, and mental health. Thus, I suggested for teachers to use music in their lessons. At first teachers did not believe in that music can bring a good effect. They also did not believe they can do it. I encouraged them to try, to start with easy techniques. I also helped them in finding an appropriate technique of the music to integrate in the lesson according to the learned material. Such as finding a song that relates to the theme, or using beat music, or using a relaxing music to help students concentrate while working in class. After using music integration teachers came back to me and had a great reaction (effects). They reported that while using music integration in the classroom students focused more in the lesson, they had higher motivation and activation in the learning process and had positive emotions during the lesson. After these reactions of the teachers who integrated music in their lessons, I decided to make a research about integration of music in teaching. Relying on my experience I built a MIM pedagogical Model of integrating music in teaching, in elementary schools in Israel. The results of the research indicate that teachers' attitudes toward the effectiveness of music integration was improved. Teachers informed that the MIM model has a good effect on the emotional level, the cognitive level, the social level, the motivational level, the behavioral level and helped to raise students' achievements. Moreover, teachers informed that their efficacy (sense of ability) to apply the methods of music integration got higher after the intervention. They felt more capable to use the methods of music integration and applied the methods they learnt in the course as part of the MIM model. Thus, the research suggests that in the academic learning of education (at the level of teacher training) should have a course about music integration in teaching. And this course should include practical applications in the classroom so pre-service teachers experience music integration and have positive attitudes about the effectiveness of it and feel capable to integrate music in teaching, pursuing the purpose and purposes described.

This leads to the ***research problem*** that focuses on the lack of an organizing model that emphasizes teachers' efficacy and attitudes towards music integration in teaching. At the level of conceptualization and implementation in the music integration in teaching field, teacher's attitudes

and efficacy in Israel remains an aspect still little explored. In these conditions, it is very necessary the elaboration of a technologic model of implementation of this method, fact that will assign to the process of teaching the five main didactic disciplines at the education ministry and will favor and stimulate inter-comprehension. Hence, it follows the main problem of the research: What would be the technologic model of applying integrating music in teaching that will have an effect on teachers' attitudes and efficacy towards music cooperation in teaching?

The theoretical significance of this research consists in highlighting the scientific arguments as related to the importance of developing teachers' efficacy, and improve their attitudes towards integrating music in teaching; in explaining the importance of having a music integration model (MIM) that will help teachers integrate music in teaching in the system of education, in elaborating the music integration methods and framework that can help teachers integrate music in teaching and feel able to do that although they are not music experts and in exploring the music integrating methods that teachers use and tend not to use.

The practical value of the research is supported by the establishment of teachers' difficulties at integrating music in teaching, the analysis of induction programs aimed at facilitating teachers' music integration in teaching, elaboration and validation of a set of pedagogical tools concentrated in the Music Integration Model (MIM) and by the formulation of practical recommendations that address the content and importance of improving teachers' efficacy and attitudes towards music integration, and provide them a framework in which they feel able and want to integrate music in teaching. Furthermore, this research recommends including music integration course to the pre-service teachers while they study at University. Treating a wide range of problems, the results of the research can significantly improve the process of teaching.

Implementation of scientific results: The didactic materials elaborated during our investigation the methods of music integration in teaching that was such as using background music, using content songs that relates to the maerial teached, using opening music in the beginning of each lesson, using and ending music at the end of each lesson, encourage creativity of sudents like composing a melody to a learnet text or composing a song related to the content of the lesson, inviting teachers or parents who got talent in music to play or sing content songs that are related to learnt material of the lesson, using music integration out side of the classroom, Such as playing content songs in the active break or publishing content songs in the school website, ask students to perform infront of the class and sing

or play music that is related to the lesson, and using the combination of music and arts in teaching the lesson).

These methods were implemented in the frame of formative seminars for teachers and for supervisors in the education ministry in Israel. Ferthermore, The MIM model that was conducted during the research work was reresented in "the Music Education" student seminar in Tel Aviv University, and in the "Felharmonic" conference in Jerusalem. The educational process of the MIM model was carried out in elementary Arab Israeli schools in the Galeeli and in the Negev.

In addition the subject of using music in moslem relegion lessons was implemented within Levinsky college in Israel at a seminar for the sudents of music education students in Israel, and in the "Seminar for music and culture" for academics in Sebelius Academy in Finland. Also, the researcher participated in four international symposia in Levinsky college.

Publications: 10 scientific papers, three of which has been published abroad, 2 articles in national journals of C-category, 2 articles at international conferences, 1 article at a national conference and 3 electronic publications.

ABBREVIATIONS LIST

ABC - Arts in the Basic Curriculum;

MIM - Model of integrating music in teaching;

RITA - Reading Improvement through the Arts;

MENC - Music Educators National Conference;

NSME - National Standards for Music Education;

LTTA - Learning through the Arts;

EFQM - the European Foundation for Quality Management**.**

INTRODUCTION

Theme relevance: *Educational researchers represents teaching* as a very vital element of education. In this context, the journal *A Handbook for Policy Makers*, published by European Commission underlines that, teachers are the most significant element that effects the quality of education in schools [A; 22]. Recent technologies of modern didactics and their implementation in practice enables Israel to join its educational policy to the system of values of contemporary world and to streamline and restructure the system of education as a whole.

The act of teaching and education requires from the teacher an increased degree of professionalism - documentation, training and directing the instructive-educational process, evaluation of school situations and results. The modern teacher is a designer and manager of school learning experiences: representations, notions, principles, etc. regarding the objects and phenomena of the external world and the relations between them, to which are added the mental operations, thanks to which the knowing subject can engage in the transformation of reality, including in a practical-action plan. The constant, and therefore essential, characteristics determine the knowing subject to synthesize or condense them into notions and legitimacies, which thus become intellectual values, continuously feeding his cognitive system [38].

Various theories of knowledge, developed by philosophy, psychology and musicology, and knowledge learning, developed by psychology, general pedagogy and pedagogy of the arts, as well as contributed to the establishment of a didactics of arts, whose component is also the field of teaching methods, as.

- in *general philosophy* and *philosophy of art*, *philosophy of music*: the triadic delimitation of cognitive philosophical categories [I.Kant]; the triadic concept in philosophy (syncretism-analysis-synthesis) [Hegel]; delimitation of scientific knowledge from artistic knowledge [N. Bagdasar; C.Bârzea]; the concept of musicosophy [G.Bălan, I.Gagim];

- in *general psychology* and *music psychology*: the theory of musical skills [B. Teplov, G. Tîpin]; psychoenergetic theory of music [E.Kurth]; the theory of the dynamic nature of harmony [Iu.Tiulin]; the biphasic theory in the knowledge of music "perception and perception" of the sound message [G. Orlov, I. Gagim]; the proto-psychological concept of music, musical knowledge [I.Gagim]; extensive knowledge of music [G.Bălan], the triadic system in the general development of psychic functions: I-M-T [B.Asafiev];

- in *musicology*: the algorithmic theory sound-consciousness [E.Ansermet]; functional theory of music [D.Kuklin]; intonational theory of music [B.Asafiev, 144]; the concept of the message in music (dynamic, structured based on a hierarchy) [M. Bonfelid, I. Gagim];

- in *general pedagogy* and *arts pedagogy*: the concept of operative cognitivism [M.Minder]; the concept of music education [I.Gagim, 34-49].

Teaching methods field has not remained unaffected by these changes both at the conceptual and at the curricular level, on the contrary, thanks to valuable methodological studies conducted by Bresler [20; 21; 22; 23] and Leonhard [76], it became precedent for the entire educational process. In this context, arts integrating methods emerge as an imperative of time designed to provide to education an efficient and conscious character that would generate significant changes in personality, cognition, meta-cognition and self-formation [26].

Teaching methods field redirects its attention to the artistic aspects in teaching and approaches of integrating arts in teaching is emerged [76]. Using arts in teaching is considered a stimulator of cognition, form a personality that flexible and fits into any cultural and didactic space [30; 20]. Music integrating methods are one of the main arts integrating methods used in teaching in classes at elementary schools [20]. Its importance is mentioned by Bresler [23], Merrell [83], and Krashen [71], where it appears as a principle of progress of a major importance.

Modern didactics is based on new psycho-pedagogical foundations. Teaching is not synonymous with saying, possibly dictating, and asking students to verbally reproduce assimilated information in the next lesson. Teaching is defined in close relation to educational objectives, teaching means organizing and directing school learning experiences. The management of school learning experiences includes a series of concrete operations, such as: presentation of facts, examples, models, exhibits; involving students in activities of exploration and transformation of reality; deducing the essential and formulating it in definitions, laws, principles, rules; organizing and encouraging the act of learning / assimilation of the didactic offer [37].

Modern teaching is an act of communication between the two subjects of the pedagogical act, the teacher, and the student; it objectifies the competences of the educated, organizes the didactic offer.

Thus, there is a need to apply teaching strategies that match with music integrating methods and improve the development of the capacity of learning through music.

The present study deals with the attitudes of elementary school teachers toward the effectiveness of music integration on the students and the effectiveness of teachers (sense of ability) in using methods to integrate music into teaching in primary education.

Therefore, **the actuality of the subject** results in: the need to encourage teachers to use teaching methods that incorporate music; to positively change their attitudes towards music integration in teaching.

Based on these ideas, it is increasingly felt the need to implement those teaching strategies that match with arts and music integrating methods and contribute to the development of the capacity of learning to learn through music. Advocacies in arts associations evolved into projects and curricular materials. For instance, the teaching and learning of basic subjects through the arts were promoted by projects such as RITA (Reading Improvement through the Arts) or ABC (Arts in the Basic Curriculum) [20].

Description of the situation in the research field: Methods of integrating music are one of the main forms of application of the arts in the teaching process in elementary school classes [20]. Their importance is mentioned by Bresler [23], Merrell [83] and Krashen [71], where they appear as a principle of progress of major importance. A number of contemporary authors subscribe / examine / develop the characteristics of active and interactive teaching and instruction [I. and M. Abdulescu; T. Carlateanu, V.Goraş-Postică; M.Călin; I. Cerghit, I. Radu, E. Popescu, M. Cojocaru, L. Papuc, L. Sadovei, E. Joita, M. Ionescu, M. Bocoş, P. Mureșan; C.-L.Oprea, V.Pălărie; Ș.Popenici; D.Potolea; I.Radu, V.Vasile, I.Gagim], addressing all their aspects: projective (designed curriculum) and procedural (taught curriculum, teaching-learning / study-evaluation methodologies), subjective (action of teaching-learning subjects) and objective (characteristics of the subjects taught), of the educational aims (competences-traits-behaviors-aptitudes), advancing similar concepts [37].

The present study deals with the attitudes of elementary school teachers, and the effectiveness of integrating music in teaching, in the elementary school generally.

Students from several colleges and universities with a pedagogical profile in primary education are required to take a course integrating musical methods to obtain a degree in the field [17; 20; 94]. These courses are offered to prepare future specialists for a holistic approach to classroom teaching and learning, as well as to generate positive attitudes about the role of music in students' lives [17;

101]. However, the importance of music integrating methods is not always recognized by teachers whose attitudes, beliefs and sense of ability are low. This affects their performance as teachers [117].

The relationship between teaching methods and other elements of education, says I. Gagim, allows the teacher to do creative adaptations to educational objectives and content, school assessment, through the interdependence of communication-knowledge-pedagogical creativity at the level of any instructive-educational activity. This ensures the informative-formative unity of the didactic activity, regulates the objective-contents-methodologies ratio [47].

Thus, it is very important for music methodology instructors to know that an introductory course in music is necessary for elementary school graduates to help them understand how to integrate music confidently and successfully into their curriculum when they become teachers [17].

Degree of investigation of the problem and research premises:

Integrating music in teaching was studied by several researches including:

- Bresler [20; 21], studied the field of integrating music in teaching.

- Hallam and Price [58] and Isaacson [64] and Jackson [65], and Merrell [83] carried out studies on the effects of integrating music in teaching on children.

- Battersby, and Cave [17], Hash [59] and Kretchmer [72] conducted studies on Pre-service investigated Classroom Teachers' Preconceived Attitudes, Confidence, Beliefs, Sense of Ability and effectiveness of integrating Music into the Elementary Curriculum. In one of their studies, Battersby and Cave [17] underlines the fact that one of the most important obstacles that interferes in the process of integrating music in teaching is that the teacher does not have positive attitudes towards integrating music and has low effectiveness in terms of music cooperation within disciplines.

The methodological component of Music Education is capitalized and developed by several authors from the Republic of Moldova, such as A. Popov, 1999, T. Bulga, 1999, M. Vacarciuc, 2002, I. Gagim, 2004 [34-49], M. Morari, 2005, Vl.Babii, 2006, L.Graneţkaia, 2008, their research object being focused on the action dimension of music education, realized through methods and procedures / techniques of teaching-knowledge formation and capacity and attitude formation, thus capitalizing on various aspects of the specific character of music.

In his studies, the scientist I. Gagim:

a) draw their own similar ways of curricular contents mastering musical knowledge, students discover the laws of sounds: the four features (*duration, pitch, intensity, timbre*) form the musical

language; *rhythm, measure, melody, harmony, dynamics, sound coloristics* give rise to the sound image [34, pp. 138-139];

b) proposes three phases of formation of musical skills: I. *feeling-living*; II. *practical application in different forms* (execution, audition, creation, artistic characterization); III. *"theoretical" awareness* [34, p. 77];

c) states that the acquisition of knowledge about music has a wider meaning than that given by the elementary theory of music: their functions are not limited to knowledge of notions, terms, categories, laws, data, composers, but contribute to the practical assimilation of music , in the perception-understanding-interpretation of the artistic image;

d) delimits two levels of music education: theoretical-musicological and theoretical-technological, the very action of skills training, following the path of notification-experience-discovery-accumulation of musical impressions - awareness-formulation of definitions / rules-memorization.

At the level of conceptualizing and implementing the integration of music in the teaching field, teachers' attitudes, and effectiveness of music integration in Israel remain an aspect still little explored. Under these conditions, it is necessary to develop a pedagogical model for the implementation of this method, which attributes to the teaching process of the five main teaching disciplines, specified by the Ministry of Education, the ability to stimulate inter-comprehension.

Documentation on the usage of music integration in teaching exposed gaps between: attitudes of teachers towards integration music; their beliefs about the issue of music in general: their attitudes towards music integration, their effectiveness towards musical integration; the pedagogical knowledge acquired by teachers during academic studies and their needs in the field.

Many countries deal with these contradictions using special introductory programs in which they all focus on content. However, the gaps listed above, open a new window while considering music integration, and put the focus not on the methods to integrate music but on the teachers' attitudes that make a difference when teachers want to use methods of music integration.

This leads to the **research problem** that focuses on the lack of an organizing model that emphasizes teachers' attitudes towards music integration in teaching. At the level of conceptualization and implementation in the music integration in teaching field, teacher's attitudes in Israel remains an aspect still little explored. In these conditions, it is very necessary the elaboration of a technologic

model of implementation of this method, fact that will assign to the process of teaching the five main didactic disciplines at the education ministry and will favor and stimulate inter-comprehension. Hence, it follows the main problem of the research: What would be the technologic model of applying integrating music in teaching that will influence teachers' attitudes towards music cooperation in teaching?

Research Goal is to find a psycho-pedagogic premises of music integration in various disciplines. Furthermore, elaborating a pedagogic model for integrating music in disciplines in elementary schools through increasing teachers' effectiveness (sense of ability) and changing attitudes towards integrating music in teaching.

Scientific novelty and originality of the research is based on the theoretical and practical substantiation of the integration of music in teaching: on confirming the positive correlation between teachers' attitudes and the effectiveness of applying music integration in teaching, by establishing the characteristics of music integration program that positively change teachers' attitudes (sense of ability) and change their attitude towards music integration, through the developing the MIM music integration model correlating the factors, conditions, and methods for developing teachers' who use music integration methods in teaching other disciplines.

Substantiation of the theoretical and applied functionality of the MIM model for the development of teachers who use methods of music integration in teaching by applying a model of music integration (MIM) that has increased their effectiveness and changed their attitudes, aims to improve professional competence, to ensure the quality of education in Israeli Arab schools.

The theoretical significance of this research is in arousing the scientific discussion related to the importance of developing teachers' effectiveness in applying music integration and improve their attitudes towards integrating music in teaching. In addition, its significance shows in explaining the importance of having a music integration model (MIM) that will help teachers integrate music in teaching in the system of education, in elaborating the music integration methods and framework that can help teachers integrate music in teaching and feel able to do that although they are not music experts and in exploring the music integrating methods that teachers use and tend not to use.

Objectives of the research:

O1: establishing the theoretical premises for integrating music in the teaching process;

O2: determining the psycho-pedagogical conditions, which generate positive attitudes and a high effectiveness of the Israeli teaching staff regarding the musical integration in the teaching of other disciplines;

O3: identification of teachers' attitudes and effectiveness regarding music integration in the teaching process in Israeli Arab schools;

O4: determining the psycho-pedagogical landmarks for the music integration in the teaching process of Israeli Arab elementary schools;

O5: elaboration and experimental validation of the Musical Integration Model (MIM) in the didactic process of other disciplines.

O6: establishing the epistemological landmarks of music integration in the teaching of other disciplines in elementary school.

This study examines the differences in attitudes of teachers that could be after being exposed, in applying music integration methods, and in the effectiveness of applying Music Integration Model (MIM).

The MIM model (see Diagram1) is formed and exposed to the teachers and principals in school meetings. The model includes the following basic lines:

1. Exposure to music integrating value and benefits.
2. Exposure to various ways and methods of integrating music in teaching. Integrating music not only in classroom.
3. Personal support and guidance of a professional team. They are not alone they can use the music teacher.
4. Building a school plan and a professional adjusted model with the principal and the disciplinary professional team
5. Encouragement and Empowerment to the teachers that it is easy, and they can do it.

Nine parameters of teachers' attitudes about the effect of music integration (Emotional, Social, Cognitive learning, Motivation, Motoric, Behavioral, Achievements, Classroom Management effect and General personal attitudes), and nine parameters of teachers' application of music integrating (using Background Music, Content Songs, Creativity, Music Outside the classroom, External talent, Performance, Music and arts, Opening/closing music, and teachers' sense of ability to apply these methods) was checked before and after using ,,MIM":

The study also checked whether there is a relationship between teachers' education, teaching field, musical education, and experiences - and their attitudes toward integrating music in didactic disciplines, in the above-mentioned parameters, and the application of music integration methods.

The purpose of the study is also to meet the characteristics and ways of integrating music used in teaching by elementary school teachers.

The epistemology of research is based on educational, didactic, psycho-pedagogical and methodological theories, concepts and ideas.

The research methodology includes various methodologies: theoretical methods - synthesis, generalization, classification, systematization, comparison, modeling, surveys; empirical methods - observation, testing, questioning, conversation, finding, training and control experiment; statistical methods: Cronbach alfa, students 't test for independent samples, students' t test for a single sample, bifactorial analysis, unifactorial analysis, etc.

At the level of theoretical conceptualization: scientific and bibliographic documentation, epistemological synthesis and induction, deduction, conceptual analysis, theoretical modeling, hermeneutic analysis, argumentation, observation, statistical analysis, systematization, interpretive synthesis.

At the experimental level: questionnaire, interview, pedagogical experiment (diagnostic, training, control).

The experimental basis of the investigation consists of 80 teachers in elementary Arab schools in Israel as the population sample. The description of the sample population can be found in the sub-chapter concerning the sample population.

Scientific innovation consists in identifying the attitudes of teachers in elementary Arab school, and the application of music integration methods, exposing them to music integration model and examining their attitudes again and the usage of music integration methods - after that, some of the schools decided they want to apply the model.

The Practical value of the research is supported by the overcoming teachers' disability to integrating music in teaching. The analysis of the application of the MIM model intended to promote teachers' music integration in teaching. Furthermore, elaborating, and validating music integrating tools. By formulating practical recommendations that address the content and importance of improving teachers' attitudes towards music integration and provide them a framework in which they

use music integration methods in teaching. Moreover, this research recommends including music integration course to the pre-service teachers while they study at university. Treating a wide range of problems, the results of the research can significantly improve the process of teaching.

Theses offered to defend:

1. The formative value of the music integration model (MIM) is proved by getting a significance change in attitudes of teachers toward the effectiveness of music integration model MIM in several aspect in the students (emotional, social, cognitive, achievements, motivational). And by getting a significant change in teachers' application and use of music integration methods.

2. The exposure and application of music integrating model (MIM) in the process of teaching will help teachers to have more positive attitudes and higher effectiveness in using music integrating in teaching.

A. After using the music integration model (MIM), teachers will have more positive attitudes, regarding the effectiveness of integrating music in teaching than before using the model.

B. After using the music integration model (MIM) teachers will have more use more music integrating methods in teaching than before using the model.

3. There is a positive correlation between teachers' musical education and experience and their attitudes towards integration music in teaching.

4. There is a significant difference in attitudes and application on music integration of teachers of languages, and science, math, and religion teachers towards integrating music in teaching.

5. There is a positive correlation between attitudes of teachers and their efficacity regarding integrating music in teaching process.

Approbation and implementation of research results:

The didactic materials elaborated during our research, methods of music integration in teaching, such as using background music, using content songs that relates to the material taught, using opening music in the beginning of each lesson, using and ending music at the end of each lesson, encourage creativity of students like composing a melody to a learned text or composing a song related to the content of the lesson, inviting teachers or parents who got talent in music to play or sing content songs that are related to learnt material of the lesson, using music integration outside of the classroom, Such as playing content songs in the active break or publishing content songs in the school website, ask

students to perform in front of the class and sing or play music that is related to the lesson, and using the combination of music and arts in teaching the lesson.

The methods used in the research were exposed to teachers in the education ministry in Israel through seminars and courses. Furthermore, The MIM model that was conducted during the research work was represented in the Music Education student seminar in Tel Aviv University, and in the "Philharmonic" conference in Jerusalem. The educational process of the MIM model was carried out in elementary Arab Israeli schools in the Galeeli and in the Negev.

In addition, the subject of using music in Muslim religion lessons was implemented within Levinsky college in Israel at a seminar for the students of music education students in Israel, and in the *Seminar for music and culture* for academics in Sebelius Academy in Finland. Moreover, the researcher participated in four international conferences organized by Levinsky college.

Conference publications and communications:

1. Articles in journals from the National Register of profile journals, category C

1. BADARNE B. The Impact of music upon attention, attitude and motivation În: Artă şi educaţie artistică, Nr.1 (21), 2013 p. 58-60. ISSN:1857-0445
https://ibn.idsi.md/sites/default/files/imag_file/The%20impact%20of%20music%20upon%20attention%20attitude.pdf

2. BADARNE, B., COCIERU, N. The correlation between music and elementary school disciplines (English, Mathmatics and Religion). In: Acta et Commentationes. Education Sciences. Science magazine. Chisinau: UST 2017, no. 2 (11), pp. 126-131. ISSN:1857-0623
https://ibn.idsi.md/sites/default/files/imag_file/The%20correlation%20between%20music%20and%20elementary%20school%20disciplines%20%28English%2C%20mathematics%20and%20religion%29.pdf

2. Articles in recognized forgien journals

3. BADARNE, B., ERRLICH, A. Dancing on the limits: An interreligious dialogue exploring the lived experience of two religiously observant music educators in Israel, In: Perspectives on Music, Education and Religion. A Critical Inquiry (Eds Kallio, Alperson and Westerlund), Indiana USA, 2019, p. 262-272.
https://link.springer.com/chapter/10.1007/978-3-030-21029-8_3

4. BADARNE, B., ERRLICH, A. Intercultural music teacher education in Israel: Reimagining religious segregation through culturally responsive teaching. In: Visons for Intercultural Music Teacher Education (Eds Karlsen, Pratii and Westerlund), Springer International Publishing, 2020, p. 31-46
https://library.oapen.org/bitstream/handle/20.500.12657/23105/1007053.pdf?sequence=1#page=40

3. Materials at international conferences abroad

5. BADARNE, B., Teachers' self-efficacy and attitudes towards integrating music in the didactic of other disciplines in elementary school. În: The 1st International Music Education Conference of the Israel Philharmonic Orchestra. Music Education in the Community- Traditions, Challenges, and Innovations. May 14-17 2017, The Charles Bronfman Auditorium Tel Aviv, Israel. https://program.eventact.com/Lecture/143861/2763809

6. BADARNE, B., MUALEM, R., BISWAS, S., HNOUT, M., & GANEM, S. Improvements in Cognition and Educational Attainment as a Result of Integrating Music into Science Teaching in Elementary School. J. *Neuroscience and Neurological Surgery*, 2021, 8(3), pp.1-8.
https://www.researchgate.net/publication/352059011_Improvements_in_Cognition_and_Educational_Attainment_as_a_Result_of_Integrating_Music_into_Science_Teaching_in_Elementary_School

4. Materials at international conferences (Republic of Moldova)

7. BADARNE, B. The impact of music upon attention, attitude and motivation. În: Ion Gagim și universul muzicii. Materialele conferinței științifice internaționale consacrate aniversării a 60 de ani ai savantului: Iași, 2014, pp. 64-67. ISBN: 978-606-547-192-4.

5. Conference materials with international participation

8. BADARNE, B. Aspects of music integration in the didactic of other disciplines. În: Probleme actuale ale didacticii științelor reale. Conferința științifico-didactică națională cu participare internațională, ed. II, consacrată aniversării a 80-a a profesorului universitar Ilie Lupu, 11-12 mai 2018, Volumul II, UST, Chișinău, 2018, p. 103-110. ISBN:978-9975-76-239-7
https://ibn.idsi.md/sites/default/files/imag_file/Probleme%20actuale%20ale%20didacticii%20stiintelor%20reale%20-%20ed.2-a%20-%202018%20-%20USTir%20-%20V.%202-103-109.pdf

Research Stages. This research is conducted in three stages:

The first stage – the bibliographic documentation, and formulation of hypotheses was done.

The second stage – a set of analyses was done in order to be a basis for the elaboration, and implementation of the music integration model (MIM).

The third stage - a technical character. It was concentrated upon results and data analysis, formulation of conclusions and recommendations.

Structure of the thesis: Annotation (in Romanian and English), abbreviations list, introduction,3 chapters containing tables, figures, the synthesis of results and data statistical analysis, conclusions and recommendations, the bibliographical references.

Keywords: music, teaching, integration, teachers, attitudes, methods, elementary school, cooperation, education, pedagogy.

Thesis structure

In the **Introduction** chapter, the relevance and the significance of the research is represented. In addition, the aim of the research, its objectives, novelty, and value were described in this chapter. Furthermore, this chapter includes the theoretical and practical importance of the research. Finally, this chapter included the main analysis results and the summary of thesis sections.

CONTENT OF THE THESIS

CHAPTER 1, ***Theoretical Approaches and Epistemological aspects on the integration of music in teaching process*** is dedicated to the exposition of theoretical approaches and epistemological aspects regarding the integration of music in the teaching of other disciplines. Theoretical concepts related to the integration of the arts in the teaching process are exposed.

The second part of chapter 1 treats the psycho-pedagogical dimensions of music integration in the teaching of other disciplines, the effects of music integration on the brain, concentration, development, discipline and class management, behavioral problems, motivation, productivity and performance, the benefits of teachers, who incorporate music into their curricula. At the same time, the effects of music on feelings, anxiety and stress problems are presented, as well as the effects of music on learning skills.

The third part of chapter 1 deals with the correlation between music and elementary school disciplines in Arab schools (language; foreign languages, Math, Science, and Religion). A special emphasis is placed on Islam because the religion in the researched schools was Islam.

In **CHAPTER 2**, ***The impact of music integration in the didactic of other disciplines in the educational system***, is represented. This chapter presents the basic program of music education and sets out the national standards for music education. The next part of this chapter presents the process of developing methods and techniques for integrating music in the teaching of school subjects in primary school. In this context, the attitude and effectiveness of teachers in terms of integrating music in the teaching of other disciplines is diagnosed.

Also, the Model of Musical Integration (MIM) in teaching other disciplines, as well as its functionality is exposed.

CHAPTER 3, ***Methodological perspectives of music integration in the didactic of other disciplines*** is divided into three parts. The first part presents the effectiveness of music integration and attitudes of teachers towards music integration. This chapter consists of the methodology of research and verification of the experiment. Then the second part deals with the formative value of the model of music integration in the didactic of other disciplines and research findings before and after applying the model and with or without musical experience of the teachers. The last part presents the discussion of each thesis, and the conclusions and recommendations of the research. General conclusions and recommendations present the synthesis of the results of our research, as well as the recommendations for the activities in systemic field of further research is described.

CONTENT OF THE THESIS

1. THEORETICAL APPROACHES AND EPISTEMOLOGICAL ASPECTS ON THE INTEGRATION OF MUSIC IN TEACHING

1.1 Theoretical concepts and attitudes on the integration of arts in teaching

The 1990s seem to be witnessing a renewed interest in integration [62]. Advocates for integrating the arts with academic disciplines reflect a variety of perspectives, interests, and goals. Arts educators typically seek to establish, through integration, a more solid role for the arts within the academic curriculum [76]. They envision arts specialists who collaborate with classroom teachers and, in the process, strengthen the links between the marginalized specialists and the institutions. Principals'

vision of integration typically involves classroom teachers teaching the arts as part of the academic curriculum. They tend to value integration as a way both to use school time efficiently and to save money and resources. Classroom teachers often express ambivalence toward the issue of integration: they see the demand that they include the arts as one more mandated curriculum topic imposed upon them with little or no support. At the same time, many teachers are concerned about provide in gleaning opportunities that will allow the less academically oriented students to draw on their unique strengths and talents. [20]

Starting from the age peculiarities of the young schoolboy, and from the classification criterion according to the students' age, we conceived the classification of musical knowledge considering the perspective of classical stages (I. Erikson, J. Piaget, I. Kohlberg, L. Vagotski, N. Vetlughina).

Thus, the stage of cognitive development is characterized by concrete operations of thinking and the beginning of formal operations. In small classes, some students may be able to work with abstractions, but most of them need generalizations based on concrete experiences. All elements of music in the teaching process can be called musical knowledge, this quality gives them a unitary character, which works to form attitudes in students. D. Hopkins and M. Ainsow point out that because changes in teaching are not maintained until they have an effect on students, we must recognize that special investment is made in staff development, not in improving student performance [37].

Bresler [20] explains that the scholarly literature emphasizes the cognitive aspects of integration with some reference to affective aspects. The following terms depict some of the ways that the term integration is used in educational circles:

• Infusion--integrating a particular subject across the curriculum;

• Topics-within-disciplines--integrating multiple strands of the same discipline within the instructional setting;

• Interdisciplinary--maintaining traditional subject boundaries while aligning content and concepts from one discipline with those of another;

• Thematic approaches--subordinating subject matter to a theme, allowing the boundaries between disciplines to blur;

• Holistic approaches--addressing the needs of the whole child, including cognitive, physical, moral, affective, and spiritual dimensions [108; 109]

• Multidisciplinary--looking at a situation as it was portrayed in different disciplines;

• Interdisciplinary--considering a problem in terms of different disciplines and then synthesizing these perspectives in coming up with a more general account;

• Meta-disciplinary--comparing the practices within a particular discipline;

• Trans-disciplinary--examining a concept as it appears in political and in physical discourse. [52].

The overarching theme of the framework across subject areas was having pupils become critical and creative thinkers by making connections between subject areas [72].

Other distinctions include the differences between content-oriented integration and skill-oriented integration: the first is thematic, aimed at helping students acquire higher-order content; the second is procedural, aimed at enabling students to acquire general skills and strategies that they can apply widely to understand situations and solve problems [20; 91].

The roots of integration can be traced to the ideals of progressive education at the beginning of the twentieth century. The emphasis of progressive educators on the child-centered curriculum and holistic learning promoted the idea of integration between curricular subjects [20]. The notion of integration was revived in the 1960s and 1970s, when concern about students' achievement yielded to concern for students' experiences. Instead of regarding curriculum as a rigidly defined, given entity, educators focused attention on its meanings to students. The ***arts*** and artistic ways of thinking assumed a more legitimate, even desirable status. This climate of innovation and experimentation with new educational goals, contents, and pedagogies promoted a fusion between the arts and academic subjects [20; 21].

Elliot Eisner [28] calls for the education of the senses and for the de-dichotomization of the cognitive and the affective-emotional sides [30; 20]. The arts provide an excellent example of the interdependence and interrelatedness of cognition and affect-emotion. Different forms of representation (e.g. visual, kinesthetic, auditory] develop our ability to interact with and comprehend the world around us and draw multiple meanings out of it. If we expand these forms beyond the verbal and the numerical, our perception of the world is enriched immensely [30; 20].

The perception / reception of music is considered the basis and essence of musical activity. In his research, I. Gagim established and characterized three general levels of musical perception:

(a) philosophical: music acts on the elementary senses - pleasure-disgust, excitement-silence;

(b) psychological: the artistic message is perceived, the sound is transferred to the psychological, the external movement becomes internal (imagistic); (imagination is indispensable to the human individual, facilitating the act through giving meaning and logical significance to experiences, making possible not only living but also reliving events);

(c) spiritual: music communicates with the whole subject, the energy of music tending to be externalized in actions, the perception and knowledge of music [40].

Advocacies in arts associations evolved into projects and curricular materials. For instance, the teaching and learning of basic subjects through the arts were promoted by projects such as RITA (Reading Improvement through the Arts) or ABC (Arts in the Basic Curriculum) [20].

1.2 Psycho-pedagogic dimensions of music integration in the didactic of other disciplines

Music, according to the researcher I. Gagim, is a supreme knowledge, a self-knowledge. There are phenomena (and meanings) that can only be captured by specific senses and states. Such specific feelings and meanings can also be achieved through music. Music is also a "religans" (re-connection) because it restores our relationship with the Absolute. Through the well-known definition given to music as "the arithmetic exercise of the soul that he does without knowing it", Leibniz emphasizes the irrational character of music, showing that perception contributes to a special, mysterious knowledge. It is "knowledge of the heart" (raison du coeur) with its specific logic. Knowledge through music gives rise to a distinct knowledge, knowledge through "entering the object of knowledge, through identification - merging with it" [38].

Music "is a tool that is often overlooked, however it has many proven benefits and connections to the body, brain and learning that are important and can aid in academic achievement" [83].

Most writings on integration of music consist of success stories, mostly by teachers who report about their practice [83; 64]. There are also reports of research that measure the effect of integration of music on the learning of academic subjects [83]. “There is a proven connection between music and the brain. Research findings indicate that, both hemispheres of the brain are engaged when music is played. The type of music also affects the brain. In a study conducted by Susan Hallam and John Price, it was found that certain frequencies and combinations of sounds stimulate certain parts of the brain, which produce biochemical changes, and in turn produce calming effects on the students" [B, P.1; 83; 58].

The Benefits of Teachers Incorporating Music in their Curricula:

McCullar [81], says that classroom teachers spend a lot of time with their pupils and thus they are responsible for contributing to their total development including opportunities for aesthetic development as a way to support a pupil's "sensitivity to the expressive qualities found in an artistic experience" [p. 1]. The fine arts offer this expressive opportunity for all students and should be accessible for students in daily classroom situations [17].

A holistic approach to education is provided when highlighting the learning of music and its significance and the interrelationship with other core subjects as part of an integrated curriculum. This integrated approach to learning and teaching creates an environment that helps pupils understand the relationships between content areas.

In relation to the integrated approach to learning and teaching music, I. Gagim regulates the epistemic-pedagogical assimilation-perception of the musical message through the form of the musical work: a) form-theory (form - structure / construction / scheme); b) form - sound; c) the psychic / affective form [48], a concept that, in large part, is in line with the general principle of receiving the work of art by deciphering the elements of the artistic form, advanced and developed by a number of aestheticians, philosophers and pedagogues of art, from Aristotle , Im.Kant, F.Schiller, G.Hegel, W. von Humboldt and M. Heidegger.

Teachers who support an integrated curricular approach allow students to make connections with other subject areas because they "emphasize connection making performances within and across subject-matter knowledge and these performances both build and show understanding, therefore bringing insight home to the classroom" [91, p. 8].

One of the most popular effect of music on brain is called "Mozart Effect":

"One of the most influential elements in relation to integrating music with other academic subjects was a very small-scale study by Rauscher, Shaw, and Ky [97; 96] which was published 10 years after Gardner [51; 53], first published Frames of Mind. This study found that undergraduate students' average spatial-reasoning IQ scores increased after just 10 minutes of listening to Mozart's Sonata for Two Pianos in D Major, K 448, prompting a popular frenzy over the notion that music makes you smarter or the so called "*Mozart Effect*" [17]. Researchers suggest that the music of Mozart has useful effects on the functions of the brain [83].

The idea of Mozart Effect provided a catalyst for heightened popular and professional interest in the role of music and other arts in increasing learning in other academic subjects. This paradigm shift

from emphasis on the cultural advantages of arts education to emphasis on the cognitive and academic impact is reflected in Jensen's [67] Teaching with the Brain in Mind [17].

If the research above concerned adults, Wanda Routier represents the "*Mozart Effect for Children*". According to Routier [103] Mozart's music impact effects the brain and consequently on learning. These results are relevant for teachers to encourage them to integrate music into their teaching and change their attitudes to music integration and its effect on achieving a higher learning quality. "Music's physical vibrations, organized patterns, engaging rhythms, and subtle vibrations interact with the mind and body in many ways, naturally altering the brain in a manner that one dimensional rote learning cannot" [B, p. 1; 103]. The main idea is that Mozart's music "heightens spatial awareness and intelligence." Of the children [B, p. 1; 103]. The "*Mozart Effect for Children*" demonstrates the idea that listening regularly to Mozart's music will increase speech abilities, concentration, reading and language skills. Students who sing or play an instrument will get much higher achievements [B; 83]. Furthermore, by listening to music or playing music frequently develop the ability of memorizing. „*The Mozart Effect for Children*" expose a correlation also between music and mathematical skills [B; 83; 99].

Evidence that music affects the body and learning suggests that music should be included in classrooms. "Music can be included in any classroom, regardless of grade level or subject matter" [B. p. 1]. Music has a great impact on learners. It can be very useful to pupils and help them receive higher achievements [83].

Integrating music in teaching - Integration penetrated from the scholarly world to the more practice-oriented circles of arts associations. Its earliest voices can be traced to the „*progressive era*" when the *Music Educators National Conference* (MENC) Yearbooks of 1933 and 1935 listed such titles as *Projects in the Interrelation of Music and Other High School Subjects* and *Fusion of Music with Academic Subjects* [23]. Charles Duncan appealed for a balanced attitude on the relationship between the arts with other subjects [23]. Interestingly, these arguments have re-emerged in the 1990s, at a time when the arts are seen as endangered. In the 1993 MENC bulletin, *A Vision for Arts Education in the 21st Century*, integration is advocated as enhancing meaning in other disciplines: Music can be taught in an interdisciplinary manner as part of the broader curriculum and can make immense contributions to the teaching of other disciplines [62].

One should notice that although advocates for music integration abound, the actual practice of integrative programs receive little attention. Description of school realities shows that schools do not integrate music in education.

Many researchers have been conducted to examine the effects of music on classroom management and discipline. Classroom Management can be defined as “all of the things that a teacher does to organize students, space, time and materials so that instruction in content and student learning can take place” [B, p.1; 65; 83]. To have a successful lesson it is very important to have an effective classroom management. Because it is not easy to have discipline and classroom management, teachers worry about mastering this ability alot [83].

Teachers are less concerned with teaching their subject in an engaging way than to organize effectively and maintain order in the classroom. Discipline is in a great focus of teachers while teaching because it is engaged in every aspect of the learning process [65]. The effect of music on keeping students motivated and reduce discipline problems during the lesson [83].

In this formula, the role of the teacher is not limited to teaching in the sense of presenting information; it also consists in organizing the educational environment, and in guiding the students' activity, in coordinating the use of available resources, in evaluating and recording the results. The teacher aims both to increase the volume of knowledge and to strengthen skills and abilities, to enrich the emotional sphere, to cultivate students' interest in the discipline studied and to involve them in various instructive-educational activities [34].

Literature talks about the effect of using music during the teaching process in order to reduce behavior problems [B]. In the study of Hallam and Price [58], they observed a lesson while using background music and a lesson in the same classroom without using background music in the lesson [B, 57]. As expected, the results showed that students were the most productive while the background music was played [82]. "Before the introduction of background music, **t**here were many occurrences of disruptive behaviors, which included: tantrums, crying, verbal and physical aggression and over-activity. However, when the music was playing, the students became noticeably calmer and more cooperative." [B, p1]. Many physiological symptoms also were affected from music. The results showed that while music was played, students showed changes in blood pressure, body temperature, breathing and pulse rate [57]. The body had a physiological response to the music that caused the students to calm down. The results of the study extended beyond physiological responses to music.

The relaxing impact of music have positive effects on the students while learning in the lesson [83]. To have a good classroom management, the teacher should create a classroom that has low anxiety and low stress levels [B]. The function of music is to keep stress and tension low and change the mood of the entire class. Different types of music can affect different moods. Hallam and Price found that music has a considerable effect on the continuum from highly thrilling and challenging to relaxing or calming [58; 57]. The effects of background music were measured in student performance.

In addition, when using music students' cooperation was higher, reading comprehension got better and there was an improvement in learning skills in general. Using background music demonstrated some level of advancement among all students and did not show any negative effect on students [83].

Hallam and Price [58] found that music was an effective way to increase concentration and increase performance, as disturbed students tend to seek constant stimulation [58]. The background music provided the stimulus they were looking for and allowed them to focus on the task. They also found that instrumental music was the most effective. Music with vocal accompaniment seemed to provide too much incentive for students. There are many strategies that have proven effective in improving classroom management. One of the most effective ways to increase attention is to include music in class and lessons. Music is a tool that can be used to help teachers gain greater motivation for learning among students. Unfortunately, music is often overlooked because there are limitations in terms of funding; however, it is a tool that can help teachers maintain a positive and productive environment [83].

The inclusion of music in lessons tends to enrich the material and provide more meaning to the lesson. When the learners are more engaged and interested in the lesson, they will stay focused for longer and retain more information. The students will not have as many discipline problems when they are engaged. The learners will be focused on the lesson and disruptions will simply subside. Mary Jackson and Donna Joyce believe that “if we want to maintain positive classroom management then music can help by making the day more alive and interesting, which in turn leads to increased motivation to learning and decreased discipline problems.” [65]. Music can aid teachers in managing their classrooms so that learning of the highest quality can take place and higher achievements and better acquisition of learning skills [83].

1.3 The correlation between music and elementary school disciplines (language; Arabic, Hebrew, English as a foreign language, Math, Science, and Religion)

Music and language

Music is inherent in the spoken language. This is known to us from *the language* of newborn babies. Idioms like the music makes the tone [the message] or need to listen to the music and words, are an expression of the importance of the musical elements of verbal communication.

Many young children appear to be naturally inclined to hum, or to sing a tune so it is beneficial to build upon musical interests and enhance their literacy development simultaneously. It is agreed that music plays an important role in language and literacy development. A Child's initial introduction to patterned text, grammatical rules and various rhyming often occurs first in songs. The affective filter is one hypothesis developed by Krashen [71], who explained that to have successful language learning, the affective filter should be weak. Which means that the students have positive attitude toward learning. Songs are one method for achieving a weak affective filter and promoting language learning. That is because of the learning environment used when singing [90].

Music can be naturally integrated throughout language curricular areas. It is done to develop vocabulary and comprehension skills. Researchers found that music can also develop listening and oral language skills. Music also is known by the effect of focusing the attention and memory, and develop abstract thinking [61; 90].

I. Gagim is the promoter-creator of the formative concept in music education. According to him, the acquisition of knowledge is achieved mainly by living auditory experiences [38]; the integration of the contents is dispersed according to the forms of musical initiation: the musical-rhythmic activity forms knowledge from the metro-rhythmic system; musical reading and writing formed visions of musical notation; the formation of knowledge about music will take place in a “strict succession and well thought out volume” and will be resumed at a higher level in the following classes [Ibid., p. 97].

Many activities can be used to a musical component to stories and a narrative dimension to songs and musical selections. Language lessons addressing grammar, reading fluency and writing, among other literacy skills can be enhanced through music [90]. Music can be used to teach various language skills, for example “sentence patterns, vocabulary, pronunciation, rhythm, and parts of speech” [90].

From here, the core program which will consider this aspect emphasizes public speaking, such as reading texts aloud, listening critically to narration and speech in the various media, in practice the voice to express emotional character messages, etc.

In the dialogue with the Director of music and written language in the songs the singer and song. Here we have a double role: music interpretive role - it provides the dimension text, emotional performance, and social role, it helps to make the text of the rule and should be retained in the memory of the individual and the community, and thus it contributes to a common cultural base [23].

Music and Foreign Language Acquisition:

Learning a second language can be a stressful and difficult process. There are many techniques and strategies that foreign language teachers use in their classrooms to aid in the acquisition of the second language. According to Krashen [71] creating an environment that has a low affective-filter, meaning minimal stress and non-threatening, is essential for second language learning to take place. In addition, second language learners need devices to engage them and allow for retention of the second language. Music is a common technique used by foreign language teachers because it has many benefits that apply to the foreign language classroom.

According to Krashen's Input Hypothesis [71], input must be comprehensible for language learners to retain the information. Within his Input Hypothesis, Krashen developed the "Monitor Model" which offers five hypotheses regarding language learning. The fourth hypothesis deals with comprehensible input [71]. The hypothesis states, "Acquisition occurs only when learners receive optimal comprehensible input that is interesting, a little beyond their current level of competence (i + 1)…" [100]. "This means that the level of linguistic content that the students receive must be at their level or slightly above for learning to take place. Chunking, or dividing language up into smaller, comprehensible parts, can aid in language learning. "Through word / sound play, many "chunks" of useful language can be incorporated into the learner's linguistic repertoire at almost any age or proficiency level." [65; 71; 83].

Using music in the foreign language classroom corresponds with Krashen's Input Hypothesis. "Music tends to reduce anxiety and inhibition in second language learners.

Learning a new concept through a song or listening to music is less threatening than a lecture or worksheet [71]. "Music breaks down barriers and creates an environment that is friendly" [83].

There are different ways in which music can be integrated into the classroom to produce this effect; for example, “group singing can lower the walls between people, decreases competitive instincts and build cooperation in its place.” [71]. In addition, music corresponds to the portion of the hypothesis that states that input must be meaningful.

Music “is a great motivator in that its lyrics are often very meaningful.” [83]. Emotions and real-life situations are often at the core of music, this provides for a connection between the second language and the student’s perspective. “Creating relevance for the student is necessary for learning to occur” [83].

All levels of language learners can benefit from using music in the foreign language classroom. Vocabulary can be taught through songs. Although beginning language learners will not have a large vocabulary foundation to understand all the words in songs, they will be able to pick out familiar words [83]. Creating an input that is slightly above their current level will create a sense of curiosity and inspire motivation to learn what the new words mean. Using music in the language classroom also fosters participation. The students are often eager to learn the words to the new song and participate in classroom activity [83]. Creativity and critical thinking in the foreign language is also achieved when song is implemented into second language instruction. More advanced students can interpret the meaning of the song or create their own stanza to the song [83].

Chants are a popular tool in foreign language classrooms. Carolyn Graham developed many of the chants that are used in classrooms today [100]. Chants can be used in the classroom to “expose students to natural intonation patterns and idiomatic expressions” [100]. Chants provide for redundancy and repetition. Through constant revision of grammar and vocabulary, students will begin to store them in long term memory.

Pronunciation of the second language is also emphasized in chants [83]. When using a chant in instruction, Patricia Richard-Amato found that, “it unnecessary to stop and correct students’ pronunciation”. Students seem to acquire the correct pronunciation through listening and repetition. Another benefit of chant is that they can help students to remember and internalize patterns. In foreign languages there are many patterns to be learned and memorized, thus a memory device is useful. Chants serve this purpose in the foreign language classroom. Rhyme and rhythm allow the students to remember the chant and therefore remember the grammatical or cultural implication of the chant [83].

Music and math:

A strong correlation was found between learning music in early age and nerve connections in the brain that is responsible on understanding mathematics [98; 116; 82]. In terms of actual classroom practices, there have been several studies exploring the integration of mathematics and music teaching [113; 2; 68]. In other research, it was found that students who learnt music got higher achievements in mathematics more that those who did not learn music [105; 89; 88]. A profound finding in a research conducted in Austria and Switzerland it was found that students that learnt music 5 hours a week instead of learning 5 lessons of mathematics, got the same achievements as their friends who didn't learn music and learnt instead mathematics [98]. Another research found Teachers developed a greater awareness of 'where the Maths is' in an activity, for example through explicit use of patterns to support composition activities [82]. Teachers gained a better understanding of how integrating Maths and Music teaching can be used to create more inclusive learning environments [82]. Integrated approaches provide a shared language that begins to bridge the musical and mathematical learning in the curriculum [82]. Teachers worked collaboratively with colleagues with different strengths to plan and deliver interdisciplinary activities. Research shows that teachers are very interested in developing these approaches. Although there is a need for further teacher training and support, there is evidence of progress already being made in schools [119; 120].

Music and religion:

Historically associated with social permissiveness and licentious behavior, music has been discredited by religious leaders and spokespersons of both religions for generations. Nevertheless, religions include music as integral to sacred practice. Musical forms of worship in religions are justified in ancient sacred scripture descriptions of sacred musical events and dictates. While contemporary Israeli society is reigned by secular influences, religious communities of Arab persuasions continue to thrive, striving to uphold religious norms and dictates even as secular and Western exposure cannot be denied. Tensions between tradition and modernity pervade musical pursuit within such religiously observant communities, where historical paradoxes become intensified and complicated by modern-secular influences.

A research conducted by Erlich and Badarne [31] found that associations of permissiveness and licentious behavior become sublimated as passion is channeled towards religious fervor. Musical actions and behaviors otherwise forbidden become permissible when pursued for educational

purposes. The prominence of music teacher image emerges as a most dominant theme. The shared experience of the two music educators embodying dual identity as community insiders committed to religiously observant life, but also participating in professional communities of music, is revealed as a major affordance. These religiously observant teachers gain trust of their communities even as they challenge the borderlines of religious dictates in pursuit of enacting their own professionalism. Personal knowledge of religious dictates and dictate histories allows the two teachers to maneuver wisely in bending and stretching religious limits. Musical professionalism and personal musical knowledge inspire the teachers to expand communities' musical experiences, sometimes instigating acts towards cultural change. This intricate balance depends on the teachers' ability to maintain a positive religious image in their communities. Both colleagues confess that what some of their graduates do musically and culturally, they themselves must continue to abstain from in order to continue to influence future generations.

The results of Erlich and Badarne study [31] tell a tale of multicultural cross influence in contemporary Israeli society. Music is shown to act as a social practice, as an educational pursuit and as a religious outlet within traditionally religious communities. Music teachers living within these communities as participant observers oscillate between being insiders and outsiders of their communities. When successful, these teachers are able to reinterpret traditional religious dictates, expanding musical presence and practice in their communities, and exposing traditional gaps between traditional religious law dictates, philosophical mindsets of each religion and contemporary practice.

Music in Islam:

In many religions, music in different forms is a topic of dispute. There are some conservative interpretations of Islam hostile to music. There is a preconception among many that Islam as a religion is proscriptive when it comes to music [86; 85; 70].

In Islam there are hardliners. According to the real hardliners almost no kind of Mosiqa is acceptable, the sole exception being that women are allowed to play a minor hand-drum called the daveh (like a tambourine without any rattles) in the company of other women. No men are to be present. Men are not allowed to play the Daveh. The next step is allowing young girls to sing songs at 14 (religious feasts), and women to sing for other women at celebrations (but only 'decent' songs). This is looked upon as either Makruh (discouraged) or Haram [86; 85; 70].

One of the major modern sources used is the late Sheikh Muhammad Nasir ad-Din al-Al-bani, who lived in Jordan. In 1994 he published a book called “Tahrim Aalati t-tarab” (The prohibition of musical instruments). In the text it is argued that music is to be understood as 'idle talk', quoting the Koran Surat Luqman 31: 6. In the early exegesis of the Koran this phrase relates to any activity considered morally questionable such as slander or lying, but also sometimes with singing and the playing of instruments. This kind of talk is further connected to the voice of Satan misleading the believers. Instead of giving praise to Allah and learning about Islam, musicians engage in useless and sometimes harmful activities. This is in fact one of the central arguments against music [86]. Music is useless. Nothing is produced; nothing is achieved. For this reason, amateurs, rather than professional musicians, are praised for their musicality by some moderate hardliners. Professionals must spend too much time practicing, time they should use remembering Allah. The fact that some hardliners tolerate military and occupational songs is often backed by arguments about their increasing motivation and productivity [al-Ghazali [d. 1111], cited in 107]. In the modern age the cost of buying music is contrasted with the use that money could be put to as saclike (alms) [86; 85].

Music and (religious) passion:

One of the more thorough studies of Islam and music is Amnon Shiloah's [107] Musk in the World of Islam. In chapter 4, called "Islam and Music', he reviews classical Islamic sources. He writes that: 'one finds repeated belief in the overwhelming power of music, which exerts an irresistibly strong influence on the listener's soul' [107]. In the same spirit, Abu Hanifa [d. 767] wrote: 'Musical instruments are the wine of the soul, and what it does to the soul is worse than what intoxicating drinks do' [cited on <www.islam-qa.com>]. Music causes believers to stray from the devotional life, and it should be treated as other prohibited activities such as gambling and drinking, according to the ninth-century theologian and jurist Abi 'I-Dunyi [d. 894] in his book Dhamm Al-Maldld (The book of the censure of Instruments of Diversion) [107]. The crucial issue here is the presumed and acknowledged power of music. Music is seen as a rival for the passion of humans. Passion should be devoted to Allah. Instead, this passion is wasted on something useless but powerful that might become an obsession. It can also spread in society, causing a general decline in decency and morals [86; 70].

Music and sinful living the above leads to a discussion on the sinful living connected to listening to or performing music. Just as a footnote, it might be mentioned that the hardliners tend to separate listening from hearing; the latter is not forbidden but should be avoided [86]. Intention is one of the

most important concepts in Islamic morals, ritual, and jurisprudence. If the intention is to listen and enjoy, then it is sinful, but if someone by accident hears but is not set on enjoying, then it is no sin [86]. More liberal minds tend to claim that there is no harm inherent in music as such; more important is the company in which music is listened to or played. In other words, it is where, when and with whom you perform or listen to music that is crucial. If music is associated with forbidden pleasures such as drinking alcohol, taking drugs etc., then that music is regarded as forbidden because it contributes to the sins. Real hardliners would say that music incites sins [86; 70].

The word "MUSIC" is not mentioned in the QURAN (it is mentioned in the Prophet Muhammad “Sira”- Prophetic Biography).

Instruments in prayer is not acceptable in Islam religion, DRUMS AND PERCUSSION is OK. Composing words from Holy Scriptures (despite the “Tajweed”), "AZAN" - call for prayer. Call to prayer by vocal solo of a man not a woman, is beneficial, but also by traditional melodic patterns depend on the scale, and the length of the notes. Another important theme is Women and Gender.

SUFI, have a positive attitude towards music in relation to spirituality. Another common theme: “For educational purposes – it’s, OK?” In Muslim society men can afford to do things that women can’t.

1- Islamic religion does not forbid using music generally, but there are some reservations, that depend in the use of music, if it is related with Bars or dancing or any unacceptable behavior.

2- Some Islamic clerics forbid the use of music, especially musical instruments, women's songs; others allow using kind of percussions.

3- Not acceptable to read the Koran with accompanying instruments.

1.4 CONCLUSIONS ON CHAPTER 1

The integration of arts in teaching curriculums had more and more place in schools. The integration of music in teaching also started taking place in lessons in classrooms. Research shows many benefits of integrating music in teaching. Music can be naturally integrated throughout language curricular areas to develop and to extend vocabulary and comprehension skills. Music can also improve listening and oral language skill development, improve attention and memory, and enhance abstract thinking. In addition, Music tends to reduce anxiety and inhibition in second language learners and is a great motivator in that its lyrics are often very meaningful. Music has the power to keep

students engaged and reduce discipline problems within the classroom, and Limit Behavior Problems and Increase Performance. Moreover, with music there is an increase in **concentration** and speech abilities, an improvement in reading and language skills of those who listen to music regularly or receive music instruction. The inclusion of music in lessons tends to **enrich the material** and provide more meaning to the lesson. When the learners are more engaged and interested in the lesson, they will stay focused for longer and retain more information.

Many studies on music integration in many disciplines were conducted. There are correlations between music and elementary school disciplines (language; Arabic, Hebrew, English as a foreign language, Math, Science, and Religion). While controversial attitudes toward music are in Islam religion, still, the dominant attitude forbids music, or playing music. Despite that, there is an increasing interest in music integration in Israel and in the Arab sector. This interest requires further examination of the issue.

2. THE IMPACT OF MUSIC INTEGRATION IN THE DIDACTIC OF OTHER DISCIPLINES IN THE EDUCATIONAL SYSTEM

2.1. Integrated curriculum

Research found that students who learned through integration of music in the core subjects produced work of a higher quality than participants who do not [29]

Definitions of integrated curriculum vary from author to author, and over the decades, have gradually moved toward a more student-centered interpretation. Integrated curriculum during the 1950's and 60s tended to emphasize planning and structure in order to "not only provide the learners with a unified view of commonly held knowledge . . . but also motivate and develop learners' power to perceive new relationships and thus to create new models, systems, and structures" [27]. Over time, however, structured approaches to integration gradually gave way to more flexible, student-centered approaches "in which children broadly explore knowledge in various subjects related to certain aspects of their environment" [16; 73].

This approach was intended to bridge "subject-matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study. It views learning and teaching in a holistic way and reflects the real world, which is interactive" [109; 108; 16].

Bresler [23] identified four integration styles that exist "in the operational, day-to-day curriculum in ordinary schools . . . each with its own set of goals, contents, pedagogies, and roles within the school: subservient integration, co-equal integration, affective integration, and social integration" [23]. "The subservient style places the arts in service to other academic subjects, such as using the song Fifty Nifty United States to help children memorize the names of the 50 states. The coequal style integrates the arts as an equal partner with other subjects. This integrative style requires discipline-specific knowledge, for example, including study of composers, the stylistic periods in which they worked, and their musical compositions within a social studies lesson to place social events within an historical context. The affective style involves two functional uses of the arts—as a means to change moods, such as using music to help children relax; or as a creative outlet for students, such as playing recorded music as a stimulus for improvised student dance. The social integration style is similar to the affective style in that both complement the academic curriculum. In social integration, however, the arts support the social functions of schooling such as scheduling student performances to provide entertainment (and to increase attendance) at parent–teacher Association meetings [16].

In another research of Snyder [94] three levels of integration are described: Similar to Bresler's [23] subservient integration, Connections is a superficial, one-way level of integration in which materials or concepts from one discipline are used to help teach or reinforce a concept in another curricular area [16]. Correlations relate two or more disciplines through shared materials or topics, such as a lesson using time signatures (music) in the study of fractions (mathematics). However, true integration is achieved when the integrity of each discipline is maintained [115]. "Integration is a two-way process (similar to Bresler's coequal integration) in which application and synthesis of ideas from one discipline to another are encouraged, leading to deeper understanding and fostering critical thinking (e.g., exploring how form is achieved through variation and repetition in poetry, music, and architecture)" [16].

In the model of Fogarty [33] 10 levels of integration are outlined, ranging from fragmented (in which academic disciplines are kept separate and distinct) to networked (in which a learner-directed process is supported by a network of advisors and resources) [16].

In his research**, I Gagim** conceptualizes the curriculum, textbooks, guides that generally provide a conceptual, teleological, content and methodological framework sufficient to integrate music into lessons in different curricular areas, but this does not exclude the need to re-conceptualize this process.

From the perspective of modern principles, this offers a greater methodological freedom to the teacher and a better capitalization of students' interests and motivations for learning. Under these conditions, the integration of music becomes a cognitive constituent of musical competence as a system: knowledge is transformed into abilities and attitudes and thus **the integration of cognitive, psychomotor, and attitudinal domains into musical competencies - the main purpose of music education.**

2.2 Core program in Music Education:

The national association of music education wrote the standards for music education.

The National Standards for Music Education (NSME)

1. Singing, alone and with others, a varied repertoire of music.
2. Performing on instruments, alone and with others, a varied repertoire of music.
3. Improvising melodies, variations, and accompaniments.
4. Composing and arranging music within specified guidelines.
5. Reading and notating music.
6. Listening to, analyzing, and describing music.
7. Evaluating music and music performances.
8. Understanding relationships between music, the other arts, and disciplines outside the arts.
9. Understanding music in relation to history and culture [124]

Music core program:

In the past two years the Education Department and elementary school programs Department in Israel worked on core plans to elementary schools. The purpose of these programs is to point out the essential elements in learning each subject [125].

The preparation of core program gives an opportunity for self-examination and reflection of teachers of the various disciplines, including teachers of music. It also serves as an invitation to discussion and re-thinking of the objectives of music education and the ways to achieve these goals [125].

Music is an expressive and communication tool that accompanies the development of the human society since its inception. Today, in media-rich society, music has an important socio-cultural and psychological role. The music works first and foremost on the emotional dimension. This is its

particular power as a tool for personal expression on the one hand, and as an ingredient in social cohesion on the other (for example, religious and secular ceremonies, folk singing) [125].

Rational society, where "important things" are measured on outputs and are based on logical analysis of cause-and-effect relationships, there is a tendency to push aside the music and other "areas of artistic emotion". Preference of the ratio over emotion can bring educational decision-makers to a conclusion, that music is just to make the curriculum beautiful. They assume that when the system will have extra money it will be able to devote resources to this area. This concept is fundamentally wrong. The music is intellectual-cognitive, allowing us to examine the complexity of our emotional world in a sophisticated way, using very abstract symbols [125].

“Music is one of the richest areas in terms of the intellect. While it meets the need to give aesthetic expression to emotions, music activates a complex system of cognitive skills” [125].

These skills are expressed in three levels:

A. In music as a field in itself.

B. In areas with a touch or partially overlap (language, movement, and math)

C. In the socio-cultural level (as a means to express social moods and preservation of traditions, customs and values) [125].

The music is where the heart and the mind, body and soul are in dialogue, and metaphorically-music is a duo for cognition and emotions. The essential ingredient in musical activity is the ability to listen [125].

Core program

The core program of music is based on two theoretical assumptions:

1. The music is a universal phenomenon, and an individual's ability to absorb and generate musical utterances is inborn ability. I mean, anyone who has this ability is growing in society that has music (and there is no society without music) and is independent of special talent or systematic learning [125].

2. It is the duty of each school to assist the development of the musical potential, just as he sees his duty to nurture the linguistic potential of students [125].

In the musical activity is an activity where body and mind, thought and emotion by the cognitive work in a harmonious orchestration [125].

Its premise is that the task of creating a musical book balance between the emotional and the intellectual dimension of the students and provides tools for cognitive processing emotion and imagination in artistic way [125].

Based on these assumptions, it is possible to indicate some of the cognitive processes that underlie musical experience and can offer a number of principles to guide the educational activity. The following relate to the music of two points:

1. Theoretical reference, that defines the language of music.

2. Application to the planning studies:

a. Music as a built-in and independent domain.

b. Music in relation to other subjects [125].

1. Music as a language:

Music is based on elements like those of language.

Two languages – linguistic and musical are based on psycho-acrostic activity. This activity includes absorption of acoustic information units in the audio system (sound out phonemes.), go to larger units with hierarchical structures. Therefore, the basic processes of these two languages are similar in their basics [125; 110].

"The building blocks" of the musical language are:

A. A variety of sounds differs in a defined height.

B. Units of time durations are based on beats at different speeds.

C. Intensity that can be increased and decreased.

D. A variety that differs between similar height sounds, arising from different acoustic sources [125].

All these elements are combined in endless connections, by grouping and dissolution rules in hierarchical-syntax structure. These rules, inherent in the cognitive system, are expressed in a variety of cognitive tasks of output and input [125].

2. The planning of applications

Music as a built-in and independent domain:

Because music is congenital, it allows to operate intuitively without acquired formal knowledge. People can express themselves in sounds, response to sounds, and enjoy them, even if they are not

taught music. Music is considered as a discipline in the curriculum based on three aspects: cognitive-psychological aspect, the social aspect and the creative aspect [125].

Cognitive-psychological aspect: because music is focused on the emotional field, it could serve as reflective tools to examine the feelings and emotions in the input side and expression to emotions in the output side. Music is a form of thinking, and as a tool of expression of thinking, the ability of its use grows [125].

In the aspect of the input- during listening to music attention is given not only to the music itself but also the emotion it arouses in everyone. A talk about musical composition is a tool for examining the impact on its listeners how it affects and why? (The product of such reference is openness to the various emotions among the listeners-students) [125].

In the output aspect- this means that children will be given the opportunity to explore their feelings and express them in musical tools available to them- using their voice- immediate melodic expression tools, using their bodies- the immediate rhythmic expression, using percussion and melodic instruments [125].

The social aspect: the music has emerged at the dawn of human history as a tool of expression and communication, and as a means of expressing social moods. Even today, even though it is an individual expression tool, music has played an important role as a tool for social expression and as a means of social cohesion. In Israeli society it is especially prominent in religious and secular ceremonies, on holidays and during national memory, and youth mass events of rock and pop music [125].

Classical music, which fans are relatively small, it was also used throughout history as a complex expression of desires and social ideals. This is a clear example of Italian Renaissance music, carrying the flag of liberation from the bonds of religion and represented the idea of personal expression [125].

The social-musical activity around classic artistic music, whether in singing choir or playing together, is used for some children a source of satisfaction and enjoyment, while other children show resistance to this type of activity. We think that this musical activity should be based on personally motivated [125].

Typically, responses to artistic music, need an emotional and intellectual effort. To get the young child to recognize the attributes of this music and the possible contribution to personal growth, it is necessary to find the music that speaks to them. Do not expect that the taste of all people would be

the same. Therefore, the role of teacher is to enable children to feel the taste of different pieces, allowing them to express excitement or their reservations [125].

A byproduct of such reference is in providing legitimacy to personal tastes and preferences, which is the basis for the development of aesthetic judgment. We should mention, that while music activity is social, listening is individual. No preference for together listening than individual listening unless you want to develop a habit of going to concerts [125].

The creative aspect: Music is a tool for expressing emotions. The Music activity is based on thinking about sounds. This thinking is based simultaneously on the universal emotional experience, common to all mankind, and the human ability to create a wide variety of emotional expressions-sound culture, context, and style. Studies indicate that members of different cultures understand the emotional significance of foreign music, and children who lack musical education can set different musical utterances in emotional terms [125].

Hence, the emotional expression aspects, is a central element in core music program. The program schedule for these options:

Creating music:

* Thinking in sounds about the various emotional expressions, and to perform them in ways that are available to them (body, voice, percussion), through improvisation.

* Listening to the works of their peers.

* To receive and give feedback from kids in their class.

*To improve their work and bring it to a certain level of finishing (according to the best of their ability and judgment).

* To preserve the recording and/or writing [125].

Meeting music literature:

* Listen to music (from easy to hard, close to, from the long to the short).

* Respond to sounds an interpretive response while listening ("static" or "dynamic" movements; drawing, imagination), or after listening (talking, writing, painting, etc.).

* Listening to music or to play music in class.

* To evaluate different types of music [125].

“Curricular integration has become an increasingly important component of many school reform initiatives, particularly at the elementary school level. Certainly, the notion of using a cross-

disciplinary approach to achieve various educational goals has been around since antiquity, at least informally" [16]. However, during the past 20 years, this approach has attracted heightened attention through the work of such scholars as psychologist Howard Gardner [51; 52] "whose theory of multiple intelligences prompted increased popular and academic interest in the possible benefits of an interdisciplinary curriculum by expanding the definition of human intelligence beyond the traditional emphasis on reading, writing, and mathematics, to include a variety of intellectual competencies" [16]:

Linguistic intelligence, musical intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinesthetic intelligence, and the personal intelligences. Gardner [51] uses computer programming as one example of a practical application of his theory:

The shift toward a global culture and the "information explosion" from technological developments such as the Internet can make the task of educating the next generation seem overwhelming. As Lake [74] explained: "Almost every teacher has experienced the feeling that . . . 'the school day just isn't long enough for all that I'm supposed to do; it seems that every year there are more things added to the curriculum" [p. 3]. "This sense of frustration is only exacerbated by a realization that much of the specific technical material in today's curriculum may well be obsolete within the next decade [16]. It seems, then, that the mission of teachers must go beyond merely conveying information. Teachers must equip students with the ability to reason, to think "outside the box" and to transfer what they are learning today to the vastly different circumstances that they will surely face when they are adults. Certainly, music has much to offer in terms of fostering creativity and critical thinking skills [16].

As the scientist I. Gagim explains, musical intelligence, like any other human fact, can be cultivated, advancing from its beginner to higher levels. At the same time, musical intelligence effectively influences the general intelligence of man [35, p.256].

One of the many examples of non-arts outcome research is Aschbacher's [7] study comparing schools using an interdisciplinary, thematic, team-based approach to high school humanities with other schools that used a more traditional approach. "Results revealed statistically significant gains in writing and content knowledge with largest gains in conceptual understanding for students in the integrated program. In contrast, students in the traditional programs made no gains in conceptual understanding" [16]. This research also indicated that students in the integrated program stayed in

school longer, worked harder (according to self-report and objective measures), and liked school better [16].

A more recent example is a longitudinal 3-year study of "Learning through the Arts" (LTTA), a Canadian school wide arts education approach. This study of more than 6,000 students and their parents, teachers, and principals revealed that "6th grade LTTA students scored significantly higher on tests of computation than students in control schools" [114]. Research also links integrated curriculum to improved student attitudes, attendance, motivation, work habits, and achievement test scores [6; 16; 15; 24; 66; 79; 114].

"Students are not the only ones who seem to thrive in schools with an arts- integrated curriculum. Research also indicates that elementary teachers [4; 15; 56] and secondary teachers [28; 79] are empowered by new teaching techniques and by the more positive and collaborative school environment associated with integrated curriculum" [16; 17].

2.3 Methods and techniques of integrating music in the didactic of elementary school disciplines

Literature mentions several ways of integrating music, there are several ways that classroom teachers can include music along with their teaching methods [12; 13]. "Both Hash [59] and Colwell [25] cite Bresler's [23] discussion of four types of art integration (subservient, affective, social, and coequal-cognitive) used by many classroom teachers throughout the United States [17]. Studies [55; 92] suggest that the subservient approach to integration, where the arts are used as a vehicle for satisfying other academic objectives (such as the Alphabet Song for teaching and learning letters), is the most prevalent form of integration. Many classroom teachers view the use of music in specific correlation with other subjects as one of the most important types of music integration [17; 104].

Affective integration involves using the arts to change the moods of individual students or entire classrooms, such as playing relaxing music when students reenter the classroom after lunch, or for creative expression, such as drawing to a piece of recorded music. "Teachers view these types of integration as a way of dismissing the importance of music as part of the core curriculum and treating it superficially, just as a simple form of entertainment" [17].

Bresler [21] indicates that when music is present in a classroom, it is often times used as a way of illustrating subject matter, a break from other subjects, or simply as background music. In doing so, it teaches children to ignore music and prevents them from a "deeper understanding and

experience;" thus they do not learn to "regard music as a potential source of knowledge or of emotional or intellectual investment" [22; 23].

Social integration is using the arts to participate in community or school events, such as assemblies. Bresler [23] found that the social function of music is valued more than the other functions used by music specialists. "When there is no music specialist, classroom teachers with the ability to include music in school concerts and programs are seen as invaluable" [24]. "Coequal-cognitive integration recognizes that the arts and core academic objectives have the same level of importance and should be incorporated equally" [17]. Bresler [23] states that this is the least common form of integration because it requires content, specific knowledge, and skills that characterize expert teachers [17]. So as much as the concept of integration is important to arts teachers, she cautions that these different types of integration have different purposes and that music educators tend to favor the coequal-cognitive style [23; 17].

Perkins [72] offers several ideas for classroom teachers to easily implement by themselves and provide additional music-related activities that offer academic benefits without the assistance of a music specialist:

"(a) Inviting musicians into elementary classrooms and preparing students to interview them and ask them about their instruments, training, and careers,

(b) Clapping the syllables of poems and songs, or using claves or percussion instruments,

(c) Scheduling field trips to orchestra concerts and rehearsals and performances of all different kinds of music from folk to opera,

(d) Exposing children to the sounds of the instruments of the orchestra to build musical phonemic awareness whether through recordings or the preferable live instruments and musicians.

(e) Residencies of several weeks because "they can produce the most dramatic results in achievement" [92; 17]

"Because most schools view music as entertainment to fit broader educational goals, music is often marginalized [21], but these types of authentic experiences by professionals in the classroom may be a way for teachers along with their students to "embrace music as a tool of their own" [92; 17]

With the title of pioneer in the field of Music Education in the Republic of Moldova, the scientist I. Gagim, develops and substantiates specific methods of music education:

- The method of stimulating the imagination - stimulating / mobilizing the imagination through different forms: verbal, visual, auditory, kinesthetic, etc. (I. Gagim);
- Heuristic method (Gagim. I.);
- The method of living. The necessary condition for experiencing music is the formation of a certain specificity - the emotional experience after which the student is left under the influence of the process of contemplating the art of music (Gagim. I.) [34, p.77].

Ways to integrate music in teaching by Merrell [63]:

Active Learning Experiences:

1. To play music with an association for the learned topic in the background while reading a concise summary of the essential information.

2. To activate information physically, play upbeat music during a related movement activity or role-play [83].

Concentration, Focus and Alpha State Learning:

1. Play Baroque music, such as that composed by Bach, Handel or Telemann, that is 50 to 80 beats per minute to create an atmosphere of focus that leads students into deep concentration in the alpha brainwave state. Learning vocabulary, memorizing facts or reading to this music is highly effective.

2. Energizing Mozart music assists in holding attention during sleepy times of day and helps students stay alert while reading or working on projects [83].

Memorization:

"Using songs, chants, poems, and raps will improve memory of content facts and details through rhyme, rhythm, and melody [83].

Attention, motivation, and atmosphere:

"Certain music will create a positive learning atmosphere and help students to feel welcome to participate in the learning experience. In this way it also has great effect upon students' attitudes and motivation to learn. The rhythms and tempo of musical sound can assist us in setting and maintaining our attention [83].

1. Welcoming and Attention

“Background music is used to provide a welcoming atmosphere and help prepare and motivate students for learning tasks. Music can energize lagging attention levels or soothe and calm when necessary. Simply playing music as students enter the classroom or as they leave for breaks or lunch totally changes the atmosphere” [83].

2. Community Builders

“Music provides a positive environment that enhances student interaction and helps develop a sense of community and cooperation. Music is a powerful tool for understanding other cultures and bonding with one another. Selecting and playing a classroom theme song, developing a classroom "ritual" --- such as a goodbye or hello time that uses music or other group activities with music are ways to build lasting community experiences” [83].

3. Personal expression:

“Music is the doorway to the inner realms and the use of music during creative and reflective times facilitates personal expression in writing, art, movement, and a multitude of projects” [83].

Creativity and Reflection

Background music is used to stimulate internal processing, to facilitate creativity, and encourage personal reflection. Playing reflective music, such as solo piano in either classical or contemporary styles, as students are writing, or journaling holds attention for longer periods of time than without music. In one study, students wrote twice as much with music than without!” [83].

Personal Expression through the Musical Intelligence

“The creation of music expresses inner thoughts and feelings and develops the musical intelligence through understanding of rhythm, pitch, and form.

-Writing songs related to content, allow students to express how they feel about issues brought up in historic incidents, social studies topics, or literature [83].

-Students can also create an instrumental "soundtrack" with simple rhythm instruments that auditory portrays a particularly important scientific discovery, a poignant historical event, or the action within a novel [83].

Integration of music as a life field:

Music has a connection to many life fields, and it launches to various disciplines. Therefore, the core program in music offers a variety of combinations of social and educational activities. Cross-

curricular integration is valuable because of its ability to connect school subject areas with the lives of students [80].

Things below refer to the music of these two aspects:

A. Music as a “life field” in his life and at school.

B. Music as a domain that is linked to different disciplines and knowledge domains taught in school.

Music as a life field is an important component of school ceremonies and is used as a "memory aid" and a tool for cultural heritage conservation. Music-social activities in school can be used as a tool for social integration, especially when it considers the musical traditions that students bring from home, and respect for any musical-cultural expression.

Musical activity in school can be a basis for education for cultural consumption and participation in culture.

Therefore, music integration programs must include a variety of school initiatives that can reflect this position. For example, musical activities and songs in holidays; Creating multi-age groups to play music and sing together; Participation in musical events in school; The establishment of "clubs" for music lovers in different styles (rock, classical, rap) [83].

Some of these initiatives aim for all the students, and some will be based on free choice and voluntary "interest groups", encouraged and supported by the school [63].

2.4 Approaches on the effectiveness of music integration and teachers' attitudes towards integrating music into the didactic of other disciplines

The ability, attitudes, and motivation of teachers to use the arts as a tool in their practice is related to their complete education—from childhood arts experiences to preparation in courses, to experiences in the arts and in other subjects [17; 84].

“The value and importance of a music methods class is not always recognized by teachers whose beliefs about the subject area affect their performance as a student and as a teacher” [17; 118].

Researchers found that teachers who have had prior musical experiences as children believe that music is a valuable subject in the school curriculum [16; 18; 37] “but not necessarily as important as other disciplines” [1; 17].

In addition, “the notion that music is a “special” subject along with physical education and art perpetuates low confidence among classroom teachers [17; 60]

Several studies support the case that elementary classroom teachers use music to varying degrees and for multiple purposes from transitions to developing musical appreciation and skills [1; 17]. Examining elementary classroom teachers’ willingness to integrate instructional goals related to music reveals that many elementary teachers are unsure of its function in the overall school curriculum [1; 17].

Battersby and Cave [17] noted that “Ruth Whitelaw investigated the integration of music and the contributions that music makes to English instruction in an exemplary high school English classroom” [17]. Whitelaw found that the teacher used the music because of her own personal background and interests. Her goals were to evoke students' interest, stimulate their thinking, help them make connections between the bits and pieces of information they receive in school, and encourage them to discover meaning and think about what they learn “[17].

Elementary teachers’ attitudes toward integrating music and their personal level of music appreciation play a significant role in what can be accomplished in their classrooms [17]. According to Bandura [10], the belief in our ability to accomplish a certain task or level of performance is very important. “These beliefs govern our choice of action, how we think and behave, and what we can accomplish” [17]. Therefore, we will participate in those activities in which we feel capable and confident and avoid those in which we do not [10; 17].

Studies found that even though one of the primary goals in the intended curriculum was integration across different subject matters. Intensive observations revealed that the various disciplinary areas were taught as separate subjects, with a rather rigid time allocation. “This separation was the result of both the parents' pressure for advanced and accelerated academic content and the lack of structures to facilitate collaboration among the specialized teachers in the school” [17].

When teachers lack formal requirements (e.g., guidelines, testing) and materials (e.g., resource books and textbooks) then the integration becomes the teacher's (or the team's) responsibility only and is left to their initiative, imagination, and resourcefulness [17].

“The ability and motivation of teachers to use the arts as a tool in their practice is related to their complete education—from childhood arts experiences

to preparation in preservice courses, to in-service experiences in the arts and in other subjects" [84]. Preservice teachers' attitudes toward and beliefs about education and the importance of the arts, more specifically, are shaped prior to entering college through an apprenticeship of observation during their own schooling" [17; 59; 77]. Researchers examined the attitudes of pre-service elementary classroom teachers and found that their beliefs about music education reflected childhood experiences in ensembles, group, and private lessons [1; 17; 19]. Those who have had prior musical experiences as children believe that music is a valuable subject in the school curriculum [17; 19; 55] but not necessarily as important as other disciplines [1]. Other preservice teachers surveyed lacked previous musical experiences altogether, whereas others carried with them childhood memories of discomfort with learning how to play an instrument or sing" [5; 17; 101; 111].

Still others bring to the program established beliefs and attitudes, values, and their own sense of teaching effectiveness [117]. Stuart and Thurlow [116] says, pre-service teachers brought to their teacher education program beliefs about teaching and learning that were heavily influenced by their childhood experiences and will persist unless they are challenged [17; 75]. Teacher candidates need to be encouraged to articulate and examine these beliefs so that they do not perpetuate current practices" [17; 75].

Battersby and Cave [16] noted that Elementary education candidates resist singing in methods courses citing both anxiety and a lack of ability based on negative experiences they had as elementary age students in school or at home [5; 17; 101]. A common account is an unpleasant childhood experience that governs their current attitude, which tends to be negative not only toward their perceived ability as pre-service teachers but also regarding their confidence in performing, such as singing [17]. Apfelstadt [5] states that subjects felt that singing was perceived as a very personal activity and oftentimes cited a feeling of embarrassment or self-consciousness about their singing ability [17].

When commenting on their past musical experiences, subjects in Hennessy's [60] study felt inadequate and noted that they believed an individual needed to be an accomplished performer to integrate music [17].

"Seddon and Biasutti [86] found that non-music specialist teachers judge or compare their informally acquired music skills against those of their music specialist colleagues, thus further reinforcing their perceived inadequacies. This contributes to low levels of confidence, which leads to

a “cycle of low expectation” of music goals for both the classroom teacher and her or his students [17; 60].

A number of studies support the idea that primary school educators use music in different ways and for different purposes, from transitions to the development of musical appreciation and skills [1]. Examination of the desire of primary school teachers to incorporate music-related training objectives reveals that many future teachers, as well as primary school teachers, are unsure of their role in the general school curriculum [1; 17].

Battersby and Cave state in their research that several studies have been conducted to explore what activities classroom teachers find useful and most likely to implement on their own and within their own classrooms without the assistance of the music specialist [17]. When asked what they found useful or were willing to implement in their classes that they learned in their methods courses, classroom teachers cited teaching activities based on singing, listening, movement, and integration [104]. Saunders and Baker [104] discovered that most elementary classroom teachers indicated that the skills and understanding that they found most useful and practical were those that used music as a supplement to other curricular areas and those that they could use for recreational and transitional periods [17].

The effectiveness of primary school teachers in teaching music and their personal level of appreciation of music play a significant role in what can be achieved in the lesson. According to Bandura [10], effectiveness is the belief in our ability to perform a certain task or level of performance. These beliefs govern our choice of actions, how we think and behave, and what we can accomplish. Therefore, we will participate in those activities in which we feel capable and confident and we will avoid those in which we do not [10]. It has been found that the effectiveness of a teacher influences a number of student outcomes, including academic achievement [102], musical performance [82] and fear of failure [17; 93].

Stein [112] states that elementary teachers’ attitude toward the music program reflects whether or not they place value or importance on music education and that “students also form attitudes based on the values they see reflected in the environment by parents, family, peers, and teachers” [17]. This is why it is so important for classroom teachers to positively influence their students’ perceptions by their actions [78]. Classroom teachers are crucial in modeling values and establishing music learning as a priority in the basic education of children [112; 17].

Teachers' attitudes can directly affect the number and types of musical experiences teachers provide for their students. According to Barry [16], teachers with negative attitudes about music will not provide students with the same number and quality musical experiences as teachers with positive attitudes and greater self-confidence. She continues to state that the number and types of musical experiences that classroom teachers decide to provide ultimately rests on how secure they feel with a particular musical activity.

Vannatta-Hall [118] explains that teachers' beliefs will not only influence activities that an individual will implement but also the behaviors and the level of effort applied in the wake of perceived difficulty [17]. Teachers surveyed by Giles and Frego [55] felt that if they were unable to sing or perform various musical tasks in class, they were reluctant to do so in their classrooms. Kvet and Watkins [73] identified elementary education candidates' lack of musical background and training as a variable influencing their perceptions of their own success as inhibiting achievement-related behaviors in music [17].

Barr [11] states that, classroom teachers who lacked basic knowledge of the arts disciplines and were not comfortable teaching the required skills were unable or unwilling to incorporate them in their curriculum [17].

Teachers who have low sense of ability tend to "harbor negative feelings about their teaching and possess a narrow perspective on problem-solving and therefore believe that their situation is more challenging than it actually is" [17; 118].

Other studies based on in-service teacher experiences suggest that teachers who perceive that they were inadequately prepared are shown to lack confidence and produce negative attitudes toward their ability to integrate music [16; 106] and are reluctant to take risks and leave their comfort zones because of fear of being judged" [11; 17].

2.5 The Music Integration Model for integration of music in teaching of other disciplines- MIM

MIM is a model that suggests an optimal way to integrate music in teaching in elementary schools. First, a course about integrating music in teaching should be conducted for the teachers of the 6 disciplines in the school. This course had three main elements:

a. An exposure to the benefits and value of integrating music in teaching.

b. An exposure and practice to ways and methods of integrating music in teaching.

c. A specific attention should be on giving the teachers empowerment and encouragement that they are able to integrate music in their teaching lessons.

Teachers were asked to apply the ways of integration they learned in the course in their lessons, to try them so they will feel capable to do it and raise the effectiveness of the teaching process. The course included 10 meetings. Each meeting focused on teaching the teacher a method of integration. The methods taught in the course are detailed in the following points. These 10 meetings included the following subjects. Theses ways of integration that was presented in the course are the same ways teacher used:

Course meeting 1: Integrating music in teaching- why? Benefits and value

In this meeting teachers were exposed to the benefits of integrating music in teaching: the benefits that they were exposed to are:

1. It contributes to the emotional state of the pupil while learning (lower anxiety, stress and tension, strengthen self-confidence and sense of ability, makes more enjoyment).

2. It also contributes to the social aspect of the pupils while learning. It creates a positive social atmosphere and contributes to cohesion. It improves the positive relation among the students and between the pupil and his teacher.

3. It also contributes to cognitive aspect like understanding and internalizing the material, memorizes it.

4. It also contributes to raising achievements.

5. It also helps the pupil in the behavioral aspect and decreasing discipline problems.

6. It also helps the teacher in the class management

Course meeting 2: Integrating music by using background music

In this meeting teachers were exposed to ways of integrating music by background music. The specific benefit and use of this type of music integration was exposed. Background music mainly helps pupils to concentrate and relax. Various types of background music were exposed:

1. Classical music - Mozart, Beethoven

2. Nature music - music of water, birds,

3. Jazz relaxing music

Teachers were asked to experience the effect of the music by themselves. During the course meeting they were given a task and a background music was played. They shared their experience, feelings, and the impact the background music had on them.

Course meeting 3: Integrating music by using content songs

In this meeting teachers were exposed to various content songs in various subjects and languages. for each discipline it was offered few content songs specifically for it and appropriate to the content of the curriculum and according to the content the teaching books. Part of these songs were written and composed by me. The specific benefit and use of this type of music integration was exposed. Content songs mainly helps pupils to enrich the vocabulary, develops the memory skill so pupils feel able to learn the content by heart easily.

For Arabic lessons content songs such as: "an appreciated girl", "a village in a valley", "our fields" was exposed.

For Hebrew lessons content songs such as: "two friends", "the fig tree" was exposed.

For English lessons content songs such as: "the ant and the grasshopper", "old McDonald", "The wheels of the bus". English teachers received guidance to use content songs they have in the English teaching books of "Click".

For Math lessons content songs such as: "the song of angels", "the songs of geometric shapes", "the multiplication song". In addition, in math, beats were used to count and understand numbers, and sequences.

For science lessons content songs such as: "electricity song", "metals songs", "the solar system".

For religion lessons content songs such as: "Al-Adha holiday", "Ramadan", "Mohammad our prophet". It is important to mention that a lot of caution was taken when representing content songs in a religion lesson contest. The melody of the songs should be very simple and without using music instruments except of percussion because this is not acceptable in Islam. The content songs that were used in the religion lesson couldn't use the Quran’s words. It is also not acceptable to do so according to the Islam.

Course meeting 4: Integrating music by using Creativity

In this course meeting, teachers were exposed to ideas for using music creativity to learn. The specific benefit and use of this type of music integration was exposed. Creativity mainly helps pupils

to internalize the learnt material and develops the memory skill, so pupils feel able to learn the content by heart easily.

Teachers also had the opportunity to experience creativity in music. They were asked to compose simple melodies to texts or words that are related to lessons they teach. Teachers were very creative. They managed to compose or use exiting music to words that they chose according to a lesson they teach. This activity made they feel capable. They felt they can integrate music in their lessons. They talked about their success in the next course meeting. It was very exciting. Teachers of science and math were also guided to use the creativity of building music instruments in order to teach pupils certain subjects in science or math. For example: measuring lengths in order the create the instrument or understand how the voice changes according to the material, and the length of the string of the instrument.

Course meeting 5: Integrating music by using Music Outside the classroom

In this course meeting, teachers were exposed to ideas how they can use music outside the classroom to help pupils learn more effectively. The ideas that were suggested included playing music or songs that is related to the lesson in the morning at school, or during the breaks, or pedagogical days in school. Furthermore, it was offered for teachers to integrate music related to the lessons by using the website. This way of integration will raise the motivation for learning by breaking the routine and by making the material learnt in the lesson relevant in real life. Teachers were asked to give more ideas for integrating music in teaching outside the classroom. Teachers in the course suggested a school radio, an active break with stations of activities for each discipline, after school activity using related music.

Course meeting 6: using external talent

In this course meeting, teachers were exposed to ways to use external talents in order to integrate music in the lesson. Like, teachers, parents.

Teachers were suggested to invite parents who sing or play an instrument in order to connect the outside to the classroom also. Teachers in this meeting experienced in using their own talent. Teachers were asked to find a talent in them that is related to music and use it in the course meeting. Teachers by this way felt very capable, it raised their sense of ability. For pupils it will be very motivated to have their teacher from other discipline active and involved in their lessons. This way of integrating

music in teaching will help pupils in internalizing the material learnt and understand it better. It also raises pupil's motivation and helps teachers in classroom management.

Course meeting 7: Using performance

In this course meeting, teachers were exposed to ideas for using performance to learn. The specific benefit and use of this type of music integration was exposed. performance mainly helps pupils to internalize the learnt material and develops the memory skill, so pupils feel able to learn the content by heart easily. In addition, pupils who perform will be more motivated and have fewer behavioral problems.

Teachers also had the opportunity to experience performance in music. They were asked to perform a simple song in the course meeting. Teachers were very brave and felt the good effect of performing to learn. This activity made they feel capable. They felt they can integrate music in their lessons. They talked about their success in the next course meeting. It was very exciting. Teachers of science and math were also guided to perform songs in certain subjects in science or math. For example, songs such as: "electricity song", "metals songs", "the seed", "the solar system", "the song of angels", "the songs of geometric shapes", "the multiplication song".

This way of music integration has a lot of positive effects on learning process.

Course meeting 8: using music and arts

In this course meeting, teachers were exposed to ideas for using the combination of music and arts to teach pupils in class. Such as using drama and music for a specific content they have in the lesson, or to a specific idea in the text. Teachers were asked to choose content from the materials they teach and create a play and singing in it. Another example is using drawing and music of a main idea in the text or in the lesson. The specific benefit and use of this type of music integration was exposed. Using music and arts in teaching helps pupils to internalize the learnt material and develops the memory skill so pupils feel able to learn the content by heart easily. In addition, pupils who perform will be more motivated and have fewer behavioral problems.

Course meeting 9: using Opening/closing music

In this meeting teachers were exposed to various songs in various subjects and languages that can be used to start a lesson or to close a lesson. These songs are usually containing of good morning, hello, welcoming content, or a goodbye, thank you content. The specific benefit and use of this type of music integration was exposed. Opening and closing songs mainly helps pupils to enrich the

vocabulary, to be motivated and excited in the lesson, develops the memory skill so pupils feel able to learn the content by heart easily. This will help the teacher in classroom management.

Opening and closing songs that were suggested are: "hello my teacher in science lesson", "we had a nice lesson", "my love welcome to the lesson", "thank you thank you".

Course meeting 10: summary and reflection

In this meeting the teacher was exposed to a brief revision and a summary of all the main ideas in the course. In addition, teachers were asked to make a reflection and share what have they learned during the whole course, and how did the course affect them.

Teachers shared a lot of positive attitudes towards the course. They said that the course has benefited them and encouraged them to integrate music in their lessons. They said that they felt a lot of empowerments and feel capable to use music integration tools in teaching.

2. Applying the music integration methods - the second step of the MIM model:

After that, teachers leaned tools and methods of integrating music in teaching, they were asked to apply them in their lessons. while applying them the researcher accompanied them. He was available to each question, or any help. He was visited the school three times a week and made sure that teachers are applying the methods and was available for them if they needed to ask something or needed any help.

Principals from two schools decided to use MIM while integrating music in teaching. MIM was used in the treatment group (the intervention). For each discipline a work plan was conducted by the staff in the school, to fit the subjects in the discipline curriculum. The work plan was formed by each discipline staff with the help of the researcher. The staff decided to integrate music for three lessons a week. This frequency is intensive compared to the frequency the music integration is usually used in schools.

Characteristics of the model MIM:

This study formed a “music integration model” MIM that is related to the curriculum of 6 main disciplines: Arabic, Hebrew, English, Math, Science, and Religion. The suggested methods are not only songs, but a wide spectrum of various techniques of integrating music in teaching that was suggested to the teachers in the course, such as using background music, asking students to compose songs and melodies to a learned text, and perform it in front of the class and the school, and inviting teachers or parents who got music talent to perform in front of the students.

The MIM model was formed and molded straight from the field of education. It gives the school a framework in which they can use music integration in teaching. MIM model is based on the EFQM (the European Foundation for Quality Management) model. The **EFQM excellence model** is a non-prescriptive business excellence framework for organizational management, promoted by the EFQM and designed to help organizations to become more competitive.

The MIM model of this research is based on these principles. The model gives a great importance to the capability of the teachers, encourage creativity and innovation in planning the program and in using methods that enhance creativity, using the talent of people, by using parents and teachers' music talents.

In accordance with EFQM criteria, this research bases the MIM model on the criteria "people"; teachers in the classroom integrate music in teaching and not professional outsider. In addition, the MIM model is based on the criteria of "strategy" by applying a "music integrating" course for the teachers. Furthermore, the research model is based on the criteria "partnership" by creating a "team staff" for integrating music in teaching in the school. Moreover, MIM is based on the "process" criteria. In fact, the MIM model describes a process that will be applied in school.

In accordance with the components of EFQM, this research builds a music integration model (MIM) that highlights the "determination of the results" component, the flexibility to plan and develop suitable approaches and ways to integrate music and apply assessment and monitoring during the process.

The MIM model does not tell the school what to do exactly, and which activity they must use in classes. The model suggests that the music integrating staff and the school disciplines staffs should sit and form lessons plan using the ways of integrating music suggested. The model suggests a work method that contains the basic lines of integrating music in teaching.

The integration is suggested to be not only in the classroom, but also in the break during school time, in the morning when pupils come to school and at home as homework or a virtual lesson through the internet. The integration is suggested to break out the borders of the classroom. And to be in the pupil's everyday life.

In addition, the model of integrating music (MIM) that is suggested in this research offers methods that encourages high levels of thinking, like developing creativity. It is suggested not only to use the low first level of information, but also the high levels of creativity.

Moreover, the MIM works on involving talented teachers and talented parents in the integration of music in teaching. Parents' intervention in the pupils' school-life is very recommendable when it comes to pupils' learning and education.

The MIM emphasizes the importance to empowerment and encouragement of teachers so they can integrate music in their teaching, to raise the sense of ability of teacher regarding integrating music in teaching.

The suggested MIM model puts a major significance to processes of evaluation and monitoring the implementation of the model in school. This approach suggests that without monitoring and continuous tracking of any project in school it won't succeed.

Furthermore, a great deal of attention is given to peer learning through observations of music integrating lessons by teachers from the same discipline. For example, a teacher of math integrates music in his lesson while math teachers team observe his lesson. This opens an opportunity to peer learning through after lesson feedback.

Table I: School Work Plan
School work program of integrating music in teaching - **MIM**
Goal: Integrating music in teaching core subjects

Hours resources allocated to achieve mission	**Partners to carry out the task**	**Responsible for leading the task**	**End Date of each stage**	**Start Time of each stage**	**Main actions To be implemented to achieve the mission (Stages of organization)**	**Measure of success**	**Target Population**	**Mission**
Stay Hours "Ofek Hadash", additional hours - "Ofek Hadash".	leadership team, team of subjects' coordinators, teachers of the core subjects, pupils of 3rd and 4th grade	program instructor - Belal Badarne - researcher, lecturer at Levinsky College of Education, a music teacher, educator and coordinator	June July September	June July September	Recruiting the principal of the school. Establishing a leading team for music integration. Recruiting teachers and parents who have any musical ability or talent or background. Recruiting social education coordinator conducting individual meetings with subjects' coordinators to determine the guidelines for applying of the program Running the initial questionnaires in order to obtain a comprehensive picture of teachers' attitudes and effectiveness regard of integration of music in teaching	At least 80% of teachers of the core subjects of grades 3rd, and 4th will apply the work plan of integrating music.	**leadership team, team of subjects coordinators' teachers of the core subjects, pupils of 3rd and 4th grade**	**Integrating music in teaching the six core subjects: Arabic, Hebrew, English, math, science, Religion.** **Integration of music in the classroom and outside of the classroom.**

School work program of integrating music in teaching - **MIM**

Goal: Integrating music in teaching core subjects

Hours resources allocated to achieve mission	**Partners to carry out the task**	**Responsible for leading the task**	**End Date of each stage**	**Start Time Of each stage**	**Main actions To be implemented to achieve the mission (Stages of organization)**	**Measure of success**	**Target Population**	**Mission**
Stay Hours "Ofek Hadash", additional hours - “Ofek Hadash”.	leadership team, team of subjects coordinators, teachers of the core subjects, pupils of 3rd and 4th grade	program instructor - Belal Badarne - researcher, lecturer at Levinsky College of Education, a music teacher, educator and coordinator	October November	September October	conducting two planning meetings: in order to set actions, success measures and ways of supervision. conducting 8 exposure meetings to the core subjects’ teachers' team (a course) exposure of the rational, benefits of integration and ways of integration. One important goal in the meetings to encourage teachers to raise their ability.	Attitudes and the application of music integration will be higher in at least 80% of teachers of the core subjects of grades 3rd, and 4th.	**leadership team, team of subjects coordinators, teachers of the core subjects, pupils of 3rd and 4th grade**	**Integrating music in teaching the six core subjects: Arabic, Hebrew, English, math, science, Religion.** **Integration of music in the classroom and outside of the classroom**

School work program of integrating music in teaching - **MIM**

Goal: Integrating music in teaching core subjects

Hours resources allocated to achieve mission	**Partners to carry out the task**	**Responsible for leading the task**	**End Date of each stage**	**Start Time of each stage**	**Main actions To be implemented to achieve the mission (Stages of organization)**	**Measure of success**	**Target Population**	**Mission**
Stay Hours "Ofek Hadash", additional hours - “Ofek Hadash”.	leadership team, team of subjects coordinators, teachers of the core subjects, pupils of 3rd and 4th grade	program instructor - Belal Badarne - researcher, lecturer at Levinsky College of Education, a music teacher, educator and coordinator	April April April March	November November November January	conducting fixed meetings with the team of subjects' coordinator once a weeks: with the help of the instructor to build workplan, building lesson plans applying the integration of music in lessons - three times a week. conducting an observation array in lessons of integrated music in teaching, teachers of a specific subject observe integrating music in the subject he teaches. conducting evaluating meetings once in two months with the leadership team in order to evaluate applying the program.	at least 70M% of the pupils in the “focus group” report that integrating music in teaching contributed to them.	**leadership team, team of subjects coordinators, teachers of the core subjects, pupils of 3rd and 4th grade**	**Integrating music in teaching the six core subjects: Arabic, Hebrew, English, math, science, Religion.** **Integration of music in the classroom and outside of the classroom**

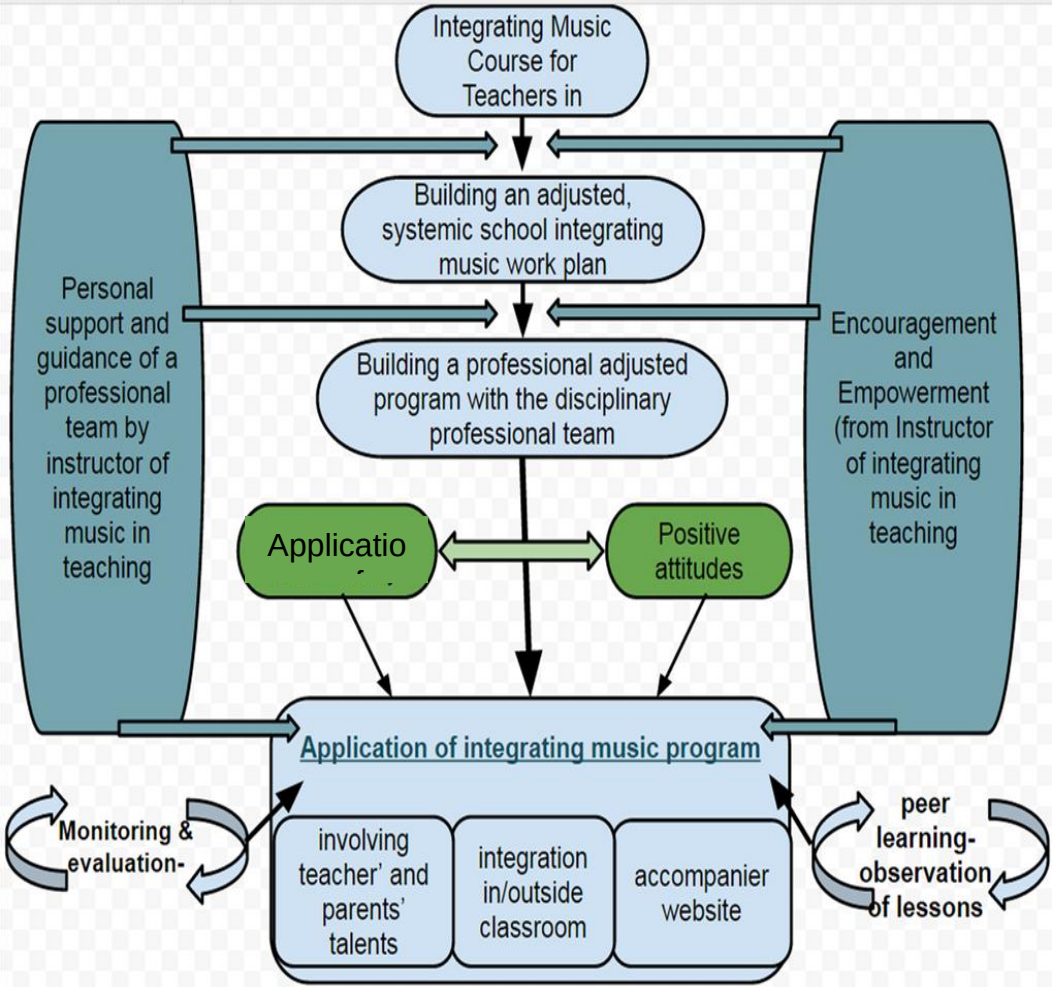
School work program of integrating music in teaching- **MIM**

Goal: Integrating music in teaching core subjects

Hours resources allocated to achieve mission	**Partners to carry out the task**	**Responsible for leading the task**	**End date of each stage**	**Start time of each stage**	**Main actions to be implemented to achieve the mission (Stages of organization)**	**Measure of success**	**Target Population**	**Mission**
Stay Hours "Ofek Hadash", additional hours - “Ofek Hadash”.	leadership team, team of subjects coordinators, teachers of the core subjects, pupils of 3rd and 4th grade	program instructor - Belal Badarne - researcher, lecturer at Levinsky College of Education, a music teacher, educator and coordinator	May April May June March	November February May May	Applying music integration in teaching outside the classroom (in the morning lineup, during an active break, in informal activities and in the school website, applying integration of music through talented teachers and parents Running the questionnaires of teachers' attitudes regard of integration of music in teaching and their application of music integration methods again to see the differences conducting interviews with teachers conducting final evaluation meetings with the leadership team and teachers of 3rd and 4th grade	In the interviews, at least 80% of the teachers will report that integrating music in teaching is beneficial.	**leadership team, team of subjects coordinators, teachers of the core subjects, pupils of 3rd and 4th grade**	**Integrating music in teaching the six core subjects: Arabic, Hebrew, English, math, science, Religion.** **Integration of music in the classroom and outside of the classroom**

Diagram 2.1- "MIM Model Diagram"

This diagram presents the MIM model- and contains all the important component of it.



Explanation of the Model:

First teachers took an "**integrating music course**", in which they were exposed to all the integration methods that they should use in their teaching as it was detailed before.

Second management team (which includes coordinators for each discipline) built a **schoolwork-plan for music integration** which is presented in table I. the music teacher at the school was involved and all the process was supervised by the author of this research.

The third step was that each coordinator of each discipline built a **professional program** with the disciplinary team: Arabic, English, Hebrew, mathematic science and religion. The programs included suggestions that the researcher gave to the team. And all the programs included all music integration ways that is checked in the research.

These first three steps of "integrating music course", " building a schoolwork-plan" and "building a professional program with the disciplinary team" intend to give the teachers higher **sense of ability** and more **positive attitudes** toward integrating music in teaching.

The fourth step was to **apply the music integration program**, each teacher in his lesson. Teachers applied the following methods in their lessons:

using Background Music, Content Songs, Creativity, Music Outside the classroom, External talent, Performance, Music and arts, Opening/closing music.

The application of music integration included integration **inside and outside the classroom**. it included involving **teacher' and parents' talents**. And it included an **accompanier website**.

Through all this process, the music integration instructor which is the researcher of this research accompanied the team to give them personal **support** and **guidance**, and **encouragement** and **empowerment** that they can do it.

Two development mechanisms were used in order that teachers learn from the process they experience. Teachers were asked to invite the discipline team to observe the music integration lesson they do. **Peer observation** is a very good opportunity for teachers to learn from each other and empower each other. In addition, the music integration instructor (the researcher of this research) made **monitoring and evaluation** of the process each week.

2.6. Functionality of the model of music integration in the didactic of other disciplines (MIM)

The model MIM is written in a common standard of the ministry of education in Israel, and it is addressed exactly to teachers in schools, using their professional language they are familiar with. This makes the model very functional to teachers and schools.

The model MIM is written in a very detailed way so teachers and school principals can use it easily.

The model MIM is holistic and includes many dimensions that could be beneficial to the pupil during learning. Music Integration in teaching can be very helpful for pupils in many dimensions:

1. It contributes to the emotional state of the pupil while learning (lower anxiety, stress and tension, strengthen self-confidence and sense of ability, makes more enjoyment).

2. It also contributes to the social aspect of the pupils while learning. It creates a positive social atmosphere and contributes to cohesion. It improves the positive relation among the students and between the pupil and his teacher.

3. It also increases motivation and enthusiasm of the pupil and be are more active.

4. It also contributes to cognitive aspect like understanding and internalizing the material, memorizes it, creativity, clarification of the material, absorbing the material studied.

5. It also contributes to raising achievements.

6. It also helps the pupil in the behavioral aspect like raising focus and concentration in the lesson and decreasing discipline problems.

7. It also helps the teacher in the class management

8. It also helps the pupil to improve his motoric skills like fine motoric skills, crude motoric skills.

The dimensions that are benefited by integration of music in teaching are Emotional, Social, Cognitive learning effect, Motivation, Motoric effect, Behavioral effect, Achievements, Classroom Management, and General personal attitudes

Furthermore, the suggested model (MIM) emphasizes the importance of conducting a course for teachers that intend to focus on the following:

1. Benefits and value of integrating music in teaching.
2. Ways and methods of integrating music in teaching.
3. Empowerment and encouragement to teachers that they are able to do it.

2.7 Conclusions on chapter 2

Many music integrating methods are mentioned and examined in literature. Such as Bresler's 4 styles: The subservient style, the integrative style, the affective style, the social integration style [16]. In addition, Snyder [115] three levels of integration are described, and in the model of Fogarty [33] 10 levels of integration are outlined, ranging from fragmented (in which academic disciplines are kept separate and distinct) to networked (in which a learner-directed process is supported by a network of advisors and resources) [16].

In planning application of the core curriculum, Music is referred as a built-in and independent domain. Music is considered as a discipline in the curriculum based on three aspects: cognitive-

psychological aspect, the social aspect and the creative aspect [125]. Hence, the emotional expression aspects, is a central element in core music program. The program schedule for these options includes Creating music, and Meeting music literature [125].

"Curricular integration has become an increasingly important component of many school reform initiatives, particularly at the elementary school level. Certainly, the notion of using a cross-disciplinary approach to achieve various educational goals has been around since antiquity, at least informally" [16]. However, during the past 20 years, this approach has attracted heightened attention through the work of such scholars as psychologist Howard Gardner [51; 52]. "Whose theory of multiple intelligences prompted increased popular and academic interest in the possible benefits of an interdisciplinary curriculum by expanding the definition of human intelligence beyond the traditional emphasis on reading, writing, and mathematics, to include a variety of intellectual competencies" [16]:

Music integrating methods are examined in relation to school teaching curriculums.

Literature mentions several ways of integrating music [12; 13]. "Both Hash [59] and Colwell [25] cite Bresler's [23] discussion of four types of art integration (subservient, affective, social, and coequal-cognitive) used by many classroom teachers throughout the United States [17]. Other researchers offer several ideas for classroom teachers to easily implement by themselves and provide additional music-related activities that offer academic benefits without the assistance of a music specialist [92; 17; 83].

In addition, many research on teachers' attitudes while using music integrating methods are conducted. This study comes to examine teachers' attitudes towards integrating music in elementary Arab schools in Israel, and the effectiveness of music integration model. This research suggests an integration music model: the MIM model.

3. METHODOLOGICAL PERSPECTIVES OF MUSIC INTEGRATION IN THE DIDACTIC OF OTHER DISCIPLINES

3.1 Ascertaining the level of teachers' attitudes and application of music integration in teaching

The central aim of the pedagogic experiment is to identify the level of teachers' attitudes toward music integration in teaching and check the efficiency of the pedagogical model **(MIM)** for encouraging teachers to integrate music in teaching and raise the level of their attitudes toward music integration and their application of music integration methods. The insights gained in the wake of the literature review led to determination of the following objectives:

- to identify teachers' efficiency and attitudes towards music integration in Israeli Arab elementary schools.

- to upgrade procedures relating to integrating music in teaching through raising the level of positive attitudes of teachers toward integrating music in teaching, to help teachers in using music integrating methods teaching other disciplines.

Research Methodology:

Following formulation of the research questions and objectives, the process of data collection began, comprising two research methods: (1) The statistical methods included: averages, standard deviations and significance, a Pearson correlation, t test for independent groups, multiple regression, frequencies, Cronbach's alpha; (2) Empirical methods systematically that engaged in collecting data that enable synthesis, generalization, reaching conclusions, comparing, categorizing and triangulation. In order to carry out the processes and examinations, I used the following research tools: for the quantitative research I used questionnaires; for the qualitative research I used semi-structured interviews, content analysis, description, presentation of findings.

The research methods that were used in this study are research methods by quantitative paradigm and qualitative paradigm. It seems appropriate to use both methods are together in order to obtain a broad enough view through quantitative research and deep enough view through qualitative research.

Descriptive statistical methods [201; 202]:

- Average
- Standard deviations
- Frequencies

Deductive statistical methods [201; 168]:

- Significance
- Cronbach's alpha measure for internal reliability
- Pearson correlation
- t-test for independent groups
- Multiple linear regression
- Fisher test

The research method - Over time two dominant research approaches have developed – quantitative research and qualitative research – each emphasizing a different world perception. The aim in quantitative research is to provide data relating to reality and its interest lies in phenomena so long as they represent a general law. Qualitative research constitutes a scientific way to understand human phenomena taking place from the point of view of the participants.

The third approach is the mixed methods approach, based on the assumption that phenomena exist in education that are explainable, prediction of whose influences has a considerable impact in extensive and varied contexts. On the other hand, the educational system is composed of a variety of complex individuals who are influenced by different cultures, norms and traditions, a fact that prevents identification of a method that will solve all problems holistically. The mixed methods approach claims that the integration of quantitative and qualitative research can constitute an optimal solution and the combination of the two approaches is a valid means and is defined as advantageous, providing a balance between the breadth and depth of the research [34; 45; 68, p.132; 140; 161]. In addition, the advantages of one method are offset by the disadvantages of the other, resulting in a more complete picture being obtained. [46, p.30; 68, 135 p.].

The present research has been conducted according to the mixed methods approach.

Study population:

This study will examine one main study population:

80 Teachers from 4 primary Arab schools in the Northern Ministry of Education in Israel. All the teachers are Arabs. The sample consist of 30% males and 70% females. The average age of the sample is 41 years. 90% of the teachers are Moslems, 10% are Christians. All of the teachers are permanent teachers. The average seniority is 15 years. All of them are married. 80% of them have BA degree, 20% of them have MA degree.

Most elementary school teachers are now in the ,,Ofek Hadas" (New Horizon) program; a reform that the ministry of education initiated in Israel. Teachers in ,,Ofek Hadash" (New Horizon) are rewarded with higher wages than they received before they entered the program. They must under this reform program study 60 hours per year. And they are also financially rewarded overtime that they do during the afternoon hours. Framework for the work of teachers is divided as follows: 5 hours "stay hour" that are not for teaching, but meetings with parents, team meetings, etc., 5 hours "individual hour" that are for teaching a group of pupils (groups of up to five students), and 26 hours of frontal teaching class. This population of this study was chosen randomly from teachers –in 4 primary schools (20 teachers from each school) in the Northern District who teach, in 3rd grade and 4th grade, one of the following subjects: Arabic, Hebrew, English, math, science, religion. It is a heterogeneous group in terms of sex, age, marital status, seniority, academic education, musical experience, teaching field.

This study population is divided into 6 groups:

1. 16 Languages teachers: Arabic
2. 12 Hebrew teachers
3. 14 English teachers
4. 12 Science teachers
5. 12 Math Teachers
6. 8 teachers of religion

In the analysis process these groups were divided as the following:

The 4 subject groups are:

A. Arabic and Hebrew
B. English
C. Math and Science.
D. Religion.

The main research tools were questionnaire and interview as listed below.

Research Tool:

Research tools that were used in this study are:

Questionnaires: The questionnaire is a tool for gathering data on a specific phenomenon. The closed questionnaire is uniform and composed of questions that the subjects are requested to rate

according to a predetermined scale (the answers were coded according to a numerical or ethical scale). The questionnaire (Appendix 1) opened with a preface that explained the aim of the research. Teachers were told that the findings from the questionnaire would be used for the purposes of the research and for deriving conclusions that would help in upgrading the processes and incorporating them optimally in the system. To increase the response rate and prevent skew, it was made clear to the respondents that the findings would be confidential and anonymous.

In the current study 3 types of questionnaires were used:

1. Biographical questionnaire, which will ask on the following data for each teacher:

Age, gender, teacher education, field of teaching, role in school, his musical education, frequency hearing the music, play or poetry.

2. In the research a questionnaire of teachers' attitude toward the effectiveness of the MIM model in 9 aspects is used. This questionnaire is for teachers to examine their attitudes towards integrating music in teaching.

The questionnaire contains 9 categories:

1. Emotional effect; questions number: 2,4,21,22,32,35,36,37.
2. Social effect; questions number: 5,28,31,34,40.
3. Cognitive effect; questions number: 1,6,8,9,10,11,13,14,17,26.
4. Motivational effect; questions number: 20,23,25,38.
5. Motoric effect; questions number: 3,12,44.
6. Behavioral effect; questions number: 27,45.
7. Classroom management effect; questions number: 19,29.
8. Achievement effect; questions number: 15,30,39.
9. General personal attitudes; questions number: 7,16,18,24,33,41,43.

3. In this research a questionnaire of teachers' application and using music integrated methods (8 methods are include and a general sense of ability of music integration) in teaching is used.

The questionnaire contains 9 categories:

1. Background method; questions number: 1,2,6.
2. Song content method; questions number: 5,8,11,28.
3. Creativity method; questions number: 14,22,30.

4. Outside the classroom method; questions number: 16,17.

5. Performance method; questions number: 25,27,29.

6. External talents, questions number: 18,20.

7. Music and arts method; questions number: 3,4,23.

8. Opening and closing music method; questions number: 9,13.

9. General sense of ability to integrate music in teaching; questions number: 7,10,12,15,19,24,31.

In reliability test conducted for the entire first part in the present research a value of $\alpha = 84$ was obtained, indicating high internal consistency and homogeneity of the items).

Table 3.1- The Alpha Cronbach Reliability of the Attitudes questionnaire (before)

Table 3.1		
Attitudes	**Category**	**Alpha**
	1. Emotional	0.85
	2. Social	0.68
	3. Cognitive	0.90
	4. Motivation	0.82
	5. Motoric	0.57 They didn't use
	6. Behavioral	0.65
	7. Achievements	0.92
	8. Classroom Management	0.65 question 18 not included
	9. General personal attitudes	0.78 question 41 not included

Table 3.2- The Alpha Cronbach Reliability of the Attitudes questionnaire (after)

Table 3.2		
Attitudes	**Category**	**Alpha**
	1. Emotional	0.85
	2. Social	0.68
	3. Cognitive	0.91
	4. Motivation	0.82
	5. Motoric	0.90
	6. Behavioral	0.65
	7. Achievements	0.92
	8. Classroom Management	0.65 (question 18 not included)
	9. General personal attitudes	0.83

Table 3.3 - The Alpha Cronbach Reliability of *the application of music integration methods* questionnaire (after)

Table 3.3		
Efficiency	**Category**	**Alpha**
	1. Background Music	0.88
	2. Song Content	0.87

	3. Creativity	0.90
	4. Outside the classroom	0.92
	5. External talent	0.84
	6. Performance	0.80
	7. Arts	0.80
	8. Open/close	0.79
	9. sense of ability	0.83

The first measurement capability level was very low, most teachers gave the lowest score. This result is expected given that the participants are not music teachers and do not have any Musical training. Because of the limited variance among respondents, it was not possible to calculate the reliability coefficients before.

Interviews: The interview is a research method in which the researcher gathers information with the help of direct interrogation of informers, generally as part of a face-to-face talk. The interview enables an understanding of the interviewees and the significance they attach to this experience. The voices of the subjects are revealed through an open in-depth interview, allowing the personal perspectives of the interviewee to be probed. The semi-structured interview, which allows the researcher to use a framework of uniform questions, but also allows him flexibility and room for questions arising from the interview. In the present research, I chose to use the semi-structured format (Appendix 4 – key questions to teachers). Interview of 10 teachers was conducted. These interviews engaged characteristics of music integration and ways of integrating music used in teaching elementary school teachers, and their attitudes toward music integration. In addition, teachers talked about what helped them to overcome the difficulty in integrating music in teaching such that an initial uniformity was established between the respondents. Subsequently, I allowed the interviews to develop, giving the interviewees the feeling that there was room for them, their emotions, and their opinions, and I allowed them to express themselves freely in their own words in order to obtain a story with depth. On completion of the interviews, I described them verbatim, including non-verbal signs such as coughing, laughter, intonation, noises, etc. The commonly accepted rules of ethics with respect to qualitative interviews were observed. It was important for me to give the interviewees the feeling that I was interested in their stories for their own true value and for their contribution to the research. To ensure perfect anonymity, in presenting the findings of the interviews I used fictitious names for the novice teachers and officers next to their positions.

Content Analysis. Content analysis constitutes one of the most important tools for research and it is used extensively both in quantitative and qualitative research. The aims of content analysis are to examine, analyze, understand meanings, and derive conclusions regarding the studied phenomena. Quantitative content analysis is used extensively in mass media to count overt textual elements, and it can be especially effective when the research contains many cases and data. It should be noted that at times short quantitative descriptions can be focused and convey clearer and more meaningful messages than long narrative descriptions. In contrast, qualitative content analysis is intended to investigate meanings and messages in the database. It is mainly inductive and consolidates the examination of the subjects and the conclusions arising from them. Quantitative content analysis requires random or probabilistic sampling to ensure the validity of the research, whereas qualitative content analysis is mostly composed of texts that could answer the research questions in a directed manner. In addition, according to the quantitative approach, results are represented in numbers based on statistical methods whereas in the qualitative approach descriptions are obtained that reflect the researcher's view of the social world being investigated. The answers for the two open questions were processed on both the statistical and qualitative level. In contrast, content analysis of the interviews is solely qualitative and was done following completion of the questionnaire on standpoints, such that a clear notion is obtained regarding the directions that are suitable for the interviews.

Qualitative researchers believe in and advocate the use of triangulation in qualitative research as a means of validating it, proposing the following four types: triangulation of data, triangulation of researchers, triangulation of theories, and triangulation of research methods.

The present research is based on three types of triangulation: (1) Triangulation of data – questionnaire and interview. (2) Theoretical triangulation – manifested by application of a theoretical framework that helped to expand the scope of interpretation; (3) Triangulation of research methods – quantitative and qualitative findings, were subjected to a "rich description", which included all relevant information on the context and containing quotes from the subjects and an in-depth discussion of them.

Research Variables: the variables in this research are: teachers' attitudes toward the effectiveness of integrating music model (MIM), teachers' application of music integration methods, before and exposure to the MIM model.

The basic research period: The research had been carried out from 2012 to 2016 and included 4 periods:

1. The first period– orientation (2011-2012): Literature study related to all the subjects related to integrating music in teaching other disciplines.

2. The second period (2012) – design: projecting the management methodology model for the improvement of music integration in teaching by elementary school teachers.

3. The third period (2013-2014) – experimental: verify the differences between teachers who applied the MIM model of integrating music- in their attitudes toward music integration, and in the use of music integration methods. As opposed to those who have not been exposed to the MIM model.

4. The fourth period (2014-2016) – summarizing: working out the research findings, i.e. analysis, generalization, systematization, summarizing, and description of the experimental research results; studying connections between the theoretical and empirical conclusions, elaborating perspective directions for further scientific researches in this domain.

Procedure:

This experiment is organized in 3 stages:

1. Diagnosis.
2. Formation.
3. Control.

1. During the first stage, the level of the variables: teachers' application of music integration and attitudes toward integrating music in teaching and the ways, methods teachers use to integrate music in their teaching is determined. 80 teachers fill 3 questionnaires about their application of music integration, their attitudes toward integrating music in the elementary school and a biographical questionnaire.

The population is divided in 2 groups: the experimental group (EG) and the control group (CG). The experimental group contains teachers from two schools. These two schools had 10 meetings (2 hours each meeting) in which they were exposed to various ways of integrating music in teaching. In addition, they were exposed to an integrating music model (MIM). In each school the principles chose to integrate music in teaching. Thus 20 teachers in each school were exposed and experienced music integration in teaching. The "music integration model" MIM was a suggested model in the exposure

of music integration meetings. The following disciplines were participating: Arabic language, Hebrew, English, Math, Science and Religion (Islam), for grade 3 and grade 4. Total number of the teachers who were exposed to the model of integrating music in teaching is 40.

The control group also contains teachers from another two schools. From each school 20 teachers participated in the research. These teachers weren't exposed to ways of integrating music in teaching and didn't know the model MIM. The teachers who participated in the research teach the following disciplines: Arabic language, Hebrew, English, Math, Science, and Religion (Islam), for grade 3 and grade 4. Total number of the teachers in the control group is 40.

2. During the second stage two principals decided to integrate music after they were exposed to ways of integrating music and to the music integration model MIM, including methods, techniques, principles (elaborated previously) in eight meetings after school, only to the experimental group.

3. In the third stage, called control, the effectiveness of the methodology, methods and techniques of the music integration model (MIM) is checked by rechecking the attitudes of the teachers again and the use of music integration methods. In this stage, participate both groups: experimental group and control group. The same variables that were checked during diagnosis is checked again after the exposure of the integrating music methods and experiencing music integration in two schools. That is how the efficiency was checked.

The same 80 teachers in the research population will answer again the same two questionnaires about their attitudes towards music integration in teaching and their application of music integration methods.

After analyzing the questionnaires, interviews of 10 teachers were conducted in order to have a clearer picture of some explanations of the analysis of the questionnaires.

Dependent variables in the quantitative research: application of music integration methods, attitudes toward music integration- the effectiveness of MIM model on changing teachers' attitudes and their use of music integration methods.

Independent variables in the quantitative research: music experience; teaching discipline, religiosity.

3.2 Formative value of the model of music integration in the didactic of other disciplines (MIM)

Formative experiments are aimed at investigating how instructional interventions can be adapted in response to factors that enhance or inhibit their effectiveness in achieving a valued pedagogical goal. Formative experiments are especially applicable to conducting classroom research.

In this research the MIM model was applied in the classroom. This model included many integrating ways, and many elements that thought to be influential for teachers attitudes and their application of music integration, like involving teachers' and parents' talents, integration of music in and outside the classroom, accompanier website. In addition, this model (MIM) included supportable factors, such as applying music integration tools for the teacher, encouragements and empowerments by an instructor, personal support, and guidance of a professional team. These various elements and factors helped to examine a broad range of interacting factors that influence an intervention's effectiveness as well as its unanticipated consequences.

Formative experiment is described as: "In a formative experiment, the researcher sets a pedagogical goal and finds out what it takes in terms of materials, organization, or changes in intervention to reach the goal.

After the formative experiment in this research, the MIM model was adapted. It was found out that only personal support is not effective, there is a need for teamwork, and team support. Thus, this element was added. Furthermore, I realized during the formative experiment that the in-class integration is not enough, and we should add outside classroom music integration. Moreover, we realized that offering a built-in program arouses a lot of resistance from the teachers. That is why it was decided to build an adjusted program with the professional team.

The education process is as much about mental and character formation as it is about information and subjects. The formative value of the MIM model that was done in school is as important as—if not more important than—the actual content of the MIM model. For example: Math teaches logical, accurate, precise thinking; history teaches judgment, discernment, prudence; literature teaches sensitivity to the human condition; penmanship teaches the beginning student the basic skills of concentration, accuracy, correct spelling, and the patience and persistence required to do quality work.

The formative value of the MIM model, besides its functionality to integrate music in teaching, is learning the major importance of empowerment and encouragement of teachers to do what they already can do.

In addition, another formative value is the recognition that only holistic and systemic model can lead a change in the methods of teaching.

Furthermore, a great deal of focus can be learnt from the MIM model. The focus is on the personal support and guidance of a professional team by instructor of integrating music in teaching while applying a model in general. To lead a change in the teaching methods there should be a personal escort to the teachers working on the MIM model.

Moreover, by applying the MIM model teachers and students had the opportunity to experience and evoke their creativity and use it in teaching methods.

In addition, by applying this MIM model the status of the music educator in the school got higher and got a more dominant role. Furthermore, the field of music education in general got a more valuable position.

Applying the MIM model permitted uploading questions and unconventional thought concerning music and Islam religion. Teachers started thinking outside an ambivalent social frame and started thinking it is possible that some domains can still meet although usually they do not.

These mental habits, work habits, and skills transfer to every area of life. They distinguish the educated person from the uneducated.

Research Findings:

This research came to examine several goals and try to find the answers to 5 main hypotheses. The main goals of this study are:

1. To examine the attitudes and the application of music integration methods of elementary school teachers toward integrating music in teaching in the elementary school.

2. In addition the research examined the effect of using the MIM on attitudes and the application of music integration among the teachers. This study examined the difference that the research formed model- “music integration model” (MIM), will make, as opposed to the traditional music integration ways that teachers generally use.

3. The research examined nine dimensions of teachers' attitudes toward integrating music and nine dimensions of teachers' application of music integration.

Table 3.4 - Dimensions of attitudes and application of music integration

Efficiency – of 9 ways of integration music in teaching	**Attitudes- toward the effectiveness of integrating music in teaching in 9 dimensions**
1. using Background Music	1. Emotional effect
2. using Content Songs	2. Social effect
3. using Creativity	3. Cognitive learning effect
4. using Music Outside the classroom	4. Motivation effect
5. using External talent	5. Motoric effect
6. using Performance	6. Behavioral and discipline effect
7. using Music and arts	7. Achievements effect
8. using Opening/closing music	8. Classroom Management effect
9. general Sense of ability	9. General personal attitudes

The study also checked whether there is a relationship between teachers' education, teaching field, musical education and experiences - and their attitudes and application of music integration toward integrating music in didactic disciplines, by mentioned techniques.

The criteria of effectiveness (efficiency of the intervention of the MIM model):

This research examined the efficiency and effectiveness of the MIM model on improving the attitudes regarding music integration and the application of music integration of teachers in elementary schools.

The research checked teachers' attitudes toward music integration and their application of music integration methods in their lessons in two points of time. The first was before the intervention and the second was after the intervention of MIM model.

The criteria in which the efficiency (effectiveness) was measured regard 8 criteria:

1. Cognitive effect: teachers inform that after applying the of MIM model, the intervention helped the students to understand, internalize, and memorize the material better. And the intervention helped the students to focus and concentrate better in the lesson. The difference in the cognitive effect between before and after the intervention is significant.

2. Emotional effect: teachers inform that after applying the of MIM model, the intervention helped the students to feel more enjoyment, and more self-confidence and more ability to express themselves. And the intervention helped the students dispel burden, lower anxiety, and pressure. The difference in the emotional effect between before and after the intervention is significant.

3. Behavioral effect: teachers inform that after applying the of MIM model, the intervention helped the students to have less discipline problems. The difference in the behavioral effect between before and after the intervention is significant.

4. Social effect: teachers inform that after applying the of MIM model, the intervention helped to improve the relationships among the students, and between the students and their teacher. And the intervention improved the social atmosphere, and the cohesion in the class. The difference in the social effect between before and after the intervention is significant.

5. Motivational effect: teachers inform that after applying the of MIM model, the intervention improves the enthusiasm among the students, and students became more active. The difference in the motivational effect between before and after the intervention is significant.

6. Achievements: teachers inform that after applying the of MIM model, the intervention improved the achievements of the students, and increased the number of students who passed the exam. The difference in the achievement effect between before and after the intervention is significant.

7. Positive change in the attitudes of the teachers toward music integration: teachers inform that after applying the of MIM model, they have more positive attitudes towards music integration effect on teaching. The difference in attitudes between before and after the intervention is significant.

8. Positive change in the application of teachers of methods of music integration: teachers inform that after applying the of MIM model, they use music integration methods more. The difference in teachers' application between before and after the intervention is significant.

Table 3.5: Differences in attitudes before and after the exposure to the MIM

In the experimental group

Attitudes (Experimental group)					
Category	Before		After		T
	Average	SD	Average	SD	
1. Emotional	2.01	0.84	3.85	0.66	14.89***
2. Social	2.08	0.70	3.65	0.74	15.55***
3. Cognitive	1.89	0.69	3.62	0.60	16.88***
4. Motivation	2.09	0.83	3.90	0.72	12.88***
5. Motoric	1.75	0.46	3.30	0.84	12.39***

6. Behavioral	1.94	0.61	3.16	0.57	11.49***
7. Classroom Management	2.09	0.55	3.86	0.74	13.52***
8. Achievements	2.02	0.85	3.91	0.64	14.79***
9. General personal attitudes	2.41	0.87	3.56	0.93	8.36***

*** p< 0.001

Table 3.5 summaries the averages of attitudes for teachers in the experimental group in the 9 parameters checked in the study. Table 3.4 compares these averages before and after the exposure to the MIM model.

Table 3.6: Differences in attitudes before and after the exposure to the MIM

In the control group

Attitudes (Control group)						
Category	Before		After		T	**Sig.**
	Average	SD	Average	SD		
1. Emotional	1.74	0.50	1.80	0.39	0.82	0.412
2. Social	1.85	0.44	1.91	0.44	0.97	0.337
3. Cognitive	1.73	0.42	2.05	0.32	6.40***	0.001
4. Motivation	1.72	0.47	1.89	0.45	2.21	0.032
5. Motoric	1.64	0.48	1.77	0.50	1.43	0.160
6. Behavioral	1.70	0.40	2.35	0.32	9.70***	0.001
7.Classroom Management	1.88	0.53	1.99	0.53	1.25	0.218
8. Achievements	1.73	0.52	1.81	0.40	0.83	0.413
9. General personal attitudes	2.06	0.79	2.12	0.56	0.89	0.378

*** p< 0.001

Table 3.6 summaries the averages of attitudes for teachers in the control group in the 9 parameters checked in the study. Table 3.5 compares these averages before and after the exposure to the MIM model.

Tables 3.5 and 3.6 show that in the experimental group, there were significant changes in the attitudes of teachers towards the effectiveness of the MIM model. The changes were reflected in each of the aspects. However, In the control group, there were no significant changes in the aspects:

Emotional, Social, Motoric, and Classroom management. In the control group, attitudes got Improved in the aspects: cognitive, motivational, behavioral, achievements and General.

The charts below show the changes in every aspect in the experimental group and the control group.

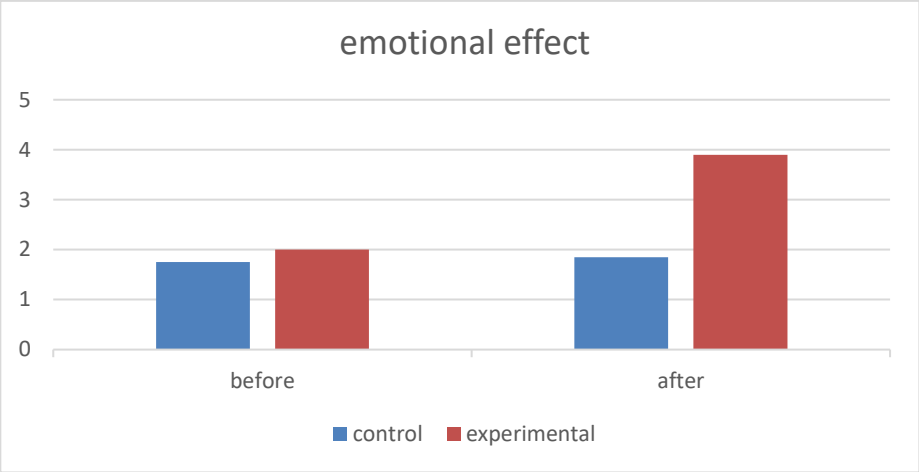


Chart 3.1: Teacher attitudes - effectiveness of music integration on the emotional level

Chart 3.1 shows that the emotional aspect improved after the intervention.

The findings show that according to teachers' attitudes, the emotional aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' attitudes in both groups were similar. In the experimental group, teachers viewed music integration as PARTLY or MINIMALLY effective in the emotional aspect. Difference between the experimental and control group was not significant (1.2%).

After the intervention, there was no change in the control group, but a significant change of 37% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the emotional aspect (according to teachers, students had lower anxiety, stress and tension, strengthen self-confidence and higher sense of ability, and enjoyment during the lesson). The intervention changed teachers' attitudes about the contribution of music integration to the emotional aspect of learning.

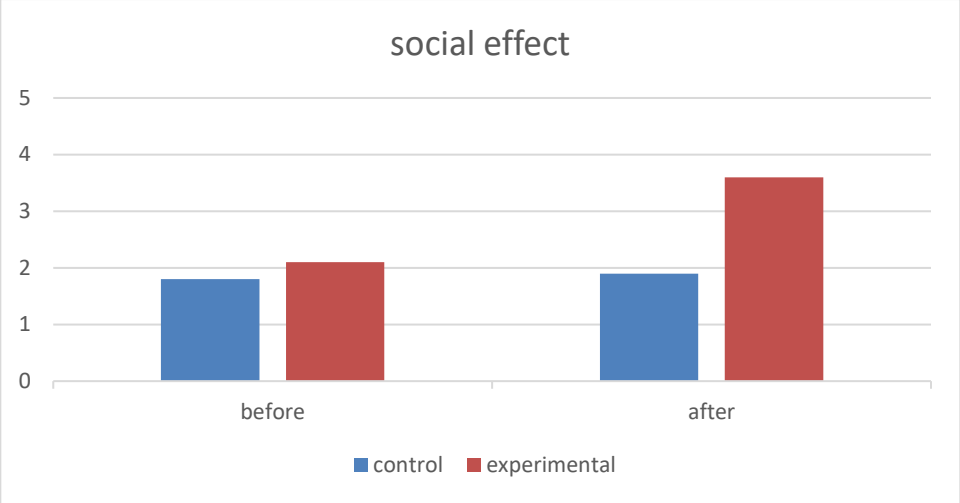


Chart 3.2: Teacher attitudes - effectiveness of music integration on the social level

Chart 3.2 shows that the social aspect improved after the intervention.

The findings show that according to teachers' attitudes, the social aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teacher attitudes in both groups were similar. In the experimental group, teachers viewed music integration as PARTLY OR MINIMALLY effective in the social aspect. Difference between the experimental and control group was not significant (1.2%).

After the intervention, there was no change in the control group, but a significant change of 31% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the social aspect (according to teachers, in the lessons there was more positive social atmosphere and more cohesion. Students had more positive relation between them and between the pupil and his teacher). The intervention changed teachers' attitudes about the contribution of music integration to the social aspect of learning.

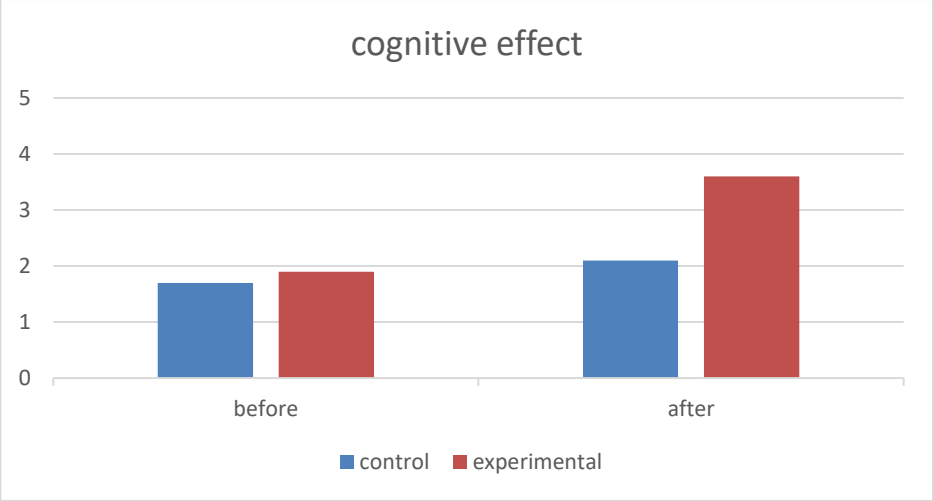


Chart 3.3: Teacher attitudes - effectiveness of music integration on the cognitive level

Chart 3.3 shows that the cognitive aspect improved after the intervention.

The findings show that according to teachers' attitudes the cognitive aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' attitudes in both groups were similar. In the experimental group, teachers viewed music integration as PARTLY OR MINIMALLY effective in the cognitive aspect. Difference between the experimental and control group was not significant (6.4%).

After the intervention, there was no change in the control group, but a significant change of 34.6% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the cognitive aspect (according to teachers, students had more understanding and internalizing of the material, it was easier for them to memorizes the material). The intervention changed teachers' attitudes about the contribution of music integration to the cognitive aspect of learning.

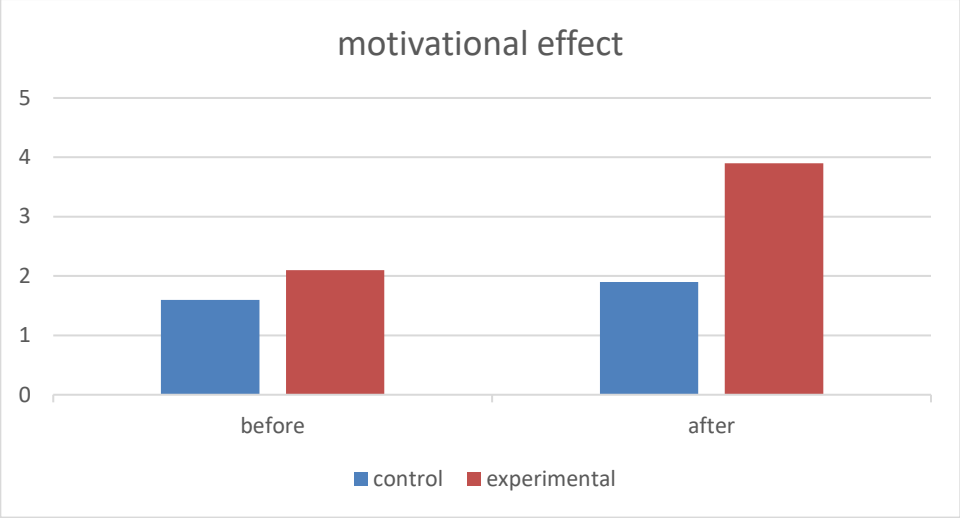


Chart 3.4: Teacher attitudes - effectiveness of music integration on the motivation level

Chart 3.4 shows that the motivational aspect improved after the intervention.

The findings show that according to teachers' attitudes the motivation aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' attitudes in both groups were similar. In the experimental group, teachers viewed music integration as PARTLY OR MINIMALLY effective in the motivation aspect. Difference between the experimental and control group was not significant (3.4%).

After the intervention, there was no change in the control group, but a significant change of 36.2% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the motivational aspect (according to teachers, students had more enthusiasm, and more active). The intervention changed teachers' attitudes about the contribution of music integration to the motivation aspect of learning.

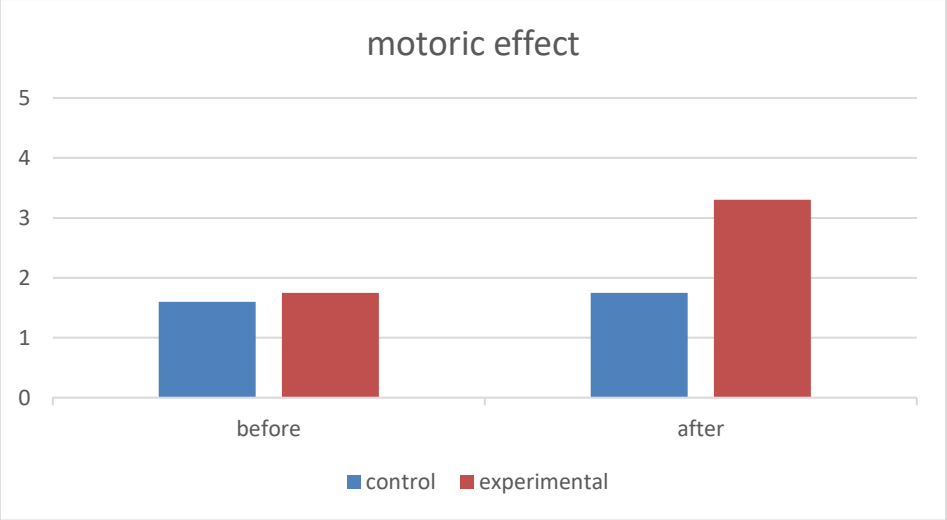


Chart 3.5: Teacher attitudes - effectiveness of music integration on the motoric level

Chart 3.5 shows that the motoric aspect improved after the intervention.

The findings show that according to teachers' attitudes the motoric aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' attitudes in both groups were similar. In the experimental group, teachers viewed music integration as PARTLY OR MINIMALLY effective in the motoric aspect. Difference between the experimental and control group was not significant (2.6%).

After the intervention, there was no change in the control group, but a significant change of 31% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the motoric aspect (like improving fine motoric skills and crude motoric skills). The intervention changed teachers' attitudes about the contribution of music integration to the motoric aspect of learning.

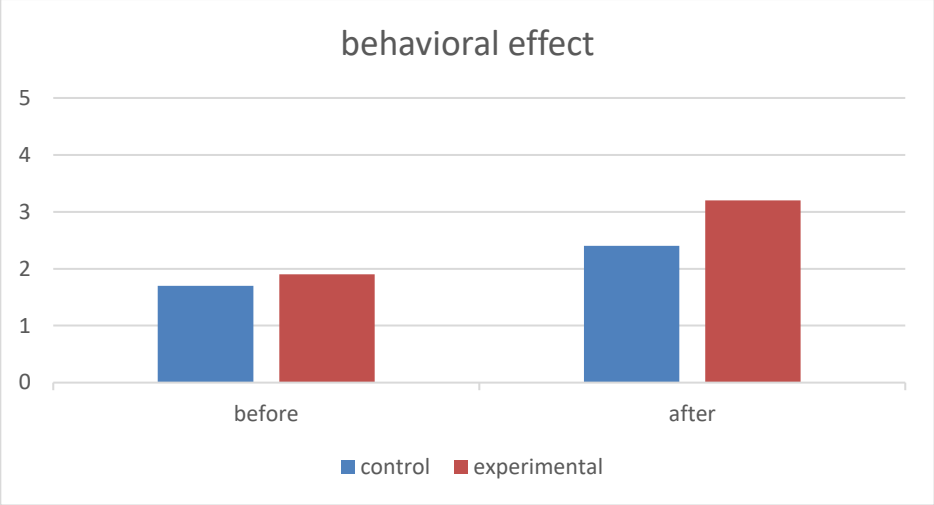


Chart 3.6: Teacher attitudes - effectiveness of music integration on the behavioral level

Chart 3.6 shows that the behavioral aspect improved after the intervention.

The findings show that according to teachers' attitudes the behavioral aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teacher attitudes in both groups were similar. In the experimental group, teachers viewed music integration as PARTLY or MINIMALLY effective in the behavioral aspect. Difference between the experimental and control group was not significant (13%).

After the intervention, there was no change in the control group, but a significant change of 24.4% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the behavioral aspect (like raising focus and concentration in the lesson and decreasing discipline problems). the intervention changed teachers' attitudes about the contribution of music integration to the behavioral aspect of learning.

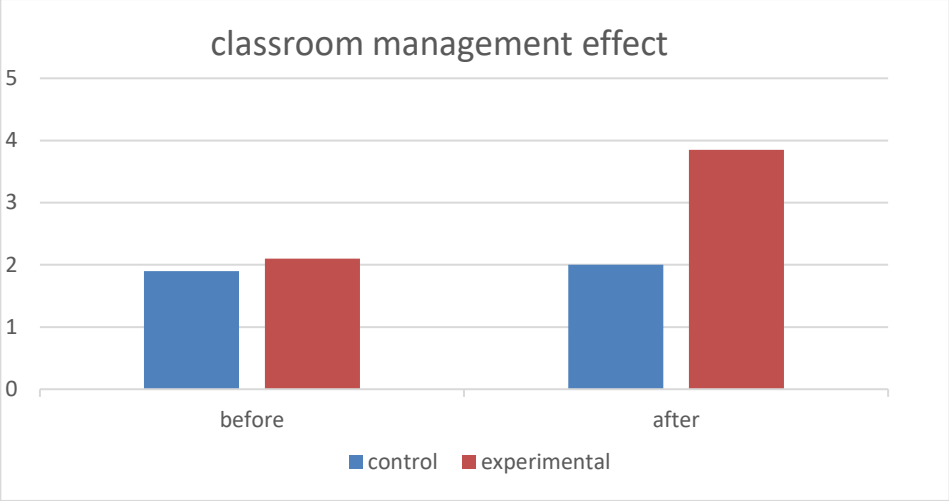


Chart 3.7: Teacher attitudes - effectiveness of music integration on the classroom management level

Chart 3.7 shows that the classroom management aspect improved after the intervention.

The findings show that according to teachers' attitudes the classroom management aspect had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' attitudes in both groups were similar. In the experimental groups, teachers viewed music integration as PARTLY OR MINIMALLY effective in the classroom management aspect. Difference between the experimental and control group was not significant (2.2%).

After the intervention, there was no change in the control group, but a significant change of 35.4% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on the classroom management aspect. The intervention changed teachers' attitudes about the contribution of music integration to the classroom management aspect of learning.

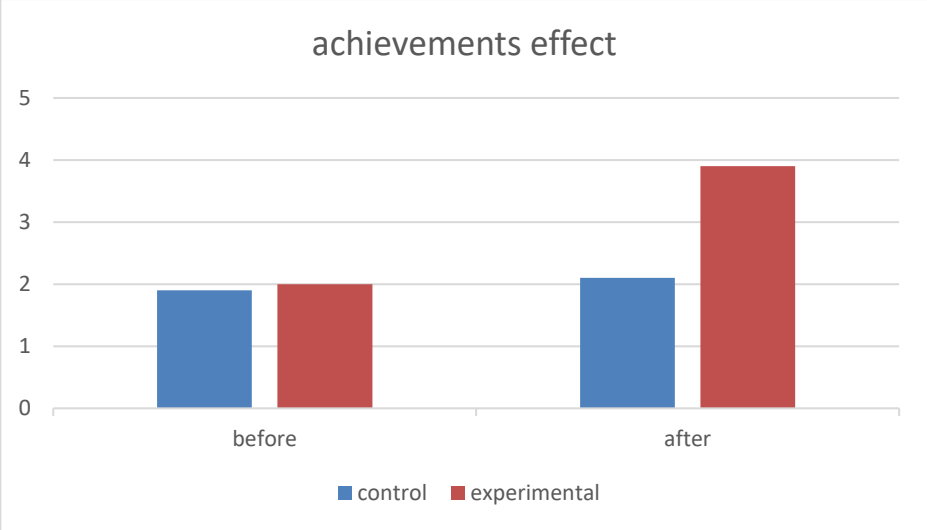


Chart 3.8: Teacher attitudes - effectiveness of music integration in achievements

Chart 3.8 shows that the achievement aspect improved after the intervention.

The findings show that according to teachers' attitudes the achievements of the students had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' attitudes in both groups were similar. In the experimental groups, teachers viewed music integration as PARTLY OR MINIMALLY effective in the achievement aspect. Difference between the experimental and control group was not significant (1.6%).

After the intervention, there was no change in the control group, but a significant change of 37.8% in the experimental group. This shows that teachers' attitudes concerning the effectiveness of music integration changed in the experimental group. According to the teachers in the experimental group music integration intervention is effective on students' achievements. The intervention changed teachers' attitudes about the contribution of music integration to the achievement's aspect of learning.

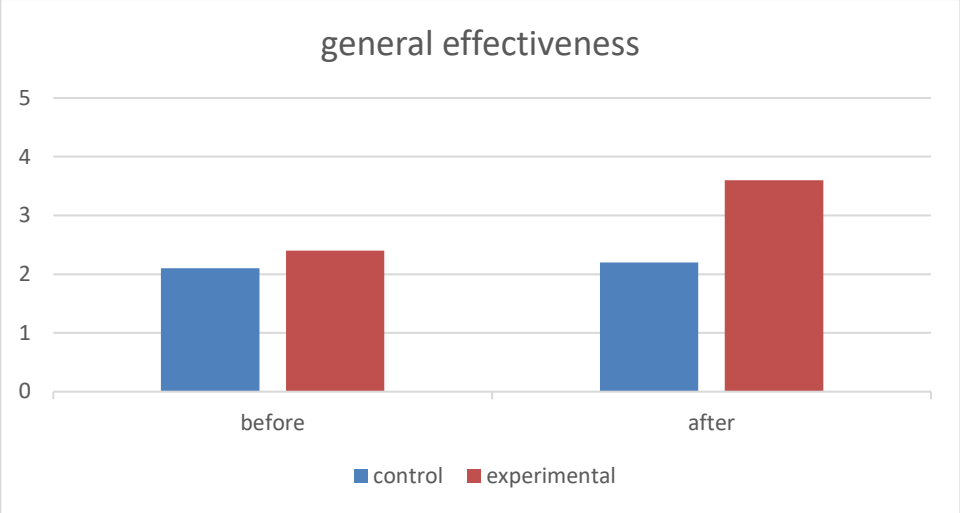


Chart 3.9: Teacher attitudes - effectiveness of music integration in general

Chart 3.9 shows that the general attitudes of teachers toward the effectiveness of integrating music had changed in the experimental group significantly more than in the control group. Before the intervention, teacher attitudes in both groups were similar. In the experimental groups, teachers viewed music integration as PARTLY OR MINIMALLY effective. Difference between the experimental and control group was not significant (1.2%). After the intervention, there was no change in the control group, but a significant change of 23% in the experimental group. This shows that the intervention changed teacher attitudes about the contribution of music integration in general.

Table 3.7: Differences in the application of music integration before and after the exposure to the MIM

In the experimental group

application (Experimental group)					
Category	Before		After		T
	Average	SD	Average	SD	
1. Background	1.10	0.23	3.34	1.17	12.31***
2. Content	1.48	0.55	3.17	1.01	11.40***

3. Creativity	1.37	0.59	2.81	1.51	7.09***
4. Outclass	1.08	0.14	2.91	1.08	10.96***
5. External	1.05	0.15	2.66	0.98	10.49***
6. Performance	1.19	0.22	2.29	0.83	9.43***
7. arts	1.16	0.28	2.90	0.96	10.85***
8. Open/Close	1.31	0.48	3.05	1.03	10.28***
9. general sense of ability	1.11	0.20	3.35	1.27	12.31***

*** p< 0.001

Table 3.7 summaries the averages of teachers' application of music integration in the experimental group in the 8 methods checked in the study. Table 3.7 compares these averages before and after the exposure to the MIM model.

Table 3.8: Differences in music integration application before and after the exposure to the MIM

In the control group

application (Control group)						
Category	Before		After		T	**Sig.**
	Average	SD	Average	SD		
1. Background	1.08	0.19	1.30	0.33	3.59***	0.001
2. Content	1.30	0.45	1.41	0.46	1.83	0.074
3. Creativity	1.12	0.29	1.27	0.45	2.22	0.032
4. Outclass	1.06	0.13	1.16	0.25	2.15	0.038
5. External	1.05	0.18	1.19	0.21	3.56	0.001
6. Performance	1.10	0.13	1.20	0.25	2.64	0.012
7. arts	1.06	0.20	1.26	0.32	3.56	0.001
8. Open/Close	1.17	0.33	1.32	0.38	2.30	0.027
9. general sense of ability	1.09	0.18	1.31	0.43	3.59***	0.001

*** p< 0.001

Table 3.8 summaries the averages of teachers' application of music integration in the control group in the 8 methods checked in the study. Table 3.8 compares these averages before and after the exposure to the MIM model.

Tables 3.7 and 3.8 show that in the experimental group, there were significant changes in teachers' application of music integration methods. The changes were reflected in each of the methods and in the general sense of ability to integrate music. However, in the control group, there were no significant changes in the aspects. In the control group, the application of music integration raised a little in the aspects: background, creativity and using external talents.

The charts below show the changes in every aspect in the experimental group and the control group.

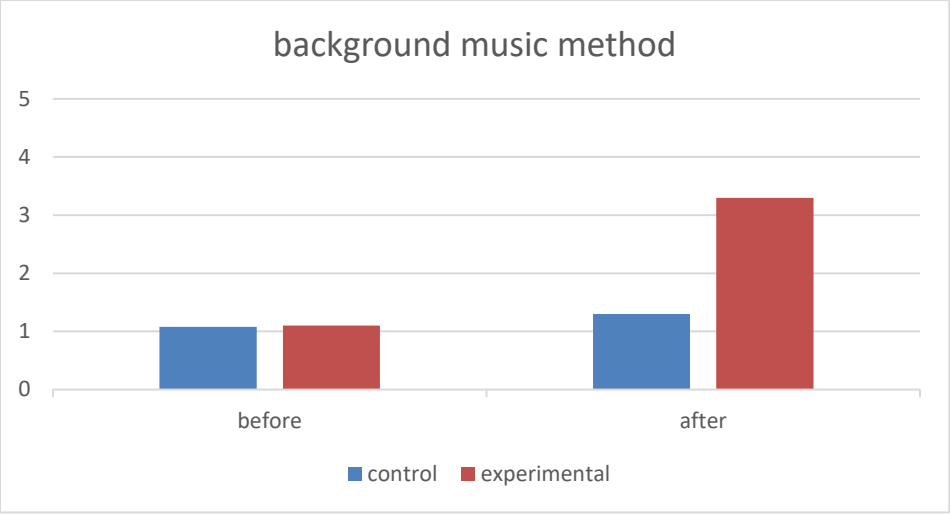


Chart 3.10: Teacher application of music – regarding using the method of background music

Chart 3.10 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that teachers' application of background music had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use background music in teaching in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use background music before the intervention. Difference between the experimental and control group was not significant (4.4%).

After the intervention, there was no change in the control group, but a significant change of 44.8% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use background music to integrate music in teaching. This shows that teachers' sense of ability regarding using background music in order to integrate music in teaching has changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding using background music.

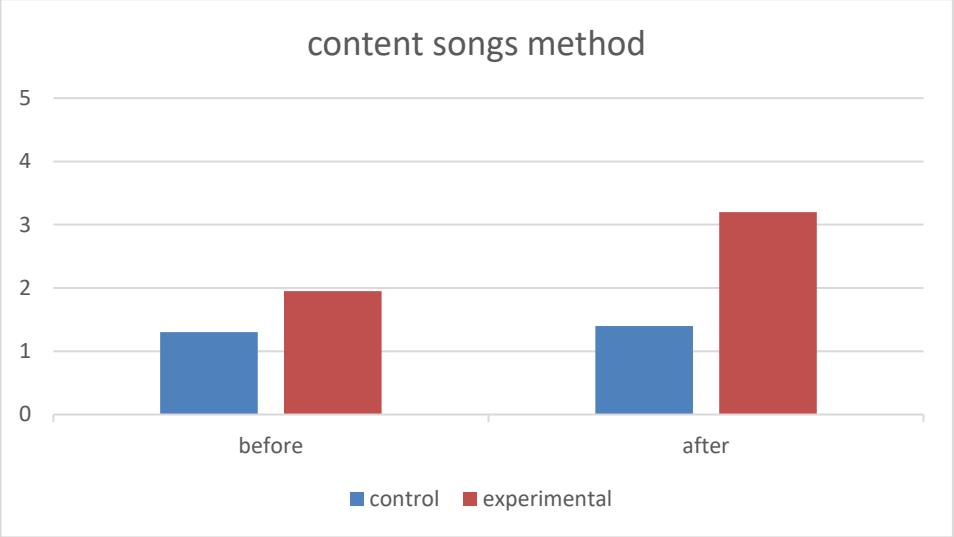


Chart 3.11: Teacher application of music integration – regarding using the method of content songs

Chart 3.11 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that music integration application of teachers regarding using content songs had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use content songs in teaching in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use content songs before the intervention. Difference between the experimental and control group was not significant (2.2%).

After the intervention, there was no change in the control group, but a significant change of 33.8% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use content songs to integrate music in teaching. This shows that teachers' sense of ability regarding using content songs in order to integrate music in

teaching has changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding using content songs.

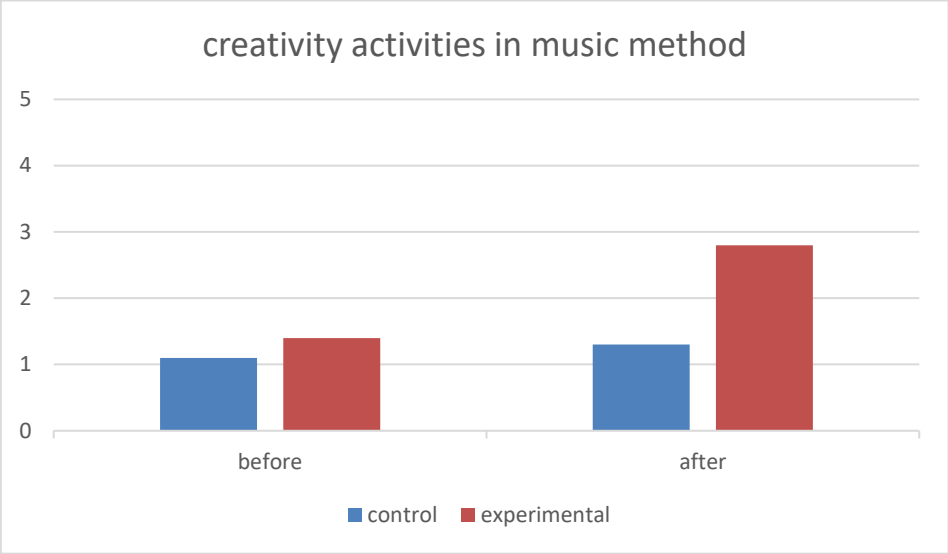


Chart 3.12: Teacher application of music integration – regarding using the method of creativity activities in music

Chart 3.12 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that the application of music integration of teachers regarding using creativity activities in music had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use music creativity activities in teaching in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use creativity activities in music before the intervention. Difference between the experimental and control group was not significant (3%).

After the intervention, there was no change in the control group, but a significant change of 28.8% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use music creativity activities to integrate music in teaching. Teachers ask students to create a song, or to compose a melody. This shows that teachers' sense of ability regarding using music creativity activities to integrate music in teaching has changed

after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding using music creativity activities.

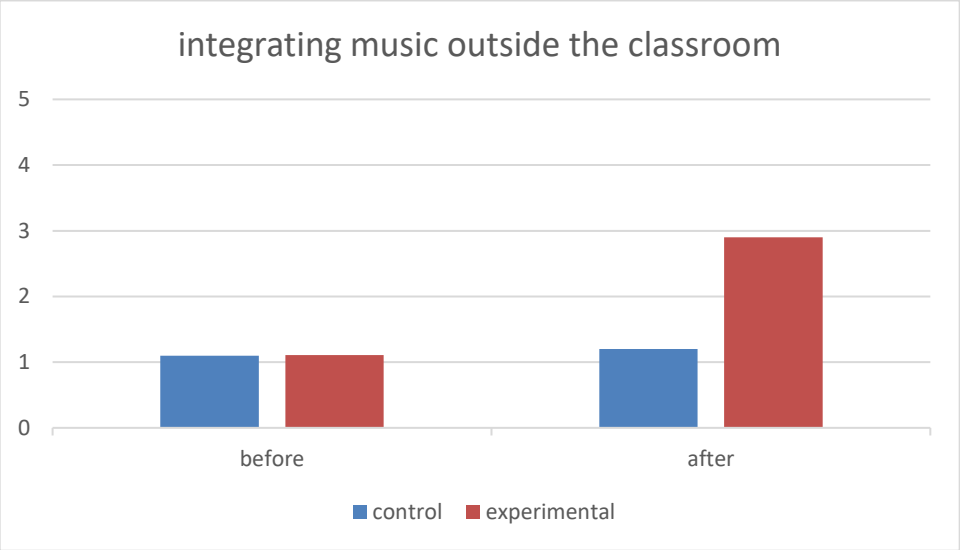


Chart 3.13: Teacher application of music integration – regarding using the method of integrating music outside the classroom

Chart 3.13 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that the application of music integration of teachers regarding using the method of integrating music outside the classroom had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use the method of integrating music outside the classroom in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use the method of integrating music outside the classroom before the intervention. Difference between the experimental and control group was not significant (2%).

After the intervention, there was no change in the control group, but a significant change of 36.6% in the experimental group. According to the teachers, who were exposed to the MIM model and experienced it, that they feel more capable to use the method of integrating music outside the classroom, such as, playing a content song in the active-break, or publishing a song in the the school website. This shows that teachers' sense of ability regarding using the method of integrating music

outside the classroom has changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding using the method of integrating music outside the classroom.

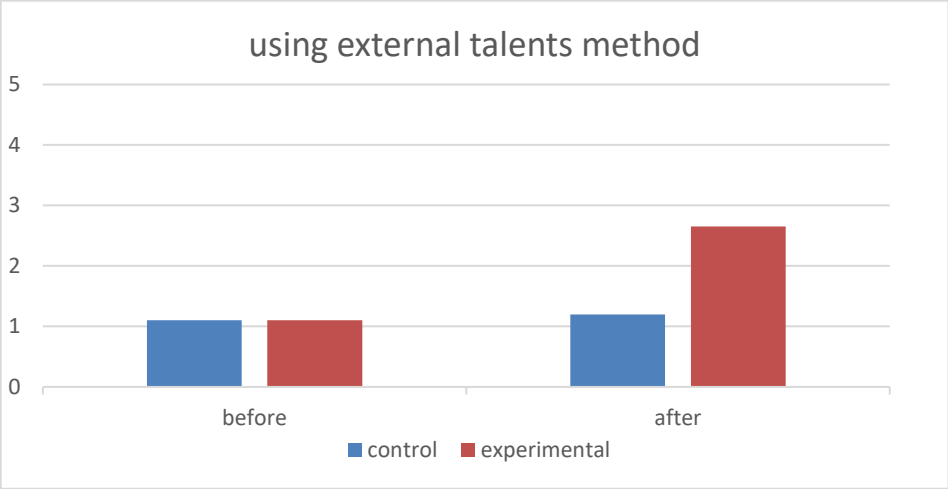


Chart 3.14: Teacher application of music integration – regarding the method of using external talents

Chart 3.14 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that the application of music integration of teachers regarding the method of using external talents in teaching had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use external talents in teaching in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use external talents in teaching before the intervention. Difference between the experimental and control group was not significant (2.8%).

After the intervention, there was no change in the control group, but a significant change of 32.2% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use external talents to integrate music in teaching, such as inviting parents or teachers who got music talent to play or sing in front of the class. This shows that teachers' sense of ability regarding using external talents to integrate music in teaching has

changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding the method of using external talents.

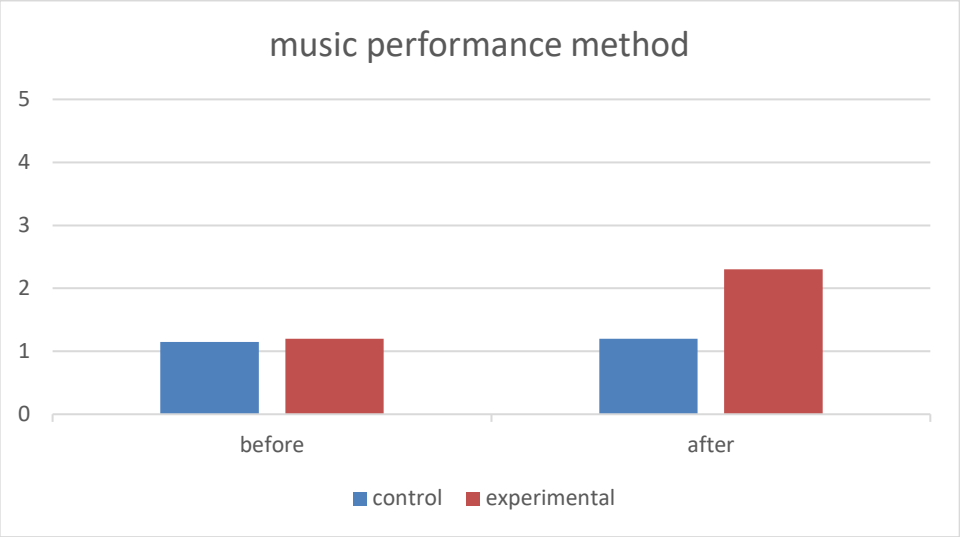


Chart 3.15: Teacher application of music integration – regarding using the method of performance of music

Chart 3.15 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that the application of music integration of teachers regarding using the method of performance of music had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use performance of music in teaching in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use performance of music before the intervention. Difference between the experimental and control group was not significant (2%).

After the intervention, there was no change in the control group, but a significant change of 22.6% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use performance of music to integrate music in teaching such as asking the students to play a song or to sing a song infront of the class. This shows that teachers' sense of ability regarding using performance of music in order to integrate music in teaching has changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding using performance of music.

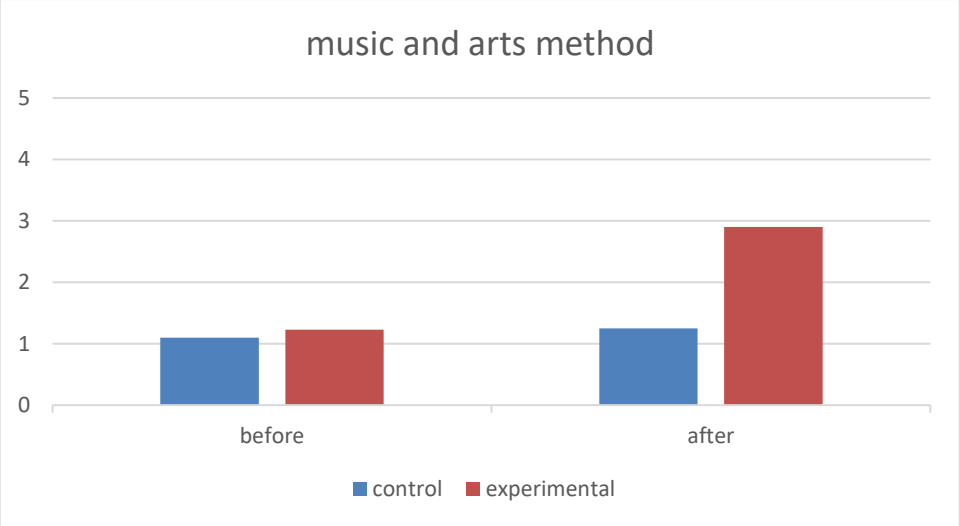


Chart 3.16: Teacher application of music integration – regarding using the method of music with arts

Chart 3.16 shows that the sense of ability to integrate music has changed after the intervention.

The findings show that the application of music integration of teachers regarding using the method of music with arts had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use the method of music with arts in teaching in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use the method of music with arts before the intervention. Difference between the experimental and control group was not significant (4%).

After the intervention, there was no change in the control group, but a significant change of 34.8% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use the method of music with arts to integrate music in teaching. Teachers ask students to sing a content song with hand moves, or to draw a picture related to the subject while listening to a content song. This shows that teachers' sense of ability regarding using the method of music with arts in order to integrate music in teaching has changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding using the method of music with arts.

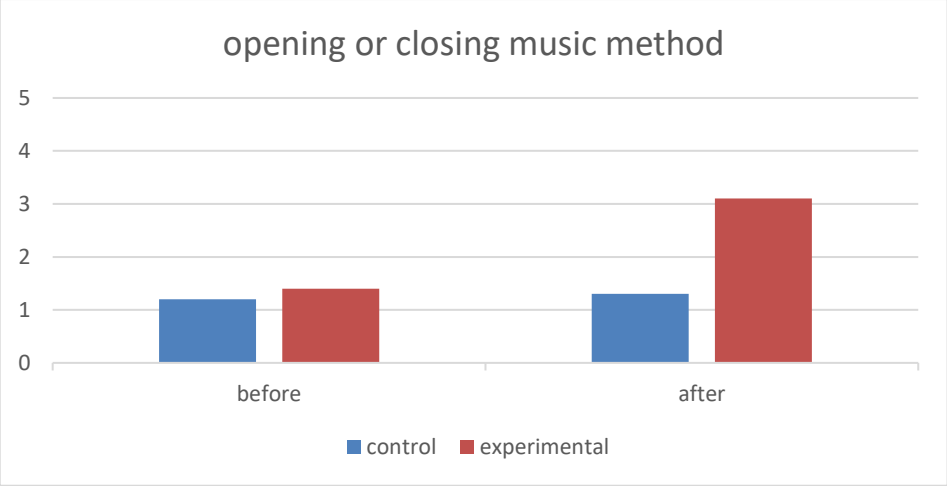


Chart 3.17: Teacher application of music integration – regarding using the method of opening or closing music

Chart 3.17 shows that the sense of ability to integrate music has changed after the intervention. The findings show that the application of music integration of teachers regarding the method of opening or closing music in the lesson had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' sense of ability to use the method of opening or closing music in the lesson in both groups were similar. In the experimental groups, teachers viewed themselves as having low sense of ability to use the method of opening or closing music in the lesson before the intervention. Difference between the experimental and control group was not significant (3%).

After the intervention, there was no change in the control group, but a significant change of 34.8% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to use the method of opening or closing music to integrate music in the lesson, such as playing a song in the beginning of the lesson or singing a song at the end of the lesson. This shows that teachers' sense of ability regarding using the method of opening or closing music in the lesson in order to integrate music in teaching has changed after the intervention in the experimental group. The intervention changed teachers' sense of ability regarding the method of using the method of opening or closing music in the lesson.

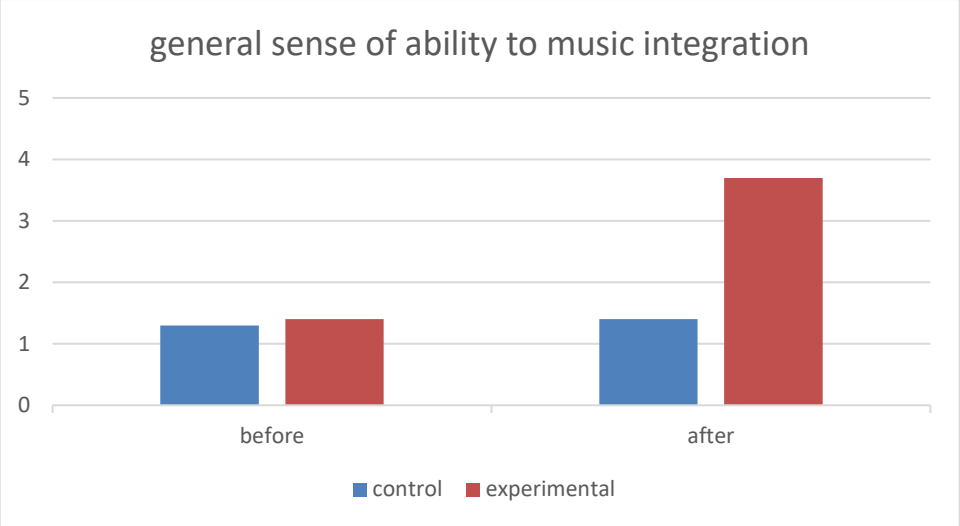


Chart 3.18: Teacher application of music integration – general sense of ability to integrate music

Chart 3.17 shows that the general sense of ability to integrate music has changed after the intervention.

The findings show that the application of music integration of teachers regarding music integration in the lesson had changed in the experimental group significantly more than in the control group.

Before the intervention, teachers' general sense of ability to integrate music in the lesson in both groups were similar. In the experimental groups, teachers viewed themselves as having low general sense of ability to integrate music in the lesson before the intervention. Difference between the experimental and control group was not significant (2.8%).

After the intervention, there was no change in the control group, but a significant change of 34.6% in the experimental group. According to the teachers who were exposed to the MIM model and experienced it that they feel more capable to integrate music in the lesson. This shows that teachers' general sense of ability regarding music integration in teaching has changed after the intervention in the experimental group.

Table 3.9: Differences in attitudes of teachers with musical experience and of teachers without music experience.

The comparison of the averages was done within the experimental group before the exposure to the MIM model.

Group Statistics						
Attitudes of teachers with musical experience and teachers with no musical experience (Before)						
	experience	N	Average	Std. Deviation	T	Sig. (2-tailed)
B-emotional	With	6	3.02	1.13	3.690	.001
	with no	34	1.83	0.64	2.502	.049
B-social	With	6	2.93	0.71	3.677	.001
	with no	34	1.92	0.60	3.256	.016
B-cognitive	With	6	2.63	1.07	3.178	.003
	with no	34	1.75	0.52	1.957	.103
B-motivation	With	6	3.13	1.12	3.850	.000
	with no	34	1.91	0.63	2.595	.044
B-motoric	With	6	2.33	0.58	3.909	.000
	with no	34	1.64	0.35	2.784	.034
B-behavioral	With	6	2.83	0.62	4.863	.000
	with no	34	1.78	0.46	3.913	.008
B-classroom management	With	6	2.70	0.57	3.280	.002
	with no	34	1.98	0.48	2.885	.026
B-achievements	With	6	3.02	1.12	3.680	.001
	with no	34	1.84	0.63	2.402	.048
B-general	With	6	3.69	0.57	4.909	.000
	with no	34	2.18	0.70	5.688	.000

Table 3.9 shows that teachers with musical experience had more positive attitudes toward integrating music in teaching, more than teachers without musical experience. The differences were reflected in each of the aspects. These teachers are from the experimental group before the exposure to the MIM model.

Chart 3.18 below clarifies the differences between teachers with musical experience and teachers without musical experience- in every aspect of attitudes within the experimental group before exposing MIM.

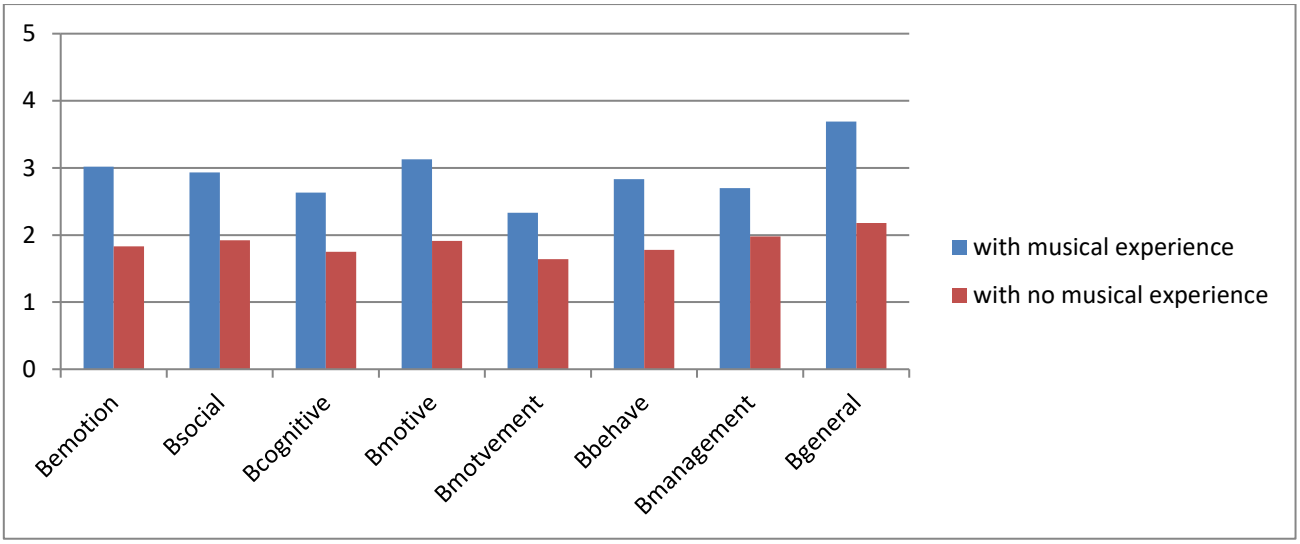


Chart 3.18: Teachers attitudes- with or without musical experience

Table 3.10: Differences in attitudes of teachers with musical experience and of teachers without music experience.

The comparison of the averages was done within the experimental group after the exposure to the MIM model.

Group Statistics						
Attitudes of teachers with musical experience and teachers with no musical experience (After)						
Attitudes	experience	N	Mean	Std. Deviation	T	Sig.(2-tailed)
A-emotional	With	6	4.47	0.38	2.63	.012
	with no	34	3.75	0.64	3.74	.003
A-social	With	6	4.40	0.33	2.94	.005
	with no	34	3.51	0.71	4.81	.000
A-cognitive	With	6	4.16	0.23	2.55	.015
	with no	34	3.52	0.60	4.55	.000
A-motivation	With	6	4.46	0.35	2.16	.037
	with no	34	3.80	0.72	3.48	.004
A-motoric	With	6	3.50	0.70	0.62	.537
	with no	34	3.26	0.87	0.72	.490
A-behavioral	With	6	3.54	0.36	1.78	.082

	with no	34	3.10	0.57	2.43	.035
A-classroom management	With	6	4.29	0.33	1.56	.126
	with no	34	3.78	0.77	2.66	.016
A-achievements	With	6	3.12	1.12	3.780	.001
	with no	34	1.94	0.63	2.432	.038
A-general	With	6	4.40	0.27	2.55	.015
	with no	34	3.42	0.92	5.03	.000

Table 3.10 shows that in the experimental group, attitudes of teachers with musical experience significantly increase and so in the group of teachers with no musical experience. Still teachers with musical experience yet had significantly more positive attitudes towards the integration of music than teachers without musical experience in the experimental group, after exposure of MIM. The differences were reflected in each of the aspects. These teachers are from the experimental group after the exposure to the MIM model.

Chart 3.19 below clarifies the differences between teachers with musical experience and teachers without musical experience- in every aspect of attitudes within the experimental group after exposing MIM.

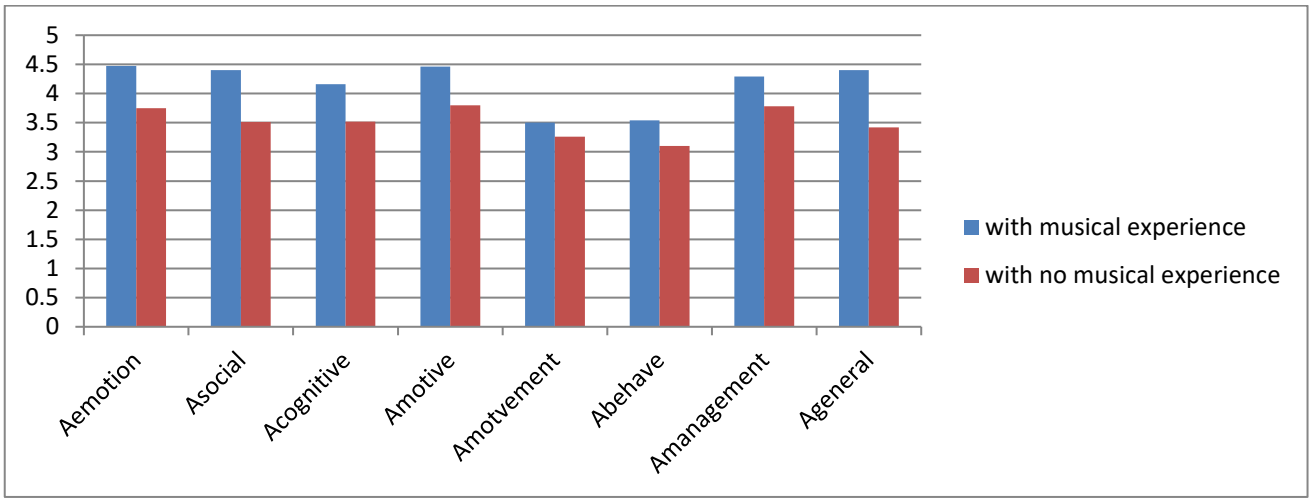


Chart 3.19: Teachers attitudes- with or without musical experience

Table 3.11: Differences in the application of music integration of teachers with musical experience and of teachers without music experience.

The comparison of the averages was done within the experimental group before the exposure to the MIM model.

application of music integration of teachers with musical experience and teachers with no musical experience						
	Experience	N	Average	Std. Deviation	T	Sig. (2-tailed)
B-background	With	6	1.16	0.40	0.75	0.452
	with no	34	1.08	0.19	0.46	0.662
B-content	With	6	2.05	0.68	3.04	0.004
	with no	34	1.38	0.46	2.32	0.060
B-creative	With	6	2.00	0.89	3.07	0.004
	with no	34	1.26	0.46	1.96	0.101
B-outclass	With	6	1.16	0.20	1.47	0.149
	with no	34	1.07	0.13	1.07	0.324
B-external	With	6	1.22	0.27	3.26	0.002
	with no	34	1.02	0.09	1.71	0.144
B-performance	with	6	1.45	0.18	3.60	0.001
	with no	34	1.14	0.19	3.71	0.007
B-arts	With	6	1.50	0.31	3.57	0.001
	with no	34	1.10	0.23	2.93	0.026
B-open/close	With	6	1.41	0.58	0.56	0.578
	with no	34	1.29	0.47	0.48	0.644

Table 3.11 shows that in the experimental group, teachers with musical experience had more application of music integration, more than teachers without musical experience. The differences were reflected in each of the aspects.

Chart 3.20 below clarifies the differences between teachers with musical experience and teachers without musical experience- in every method of application of music integration within the experimental. These teachers are from the experimental group before the exposure to the MIM model.

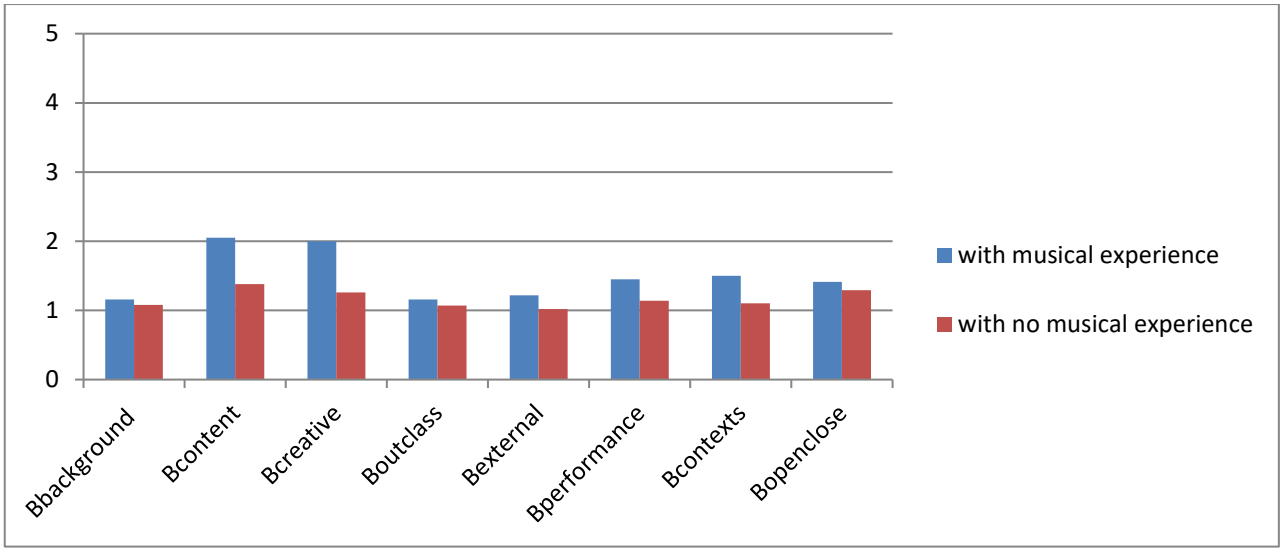


Chart 3.20: Teachers application of music integration - with or without musical experience

Analysis of variance was conducted which compared the four categories of subjects regarding measures of attitudes and application of music integration. Since significant differences were obtained, post hoc tests were conducted that specifically compared between the four groups.

The 4 subjects groups are:

A. Arabic and Hebrew

B. English

C. Math and Science.

D. Religion.

Table 3.12 bellow shows the means and standard deviations and the results of the analysis of variance in the attitudes.

Table 3.12 - variance in attitudes

Attitudes		N	Mean	Std. Deviation	F(3,76)
B-emotional	1.Arabic and Hebrew	28	2.1964	.91293	11.039***
	2.English	12	2.3889	.46782	
	3. math and science	32	1.5469	.26852	
	4.religion	8	1.3333	.08909	
B-social	1.Arabic and Hebrew	28	2.1857	.73420	

	2.English	12	2.3833	.35633	10.34***
	3. math and science	32	1.7875	.35537	
	4.religion	8	1.2750	.21213	
B-cognitive	1.Arabic and Hebrew	28	2.0422	.58941	18.53***
	2.English	12	2.4318	.58548	
	3. math and science	32	1.5057	.24539	
	4.religion	8	1.3182	.10866	
B-motivation	1.Arabic and Hebrew	28	2.2286	.78072	14.52***
	2.English	12	2.4833	.58127	
	3. math and science	32	1.5938	.35735	
	4.religion	8	1.2000	.21381	
B-motoric	1.Arabic and Hebrew	28	1.7232	.51072	3.42*
	2.English	12	2.0417	.67279	
	3. math and science	32	1.5938	.30288	
	4.religion	8	1.5000	.29881	
B-behavioral	1.Arabic and Hebrew	28	1.9196	.58947	9.70***
	2.English	12	2.3542	.48216	
	3. math and science	32	1.6563	.32223	
	4.religion	8	1.3750	.35355	
B-class management	1.Arabic and Hebrew	28	2.1518	.61741	5.95**
	2.English	12	2.2500	.48850	
	3. math and science	32	1.8906	.43039	
	4.religion	8	1.4063	.35197	
B-achievements	1.Arabic and Hebrew	28	2.1857	.73420	10.34***
	2.English	12	2.3833	.35633	
	3. math and science	32	1.6563	.32223	
	4.religion	8	1.3750	.35355	
B-general	1.Arabic and Hebrew	28	2.5153	.95740	9.34**
	2.English	12	2.7381	.68331	
	3. math and science	32	2.0759	.60824	
	4.religion	8	1.1607	.09155	

There are significant differences in teachers' attitudes between the groups of subjects in any of the aspects. Post hoc Tukey -type tests showed that the differences stem from the fact that the attitudes of teachers of math- science and religion, significantly lower than the attitudes of teachers of Arabic-Hebrew and English. These differences were found in all of the aspects.

Chart 3.21 below clarifies the differences between in attitudes of teachers of Arabic-Hebrew and English and the attitudes of teachers of Math-Science and Religion.

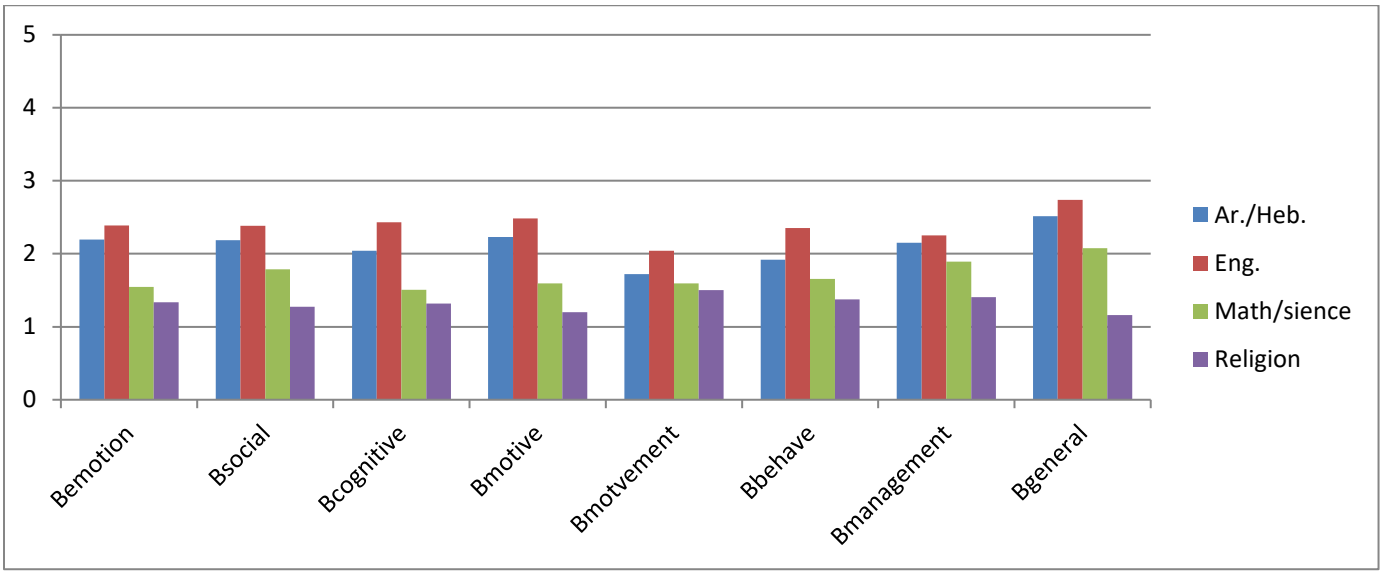


Chart 3.21- attitudes according to disciplines

Table 3.13 bellow shows the means and standard deviations and the results of the analysis of variance in the application of music integration.

Table 3.13- variance in application of music integration

application of music integration		N	Mean	Std. Deviation	F(3,76)
B-background	1.Arabic and Hebrew	28	1.1429	.26726	1.36
	2.English	12	1.1250	.22613	
	3. math and science	32	1.0625	.16801	
	4.religion	8	1.0000	.00000	
B-content	1.Arabic and Hebrew	28	1.4643	.57620	12.85***
	2.English	12	2.0000	.51247	
	3. math and science	32	1.2083	.23570	

	4.religion	8	1.0000	.00000	
B-creative	1.Arabic and Hebrew	28	1.5179	.58503	6.79***
	2.English	12	1.3333	.65134	
	3. math and science	32	1.0469	.14807	
	4.religion	8	1.0000	.00000	
B-outclass	1.Arabic and Hebrew	28	1.0714	.13363	1.81
	2.English	12	1.1458	.16714	
	3. math and science	32	1.0781	.14807	
	4.religion	8	1.0000	.00000	
B-external	1.Arabic and Hebrew	28	1.0833	.17273	1.12
	2.English	12	1.0000	.00000	
	3. math and science	32	1.0729	.20275	
	4.religion	8	1.0000	.00000	
B-performance	1.Arabic and Hebrew	28	1.2054	.20473	15.02***
	2.English	12	1.3542	.16714	
	3. math and science	32	1.0547	.10500	
	4.religion	8	1.0000	.00000	
B-arts	1.Arabic and Hebrew	28	1.1429	.29991	0.67
	2.English	12	1.1250	.22613	
	3. math and science	32	1.1094	.24542	
	4.religion	8	1.0000	.00000	
B-open/close	1.Arabic and Hebrew	28	1.1429	.26726	22.18***
	2.English	12	1.9167	.55732	
	3. math and science	32	1.1406	.26134	
	4.religion	8	1.0000	.00000	

There are significant differences in teachers' application of music integration between the groups of subjects in any of the aspects. Post hoc Tukey -type tests showed that the differences stem from the fact that the application of music integration of teachers of math- science and religion, significantly lower than the application of music integration of teachers of Arabic-Hebrew and English. In the aspect of: content, open/close, creativity, performance.

Chart 3.22 below clarifies the differences between application of music integration of teachers of Arabic-Hebrew and English and the application of music integration of teachers of Math-Science and Religion.

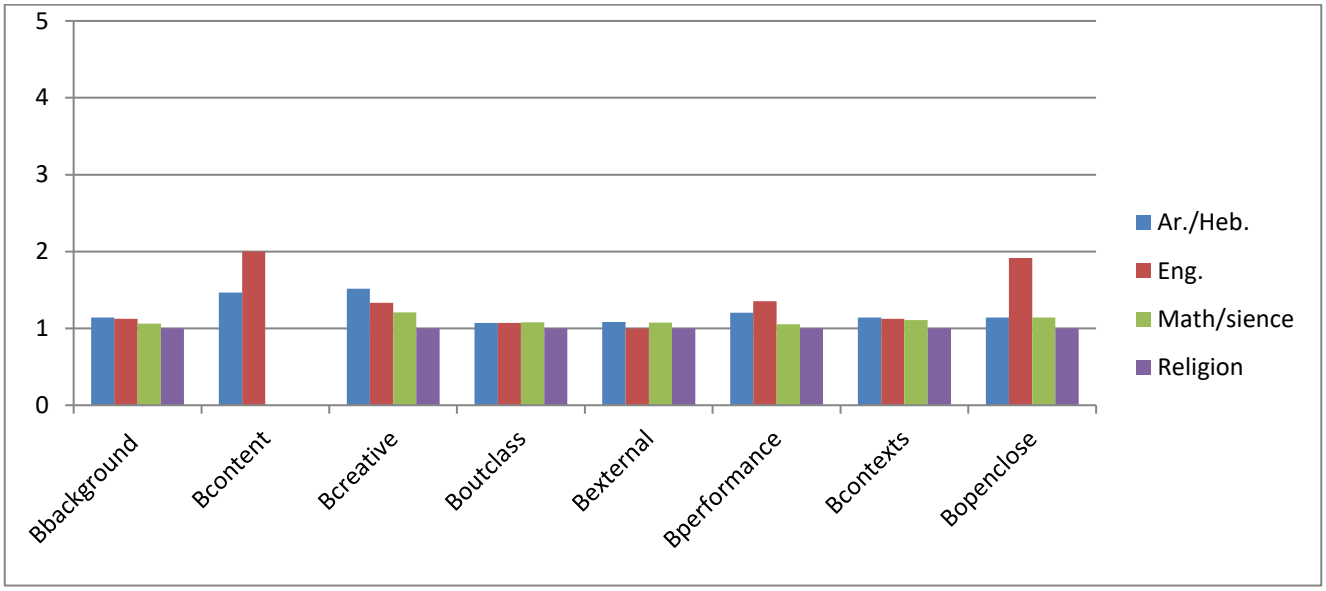


Chart 3.22- application of music integration methods according to disciplines

Table 3.14- Correlations between attitudes and application of music integration

application of music integration (before) Attitudes (before)		Background	Content	Creativity	Outclass
Emotional	Pearson Correlation	.374**	.750**	.595**	.410**
	Sig. (1-tailed)	.000	.000	.000	.000
	N	80	80	80	80
Social	Pearson Correlation	.464**	.701**	.506**	.346**
	Sig. (1-tailed)	.000	.000	.000	.001
	N	80	80	80	80
Cognitive	Pearson Correlation	.414**	.778**	.655**	.440**
	Sig. (1-tailed)	.000	.000	.000	.000
	N	80	80	80	80
Motivation	Pearson Correlation	.417**	.726**	.648**	.413**

	Sig. (1-tailed)	.000	.000	.000	.000
	N	80	80	80	80
Motoric	Pearson Correlation	.225*	.506**	.343**	.324**
	Sig. (1-tailed)	.023	.000	.001	.002
	N	80	80	80	80
Behavioral	Pearson Correlation	.359**	.632**	.506**	.333**
	Sig. (1-tailed)	.001	.000	.000	.001
	N	80	80	80	80
Classroom management	Pearson Correlation	.416**	.633**	.432**	.378**
	Sig. (1-tailed)	.000	.000	.000	.000
	N	80	80	80	80
Achievements	Pearson Correlation	.374**	.750**	.595**	.410**
	Sig. (1-tailed)	.000	.000	.000	.000
	N	80	80	80	80
General attitudes	Pearson Correlation	.333**	.687**	.502**	.380**
	Sig. (1-tailed)	.001	.000	.000	.000
	N	80	80	80	80
**. Correlation is significant at the 0.01 level (1-tailed).					
*. Correlation is significant at the 0.05 level (1-tailed).					
application of music integration (before) Attitudes (before)		External Talents	Performance	arts	Open/ Close
Emotional	Pearson Correlation	.200*	.626**	.370**	.489**
	Sig. (1-tailed)	.038	.000	.000	.000
	N	80	80	80	80
Social	Pearson Correlation	.292**	.619**	.438**	.415**
	Sig. (1-tailed)	.004	.000	.000	.000
	N	80	80	80	80
Cognitive	Pearson Correlation	.067	.655**	.282**	.568**
	Sig. (1-tailed)	.277	.000	.006	.000

	N	80	80	80	80
Motivation	Pearson Correlation	.133	.700**	.347**	.532**
	Sig. (1-tailed)	.119	.000	.001	.000
	N	80	80	80	80
Motoric	Pearson Correlation	.040	.318**	.251*	.440**
	Sig. (1-tailed)	.362	.002	.012	.000
	N	80	80	80	80
Behavioral	Pearson Correlation	.070	.630**	.364**	.499**
	Sig. (1-tailed)	.270	.000	.000	.000
	N	80	80	80	80
Classroom management	Pearson Correlation	.158	.494**	.329**	.435**
	Sig. (1-tailed)	.081	.000	.001	.000
	N	80	80	80	80
Achievements	Pearson Correlation	.071	.640**	.365**	.498**
	Sig. (1-tailed)	.172	.000	.000	.000
	N	80	80	80	80
General attitudes	Pearson Correlation	.183	.560**	.400**	.454**
	Sig. (1-tailed)	.052	.000	.000	.000
	N	80	80	80	80
**. Correlation is significant at the 0.01 level (1-tailed).					
*. Correlation is significant at the 0.05 level (1-tailed).					

It was found that there is a significant positive correlation between attitudes of teachers regarding music integration, and teachers' application of music integration methods.

It is noticeable that the correlation is at a very high level of significance (0.01).

3.3. CONCLUSIONS

3.3.1 Discussion and Validating Values

1. The first conclusion is concerned with the attitudes and application of music integration of elementary school teachers toward integrating music in teaching in the elementary school. After being exposed and using the “music integration model” (MIM) teachers have more positive attitudes towards integrating music in teaching than before being exposed to the model.

The attitudes of teachers in experimental group got much higher after being exposed to the MIM model in all variable measures. This first hypothesis was found true. Teachers in the experimental group thought that there is no need to integrate music in teaching they thought it is useless. After being exposed to the MIM model they thought it is very helpful and effective to use music in teaching. Teachers also said in the interviews that while being exposed to the MIM model they were exposed to the benefits and effectiveness of integrating music in teaching. In addition, they said that while applying the methods suggested in the classroom, they found out that integrating music in teaching is a useful way to make pupils get motivated, understand more, and internalize the taught subject. In addition, they said it contributes to the good relationships between pupils and teachers and between pupils themselves, makes pupils concentrate more in the lesson, lowers pupils' anxiety and tension.

Research indicates that once teachers have had training and experience in teaching through the arts, they become more interested in the arts as separate disciplines and come to value the role of the arts specialist [23].

As opposed to the experimental group, teachers in the control group had a little change in their attitudes. They think a little bit more positive towards the effectiveness of integrating music in teaching. This little change was aroused in the interviews. It was found the teachers in the control group had little more positive attitudes toward integrating music in teaching due to the feedback they heard from their colleagues who were in the experimental group in other schools in the village. Teachers in the control group said they had small talks with teachers who were exposed to a music integrating model (MIM), in other schools and heard some very positive attitudes about integrating music in their teaching. Furthermore, another explanation could be is the action of refilling the same questionnaire twice could make them familiar with the content of the questions and had a pre-thought about the effectiveness of integrating music in teaching.

This research suggests that integrating music courses should work on the perceived beliefs of elementary education teachers, some of whom will have great difficulty in leaving their prior beliefs behind [60]. If teachers' beliefs are not challenged when they enter an integrating music course, they may become frustrated and disillusioned because their expectations do not fit the reality they face. This will prevent them from acquiring skills necessary to function in the classroom successfully [75].

Working through preconceived beliefs about teaching and learning acquired during childhood is very important to break the cycle that will drive these teachers' classroom practices [17; 16; 97].

Music teachers and classroom teachers who have been trained in traditional instructional methods cannot be expected to suddenly change their entire approach to teaching [17].

Teachers need time to gain confidence in planning and teaching integrated units without losing sight of instructional goals and objectives. Adequate professional development opportunities and collaborative planning time are important to facilitate this process of gradual school wide change. In addition to team planning among classroom teachers, it is found that "establishing new communications channels between classroom teachers and arts teachers is particularly crucial" [16]. That is why this research finds it very important to work in a discipline staff on the MIM model. And that is why it is very important to involve the music teacher in the process.

2. The second conclusion is concerned with the effect of using the MIM on attitudes and application of music integration among the teachers. After being exposed and using the "music integration model" (MIM) teachers will have more application of music integration than before being exposed to the model. The application of music integration methods of teachers in the experimental group got much higher after being exposed to the MIM model in all variable measures. This second hypothesis was found true. Teachers reported that they can't integrate music in their teaching. They thought it is very difficult and they didn't use methods of integrating music in their lessons. After being exposed to the MIM model they thought it is not so hard to integrate music in their lessons and they actually integrated music in their lessons. Teachers also said in the interviews that while being exposed to the model they were exposed to methods and ways of integrating music in teaching that helped them to see that it is not so difficult. Colwell [25] found that having taken a music methods class, classroom teachers showed improved comfort at the thought of integrating music in the curriculum and yet demonstrated a decreased intention of integrating it within the curriculum.

Although teachers may satisfy the objectives of music integrating course, such as developing skills and strategies of integrating music, it is their confidence that will determine if they implement music integration in their classrooms [14]. The likelihood of elementary education majors integrating music in their classrooms is contingent on their preparedness and perceived success in the methods class [17; 73]. Integrating music instructors should focus on those music concepts and activities that

pre-service teachers would use in their classroom—because they feel that it is something that they can do [17]. Once preconceived beliefs are lifted and attitudes are transformed, pre-service teachers will come to value music and eventually become our biggest advocates in promoting music in their future classrooms [19; 17].

Furthermore, teachers said that the fact that the model of integrating music in teaching (MIM) was formed and built with that staff of the discipline and the fact that the instructor (the researcher) was available to guide them in building the specific discipline model made them feel more able and use more music integration methods in teaching their specific subject.

Teachers in integrating music methods courses must develop the ability to integrate music in their classrooms [19; 54], confidence in making music [9; 60], and the capacity to cultivate positive attitudes through positive experiences [9; 14; 19; 117; 101] by learning in a safe and supportive environment where they are comfortable to publicly share and reflect on their personal beliefs and experiences [17; 117]. The subservient and social approaches to integration are the styles of choice among general education teachers because they conform to prevailing school goals. Music educators prefer the coequal style even though it is the most difficult to implement because it requires a new conceptualization of the discipline, which in turn necessitates a change in school structure [23; 17].

Music integration is neither easily nor quickly accomplished. Developing meaningful integrated curriculum is a complex process in which all the stakeholders (teachers, students, parents, administrators, and the community) must be involved. Although it certainly can be useful to study successful programs and models, it is very important to recognize that each school has its own unique culture. Programs that are highly successful in one school may not be appropriate to another [16] that's why this research suggests that each school should fit the program to its inner school culture and build an integration program that is suitable for each staff and for the school in general.

Moreover, teachers in the experimental group reported that during the exposure to the program the instructor emphasized the ability to integrate music in teaching for every teacher.

In addition, they said that while applying the methods suggested in the classroom, they found out that integrating music in teaching is applicable, and they succeeded to integrate the various types of integrating music in teaching like using content songs, using background music, asking pupils to be creative and compose a song or make an instrument, ask pupils to play or to sing a song.

Integrating music courses must concentrate on the development of content knowledge, practical experiences, and good models of teaching so that teachers increase their application of music integration [69]. According to Woolfolk-Hoy and Burke-Spero [123], teachers with a higher sense of ability tend to feel a higher level of satisfaction with their preparation during their training in a methods class. If teachers can develop a higher teaching sense of ability during the course, they will carry an attitude of satisfaction, confidence, and competence into their classroom. The more they teach, the more they will improve [17; 16; 111; 118].

In the interview teachers in the experimental group reported that the most interesting and effective method they found while applying the program is integrating music outside the classroom. Such as playing music in the school break during the day or integrating music in "the individual hour" outside the class, or using the school website in integrating music.

Because classroom teachers spend the greatest amount of time with their students, their beliefs about music are evident by the quantity and quality of the music activities they use in their classrooms [81; 95]. They have a responsibility in making music learning a strong presence in their curriculum [92] because they have the most consistent influence over their students [8; 78]. According to researchers [3; 17] "opportunities for spontaneous music making and planned music within other daily curricular activities enhance the child's learning . . . and when the daily inclusion of a special music play area is planned in the curriculum, it provides for both individual developmental differences, as well as focusing interest" [17].

Teachers in the experimental group didn't use music integration a lot before the exposure to the program. They used the most, two methods. One is using content music in integrating music in the lesson. The second is using music in opening or closing the lesson. Teachers said it is the easiest way to integrate music in their teaching.

Bresler [22] found that most teachers were not comfortable teaching music, and that only a little few teachers included music as part of their regular curriculum, and that singing and listening to music were the most common classroom musical activities [23].

Teachers' efficiency in general was low in all the research population (except for teachers who had a musical background) before the exposure to the program MIM. Abril and Gault [1] found that music plays a secondary role to other curricular activities. Malin [78] explains that several classroom

teachers do not take music seriously as they do not view it as an important subject, nor do they view the music specialist as a professional. According to Weller [121], noncore subjects were considered ancillary and therefore were perceived with an attitude of devaluation [17].

Despite of this finding, teachers in the experimental group showed a very high application of music integration and positive attitudes after applying the integration model MIM. This implies that teachers have many musical abilities and talent, but they don't know about it. Apfelstadt [5] states that subjects felt that singing was perceived as a very personal activity and oftentimes cited a feeling of embarrassment or self-consciousness about their singing ability [17].

That's why it is very important to develop the music talents of teachers. Helping teachers understand the value and importance of music in the lives of not only their pupil, but their own, encourages them to apply the knowledge and skills they learn in the introductory methods course in their own classrooms [112]. The difficult task is to assure the teachers that they can succeed in such a class despite their apprehension [50]. Richards [101] states that we need to "work to help pre-service teachers develop not only skills in music but also confidence in their own musical abilities and teaching skills . . . in a way that does not diminish their musical enjoyment" [17, p. 7].

As opposed to the experimental group, teachers in the control group did not have a change in their application of music integration. Without being exposed to the MIM model and applying, it they still feel they are not able to integrate music in their teaching.

Enhancing teachers' sense of ability is one of the first steps in developing the right combination of skills, knowledge, and dispositions to integrate music in teaching [118]. Many elementary teachers bring a limited musical background and knowledge to the music methods course, which prevents them from developing positive levels application of integrating music [17; 69].

3. The third conclusion is concerned with eight dimensions of teachers' attitudes and nine dimensions of teachers' application of music integration methods, and the music experience of the teacher. There is a positive correlation between teachers' musical education and experience - and their attitudes towards integration of music in teaching in all measures and in the application of music integration methods.

This hypothesis was significantly proved. Teachers who had a previous musical education had more positive attitudes and higher application of music integration in teaching.

Teachers in the experimental group with musical background had more positive attitudes than teachers who didn't have a musical background' even before exposure to the MIM model.

This finding is logical, since teachers had a music background, they could see the effectiveness of integrating music in teaching. Also, they feel more able to apply something they are familiar with and know before.

Researchers found that teachers who have had prior musical experiences as children believe that music is a valuable subject in the school curriculum [19; 32].

* This finding emphasizes the major importance of supplying courses and integrating models of integrating music in teaching (MIM) to teachers in schools.

4. The fourth conclusion is concerned with relationship between teachers' education, teaching field, and their attitudes toward integrating music in didactic disciplines, and their application of music integration methods by mentioned techniques. There is a significant difference between the attitudes and application of music integration of teachers of languages, and science, math, and religion teachers towards integrating music in teaching.

There is a significant difference between attitudes and application of music integration of math, science and religion teachers, and attitudes and application of music integration of language teachers.

This hypothesis was also significantly proved. Teachers who teach languages had more positive attitudes and higher application of music integration in teaching, than teachers who teach math, science, and religion in all measures.

Teachers of languages in the experimental group had more positive attitudes and higher application of music integration than teachers of math science and religion even before exposure to the MIM.

After exposure to MIM teachers of math, science and religion had more positive attitudes and higher application of music integration than before the exposure to MIM.

In the interviews these teachers explains that the curriculum of the disciplines lack content songs or any other integrating music in teaching. This finding implies that teachers of math, science and religion lack methods of integrating music and is not familiar with this teaching method.

The lowest attitudes and application of music integration of all teachers were the teachers who teach religion. This finding is logical since all the teachers of religion in these schools teach Islam religion. Islam religion forbids music in general [107].

Therefore, teachers of religion avoid using music in teaching religion. These explanations became clearer and more intense in the interviews with the religion teachers.

These findings emphasize the importance of taking this dilemma into account while teaching teachers how to integrate music in their teaching. One suggestion could be to suit a special music integration program to the Islam religion and to involve an acceptable way of using music in Islam religion, like: Tajweed (Quran reading), music without melody (only percussion), Athan (prayer call), playing on percussion instruments and not string instruments.

5. The fifth conclusion is regarding the relation between attitudes and the application of music integration of teachers. There is a positive correlation between attitudes and the application of music integration of teachers regarding integrating music in teaching.

This hypothesis was found true. Teachers who had positive attitudes had a high application of music integration methods, and teachers who had high application of music integration had more positive attitudes in all measures in experimental and control groups.

An integrated curriculum in which music and other subject areas are included and honored in a meaningful and appropriate manner provides a rich, comprehensive learning experience that can cross boundaries of culture and individual student differences, resulting in a productive and highly motivating experience for learners and yielding unique opportunities for teachers. Integration is not easily achieved, but this approach offers academic and affective benefits for students and teachers [18; 17; 16]. Integrated curriculum is a challenging but important topic that should be addressed more thoroughly within the music teacher education curriculum and the literature.

Although short-term arts integration workshops can have limited benefits, substantive change requires a long-term commitment on the part of the arts teachers, other teachers, and especially the building principal. Ongoing training [6; 15] and regular dedicated planning time to foster meaningful collaboration between arts specialists and grade level teachers are needed to bring about effective and meaningful curricular integration [16], National Arts Education Consortium, 2002, [15]

In the interviews, a dilemma was aroused. Teachers' approach was that we use music to teach our lessons, but we don't really care that pupils learn music. Indeed Bresler [23] says that it is a controversial topic among music teachers who may fear that music (and music teachers) will be placed in a subservient role to other subjects. In these situations, music may be viewed as a useful tool for teaching other subjects, but the intrinsic value of music education is disregarded [23].

The lack of formal requirements (e.g., guidelines, testing) and materials (e.g., resource books and textbooks) imply that integration is the teacher's (or the team's) responsibility and is left to their initiative, imagination, and resourcefulness.

That's why it is very important to build a systemic school program adjusted to the school culture and needs.

In this research it noted recommendations and suggestions to follow research to confirm all the goals and hypothesis in larger population. I would like to make a research with a larger number of participants.

3.3.2 Disadvantages of the research:

In this research it could be found some disadvantage that could make them better. If the research would have taken more subjects in the experimental and control groups, it would have reflected the subject in an extended way with more reliable results.

Furthermore, questionnaires and interviews could also be run to pupils not only teachers.

This will help to clarify and light up more sides and dimension of integrating music in teaching.

Moreover, the study can include more parameters to the questionnaires. That will enable answering more hypotheses and implementing more conclusions that will reflect the Arab sector more. Also adding observations of the researcher to integrating music lessons is necessary to understand and a holistic view of the integration of music in teaching.

In addition, there is a possibility to extend target population and check other groups of teachers like teachers of 1st and 2nd grade, or teachers of junior high school and high school teachers comparing to other schools in order to compare between all the results and have higher reliability and validity to the research.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The theoretical and practical results addressed the determined objectives at the beginning of the research and contributed to substantiation of the *Pedagogic model for developing novice teachers' professional identity through mentoring* that represents the **scientific problem solved in our research**. Synthesis of the data led us to the following conclusions:

1. The "music integration model" (MIM) helped teachers to have more positive attitudes towards integrating music in teaching.

2. The "music integration model" (MIM) helped teachers to do more application of music integration.

3. Teachers who are with a previous musical education had more positive attitudes and higher application of music integration in teaching.

4. Teachers who teach languages have more positive attitudes and higher application of music integration in teaching, than teachers who teach math, science and religion in all measures.

5. Teachers who have positive attitudes have a high application of music integration methods, and teachers who have high application of music integration have more positive attitudes towards music integration in teaching.

According to these main conclusions, we infer the following **recommendations**:

1. Research indicates that once teachers have had training and experience in teaching through the music, they become more interested in the music integration and come to value the role of music in teaching. Teachers in integrating music methods courses must develop the ability to integrate music in their classrooms, their confidence in making music, and the capacity to cultivate positive attitudes through positive experiences by learning in a safe and supportive environment in which they had a choice to choose the method to use in integration, and with the support and help of music educators and of a team work, in the school, where they share and reflect on their personal beliefs and experiences.

2. This research emphasizes the strong relation between sense of ability of the teacher when he is to integrate music in teaching and his attitudes towards it and its benefits. Thus, we recommend that

when an integrating MIM model is built it should be working also on teachers application of music integration and their feeling that they can do it even if they are not a music expert.

3. The research arouses the need to build music integration methods and programs in math, science and religion. In these disciplines teachers felt they are less able to integrate music in their teaching.

4. Moreover, the research puts the focus on the importance of taking the dilemma of music and religion into account while teaching teachers how to integrate music in their teaching. A special program is to be conducted for music integration in religion lessons. This program should include music elements that are in the religion like: "Athan", and "Tajweed".

5. This research suggest that pre-service teachers should have a course in their academic studies a course of music integration in pedagogy. This course will help pre-service teachers to know the good effect of using music integration in their teaching and raises their sense of ability to use and integrate music in teaching. This effect can be also after applying music integration in the practical experience pre-service teachers are asked to do as part of their academic duties.

Practical recommendations:

1. The model for Music Integration (MIM) and the conduct of the final examination offers the authors of educational policies and of university psycho-pedagogic curricula, school principals, music supervisors, suggestions of improving teaching methods of teachers, and incorporate music integration methods in teaching in class and outside the classroom.

2. Reconsideration of educational policies regarding music integration should include a focus on improving teachers' attitudes towards integrating music in teaching.

3. The system and process of professional training of teachers should be restructured according to the suggested model MIM.

Future research:

Following the investigating process and reviewing the professional literature most of the articles and research focused on investigating discipline teachers while integrating music in teaching. There are little articles that deals with the music educator in school while integrating music in teaching. Therefore, a recommendation for future research is to examine music educators in school.

Future research could be done on music educators integrating music in teaching of other disciplines and a comparison of the two research populations: discipline teachers and music education teachers.

Also, a future study could be done on the collaborative work between music education teachers and disciplines teachers while applying a music integrating program.

A future research could be done on music educators integrating music in teaching of other disciplines and a comparison of the two-research population, discipline teachers and music education teachers.

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APPENDIXES

Appendix 1. Attitudes towards music integration questionnaire

Please fill out the extent to which each statement is true for you according to the experience you had in applying music integration in your lessons and according to what you see during the lessons following statements on a scale from 1 to 5, so that 1 is not true, and 5 is very true:

- Integrating music in teaching

	1	2	3	4	5
1. Contributes to understanding the learnt subject					
2. Contributes to enjoyment of learning					
3. Improves the student's fine motoric skills					
4. Cultivating expression ability					
5. Contributes to positive relationships among students					
6. Improves the performance of learning tasks					
7. Suitable for a variety of learning styles of students					
8. Helps students to internalize the material					
9. Enhances creativity among students					
10. Clarifies better the learnt subjects					
11. Helps pupils in memorizing words					
12. Develops the crude motoric skills of the student					
13. Improves concentration of students					
14. Does not improve the focus of the students in the learnt material					
15. Raises student achievements					
16. Encouraged by the manager					
17. Helps students with learning difficulties absorb the material					
18. Useful for marketing the school					
19. Disturbing in class management					

20. Increases the motivation for learning among students					
21. Dispels boredom among students					
22. Contributes to enjoyment of learning					
23. Encourages students to be active					
24. Makes noise in the classroom					
25. Encourages the student into a class activity					
26. Helps students understand the learning content from a different perspective					
27. Effects students' behavior in class					
28. Creates a positive social atmosphere					
29. Improves classroom management					
30. Improves the achievements of students					
31. Contributes to cohesion among students					
32. Creates a pressure atmosphere in the classroom					
33. Arouses opposition among parents					
34. Lowers tension among pupils					
35. Strengthens the student's self-confidence					
36. Lowers anxiety and stress among students					
37. The use of musical instruments in lessons develops the student's sense of ability					
38. Arousing enthusiasm among parents					
39. Increases the number of students who pass the exams					
40. Improves the relationship between the teacher and his students					
41. Is not encouraged by the manager					
42. I like to integrate music in class					
43. I am against combining music for religious reasons					
44. Improves coordination in the student					

45. Contributes to discipline in the classroom					

Appendix 2. The questionnaire regarding the efficiency of music integration

Please fill out the extent to which each statement is true for you following statements on a scale from 1-5 so that's not true, and 5 is very true:

	1	2	3	4	5
1. I play music as a background in the lesson					
2. I play background music during an activity or work on a project in class					
3. I use teaching methods that combine music and movement					
4. I use teaching methods that combine music and painting					
5. I play music related to the subject studied in class					
6. I play background music to increase students' concentration while learning vocabulary and / or memorizing facts.					
7. I cannot integrate music in classes					
8. I connect the study of elements and musical content with the subject studied in my lessons					
9. I play music at the beginning or at the end of the lesson to create a good atmosphere in class					
10. It's hard for me to find music suitable for studied subjects					
11. I use songs and recitations in a lesson to improve the memory of facts and content by rhyming, rhythm, and melody					
12. In my opinion, cannot integrate music in the subjects I teach					
13. In my class, students hear about 5 minutes of classical music at the beginning of the class to relax and enter to a learning situation comfortably					

14. In the lesson I ask students to express themselves through music (to create clips, to compose melody or songs, etc.)					
15. I have difficulty integrating music in my lessons					
16. I play and integrate music related to the material studied during the active break					
17. I publish musical pieces of the students on the school website					
18. I invite teachers with musical talent to perform in front of the students - to sing or play music related to the material I taught					
19. I feel capable to integrate music in teaching					
20. I invite parents with musical talent to appear in front of the students - to sing or play music related to the material I taught					
21. I am collaborating with the music teacher at the school to integrate music into my teaching					
22. At my lessons, students create music					
23. I integrate music and other arts in my lessons					
24. I feel I'm not ready enough to integrate music in teaching in my lessons					
25. pupils use musical instruments in my lessons					
26. Here all teachers are exposed to music integration					
27. In my lessons, students perform songs					
28. There is no connection between musical content and my teaching profession at this school,					
29. Students play music in my lessons					
30. I ask the students to compose songs for the subjects studied					
31. I am not able to integrate music in my lessons					

Personal details - A questionnaire:

Specify or Mark a circle on the answer you choose:

Age: _____

Gender: M / F

Marital Status: Single / Married / Divorced

No. of Children: _____

Academic degrees: qualified teacher / BA / MA / PhD

Role in school: _____

Teaching field: Science / Arts / Math / Literature Language / Foreign Language / Geography / religion / sport /

Other (Specify / s): _____

Years of experience as a teacher (seniority): _____

Music education:

____I have no musical education

____musical learning

____ sound development

____Music class at high school

Other (Specify / s) _____

What is the frequency of hearing music?

1. Once a week 2. Three times a week 3. Every day.

Do you sing in a choir? _____

Do you play in a band? _____

What music style do you listen to? _____

Do you like to sing? _____

Do you play a musical instrument? _____

Thank you for participating in the study

Appendix 3. Questions in the semi-structured interview

Semi- Structured Interview

Tell me please how do you use music in you teaching - give 1-2 examples

_____

_____

_____

Tell me please about situations that it was difficult for you to integrate music in teaching - give 1-2 examples

_____

_____

_____

What helped you to integrate music in your teaching and overcome difficulties

_____

_____

_____

Appendix 4

Averages of efficiency before:

Descriptive Statistics					
Std. Deviation	Mean	Maximum	Minimum	N	

.8815	**1.788**	5.0	1.0	80	ab1
1.0076	**2.150**	5.0	1.0	80	ab2
.6157	**1.475**	3.0	1.0	80	ab3
.8264	**1.775**	4.0	1.0	80	ab4
.8019	**1.800**	4.0	1.0	80	ab5
.8282	**1.813**	4.0	1.0	80	ab6
.8779	**2.038**	5.0	1.0	80	ab7
.8228	**1.863**	4.0	1.0	80	ab8
.9277	**1.888**	5.0	1.0	80	ab9
.8104	**1.663**	4.0	1.0	80	ab10
.7496	**1.713**	4.0	1.0	80	ab11
.6359	**1.475**	3.0	1.0	80	ab12
.8385	**1.825**	4.0	1.0	80	ab13
.8786	**2.013**	4.0	1.0	80	ab14
.6621	**1.450**	3.0	1.0	80	ab15
.8268	**2.000**	5.0	1.0	80	ab16
1.0671	**1.975**	5.0	1.0	80	ab17
.8233	**2.075**	4.0	1.0	80	ab18
1.0110	**2.125**	5.0	1.0	80	ab19
.9291	**1.850**	5.0	1.0	80	ab20

1.0243	**2.163**	5.0	1.0	80	ab21
1.1632	**2.163**	5.0	1.0	80	ab22
.8205	**1.688**	4.0	1.0	80	ab23
.7704	**2.163**	4.0	1.0	80	ab24
.7531	**1.700**	4.0	1.0	80	ab25
.8583	**2.150**	4.0	1.0	80	ab26
.7076	**1.675**	4.0	1.0	80	ab27
.8873	**1.850**	5.0	1.0	80	ab28
.7547	**1.750**	4.0	1.0	80	ab29
.6363	**1.513**	3.0	1.0	80	ab30
.7504	**1.638**	4.0	1.0	80	ab31
.9467	**2.200**	5.0	1.0	80	ab32
1.1418	**2.750**	5.0	1.0	80	ab33
.9427	**1.850**	4.0	1.0	80	ab34
.7546	**1.613**	4.0	1.0	80	ab35
.9993	**1.838**	5.0	1.0	80	ab36
.7025	**1.613**	4.0	1.0	80	ab37
.9671	**2.463**	5.0	1.0	80	ab38
.6580	**1.650**	3.0	1.0	80	ab39
.9098	1.788	4.0	1.0	80	ab40

1.0421	2.450	5.0	1.0	80	ab41
1.1528	2.013	5.0	1.0	80	ab42
1.6695	3.188	5.0	1.0	80	ab43
.5597	1.375	3.0	1.0	80	ab44
.7334	1.638	4.0	1.0	80	ab45
				80	Valid N (listwise)

Averages of efficiency before:

Descriptive Statistics					
Std. Deviation	Mean	Maximum	Minimum	N	
.5215	**1.263**	3.0	1.0	80	eb1
.3180	**1.113**	2.0	1.0	80	eb2
.3712	**1.163**	2.0	1.0	80	eb3
.2436	**1.063**	2.0	1.0	80	eb4
.4838	**1.238**	3.0	1.0	80	eb5
.2651	**1.075**	2.0	1.0	80	eb6
.9678	**2.000**	5.0	1.0	80	eb7
.2843	**1.088**	2.0	1.0	80	eb8
.8264	**1.475**	5.0	1.0	80	eb9

.8997	**2.025**	4.0	1.0	80	eb10
.9084	**1.688**	4.0	1.0	80	eb11
.9820	**1.813**	4.0	1.0	80	eb12
.1118	**1.013**	2.0	1.0	80	eb13
.4437	**1.175**	3.0	1.0	80	eb14
.8329	**1.800**	5.0	1.0	80	eb15
.2487	**1.038**	3.0	1.0	80	eb16
.2236	**1.025**	3.0	1.0	80	eb17
.2487	**1.038**	3.0	1.0	80	eb18
.7892	**1.600**	4.0	1.0	80	eb19
.1118	**1.013**	2.0	1.0	80	eb20
.3689	**1.125**	3.0	1.0	80	eb21
.1118	**1.013**	2.0	1.0	80	eb22
.1118	**1.013**	2.0	1.0	80	eb23
.9274	**1.775**	5.0	1.0	80	eb24
.1118	**1.013**	2.0	1.0	80	eb25
.1118	**1.013**	2.0	1.0	80	eb26
.7621	**1.538**	4.0	1.0	80	eb27
1.1904	**2.275**	5.0	1.0	80	eb28
.1571	**1.025**	2.0	1.0	80	eb29

.7252	**1.325**	4.0	1.0	80	eb30
1.4318	**2.775**	5.0	1.0	80	eb31
				80	Valid N (listwise)

AUTHOR'S STATEMENT

I, the undersigned, declare on my own responsibility that the materials presented in the doctoral thesis *Music integration in the teaching of other disciplines in primary education* are the result of my own research and scientific achievements. I confirm this fact; otherwise, I will bear the consequences in accordance with the law in force.

Badarne Bilal

Signature

Date: 20 August 2021

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1. Badarne B. The Impact of music upon attention, attitude and motivation În: Artă şi educaţie artistică, Nr.1 (21), 2013 p. 58-60. https://ibn.idsi.md/sites/default/files/imag_file/The%20impact%20of%20music%20upon%20attention%20attitude.pdf

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3. Materiale la conferinţe internaţionale peste hotare

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4. Materiale la conferinţe cu participare internaţională

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