CARMA

Non-formal learning for student motivation

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A Doğa Generation Grows SUCCESS = DOĞA

OVERALL PILOTING REPORT

Project no 562261-EPP-1-2015-1-IT-EPPKA3-PI-FORWARD

www.carma-project.eu

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CARMA PROJECT INFORMATION

CARMA – RMA and other non-formal learning methods for Student's Motivation (Project no 562261-EPP-1-2015-1-IT-EPPKA3-PI-FORWARD) is a 34-month initiative that started in January 2016 and is funded by the ERASMUS+ Programme under the Key Action 3 (KA3) Support for policy reform and coordinated by CESIE**.** Project partners are CESIE (Italy), University of Murcia (Spain), Pistes-Solidaires (France), Asist Ogretim Kurumlari A.S. - Doga Schools (Turkey), University Colleges Leuven-Limburg (Belgium), INOVA+ (Portugal), Verein Multikulturell (Austria). CARMA partners intend to contribute to reduce the rate of early school leaving to less than 10% and to reduce the share of 15-year-old under-skilled in reading, mathematics and science to less than 15% by the year 2020, by promoting the use of non-formal approaches to education and the Reciprocal Maieutic Approach (RMA). The project activities have been implemented throughout 7 different European countries: Austria (AU), Belgium (BE), France (FR), Italy (IT), Portugal (PT), Spain (ES) and Turkey (TR).

Each partner completed a national report to record their activities from the pilot phase.

WP4: PILOTING OF THE CARMA APPROACH

The CARMA project introduced non-formal learning methods as a collaborative learning strategy to innovate school culture and transform classroom practices. The RMA was used as an inclusive assessment tool for increasing teachers' skills. The results achieved by the partnership have been applied to push policies towards the inclusion of disadvantaged learners and reduce early school leaving.

The aim of the work package 4 was to pilot test the effectiveness of our non-formal learning techniques and RMA as an assessment tool within schools, to develop key results on collaborative learning practices to student motivation and participation, and to address low achievement.

Doga Schools is the leader of WP4. The piloting process was divided into 4 main stages:

1. Preparation stage: selection of teachers

2. Planning and delivering of an European Workshop on collaborative competencies for teachers

3. Delivery of non-formal learning (NFL) practices in a school environment

- **a.** Collaborative learning and assessment sessions with students
- **b.** Demonstration workshops
- **c.** Collaborative assessment with students

4. Delivery of webinars on continued peer learning support and collaborative work

The 'European Workshop for Collaborative Competencies for Teachers' includes all the techniques of NFL. Collaborative learning and assessment sessions with students included the piloting data from participant countries. The proof of evidence for the Demonstration Workshops were the list of participants, photos and presentations. CARMA webinars were held three times with the participation of the NFL experts and

implementer teachers. The aim of the webinars was to share the experiences of the teachers after testing the NFL Techniques. The 1st webinar was held on 15th of February 2017 at 11:00 CET, when the teachers initiated their implementations in their classrooms after the European Workshop. The 2nd webinar was held on 24th of May 2017 at 14:00 CET as the mid-evaluation session of the NFL techniques. The 3rd webinar was held on 20th October 2017 at 12:00 CET as the final evaluation session of the NFL techniques when they had finished the implementation of CARMA NFL techniques. The webinar sessions were planned to collect the results of the collaborative learning and assessment sessions, to learn the difficulties encountered and achievements of the teachers and the students while testing the NFL Techniques. Apart from this, the NFL experts shared the feedback of the school community, the responses of the teachers' diaries collected from the teachers from each partner country and the results of the Demonstration Workshops that were held in the schools of partner countries.

WP4.1 European Workshop for collaborative competencies for teachers

The following were the main learning objectives for the workshop:

1. Increased knowledge of non-formal learning practices and RMA as a tool to assess learning progress;
2. increased awareness of collaborative teaching and of the impact on student's motivation, participation and attainment;
3. increased ability to plan student interaction, support and assessment, self- and peer assessment;
4. increased confidence to deliver collaborative learning with own students and school during the pilot phase.

The European Workshop for collaborative competencies for teachers was held on 3rd-7th October 2016 in Baida Palermo, Italy. CESIE as the leading organisation presented the CARMA project and RMA. A range of different non-formal learnng techniques, selected by the experts of non-formal learning in each partner country were presented and tested by the teachers. The techniques included: Coding, Six Thinking Hats, Storytelling, Crossover Learning, Constructive Controversy, Box of Emotions and Petal Debate. Additional topics included didactic approaches, practical exchange of teacher experiences, European educational policies, group dynamics and competencies. In addition to all these, a visit to the office of CESIE allowed to to share experiences and to review similar projects which focus on the social inclusion of disadvantaged learners in school education and early school leaving. Teachers' Diaries, covered by WP6, were also introduced to the participants of the European Workshop. They were shown how to collect information during the implementation phase that would be used as the evidence base for demonstrating the impact of CARMA.

A social evening activity was also held. To conclude the workshop, certificates of participation recognising the learning outcomes achieved were handed out to the participant teachers.

Table 1: Overall numbers of the Project Working group

	IT	ES	FR	TR	BE	PT	AU	TOTAL
No. of non-formal experts	1	1	1	1	3	1	1	9
No. of teachers	5	4	4	4	4	3	2	26

The total, the European Workshop in Palermo brought together 26 teachers and 9 non-formal learning experts, divided per country as follows: Italy (6), Turkey (5), Belgium (5), Portugal (4), France (5), Spain (5), Austria (3). In addition to these participants, the workshop had the National Coordinator from CESIE and National Coordinator from UCLL (who led the overall evaluation of the workshop), and Workshop allowed teachers to explore and test the techniques and RMA before the testing in classroom/school practices. Director of KA Koekelberg, Unesco-school, Policy Expert and 2 RMA trainers also led sessions at the workshop.

WP4.2 Collaborative learning and assessment sessions with students

During the academic school year, seven sessions took place in schools led by teachers to

a. test the range of non-formal learning techniques;
b. test RMA as an assessment tool to monitor learners' progress.

The average duration of the sessions was 2 class periods (equivalent to 90 minutes contact time); however, the duration depended on the actual length of lessons within each participating school. RMA sessions were facilitated by teachers alongside students, using the adapted RMA as an assessment method and tool. RMA allowed a formative learner centred approach to assessment, in order to understand and measure the impact on learner's motivation and engagement as a result of participating in the pilot activities. As part of this assessment process, the wider school community was also involved in the formative process of feedback. RMA assessment included the following core activities which were developed into a tool during the implementation (see also WP4)

- Group work
- Creativity
- Self-reflection

Table 2: Data from the pilot in Italy

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Petal Debate	5	4	332	3
Six Thinking Hats	1			
Cooperative Learning	4			
Problem Solving	1			
Box of Emotions	5			

Group Investigation	2			

6 NFL techniques were implemented 18 times and 4 RMA sessions were implemented by 3 teachers, involving 332 students.

Table 3: Data from the pilot in Spain

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Petal Debate	6	4	510	4
Six Thinking Hats	5			
Group Investigation	16			
Crossover Learning	6			
Box of Emotions	7			
Learning by Coding	6			

6 NFL Techniques were implemented 46 times and 4 RMA Sessions were implemented by 4 teachers, involving 510 students.

Table 4: Data from the pilot in France

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Petal Debate	15	1	337	4
Six Thinking Hats	6			
Learning by Coding	20			
Box of Emotions	3			

4 NFL Techniques were implemented 44 times and 1 RMA Sessions implemented were by 4 teachers, involving 337 students.

Table 5: Data from the pilot in Turkey

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Six Thinking Hats	3	6	678	4
Constructive Controversy	6			
Mind Map	3			
P4C	6			
Storytelling	3			

Learning by Coding	3			
Petal Debate	3			
Storytelling	3			

8 NFL Techniques were implemented 30 times and 6 RMA Sessions were implemented by 4 teachers, involving 678 students.

Table 6: Data from the pilot in Belgium

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Six Thinking Hats	3	14	529	4
Storytelling	10			
Petal Debate	2			
Crossover Learning	4			

4 NFL Techniques were implemented 19 times and 14 RMA Sessions were implemented by 4 teachers, involving 529 students.

Table 7: Data from the pilot in Portugal

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Crossover learning	3	6	544	3
Philosophy with Children	3			
Box of Emotions	3			
Six Thinking Hats	6			
Constructive Controversy	3			

5 NFL Techniques were implemented 18 times and 6 RMA Sessions were implemented by 3 teachers, involving 544 children.

Table 8: Data from the pilot in Austria

NFL Techniques	No of NFL Techniques sessions	No of RMA Technique sessions	No of Students	No of teachers
Box of Emotions	9	4	108	4
Storytelling	6			
Embodied Learning	6			

3 NFL Techniques were implemented 21 times and 4 RMA Sessions were implemented by 4 teachers, involving 108 students.

Table 9: Consolidated data from the pilot in all participating countries

Country	No of NFL Techniques	No of NFL Techniques Implementations	No of RMA Evaluations	No of students	No of teachers
Austria	3	21	4	108	4
Belgium	4	19	14	529	4
France	4	44	1	337	4
Italy	6	18	4	332	3
Portugal	5	18	6	544	3
Spain	6	46	4	510	4
Turkey	8	30	6	678	4
Total	**36**	**196**	**39**	**3038**	**26**

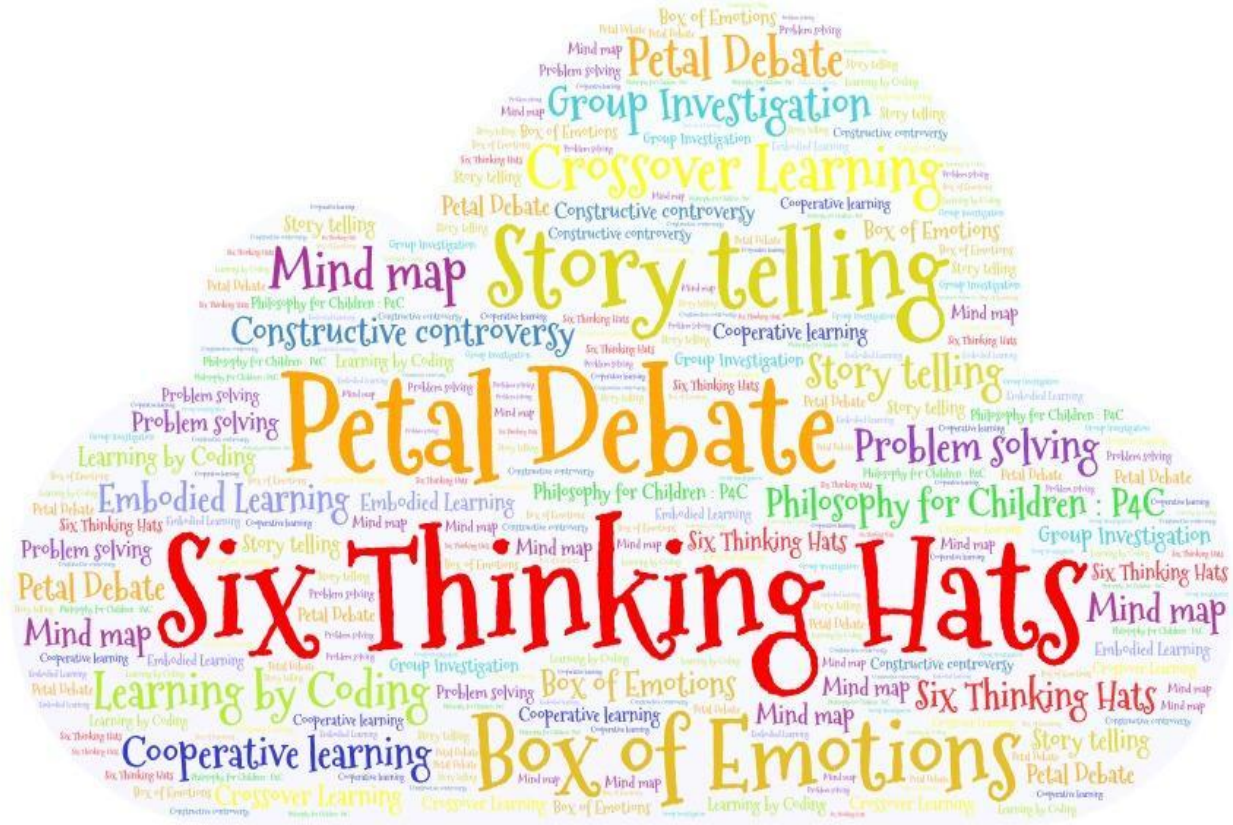
Across all participating countries, 36 NFL Techniques were implemented 196 times by 27 teachers, involving 3038 students. After the implementation of each NFL technique, an evaluation was carried out following RMA guidelines 39 times by 26 teachers. Table 10 below lists the NFL techniques implemented, from the most used to the least used.

Table 10: The implemented NFL techniques by numbers

NFL TECHNIQUES	NUMBER OF TEACHERS USING THE NFL TECHNIQUE	NUMBER OF THE IMPLEMENTATION SESSIONS OF THE NFL TECHNIQUE
Six Thinking Hats	6	24
Petal Debate	5	31
Box of Emotions	5	27
Storytelling	4	22
Crossover Learning	3	13
Learning by Coding	3	29
Philosophy for Children (P4C)	2	6
Group Investigation	2	18
Constructive controversy	2	6
Cooperative learning	1	4
Problem Solving	1	1
Mind Map	1	3
Embodied Learning	1	6
TOTAL	**36**	**190**

As shown in Table 10, 13 the number of teachers recorded to have tested each of the different NFL Techniques were 36, who implemented them a total of 190 times. Of those techniques, the Six Thinking Hats was the most used, as it was tested 24 times by 6 different teachers in partner countries. The second most used techniques were Petal Debate and Box of Emotions, each tested by 5 teachers. Cooperative Learning, Mind Map and Embodied Learning were the least used out of the collection of techniques, with only 1 teacher using each of these techniques. Even though Petal Debate and Box of Emotions were used less frequently, they were implemented more often that the Six Thinking Hats technique.

The NFL techniques and their frequency of implementation are represented in the Tagul word cloud below.



WP4.3 Demonstration Workshops

The planning and delivery of the demonstration workshops were led by the non-formal Experts with the direct target group 1 (DTG1) of teachers and took place within the school programme at key milestones of the piloting phase showing the progress in learning made by the direct target group 2 (DTG2) of students who have participated in the piloting. The workshops took place during the last months of the 2 school semesters within the piloting with a duration of 2-3 hours depending on the school curricula. Workshops were had support from non-formal learning Experts and were open to parents and the wider school community and featured (non-exclusively) the following main activities.

- Presentation of the CARMA project and collaborative learning activities carried out during the piloting phase
- Activities focused on testing the non-formal learning techniques that aimed to foster peer learning activities between different classes and between older students and younger students
- Sharing the experiences with other teachers, school staff, parents and other educational professionals
- Evaluation of the event and feedback from community of stakeholders in school policy making e.g. parents, staff, school service providers, civil society organisations

The Demonstration Workshops results have been linked to the evaluation outcomes of the project as they provided a space for dialogue and feedback between student and teachers together with different stakeholders within the school community. The partnership organised 15 Demonstration Workshops in the partner countries in total and the proofs (list of participants, photos and presentations) of the events were shared online (see annex 1). In Table 11, the number of the Demonstration Workshops, dates of the Demonstration Workshops and the number of the participants have been listed by country.

Table 11: All countries Demonstration Workshops numbers, dates of delivery and number of participants

Country	Number of Demonstration Workshops delivered	Date of Demonstration Workshop	Number of participants
Italy	1	17 October 2017	32
Spain	3	8 May 2017 10 May 2017 7 September 2017	24 12 22
France	2	7 July 2017 13 November 2017	21 5
Turkey	3	4 November 2016 18 January 2017 23 December 2017	10 14 72
Belgium	2	27 October 2016 19 September 2017	11 25
Portugal	5	31 May 2017 5 June 2017 21 June 2017 28 June 2017 05 July 2017	35 24 9 9 9 9
Austria	1	4th October 2017	30
TOTAL	**17**	**-**	**373**

In total 17 demonstration workshops were designed by partners. 373 participants were involved in these workshops. The participants were the school teachers, parents, prospective teachers, people from school administrations and academics from the universities. During the workshops all partners presented the project aims and objectives, target groups, project process and CARMA NFL techniques. The workshops proved successful in promoting the CARMA project and testing the techniques with the participants. At the end of the session, RMA was used for the evaluation of some of the demonstration workshops.

WP4.4 Sharing of Experiences Webinars

3 sharing of experiences webinars for the main target group of teachers together with non-formal Experts were carried out during the piloting. This common event for the participants of the pilot facilitated feedback about the pilot among the teachers and non-formal experts across the partner countries. Feedback from the webinars fed into the revision of the final results (CARMA Toolkit and Teacher Competence Assessment

Model) An online facility was used to carry out the webinars. The WP lead Doga Schools coordinated the organisation of the webinars.

The **1st Webinar** was held on 15th February 2017 at 11:00 CET with the participations of CESIE (IT), University of Murcia (ES), Doga Schools (TR), University Colleges Leuven-Limburg (BE), INOVA+ (PT), Verein Multikulturell (AU). The GotoMeeting platform was used to carry out the 1st webinar. The main topics were the collaborative learning and assessment sessions, difficulties encountered and achievements, the feedback of the school community, documentation and evidences from collaborative learning and assessment sessions, demonstration workshops, and Q&A session.

The **2nd Webinar** was held on 24th May 2017 at 14:00 CET with the participations of CESIE (IT), University of Murcia (ES), Doga Schools (TR), Pistes Solidaires (FR), INOVA+ (PT), Verein Multikulturell (AU). The GotoMeeting platform was used to carry out the 2nd webinar. The main topics were the collaborative learning and assessment sessions, difficulties encountered and achievements, the feedback of the school community, documentation and evidence from the collaborative learning and assessment sessions, demonstration workshops, and Q&A session.

During the 2nd Webinar the guiding questions were:

1. Which techniques have been tested?
2. How many sessions each teacher has implemented?
3. What techniques have they found to be effective/ useful in their classes?
4. What are the challenges faced when implementing the NFL techniques? (in terms of students / parents / administrative issues etc.)
5. How did they deal with these challenges?
6. What are their recommendations for effective implementation in your classes?
7. Have you already implemented RMA sessions with your students?

The **3rd Webinar** was held on 20th October 2017 at 12:00 CET with the participation of CESIE (IT), University Colleges Leuven-Limburg (BE), Doga Schools (TR), INOVA+ (PT), Verein Multikulturell (AU). The main topics were the numbers from the piloting, results of the collaborative learning and assessment sessions, difficulties encountered and achievements, the feedback of the school community, teachers' diaries from partner countries, Teacher Competence Assessment Model, Q&A session.

During the 3rd Webinar the guided questions were;

1. How many techniques each teacher has implemented?
2. How many sessions each teacher has implemented?
3. What techniques have they found to be effective/ useful in their classes?
4. What are the challenges faced when implementing the NFL techniques? (in terms of students / parents / administrative issues etc.) How did they deal with these challenges?
5. What are the outcomes of your RMA sessions with your students?

ANALYSIS OF THE GUIDING QUESTIONS OBTAINED FROM NFL EXPERTS

The data from the Demonstration Workshops collected from the partner countries were obtained by the NFL Experts after implementation. These responses from the teachers were collected over two different time periods and discussed five open-ended questions. The first responses were collected before the first webinar when they initiated their implementation in their classes and the second responses were obtained before the 3rd webinar session before finalising their CARMA classroom implementations.

Topics / questions discussed with the teachers included:

1. The techniques that they have found effective/useful in their classes
2. The challenges faced when implementing the NFL techniques (in terms of students, parents, administrative issues etc.)
3. The ways of dealing with these challenges,
4. The recommendations for effective implementation
5. The outcomes of the RMA sessions

The qualitative data obtained was analysed using a content analysis method. The aim of the content analysis was to relate the collected data to concepts and relationships that could explain it (Yılmaz Dogan and Altun, 2018). The process of the content analysis was to bring together similar data within certain defined concepts and themes and to order and interpret them. The qualitative data obtained through focus group discussions was analysed in four stages (Yılmaz Dogan and Altun, 2018 cited Yıldırım and Şimşek, 2013, 228):

1. **Coding the data:** The responses of CARMA teachers were carefully read and matched to a predetermined code list.
2. **Finding themes:** The codes were brought together and common aspects were found; themes emerged through the categorisation of the collected data using codes.
3. **Arranging codes and themes:** The themes and codes took their final form and were presented in relation to the themes that emerged with the aim of defining the collected data.
4. **Defining and interpreting the findings:** The discussion data was interpreted representing it according to codes and themes, using quotations from CARMA teachers, and providing examples and explanations.

Table 12: The responses of the countries to the 1st theme (Effective Techniques) of the Guided Questions

COUNTRY	QUOTATION	CODE	CATEGORY
AUSTRIA	*After implementing the techniques, the testing went well. It was necessary to motivate the students to keep on track and continue with the games. All went well.*	All techniques implemented in classes	Box of Emotions, Storytelling, Embodied Learning
BELGIUM	*All techniques were useful.*	useful	Six Thinking Hats, Storytelling, Petal Debate, Crossover learning
FRANCE	*French teachers enjoyed Petal Debate because they could easily use it with their group(around 30 students) and with their equipment. Also two of them used 6 hats to work on problematic/conflict situation. Bertrand worked especially on Box of emotions, he founded it useful but not enough effective so he adapted it. All techniques were useful to support the collaborative skills of the learners. Petal debate and 6 thinking hats were effective for expression, critical thinking and problem solving skills.*	Enjoy, easily use, work, work especially, useful, effective	Petal Debate, Six Thinking Hats, Learning by Coding Box of Emotions
ITALY	*Petal Debate was used by 2 teachers and was very effective as it allows students to analyse important topics relevant to the teaching subject from diverse perspectives. Six Thinking Hats helps students to analyse and think about a subject as the techniques permits to create six characters with different roles and views that look at a given problem from different perspectives. The Box of Emotions helps students tackle classroom tensions by exploring and sharing their emotions in a secure environment. Problem Solving or Group Investigation which through curiosity stimulate the boys to work together to find the solution to a problem.*	Very effective analysis, stimulate curiosity, tackle classroom tensions, explore and share emotions	Petal Debate, Six Thinking Hats, Box of Emotions, Group Investigation
PORTUGAL	*All the other techniques worked well, with some adjustments of course because of the duration of the classes and also because of the fact that the traditional classroom environment (tables and chairs for 25 students) is not the proper one to use most of the non-forma techniques where students must face each other, feel more comfortable, etc.*	All the other techniques worked well	Crossover Learning, Philosophy with Children Box of Emotions Six Thinking Hats, Constructive Controversy

SPAIN	***Box of emotions, because I had a group of students with some problems related to communicate among them, and thanks to this technique they could know better each other and open to others, eventually creating a much more integrated group.*** ***I found all of them very useful because students have become involved and have learner in a much more playful way.***	**Know each other better, creation of a more integrated group**	**Petal Debate, Six Thinking Hats, Group Investigation, Crossover Learning, Box of Emotions, Learning by Coding**
TURKEY	***RMA was very effective to reinforce the meta language of the ss and science teaching. 6 thinking hats was useful for critical thinking and expression skills of the learners and because it can be easily adapted to the topics of the lessons. Coding supported the computational thinking and integration with Storytelling, it enhanced the creativity of the learners while creating their games and stories. Pedal debate and constructive controversy were effective for expression, critical thinking and problem-solving skills and they help the students thinking out of the box.***	**Effective, useful, support, enhance**	**RMA, Six Thinking Hats, Learning by Coding, Petal Debate, Constructive Controversy, Storytelling**

Table 13: The responses of the countries to the 2nd theme (The challenges faced during the implementation) of the Guided Questions

COUNTRY	QUOTATION	CODE	CATEGORY
AUSTRIA	***Our target students were migrant and refugee students in transition classes. We had language barriers.***	**Refugee and migrants Language barriers**	**The profile of the participants. Lack of communication because of language barriers**
BELGIUM	***Children needed to get introduced and used to the methods and certain aspects, e.g. expressing their opinion.***	**Get introduced and used to the methods and certain aspects**	
FRANCE	***Bertrand's first challenge was to teach with only one student at the beginning. At the same time, he is isolated. So it was easy to implement new method but really difficult to propose it to colleagues. She needed to read more and to know more theory about some methods to use it. She achieved successfully an appropriation process of coding. She is new at her school and she is librarian so it was not easy to contact too quickly other teachers to work with her in a collaborative approach. But she had some trouble At one time with some colleagues (attention and money for equipment always for Fabienne). First it was just misunderstanding and more deeply it was too much changes and maybe too quick from the director who pushed innovation. But Fabienne explained again -maybe better- what she was doing and why***	**To teach with only one student, isolate, difficult to propose it to colleagues, read more and to know more theory about some methods, new teacher, librarian, contact quickly, misunderstanding and more deeply**	

ITALY	***The biggest challenge is rigid school environment and fixed regulations that have to be followed. There is not much space for teachers to implement their activities freely.*** ***Moreover, another challenge is timing. Lessons last only 45 minutes and it is not enough time to implement activities in an effective manner. Barbara as she works as a support teacher doesn't have a fixed classroom, therefore she always*** ***needs to ask colleagues if she can implement activities with them.***	**Rigid school environment and fixed regulations not much space timing. There is not enough time to support the teachers, doesn't have a fixed classroom**	
PORTUGAL	***Time constraints resulting from: preparation of the activities which need to be adjusted to the classes topics and students age and integrated into the school curricula; in some cases, it was already noticed that the average class duration (45m) is not enough or that the layout of the classroom is not the most adequate.***	**Time constraints**	
SPAIN	***The only problem I found was that teachers have to follow a teacher program that must be fulfilled. The first challenge is to try to implement a technique in the best possible way. The second challenge has been my own school.***	**Follow a teacher program try to implement a technique in the best possible way.**	
TURKEY	***It took some time to get used to be involved in the activities. They need extra support and sessions dedicated for these lesson was extended more than expected. Some of the students had difficulty to understand some terms and definitions done by their friends because of their lack of abstraction.***	**Involve in the activities, extra support, long lesson duration, understand some terms and definitions**	

Table 14: The responses of the countries to the 3rd theme (The ways of dealing with these challenges) of the Guided Questions

COUNTRY	QUOTATION	CODE	CATEGORY
AUSTRIA	***We had also sometimes to support with our multilingual staff members, in order to overcome some languages barriers. They adjusted some of the lessons depending on the daily hours of the students and they worked with the smaller groups which help them a lot and they could achieve to keep them till the end of the programme and lessons.***	**Multilingual staff member**	**Language & translation support Organisational support**
FRANCE	***We will do next demonstration workshop at his school. She did a lot of experimentation to continue to improve her practice. She works with her director to implement citizenship portfolio next year and she promoted CARMA. She explained what and what she did to parents, colleagues and her director. She proposed one training on the method at the end of the year (22 teachers!).***	**Demonstration Workshop, a lot of experimentation, work with director, propose meeting**	
ITALY	***Teachers hold discussions with other teachers and explained about the project and non-formal activities. They tried to link as much as possible non-formal techniques with the topics that students had to follow according to the schedule in order to comply with school requirements.***	**Discussions with other teachers and explained, link as much as possible non-formal techniques with the topics**	
PORTUGAL	***Adjustments were made to the general guidelines for the implementation of the techniques (e.g. some steps were shortened, less time for discussion/sharing, etc). At the end, it did not compromise the implementation of the techniques in the point of view of testing them in school environment, it only shows that one of the things that the project can recommend at the end is a reviews booklet of non-formal techniques with guidelines more adjusted to the reality of formal education.***	**Some steps were shortened, less time for discussion/sharing**	
SPAIN	***Sometimes I had doubts because I did not know if I was implemented the techniques correctly, but Rosa (the non-formal expert), has been always available to answer my emails quickly and helped me.***	**Has been always available to answer my emails quickly and helped me.**	

TURKEY	***Holding Demonstration session to the stakeholders earlier than planned. Giving support and monitoring the ss having lack of digital literacy as an out of class activity. While creating their outputs giving mentors to the tables. Giving some concrete examples and stories to support to make some more abstract terms meaningful for young learners.***	**Demonstration session, giving support and monitoring, giving mentors to the tables, giving some concrete examples and stories**	

Table 15: The responses of the countries to the 4th theme (The recommendations for effective implementations) of the Guided Questions

COUNTRY	QUOTATION	CODE	CATEGORY
AUSTRIA	***The duration should be flexible for teachers easy to adjust to the lessons of the class.***	**Flexibility in the duration of the lessons**	**Educational support**
FRANCE	***Doing implementations subsequently and integrating with their disciplines to make it more meaningful for the students. To propose this method as empowerment tool (for council of students, or for class council presentation) To repeat the method and to adapt it to student and context. Informing the target groups before the implementations about CARMA to engage the students in learner atmosphere. The activities should be designed to support the collaboration and to reach pedagogic objective. To present methods to colleagues and parents + to work with direction team***	**make it more meaningful, empowerment tool, repeat the method and to adapt it to student and context. Informing the target, groups, designed to support the collaboration and to reach pedagogic objective, present methods to colleagues and parents**	
ITALY	***Smaller groups of students. Engagement of other teachers who are not involved directly in CARMA project. Discussions with school management to allow more flexibility.***	**Smaller group, engagement of other teachers, discussion for more flexibility**	
PORTUGAL	***Adjusted guidelines Longer classes Shorter groups (see other comments above)***	**Adjusted guidelines Longer classes Shorter groups**	

TURKEY	***Doing implementations subsequently and integrating with their disciplines to make it more meaningful for the students. Pre-informing the target groups before the implementations. Collaborating with the school teachers to engage the students in learner atmosphere. The activities and topics should be planned according to the level and interests of the levels. The activities should be designed to support the collaboration.***	**Integrating with their disciplines, pre-informing, Collaborating with the school teachers, The activities and topics should be planned according to the level and interests of the levels. The activities should be designed to support**	

Table 16: The responses of the countries to the 5th theme (outcomes of the RMA sessions) of the Guided Questions

COUNTRY	QUOTATION	CODE	CATEGORY
AUSTRIA	***But it has very interesting way to work with the group, meant the teacher. They would like to test it with other student groups too.***	**Interesting way**	
BELGIUM	***Students are more motivated: Veerle´s children asked for the RMA afterwards. They like to know better how fellow students think and they felt listened to. RMA as an assessment after a series of classes was very helpful: as a teacher you can observe how our input is perceived and learned by children.***	**More motivated, know better how fellow students think, felt listened to.**	
ITALY	***Outcomes of RMA were very positive. The students reflected that non-formal activities allowed them to express themselves more freely, they increased their active listening skills, were able to share their emotions and to get to know their classmates and teachers better. RMA received unanimous interest as it helped to build more collaborative and less conflicting class dynamics.***	**Very positive, express themselves more freely, they increased their active listening skills, helped to build more collaborative and less conflicting class dynamics.**	
PORTUGAL	***In general, it worked well despite the difficulties with the fact that the groups are large and that there was some repetitions of the students opinions during the process and not too much sharing.***	**It worked well some repetitions of the students' opinions not too much sharing.**	

SPAIN	***To have the opportunity to discuss with classmates and with the participation of all students, has allowed them to listen and learn and put themselves in someone else's shoes. Results have been very positive.***	**Opportunity to discuss the participation of all students, listen and learn and put themselves in someone else's shoes. Positive.**	
TURKEY	***In the beginning they learnt to listen to each other carefully to be able to come up with a new idea. Second implementation help them to be in the community and how to share their opinion as a part of the community. Last time they learnt how to complement each other by listening and respecting.***	**Listen to each other carefully, to be in the community and how to share their opinion, how to complement each other by listening and respecting.**	

CONCLUSIONS

With regards to the effectiveness of the techniques deployed, there was an overall positive response. All techniques were found to be useful, especially as they did engage students. The testing activities were successful; on some occasions, students needed to be motivated to keep going. Adjustments were made depending on the duration of lessons, on class size and on equipment readily available.

The **Petal Debate** technique was found to be useful as it was a good fit with the size of the groups and with the equipment available. In addition, it promoted different points of view and it worked well to help learners express themselves, and to promote critical thinking and problem-solving skills. In some cases, it also promoted lateral thinking.

The **Box of Emotions** needed some adaptation. It was considered helpful to address tensions in the classroom, as it allows to explore and share emotions in a safe context. It promoted communication among the students, which was particularly useful to accelerate integration.

To promote collaboration, **Problem Solving** or **Group Investigation** worked best. **RMA** was very effective to reinforce the meta language in sciences and social sciences, as it made extensive use of dialogues in a dialectic approach. **Learning by Coding** was useful in terms of computational thinking and integration with **Storytelling**; it allowed learners to develop their creativity through the creation of their own games and stories.

The challenges faced can be summarised in two main categories. On one hand, the techniques required coaching and explanations of students and teachers alike, to a various degree. Overall, the students needed an introduction to the techniques, activities and, at least in one case, to the terminology and definitions used. Further coaching was required on how to express themselves. To facilitate the students' engagement, some of the concepts were visualised and rendered in concrete examples, which was particularly useful for young students struggling with abstract concepts.

Teachers too needed to be coached, which required further explanations and, in some cases, some convincing. Teachers were given support in a variety of fashions, ranging from classical teacher training, demonstration sessions to peer-to-peer support groups. On the other hand, the techniques had to be deployed against the backdrop of a traditional school environment, as the techniques clashed with the traditional school settings, regulations, curricular needs and timings. In particular, the traditional 45 minutes lesson appeared to provide a challenge to this approach. This required considerable adaptation work, especially with regards to the timings, which often had to be shortened for specific activities.

An exceptional challenge was faced by the Austrian partner, as their target group was made up of migrant and refugee children, which presented the teachers with a considerable language barrier. This was overcome by enlisting support from

multilingual staff members. Some of the lessons were adapted to the learners' needs, and smaller groups were formed.

The recommendations focused on changes and preparations needed for a successful implementation.

The deployment of the NFL techniques and their integration in daily learning and teaching experiences would benefit from a wider involvement of stakeholders (teachers, school leaders, parents, etc.).

A clear request for malleability is made evident in the feedback gathered. The duration of the implementation cannot be rigid, it needs to be flexible to adapt to real life situations. Extending the lesson time seems to be the preferred option but, where this is not possible, activities could be shortened, and smaller groups could be formed. A malleable approach makes it easier to adjust the NFL techniques to the actual lessons. Generally speaking, the techniques need to be adapted to the learners and to their context.

To create a meaningful learning experience, the techniques need to be integrated with the actual subjects being taught, and advanced information needs to be provided. The activities should be designed to support collaboration among learners, and to help achieve the learning goals. Smaller groups of learners should also be considered to increase engagement. A pre-implementation survey to gauge interest and disposition towards topics and activities could also help to better target the techniques.

The overall perception is that this has been a very interesting way to work with students, an experience that teachers would like to repeat with other groups. Students are more motivated, they like to understand how their peers think and feel, and they like to share their emotions and to be listened to. By doing so, they learn transferable skills, such as active listening, critical thinking and collaboration. Teachers enjoyed being able to observe how their input was perceived by their students.

GLOSSARY

Direct Target Groups 1 (DTG 1): Teachers involved in CARMA project implementation.

Direct Target Groups 2 (DTG 2): Students involved in CARMA project implementation.

Non-Formal Learning Techniques (NFL Techniques): There are 18 techniques listed under this category. For more information, see the CARMA Toolkit at: http://carma-project.eu/download-area.

Non-Formal Learning Experts (NFL Experts): Trainers with expertise in non-formal education involved in CARMA project implementation

Reciprocal Maieutic Approach (RMA): RMA was developed by sociologist and social activist Danilo Dolci based on the Socratic concept of maieutics. The term ‘maieutic’ derives from the ancient Greek "μαιευτικός", pertaining to midwifery: every act of educating is like giving birth to the full potential of the learner who wants to learn, the same way a mother wants her child to emerge from her. Socratic maieutics defines the philosopher as a "midwife of knowledge" who does not fill the mind of the learners with information, but helps them to reach the light by using dialogue as a dialectic instrument to seek out the truth. For more information about RMA, visit: https://en.danilodolci.org/reciprocalmaieutic.

CARMA Consortium

Project Coordinator – Italy
www.cesie.org

Spain
www.um.es/gite

France
www.pistes-solidaires.fr

Turkey
www.dogaokullari.com

Belgium
www.ucll.be

Portugal
www.inovamais.eu

Austria
www.migration.cc

CARMA

Non-formal learning for student motivation