STE(A)M POLICY FOR OUR SCHOOL

«By creating bridges, we build solid structures»

Table 1 - Summary		
1	**Author**	Foteini Syntychaki . Biology teacher at General Lyceum Sitia Greece
2	**Background**	Teacher of biology at the General Lyceum of Sitia since 2000. I am a deputy principal from the school year 2017-2018. I was in charge of the Natural Sciences laboratory of my school, from 2000 to 2015. I was a laboratory associate and teaching staff for the biology course, in the "Nutrition and Dietetics" department of the TEI of Crete. I am attending a postgraduate study program "Sciences of education - education using new technologies".
3	**Descriptive title**	«By creating bridges, we build solid structures» *Knowledge as a record of information that is not related to knowledge of other areas, or prior knowledge and does not apply in other contexts, is doomed to be lost.*
4	**Abstract**	The policy I propose, is about to teach in such a way as to make connections between the subjects, especially in the fields of science, technology, engineering, mathematics and the arts. In this way students are given the opportunity to realize that knowledge is "Unified". Everything shows connections between them in the real world, where there are no boundaries between the different objects as they are observed in the classrooms. It is especially important for future generations to develop within the school the skills that will enable them to integrate smoothly and efficiently into adult society.

Table 2 - Goals		
1	**General goal**	The **problem** lies in the fact that the fragmentary knowledge / information recorded in the current way of teaching cannot be used by the student in different contexts and is very easily lost over time. At the same time, it is difficult for teachers of different subjects to work together with imagination and creativity. Steps towards the **solution** would be the creation of working groups of teachers who will approach issues in a different way with the guidance of a specialist for STE(A)M education and at the same time the teaching of students through didactic approaches that ensure interdisciplinarity in knowledge management, and its application in new contexts as well as the development of collaborative teaching practices through case studies, problem-based learning, project-based learning.
2	**General goal description**	It is very common for modern students not to find meaning in school. Knowledge is acquired in fragments and is not connected to each other as much as to their daily reality. Through STEAM approaches and through collaborative work, based on learning through problem solving and through projects, as well as through case studies, they can connect school with their lives and become active students today and active citizens in the future. At the same time, they can get in touch with professionals and help them choose their own career path.
3	**Strategic goals**	1. Creation of 4 two-hour workshops on a weekly basis at the beginning of the school year, for the intensive training of schoolteachers in the STEAM methodology. 2. Application of the methodology in all parts of the school unit during the year. A total of 3 projects for each class of the school unit will be worked on with this approach. 3. Survey of students' views using questionnaires / interview. 4. Meeting of evaluation of actions and suggestions for improvement

Table 3 - Targets		
1	**Beneficiaries**	The beneficiaries of my proposal are both students and teachers. The whole school community can only get better as a spirit of cooperation develops. Through group problem-solving activities, case studies, and project-based learning, students can be trained to seek knowledge, see things from many angles, and collaborate. Teachers will experience the joy of co-creation and satisfaction seeing their students actively approach knowledge as something that matters as it relates to their own lives.
2	**Recipients**	Recipients will be both the participating teachers and the students.
3	**Special needs**	Children with special learning difficulties at school can also be encouraged through STE(A)M collaborative activities as the dynamics of the group raise and teams favors discussion and the development of critical thinking.

Table 4 - Value Proposal		
1	**Value proposal**	Creating a group of teachers who will be able to function multiplicatively, transmitting their experience in STEAM education and learning acquires meaning for students as it acquires spherical dimensions.
2	**Results**	A group of teachers will be created who will implement, and with the feedback will have the opportunity to review and adapt the methodology to the specific characteristics of our school community. 250 students of the school will apply STEAM approach to knowledge in 3 different topics during the school year and with the feedback through questionnaires and interviews will help in the evaluation of the process.
3	**Impact**	The school aims to become a territorial reference institution for teacher training by activating a system for sharing good practices.

Table 5 - Costs		
1	**Cost structure**	Cost forecasting: about €5.000 1. Labor (internal staff) 2. Hardware, Software 3. External consultants 4. Administrative costs
2	**Founding opportunities**	European structural fundsMinisterial funds Parents' Association

Table 6 - Action plan		
1	**Activities**	1. 4 two-hour workshops on a weekly basis at the beginning of the school year, for the intensive training of schoolteachers in the STEAM methodology. 2. Planning the topics that will be taught with a STEAM approach and planning the activities that will take place. 3. Application of the methodology. Total of 3 projects for each class of the school unit will be worked on with this approach. 4. Survey of students' views using questionnaires / interview. 5. Meeting of evaluation of actions and suggestions for improvement

<table>
<tr><td colspan="3" align="center">Table 7.1 - Risks/Competition</td></tr>
<tr><td>1</td><td>Risk description</td><td>1. Difficulty in the initial approach and cooperation of teachers.
2. Time for students and teachers to adapt to the new methodology.</td></tr>
<tr><td>2</td><td>Probability</td><td>2</td></tr>
<tr><td>3</td><td>Severity</td><td>2</td></tr>
<tr><td>4</td><td>Mitigation strategy</td><td>1. Smooth introduction to the new methodology through both presentations and experiential workshops.
2. An open channel of communication throughout the year with the specialist in order to resolve the issues that arise and to address any insecurities.
3. Recording students' views and monitoring their attitudes and academic performance.
4. Creating a community that discusses and reflects</td></tr>
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<tr><td colspan="3" align="center">Table 7.2 - Risks/Opposition</td></tr>
<tr><td>1</td><td>Risk description</td><td>Older teachers may find the approach incorrect.</td></tr>
<tr><td>2</td><td>Probability</td><td>1</td></tr>
<tr><td>3</td><td>Severity</td><td>2</td></tr>
<tr><td>4</td><td>Mitigation strategy</td><td>1. Smooth introduction to the new methodology through both presentations and experiential workshops.
2. Discussion of students' academic results and views after application.</td></tr>
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<tr><td colspan="3" align="center">Table 7.3.a - Risks/External Menace</td></tr>
<tr><td>1</td><td>Risk description</td><td>Changing teachers every year at school does not help to create stable working groups</td></tr>
<tr><td>2</td><td>Probability</td><td>3</td></tr>
<tr><td>3</td><td>Severity</td><td>3</td></tr>
<tr><td>4</td><td>Mitigation strategy</td><td>Creating a strong core with the school's permanent teachers</td></tr>
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