

VIKSJÖFORSBALETTEN



Maths, Music and Creative Movement

PROJECT MANAGEMENT MANUAL

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2021-12-11

GfNA-II-B-Erasmus+Grant agreement

Erasmus+ 2021-1-SE01-KA220-SCH-000032733

Project title:

Maths through Music and Creative Movement

Project Acronym: **M2-CM**

Project Start Date: **2021-11-01**

Project End Date: **2024-05-30**

Contract Sign Deadline: **2022-30-01**

Submission ID 1249501

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Project Team

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ABSTRACT

We are:

experienced educators in the school's lower stages in Sweden, Greece and Cyprus,
experienced educators in Music and Dance in all three countries together and
experienced researchers and educators at the Technical University of Crete.

We want to:

broaden students' perceptions of what Mathematics can be,
make Mathematics comprehensible to all students, increase interest in Mathematics,
strengthen students' Musical and motor abilities, create creative and safe learning environments and
design, test and produce a digital education for teachers where Mathematics, Dance and Music are integrated!



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INTRODUCTION

THE EUROPEAN UNION NEEDS MORE STEM!

The Erasmus+ project application guidelines stress the importance of increased STEM¹ competence in the European Union. We need more:

Scientists, who organize and verify observations and results.

Engineers, who focus on theory and design and who, with the help of

Mathematics, transform the observations into practical reality.

Technologists, who focus on production, maintenance and repair of engineers' design.

HOW CAN INCREASED STEM SKILLS BE ACHIEVED?

This is the answer from Erasmus+ 2021:

The Arts can - just as Mathematics - be tools for the Scientist and the Engineer as well as the Technologist and the student! The Arts should be integrated in all STEM education!²

This is the answer from Erasmus+ project m²-cm:

In our project, which is based on above guidelines, Music and Dance will be used to consolidate and increase students' knowledge of Mathematics, in order to prepare them for further studies. At the same time, Dance and Music have an intrinsic value in the project, for the individual student as well as for the security and joy of the group.

We are:

experienced educators in the school's lower stages in Sweden, Greece and Cyprus and experienced educators in Music and Dance in all three countries together with experienced researchers and educators at the Technical University of Crete.

We want to:

broaden students' perceptions of what Mathematics can be,
make Mathematics comprehensible to all students,
increase interest in Mathematics,
strengthen students' Musical and motor abilities,
create creative and safe learning environments and
design, test and produce a digital education for teachers where Mathematics, Dance and Music are integrated!

¹ STEM means:


- **Science** (from Latin scientia 'knowledge') is a systematic enterprise that [builds](#) and organizes knowledge in the form of testable explanations and predictions about the world.
- **Technology** ("science of craft", from Greek τέχνη, techne, "art, skill, cunning of hand"; and -λογία, -logia) is the sum of any techniques, skills, methods and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation.
- **Engineer** (Latin ingeniator) is derived from the Latin words ingeniare ("to create, generate, contrive, devise") and ingenium ("cleverness")
- **Mathematics** (from Greek: μάθημα, máthēma, 'knowledge, study, learning') includes the study of such topics as numbers (arithmetic and number theory), formulas and related structures (algebra), shapes and spaces in which they are contained (geometry), and quantities and their changes (calculus and analysis). (Wikipedia)

² **Arts** from Latin ars, artis ("practical skill"), from Proto-Indo-European *h₂rtís ("fitting"), from the root *h₂er- ("to join"). (Wikipedia)





PARTNERSHIP INFORMATION

VIKSJÖFORSBALETTEN		
Applicant organisation OID	E10199925 Official registration number 886501-0568	Applicable facts: In VIKSJÖFORSBALETTEN focus is on physical training, aesthetics, integration and international work. Viksjöforsbaletten is a dance school in the garden of the primary school Viksjöfors skola. In our building inspiration is offered. For more than a decade the local dance teachers have supported learning curricular subjects through cultural expressions in the school .
Legal name	Viksjöforsbaletten	
Country	Sweden	
Region	Gävleborgs län	
City	Viksjöfors	
Website	http://www.viksjoeforsbaletten.se	
Type of Organisation	Non-governmental organisation/association	

AMUSED		
Partner organisation OID	E10060645	Applicable facts: The manager of A.MUS.ED, Maria Demosthenous, <i>has made a research in the field of integration of music into Maths subject in primary schools</i> , through which she was investigating the Professional Development of primary teachers with no previous music knowledge, who applied the proposed method. All teachers had no previous knowledge in music. Through the research done a number of teachers training courses in the field of Teaching Maths through Music techniques have been offered to teachers in Cyprus.
Legal name	A.MUS.ED. AMALGAMATE MUSIC EDUCATION LTD	
Country	Cyprus	
Region	Κύπρος (Kýpros)	
City	Nicosia	
Website	https://www.amusedcy.com/	
Type of Organisation	Small and medium sized enterprise	



TECHNICAL UNIVERSITY OF CRETE		 Technical University of Crete
Partner organisation OID	E10053792	Applicable facts: TUC/MUSIC has developed creativity and eLearning software tools and platforms exploiting modern multimedia and communication technologies. These tools and platforms support several EU projects: (pSkills, Organic.Mednet, NaturalEurope, e-ARTinED, EVANDE, MultiLib, MechMate, TIM, rhythm4inclusion, MUSILIB, MILAN, GAME IT, eCoach).
Legal name	POLYTECHNEIO KRITIS	
Country	Greece	
Region	Κρήτη (Kriti)	
City	CHANIA	
Website	https://www.tuc.gr	
Type of Organisation	Higher education institution (tertiary level)	

MAVROMATAKI SCHOOL		 PRIVATE SCHOOL MAVROMATAKI - MITERA <small>PRIMARY SCHOOL • KINDERGARTEN • NURSERY SCHOOL • SWIMMING SCHOOL</small>
Partner organisation OID	E10058899	Applicable facts: The MAVROMATAKI <i>headteacher's</i> study and teaching proposal for the historical origins of the mathematical concepts and symbols we use in elementary school, based on The Parrot's Theorem by Denis Guedj, was awarded in a pan-European competition of the European Schoolnet (Scientix program) and had the opportunity to be trained in the Future Laboratory in Brussels.
Legal name	MAVROMATAKI M. & SIA E.E	
Country	Greece	
Region	Κρήτη (Kriti)	
City	CHANIA	
Website	https://www.mmschool.gr/	
Type of Organisation	School/Institute/Educational centre – General education (primary level)	



PRODUCTION OF PROJECT RESULTS

PPR1 TEACHERS GUIDE

We will initially compile a **theoretical background** with relevant research results and with examples of teaching where Mathematics, Music and Dance have previously been combined.

Leading partner: Viksjöforsbaletten (application p. 41-48)

1/11/2021-31/10/2022

TEACHER, TRAINER, RESEARCHER			
Organisation	Working Days	Grant/day	Grant total
VIKSJÖFORSBALETTEN	90	241 €	21690,00
A.MUS.ED	70	137 €	9590,00
MAVROMATAKI	40	137 €	5480,00
POLYTECHNEIO KRITIS	55	137 €	7535,00
TECHNICIANS			
VIKSJÖFORSBALETTEN	30	190 €	5700,00
A.MUS.ED	30	102 €	3060,00
Total	315		53055

PPR2 ACTIVITY GUIDE

We will then create a practical teacher's guide with many well-proven examples of how synergy effects can be achieved when mathematics is combined with music and dance in teaching situations.

Leading partner: Amalgamate Music Education (application p.49-56)

1/6/2022-30/6/2023

TEACHER, TRAINER, RESEARCHER			
Organisation	Working Days	Grant/day	Grant total
VIKSJÖFORSBALETTEN	80	241 €	19280,00
A.MUS.ED	115	137 €	15755,00
MAVROMATAKI	40	137 €	5480,00
POLYTECHNEIO KRITIS	50	137 €	6850,00
Total	285		47365,00



PPR3 ONLINE NETWORKING

Finally, we will present our results, experiences and examples on a digital platform so that they are disseminated and tested by many.

Leading partner: Technical University of Crete (Application p. 57-63)
1/1-2022-30/4-2024

TEACHER, TRAINER, RESEARCHER			
Organisation	Working Days	Grant/day	Grant total
VIKSJÖFORSBALETTEN	130	241 €	31330,00
A.MUS.ED	160	137 €	21920,00
MAVROMATAKI	90	137 €	12330,00
POLYTECHNEIO KRITIS	145	137 €	19865,00
TECHNICIANS			
POLYTECHNEIO KRITIS	125	102 €	12750,00
Total	650		98195



TRANSNATIONAL PROJECT MEETINGS

The project period runs over 30 months. During that period, project participants will meet 4 times in Transnational Project Meetings. Two from each country participate. The start-up takes place in a digital meeting. The meetings will be coordinated with the Learning-Teaching-Training-Activities to decrease travelling.

Application p.33-35.

Activity title	Location	Period	Viksjöfors-baletten x2	A.Mus.Ed x2	Poly-technio Kritis x2	Mavromataki x2	Total Grant
First Transnational Meeting	Nicosia Cyprus	jul-22	1520,00	0,00	1150,00	1150,00	3820,00
Second Transnational Meeting	Viksjöfors Sweden	jan-23	0,00	1520,00	1520,00	1520,00	4560,00
Third Transnational Meeting	Chania Greece	okt-23	1520,00	1150,00	0,00	0,00	2670,00
Fourth Transnational Meeting	Viksjöfors Sweden	apr-24	0,00	1520,00	1520,00	1520,00	4560,00
Total			3040,00	4190,00	4190,00	4190,00	15610,00



LEARNING/TEACHING/TRAINING ACTIVITIES

C I. Nicosia 2022-07 for 3 days. Training for trainers. Total 7 participants and 4 groups; 2 trainers from all participating partners (only 1 from TUC.).

1. Lecture on the value of STEAM³ approach, presentation of PPR1.⁴
2. Lecture and interactive workshop on the common elements of music, creative movement and Maths, in order to enhance skills and efficacy in music and creativity.
3. Discussion of challenges faced by teachers in physical and digital classrooms in Maths teaching.
4. Interactive workshops focusing on Maths teaching through music and creative movement.
5. Team Building activities through music and creative movement that will allow the participants to experience the positive effects that brings to a group of people from different cultural backgrounds.
6. Presentation of online and digital tools that can enhance the proposed teaching activities both in physical and digital classrooms.

C II. Viksjöfors 2023-02 for 3 days. 2 trainers and 5 learners from all partners but TUC. Total 21 participants..

1. The presentation of the general objectives and goals of the project focusing on the importance of STEAM approach in learning
2. Lecture and workshop on the common elements between music, creative movement and Maths. Training on basic theory elements of music and creative movement for better understanding of music and movement concepts. This will help the trainees to break any possible barriers of expressing themselves and experiencing new forms of art thus, by enhancing their efficacy in the arts of music and creative movement will reinforce their confidence to apply these methods in the classroom.
3. Lecture on researches that highlight the impact of music and movement to children's emotional growth as well the effect of integration of music and movement in Maths curriculum.
4. Training on some parts of the training modules.
5. Observation of sample lessons in real classroom environments with the participation of students from both hosting and partner countries
6. Presentation of online and digital tools that can enhance the proposed teaching activities both in physical and digital classrooms

C III. Chania 2023-10 for 4 days. 2 trainers and 5 learners from all partners but TUC. Total 21 participants.

1. Focus group of teachers to share their experience and discuss challenges and highlights they faced during the piloting phase.
2. Focus group of students to share their experience during the piloting phase.
3. Creative workshop: Teachers and students will be trained by the experts on how to develop their own content based on the knowledge gained from the second training and during the implementation of the piloting phase.
4. Digital workshop: Students and teachers will be guided by the experts to develop a presentation on a Maths theory using the STEAM approach with the digital tools and equipment suggested in the Teacher's Guide.
5. The content developed from both students and teachers will be used as part of the OER's in PPR3. Development of lesson plans

³ Science, Technology, Engineering and Maths

⁴ Production of Project Results

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This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

**Grants for Teaching/Training Activities C1-3****Application p. 69-101**

Partner	Total Grant 26254€	Travel	Individual support	For whom?
VF	7652	1060 0 0 720 1800	1060 0 0 1272 1740	I. Trainers x2 II. Staff/trainers II. Learners III. Staff/trainers x2 III. Learners x5
AM	11157	0 1060 2650 550 1375	0 1060 1450 1272 1740	I. Trainers II. Staff/trainers x2 II. Learners x5 III. Staff/trainers x2 III. Learners x5
TUC	805	275 0 0 0 0	530 0 0 0 0	I. Trainer x1 II. Staff/trainers II. Learners III. Staff/trainers III. Learners
MAV	6640	550 720 1800 0 0	1060 1060 1450 0 0	I. Trainers x2 II. Staff/trainers x2 II. Learners x5 III. Staff/trainers III. Learners

Locations	Cyprus	Sweden	Greece
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Partners are funded only when travelling!



MULTIPLIER EVENTS

To test methods and exchange experiences with other educators, national Multiplier Events will be organized in May 2023. An extraordinary dissemination opportunity is the final conference in the spring of 2024.

Application p. 63-68

Activity Type	Starting period	Ending period	Activity Title	Grant €
Multiplier Event	2023-05	2023-05	Presenting m2-cm and establishing local communities of teachers in Sweden	2300
Multiplier Event	2023-05	2023-05	Presenting m2-cm and establishing local communities of teachers in Cyprus	2300
Multiplier Event	2023-05	2023-05	Presenting m2-cm and establishing local communities of teachers in Greece	2300
Multiplier Event	2024-04	2024-04	Final conference in Sweden	9750
Total				16650



TIMETABLE

artinedviksjofors.se

Timetable

Note that transnational project meetings, production of project results, multiplier events and learning, teaching and raining activities will be listed in this table automatically once you have created them in the dedicated section of the form.

You can create other relevant activities that do not receive specific support but are funded by the Project Management and Implementation grant and add them to the table.

ID	Activity Type	Starting period	End of Period	Activity Title
1	Project Results	2021-11	2022-10	Teachers' Guide
2	Project Results	2022-06	2023-06	Repository of activities and other useful sources for the teachers
3	Learning Teaching Activities	2022-07	2022-07	Training for trainers
4	Transnational Project Meeting	2022-07	2022-07	Second Transnational Meeting
5	Project Results	2022-10	2024-04	Online Networking and e-learning platform
6	Transnational Project Meeting	2023-01	2023-01	Third Transnational Meeting
7	Learning Teaching Activities	2023-02	2023-02	Training for teachers and students
8	Multiplier Event	2023-05	2023-05	Presenting m2-cm and establishing local communities of teachers in Sweden
9	Multiplier Event	2023-05	2023-05	Presenting m2-cm and establishing local communities of teachers in Cyprus
10	Multiplier Event	2023-05	2023-05	Presenting m2-cm and establishing local communities of teachers in Greece
11	Learning Teaching Activities	2023-10	2023-10	Training for teachers and students
12	Transnational Project Meeting	2023-10	2023-10	Fourth Transnational Meeting
13	Multiplier Event	2024-04	2024-04	Final conference
14	Transnational Project Meeting	2024-04	2024-04	Fifth Transnational Meeting



PROJECT RELEVANCE - FROM THE APPROVAL TO CONSIDER

The school priorities, promoting (STEM) and supporting teachers, are relevant to the proposal.

- ***However, the chosen horizontal priority Inclusion and Diversity is not. It is mainly referred to as a subordinate priority but is not the main focus.***

The main focus of the proposal is to integrate Music and Creative Movement into the learning procedure of Mathematics. The consortium consists of partners from different parts of the educational field. Their different expertise is well described. Some of them have worked together for a long time. The application consists of partners from three different countries.

- ***The inclusion of additional partners from more countries would have added value to the project.***
- ***However, the limitation is offset by a detailed description of how the project's results will be disseminated in Europe.***

Since the partners have a long-standing established cooperation throughout several projects the proposal takes its standpoint from earlier results. The expertise in the project related to creativity in different forms is well described.

- ***However, the competence in mathematics didactics is not shown in the same way. To be successful with the aim to combine mathematics skills with music and creativity it is important to have specific competence in both areas.***
- ***The application has a strong inclusive approach in its objectives, but it is not fully described what that means in practice for the project activities. There is a belief in the project that creativity in itself is inclusive. Even though creativity and music can contribute to an inclusive approach other aspects must also be considered, like structural conditions, the need for special education or specific didactics skills in mathematics.***
- ***The application does not give reference to any specific sources when explaining the challenges and the need for the project and its methods. When referring to "surveys" it is common to make a reference to specific surveys.***
- ***The proposal targets primary schools so the material is not likely to create synergies between different fields of education.***



PROJECT QUALITY -

FROM THE APPROVAL TO CONSIDER

The projects objectives address the needs and the goals of the participating organizations. The project plan is clear and shows the different steps and activities in the project during the project period. The relationship between the different activities in the project works well and forms a functioning and holistic approach. The methodology for the project with a combination of inspiration, knowledge building and practical work for teachers/educators is relevant and as shown in former research also successful in relation to the change/development of teachers' pedagogical approaches in the classroom.

- *The role of the students in the LTT is more unclear and how they will benefit from the training. Furthermore, it is not clear how the students' experiences will be taken into account in the development of the project result.*
- *The description does not state the age group of the students, nor does it clarify whether the participating teachers teach mathematics or dance/drama.*
- *When planning the involvement from both students and teachers from different cultural backgrounds it is not clear whether it is referred to participants from the countries SE, CY and GR or to migrants with different backgrounds.*
- *Regarding the participating school teachers, it is not mentioned which subject they teach or at which level.*
- *The coordinator has been a coordinator before and has the experience to set up a proper management plan. However, the description of the quality control, risk handling etc. could have been described more in detail.*
- *The production of results could be produced at a lower cost. Project result 1, A part of the Teacher's Guide, will collect and present former research. This work has already been done in former projects and also in the systematic needs analysis for this project and the number of working days for PR1 should therefore be reduced.*
- *Result 2 is a repository of activities. This will partly consist of research for the needs analysis (which is also done in result 1) so the number of working days should be reduced. Result 3 is an e-learning platform. The description is clear, but it is overestimated that the Greek partner who will upload the material on their already existing platform will need 540 working days, so the number of working days should be reduced.*
- *Funding for travel and subsistence for staff and learners from the hosting organizations of LTTs is not eligible. All costs related to participants from the hosting organizations will therefore be reduced.*
- *How the project will work with an inclusive approach during the project's different activities is not described. Some of the partners have long experience of working with newly arrived young people, but how this experience will be used in this project in a practical way is not explained.*
- *No eco-friendly action has been included.*



IMPACT -

FROM THE APPROVAL TO CONSIDER

The partners that form the consortium in the application have been selected for their specific competencies and therefore the mix of competence and a common interest manifested in the project objectives create a strong partnership. Some of the partners have worked together for a long time in other constellations and the project is developed from former results. Furthermore, the mix between different kinds of organizations such as schools, NGO:s, a higher education institution, and organisations of different sizes and the mix between very experienced partners and newcomers gives an added value.

- ***The expertise in didactics and maths is not fully described. Only the Greek school seems to have experience from STEM education, which is a weakness considering that this is the main focus of the project.***
- ***Apart from Sweden two of the partners come from Greece and one from Cyprus. This means a limited geographical dissemination.***
- ***Only the Swedish coordinator has experience from teaching migrants. For inclusion and diversity reasons as well as for dissemination and impact it would have been better with a partner from yet another program country and maybe another partner from Sweden.***

The cooperation and coordination of the project is satisfactory. The relation to other stakeholders of importance for the project is also explicitly described. There is an added value in that all organisations have their different expertise



DISSEMINATION AND SUSTAINABILITY - FROM THE APPROVAL TO CONSIDER

The application clearly addresses how the partnership will work to integrate and disseminate the project results both at a local level and outside their own organisations. A key tool is to create a sustainable network between the partners, but also to actively work to make the results of the project in form of products easily accessible. The results in form of products, which have a potential to be of interest to teachers, will be made accessible for all teachers all over Europe in English and also translated into Swedish and Greek. The project results will also be integrated in the regular work of the participating organisations. They have a good possibility to make an impact on the participants and the participating organisations, but more efforts could be made to make a wider impact.

- ***With a wider dissemination process across Europe the chance of implementation at European level had been higher.***
- ***The final conference for dissemination purpose is to be held in Sweden. It is planned for 70 local participants, 50 participants in virtual events and 10 foreign participants. Taking into consideration that two partners come from Greece and one from Cyprus it might have been better for dissemination purposes to have the conference in Greece.***
- ***The proposal does not explain how the impact after the end of the project will be secured.***



PAYMENTS AND THEIR CONNECTION TO DELIVERIES

BUDGET TOTAL

Organisation	Project Management and Implementation	Transnational Project Meetings	Project Results	Multiplier Events	Learning/ Teaching/ Training Activities	Inclusion Support/ Exceptional Costs	Total Grant
VIKSJÖFORS	15000	3040	78000	12050	7652	0	115742
TUC	7500	4190	47000	0	805	0	59495
MAVROMATAKI	7500	4190	23290	2300	6640	0	43920
A.MUS.ED.	7500	4190	50325	2300	11157	0	75472
Total	37500	15610	198615	16650	26254	0	294629

PAYMENTS

The consortium should respect the deadlines regarding reporting in the project.

Viksjöforsbaletten will send a Final Report to the NA. The final payment will be connected to the delivery and approval of the report.

Organisation	Total Grant	40% of Grant Initially paid	60% of Grant Paid, if successful, 2024
VIKSJÖFORS	115742	46296,8	69445,2
TUC	59495	23798	35697
MAVROMATAKI	43920	17568	26352
A.MUS.ED.	75472	30188,8	45283,2
Total	294629	117851,6	176777,4