

**CARMA**

Non-formal learning for student motivation



# CARMA Toolkit

***A step-by-step guide for implementing  
collaborative learning to increase student  
motivation and participation***

[www.carma-project.eu](http://www.carma-project.eu)



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**Editors:**

Ruta Grigaliunaite, CESIE, Italy

Rosina Ulokamma Ndukwe, CESIE, Italy

**Co-Editors:**

Mathieu Decq, Pistes Solidaires, France

Magali Lansalot, Pistes Solidaires, France

**Contributors:**

Ovagem Agaidyan, Verein Multikulturell, Austria

Gizem Agyuz, DOGA Schools, Turkey

Danny Arati, DOGA Schools, Turkey

Klaudia Binna, Verein Multikulturell, Austria

Dima Bou Mosleh, University Colleges Leuven-Limburg, Belgium

Linda Castañeda, University of Murcia, Spain

Pedro Costa, INOVA+, Portugal

Ömer Düzgün, Verein Multikulturell, Austria

Isabel Gutiérrez, University of Murcia, Spain

Karine Hindrix, University Colleges Leuven-Limburg, Belgium

Ana Leal, INOVA+, Portugal

M<sup>a</sup> Del Mar Sánchez, University of Murcia, Spain

Irene Pilshopper, Verein Multikulturell, Austria

Marta Pinto, INOVA+, Portugal

Rosa Pons, University of Murcia, Spain

Paz Prendes, University of Murcia, Spain

Serkan Solmaz, DOGA Schools, Turkey

Zuhal Yilmaz Dogan, DOGA Schools, Turkey

**Graphic Design:**

CESIE

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# Glossary of terms

**EC**

European Commission

**ESL**

Early School Leaving

**CL**

Collaborative Learning

**NFL**

Non-formal Learning

**NFL Expert**

Non-formal Learning Expert

**RMA**

Reciprocal Maieutic Approach

**SDT**

Self-Determination Theory



# 1

## Introduction

# Introduction

*“The CARMA project is not about converting formal into non-formal education, but it is about taking advantage of the techniques of non-formal learning so to enrich and improve the formal education approach. Although the techniques are non-formal, these learning approaches continue being formal, because this is important for our students.” – The Research Group in Educational Technology, University of Murcia.*

## 1.1 Who is this Toolkit for?

**Y**ou may have heard the statement, “my students are so unmotivated!” and you may have read so many times about the importance of motivation in education. What can we do to change the statement to “my students are so motivated”? How can we support each student in reaching his/her full potential, increasing their achievements and even reducing the risk of early school leaving?

The Toolkit we have developed is a result of the Erasmus+ project ‘**CARMA – RMA and other non-formal learning methods for Student Motivation**’, and is a step-by-step guide to implementing collaborative learning practices with the students and transform classroom practices using non-formal learning techniques. You can read all about the CARMA project in Chapter 2.

This Toolkit is targeted at **lower secondary and secondary school teachers working with students in the age range of 11 to 16 years old in general**. We say in general, because as we will explain in the following chapters, school students up to the age of 18 years old have also participated in the CARMA project and their experiences and outcomes have influenced the development of this Toolkit.

Its primary focus is to support understanding in collaborative learning approaches and offer a step-by-step guide on how to implement collaborative learning activities to increase students motivation, participation and raise achievement levels. The Toolkit addresses the specific needs of secondary education teachers wanting practical ideas on how to introduce collaborative learning in the classroom, in particular when teaching in a complex environment to learners identified as

disadvantaged, low achieving and at risk of early school leaving.

Importantly, this Toolkit aims at giving teachers the tools to make the collaborative learning environment a reality in schools!

This Toolkit also intends to support teachers in initial teacher training from a wide range of subject areas. In addition, school headmasters, school leaders and teaching staff in school education can benefit from using this Toolkit as a resource for introducing and promoting alternative non-formal learning approaches and collaborative learning in the classroom to address educational challenges, enrich the learning environment and make a positive impact on the wider school community.

## 1.2 Why are collaborative approaches to learning important for school education?

*“Collaborative learning is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most centre on student’s exploration or application of the course material, not simply the teacher’s presentation or explication of it.” (Smith, B.L. & Macgregor, J.T., 1992).*

Collaborative learning methodologies transform traditional frontal classroom or teacher focused classroom environment into a student or learning centred environment. Collaborative learning is a pedagogy of interaction where learners are responsible for their own actions and at the same time responsible for the actions of other learners within the group. Students work together, under the teacher’s supervision, to help each other understand concepts, solve problems or create projects and products and there is a sharing of

authority and acceptance of responsibility among group members for the group actions.

Collaborative learning shifts the responsibility for learning away from the teacher as the expert to the student. The teacher, once the task or activity is set becomes a moderator or facilitator of the process and has to create an environment in which the students can learn together as a group and joint problem solving.

The **benefits of collaborative learning** has been the subject of various research studies and analysis<sup>1</sup> and according to studies by Johnsons and Panitz<sup>2</sup> there are over 50 benefits for delivering collaborative learning. We can divide them into 4 major categories of social, psychological, academic and assessment, as in the following:

- Social benefits
  - Collaborative learning leads to build diversity

1 Hattie, J. (2009). *Visible Learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge; Shachar, H. & Fischer, S. (2004). *Cooperative Learning and the Achievement of Motivation and Perceptions of Students in 11th Grade Chemistry Classes*. *Learning and Instruction*, 14 (1), 69-87.

2 Johnson, D.W. & Johnson, R.T. (1989). *Cooperation and Competition Theory and Research*. Edina, Minnesota; USA: Interaction Book Co. Publishing; Panitz, T. (1999). *Benefits of Cooperative Learning in Relation to Student Motivation*. In M. Theall (Ed.), *Motivation from within: Approaches for Encouraging Faculty and Students to Excel, New Directions for Teaching and Learning* (pp. 59-68). San Francisco, CA: Jossey-Bass Publishing.

- understanding among students and staff;
- Collaborative learning establishes a positive atmosphere for modelling and practicing cooperation.
- Psychological benefits
  - Student-centred instruction increases students' self-esteem;
  - Cooperation reduces anxiety;
  - Collaborative learning develops positive attitudes towards teachers.
- Academic benefits
  - Collaborative learning promotes critical thinking skills;
  - Collaborative learning involves students actively in the learning process;
  - Classroom results are improved;
  - Collaborative learning is especially helpful in motivating students in specific curriculum.
- Alternate student and teacher assessment techniques
  - Collaborative teaching techniques utilise a variety of assessments.

Looking at these benefits of collaborative learning, we can see that such approaches can be very

effective in increasing student motivation, improving student engagement and increasing the achievements of disadvantaged students who are more at risk of low achievement and early school leaving.

Classroom practices based on group settings where learners collaborate as an explicit part of the learning environment can make a positive impact on the learning conditions of all students. It provides many opportunities for alternate forms of student assessment using non-traditional methods<sup>3</sup>. In a collaborative learning setting, students are actively involved in the learning process and more likely to become interested in learning and participating in school, therefore student maintenance is increased<sup>4</sup>. Collaboration and interaction produces stronger results, furthermore they encourage trust building, communication, motivation and engagement, practical learning, application, and they enhance problem-solving skills.

With this in mind, it is important that every teacher learns how to promote inclusive and participatory practices

in the classroom and learns how to develop collaborative relationships with their students, as often these are at the core of the educational process.

*“Sometimes in the classroom, sometimes for the teacher, sometimes for students, it is difficult to establish a good relationship. The relationship is limited to: I teach you, and that’s enough, the relationship ends there and, in my opinion, this is wrong. We should create almost a relationship of friendship. Of course, everyone one has their own role, but this relationship we look for is very important.”* **Francesco – student, Palermo.**

Students need more effective relationships with their teachers, a better communication with them and a more emotionally comfortable school environment, which fosters learning that is more inclusive<sup>5</sup>. Collaboration and relationships based on trust is what can make students more motivated and involved in the classroom!

**Do you want to say, “my students are so motivated”?  
If yes, you have the right  
Toolkit in your hands!**

3 Panitz, T. & Panitz, P. (1996). *Assessing students and yourself using the one-minute paper and observing students working cooperatively. Cooperative Learning and College Teaching Newsletter*, 6 (3).

4 Astin, A.W.(1977). *Four critical years: Effects of college beliefs, attitudes and knowledge. San Francisco, USA. Jossey Bass Publishing.*

5 Polito, M. (2004). *Comunicazione positiva e apprendimento cooperativo. Strategie per intrecciare benessere in classe e successo formativo, Italy.*

### 1.3 What is the purpose of this Toolkit?

**T**his Toolkit aims to demonstrate that establishing a culture of collaboration within the school community can be possible. This Toolkit shows that introducing collaborative learning approaches in classroom practices does not need to be resource intensive; by this, we mean it does not need years of professional development, or expensive technology or knowledge to implement all of the activities within our tested approach.

One of the key factors we have learnt from delivering CARMA is that for teachers to be able to implement collaborative experiences they need support from educational stakeholders. Whilst using this Toolkit, the engagement of School Head teachers, school leaders, teachers, parents, inspectors, teacher trainers, curriculum developers and many other stakeholders from the wider school community is needed in order to innovate change!

**We can support school communities to become collaborative learning communities!**

In using this Toolkit, we strive for all teachers to be equipped with:

- the right resources
- step-by-step support
- integrated methods of learning

We want to bring about change at classroom level through the adoption of an inclusive approach, which fosters **interaction, creativity and reciprocal learning** between teachers and learners, which will leave a lasting positive impact on the wider school environment.

Furthermore, we believe that assessing collaborative approaches to learning with the right resources and knowledge is usually simple and straightforward, but you do need an open mind and the willingness to trust yourself in teaching in a way that you have not been so accustomed to and to trust your students in adopting a new learning style. You need a culture that values every student's strengths and contribution and a school community that believes everyone can learn from each other. In other words, it requires the very things that nearly every school strives for!

This Toolkit aims to spread the CARMA approach throughout Europe and the lessons learned from the experimentation stage within

schools. It is a source of inspiration for those working in school education to apply the methods and activities of our collaborative learning strategy to innovate school culture and transform classroom practices. Furthermore, we hope you can achieve the same or similar results we have achieved in adapting and testing non-formal learning techniques with 28 teachers and with more than 3,000 students across different schools in Italy, Spain, France, Portugal, Belgium, Turkey and Austria.

## 1.4 How can you use this Toolkit?

**T**he Toolkit is intended to be an effective guide that will support you as teacher to enrich your teaching practices and your classroom environment, build effective relationships with your students, help to increase their motivation and participation, and foster your students engagement in the learning process.

Following this introduction, the Toolkit is organised into 7 main sections that:

- explains what the CARMA project is all about and the pedagogical principles associated with student motivation and the Reciprocal Maieutic Approach (RMA);

- presents guidelines on establishing collaborative practices in your classroom;
- provides you with innovative and easy-to-apply non-formal learning techniques for implementing collaborative learning in classroom setting;
- explains and shows the learning outcomes and professional development opportunities that implementing collaborative learning brings to teachers;
- explains and shows the learning outcomes that implementing collaborative learning brings to students;
- presents the experiences of teachers and students' who have been involved in testing collaborative learning in their classroom;
- provides you with guidelines to assess your skills development when you implement non-formal learning techniques in the classroom.

The Toolkit also includes:

- supporting resources for delivering collaborative learning created and tested during the project by teachers including the CARMA Competence Assessment Model for teachers and the CARMA Teacher's Diary as annexes.

## In Chapter 3

Provides guidance for understanding and establishing collaborative practices within the role of Teacher, which becomes the **moderator** or **facilitator** of the process. Covers the main principles of **non-formal education**, which is at the heart of the CARMA approach, and the role and skills required from the teacher to put collaborative learning and collaborative assessment into practice.

## Chapter 4

Offers **practical ideas** for implementing collaborative practices that can be used in the classroom and alongside various subjects during the learning process through a variety of non-formal learning techniques. Explains the practical application of each technique in the classroom from preparation to delivery. Details the expected outcomes and added value of using the techniques in connection to enhancing learners knowledge, skills and competences and offers hints and tips for delivery.

## Chapter 5

Describes the process implemented for designing and developing **learning outcomes for teachers and students**. Shows the

impact on both teachers and students at the end of the CARMA project and present the learning outcomes achieved after delivering non-formal learning techniques in the classroom as a method for integrating collaborative learning within the school environment.

## Chapter 6

Provides a closer look into the **impact on teachers and students** who have been involved in testing the non-formal learning techniques in their classroom. It presents personal real-life “experiences” from the participants across the 7 different countries who by sharing their stories aim to give a deeper understanding of their journey through the CARMA project.

and finally...

In **Chapter 7** we have put together a set of guidelines for using **the Competence Assessment Model for teachers** which has been developed and tested during the CARMA project to make you better aware of your skills and what you have learnt thanks to the use of non-formal learning techniques in your classroom with your students. Above all, our Model is intended to be flexible, the way you use it and incorporate it into your own teaching is entirely up to you!



To support its use in the classroom by teachers, we have also developed a shorter version of this Toolkit focused on the different practical teaching resources for implementing collaborative practices that can be used in the classroom and alongside various subjects during the learning process.

The shorter version of the Toolkit can be accessed and downloaded from the CARMA website at: [carma-project.eu/resources](https://carma-project.eu/resources)

**So why not give it a try? Through YOUR own motivation, you can motivate others!**

**HAPPY  
READING!**



# 2

## **CARMA - RMA and other non-formal learning methods for Student Motivation**

## 2 CARMA - RMA and other non-formal learning methods for Student Motivation

*“The authority of those who teach is often an obstacle to those who want to learn.”* - Marcus Tullius Cicero.

Over the past decade, the European education system and institutions have made significant efforts to innovate and reform education, by establishing key priorities for school education across European countries as part of the Education and Training Strategic Framework (ET 2020)<sup>6</sup>. These priorities include reducing the rate of early school leaving (ESL) in the EU to less than 10% and reducing the share of 15-year-olds under-skilled in reading, mathematics and science to less than 15% by the year 2020<sup>7</sup>.

It is within this framework that the CARMA - RMA and other non-formal learning methods for Student Motivation project<sup>8</sup> assumed a strategic role. CARMA coordinated by CESIE in Italy, was a 34-month initiative (January 2016 – October 2018) funded by the Forward-

Looking Cooperation strand of the Erasmus+ Programme<sup>9</sup>. Responding to these core challenges, organisations from Italy, Spain, France, Portugal, Belgium, Turkey and Austria worked together to contribute to reduce the rate of ESL and the share of under-skilled young people as set by ET 2020.

**The general objective of the CARMA project was to develop, test and introduce in school non-formal techniques as a collaborative learning strategy to innovate school culture and transform classroom practices.**

**The aim of CARMA was to innovate school culture and transform classroom practices**

The Reciprocal Maieutic Approach (RMA)<sup>10</sup> of Danilo Dolci was

<sup>9</sup> The European Union's Erasmus+ programme is a funding scheme to support activities in the fields of Education, Training, Youth and Sport <https://eacea.ec.europa.eu/erasmus-plus>.

<sup>10</sup> Dolci, D. (1996) *Maieutic Structure and Evolution*, Florence. The RMA of Danilo Dolci is a “reciprocal” process between at least two people and it normally develops within a group, with a person that starts asking some questions and other people that search for the answers together and make other close examinations. In an intense dialogue that stands for a new way of education based on increasing individuals' and group's creativity, the maieutic process concentrates on the capacity of people potential to discover their vital interests and freely express their own reflections basing both on their experiences and their personal discovers and on the choral verification of the proposals.

<sup>6</sup> The Strategic Framework for the European Cooperation in Education and Training (ET 2020) [http://ec.europa.eu/education/policy/strategic-framework/index\\_en.htm](http://ec.europa.eu/education/policy/strategic-framework/index_en.htm).

<sup>7</sup> Eurostat, EU labour force survey 2018, source - According to Eurostat's data, an average of 10.7 % of young people (aged 18-24) in the EU-28 were early leavers from education and training.

<sup>8</sup> More details about the project can be found at: [www.carma-project.eu](http://www.carma-project.eu)

introduced to the project as an inclusive and innovative assessment tool to allow teachers to monitor and respond rapidly to students' learning progress. The theory of RMA is further explained in part 2.2.

**CARMA has made a positive contribution to the development of more effective policies to support learners' inclusion and reduce the risk of ESL.**

The results achieved across schools in different European countries have been used to make a positive contribution to the development of more effective policies to support the inclusion of disadvantaged learners and reduce the risk of early school leaving.

### **CARMA targeted:**

1. Secondary school teachers and entry level subject teachers in reading, mathematics and science in particular;
2. Students aged 11 to 16 in general, and those identified as disadvantaged, low achieving and at risk of early school leaving in particular;
3. Teaching staff and professionals within school education, the

community of stakeholders in the policy-making process (e.g. parents, youth educators, school service providers), civil society organisations and policy makers in school education.

During the project we opened up our target group to include teachers from a wide range of subjects not only teaching reading, mathematics and science but also subjects such as tourism, geography and informatics. Also, due to the nature of some classes that involved students that were repeating the school year, we also worked with secondary school students up to the age of 18 years old who participated fully in the classroom activities.

### **CARMA's specific objectives included the:**

- **Increase of student motivation and participation** by offering an alternative form of teaching and learning using non-formal approaches to education and RMA to support disadvantaged learners and increase achievement levels of students, particularly those at risk of early school leaving;
- **Support of the integration of RMA as an assessment tool** within school curricula to

enrich the learning environment and support school communities to become collaborative learning communities;

- **Increase and improvement of the competences of teachers** through providing a training and assessment framework with the necessary skills, knowledge and resources on how to use inclusive and participatory practices in their own teaching and develop collaborative relationships in and out of the classroom, thus decreasing the distance between the teacher and learner;
- **Provision of inputs and policy recommendations** for intervention strategies to reduce early school leaving and increase basic skills through a network that will facilitate close collaboration with key actors across different levels of education.

CARMA's objectives have resulted in:

- A **Toolkit** including a step-by-step guide and resources to promote collaborative learning and increase motivation and participation of students;
- An **Assessment Model** defining common standards

in teachers' competences to implement collaborative learning activities in everyday practices;

- An **Inclusion Strategy** addressed to European and national education authorities, with recommendations on how to integrate non-formal learning methods within the educational programmes and suggestions on how to form collaborative relations within whole school communities.

## 2.1 Learners' Motivation as a specific objective of CARMA

Since the main outcome of the CARMA project was to increase the motivation and participation of students, we considered it necessary to clearly understand the concept of motivation and its functioning in scholarly learning processes.

The definition of non-formal learning (see Chapter 3. Establishing collaborative practices) makes us aware of the role of motivation in learning processes. The Self-Determination Theory (SDT), (Deci and Ryan, 2000; Niemiec et al., in press; Ryan and Deci, 2000) is qualitatively analysed by Vansteenkiste (2009) who views motivation from a self-determination perspective and,

hence, criticises theories that consider motivation as an unitary quantitative construct and that suggest a higher amount of motivation lead to better outcomes. That is, that higher levels of motivation do not necessarily yield more desirable outcomes if motivation is of poor quality. The quality of motivation matters, particularly in the context of the school environment as demonstrated by CARMA.

### Autonomous motivation

Vansteenkiste (2009) presents the concept of autonomous motivation indicating the importance of a feeling of psychological freedom. Autonomous motivation is stimulated in an environment that facilitates autonomy, competence and relatedness and is associated with:

- a higher psychological well-being
- greater time management
- more determination and will as indexed by greater effort-expenditure
- greater intention persist
- greater effective perseverance
- better cognitive processing
- higher grades

What can teachers do to create such a learning environment (Niemic and Ryan, 2009)? During the testing of the different non-formal learning

techniques in the classroom, our question was “how can teachers foster such motivation and how can we measure the increase in students’ motivation and participation as a learning outcome?” How we did this will be explored in more detail in Chapter 5.

## 2.2 What is the “RMA” in CARMA?

*RMA is a dialectic method of inquiry and “popular self-analysis” for empowerment of communities and individuals and it can be defined as a “process of collective exploration that takes, as a departure point, the experience and the intuition of individuals – Danilo Dolci (1996)<sup>11</sup>.*

**R**MA was developed by sociologist and social activist Danilo Dolci from the Socratic concept of Maieutic. It derives from the ancient Greek “μαϊευτικός”, pertaining to midwifery: every act of educating is like giving birth to the full potential of the learner who wants to learn, as a mother wants her child to emerge from her.

<sup>11</sup> Dolci, A & Amico, F. EDDILI (2011) *The Reciprocal Maieutic Approach in Adult Education - Manual* <http://reciprocalmaieutic.danilodolci.it/the-project>

Socratic maieutics compares the philosopher as a “midwife of knowledge” that does not fill the mind of the student with information but helps him to reach the light, by using dialogue as a dialectic instrument to reach out the truth. What differentiates both concepts is the fact that Socrates’ Maieutics was unidirectional, while for Danilo Dolci the concept of knowledge comes from experience and a reciprocal relationship is necessary.

RMA is:

- a “reciprocal” process between at least two people;
- normally done inside a group, with one person asking questions and others giving answers;
- a reciprocal maieutic communication that brings out people’s knowledge, with all participants learning from each other.

Beginning from this and inspired by other great thinkers and people in action (Galtung, 1957; Capitini, 1958; Chomsky, 1998; Gandhi, 1999; Moren, 2001; Freire, 2002), Dolci developed the RMA that he started to use in the villages of Partinico and Trappeto in Sicily, fighting for poor people’s rights and against mafia.

RMA is strongly connected with the concept of “nonviolent communication” (Rosenberg, 1998). It can also be described as a **group communication strategy** (Habermas, 1986) that enables all elements of the group to give their ideas and opinions, contributing through this to the development of a final common idea in order to make a change in the individual and collective social / political / economic / educational spheres (Mangano, 1992).

As a group communication strategy, the CARMA project has applied Danilo Dolci’s RMA as an innovative pedagogical approach to be used in schools with teachers and their students. Specifically during the project, it was used by teachers to aid the assessment and evaluation of their students’ learning progress during and after the use of non-formal learning techniques within the classroom (see Chapter 4: Delivering Collaborative Learning in the Classroom and Chapter 5: Designing and Developing Learning Outcomes for CARMA).



# 3

## **Establishing Collaborative Practices**

### 3 Establishing Collaborative Practices

There are many different kinds of learning, all of which depend on the educational context. People of all ages learn within different settings such as within youth clubs, at school, in their family, at informal meetings, at university, from their daily experience, at summer camps, at work, etc.

All these learning contexts are parts of different kinds of educational concepts:

1. **Formal education** refers to the structured education system that runs from primary school to university, and includes specialised programmes for technical and professional training.
2. **Non-formal education** refers to any planned programme of personal and social education designed to improve a range of skills and competences, outside the formal educational curriculum.
3. **Informal education** refers to forms of learning that are intentional or deliberate but are not institutionalised. They are less organised and structured than both formal or non-formal

education. Informal learning may include learning activities that occur in the family, in the work place, in the local community, and in daily life, on a self-directed, family-directed or socially-directed basis

Formal, non-formal and informal learning approaches (or education) are complementary and mutually reinforcing elements of lifelong learning processes.

**Let's focus on non-formal education!**

Non-formal education is usually defined as:

- A planned learning process
- Personal, social and political education for young people
- Designed to improve a range of skills and competences
- Outside but supplementary to the formal educational curriculum
- Where participation is voluntary
- Where trained educators carry out the programmes.

But non-formal education for participants is also about: freedom of choice, fun, creativity, participation, learning, activities, games, skills, experience, an easy way to learn, spontaneous learning, pleasure, doing, trying, others, different points of view and

possibilities, freedom, more valuable information, learners contributing to the direction of learning, ...everything is possible.

## Some Things to Know to Use Non-formal Education in the Classroom

Using non-formal education inside the classroom is not something very common since many teachers do not receive specific training regarding the use of such methods and techniques. Implementing lessons using non-formal education is not just about changing the way of teaching and the methods used. Using non-formal education is much more than that.

Here is a non-exhaustive list of 6 essential elements you need to pay attention to as a teacher in order to implement non-formal activities inside the classroom.

### 1) Non-formal education is based on active participation.

This means doing and experiencing! A central part of the learning process using non-formal education methods is self-reflection. Exercises in non-formal education are of an **experiential nature** (for example, simulations and role-plays) and input will always be interactive. It is a product of the facilitator and participants who contribute with their experiences and knowledge.

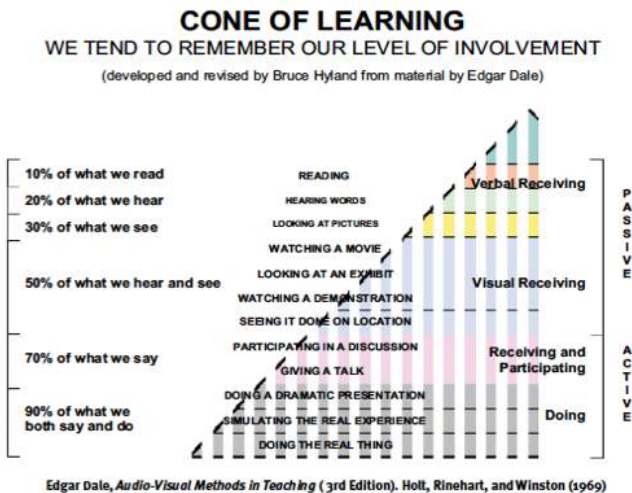


Figure 1: Cone of Learning developed by Edgar Dale (1969)

The 'Cone of Learning' developed by Edgar Dale (1969) perfectly illustrates how much participative methods can be useful in the learning process since people remember at least 70% of what is taught when they are active.

## **2) Be a teacher facilitator and not only a teacher**

Being a teacher facilitator is different from being a teacher. Indeed, acting as a teacher facilitator means that the teacher is no longer the source of all knowledge in the classroom. The teacher's role is to inspire the students to take ownership of their own learning. The idea is that the teacher is there to engage, lead, inspire and encourage the students in the classrooms.

### **In a few words, a facilitator is a person who:**

- designs work sessions with a specific focus or intent;
- brings out the full potential of individuals and groups;
- provides processes, tools and techniques that can get work accomplished quickly and effectively in a group environment;
- keeps a group meeting on track;
- helps to resolve conflict;
- organises and provides structure for the work of a group;

- makes sure that the goals are met;
- is empathetic;
- organises space and time.

**...and much more!**

## **3) Put collaborative learning at the heart of your activities.**

In order to use non-formal education with students efficiently, you should use collaborative learning. Here, the idea is to use methods of teaching and learning in which students act as team to explore significant questions or to create meaningful projects. Collaborative learning approaches are based on the idea that learning is a naturally social act in which the participants talk among themselves. It is through the talk that learning occurs.

Thus, in a non-formal education and collaborative learning setting, learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and be actively engaged.

## **4) Be aware that you will need and develop some meaningful skills!**

Not only does implementing non-formal activities in the class means having some specific skills, but it also means developing and

reinforcing numerous other ones.

We have categorised them into **4 main sections:**

- **Facilitation and moderation skills** such as ability to address conflict, to communicate empathically, provide structure for the group to work together;
- **Competences in collaborative learning** such as ability to encourage and stimulate pupils to express their ideas and opinions, ability to encourage group processing;
- **Know-how in collaborative assessment** such as ability to assess the performance of students with clarity, through specific evaluation guidelines and various tools and methods adapted to the individual needs of pupils;
- **Use of non-formal education** such as ability to set up an environment of well-being in the classroom and ability to adapt the methods depending on the context and the learning objectives of the classroom.

Actually, the facilitator must master many skills that are for most of them social skills, or soft skills.

Teachers are often used to hard skills that are skills you can gain through education, training programmes, certifications, and on-the-job training. These are typically quantifiable skills that can be easily defined and evaluated.

Social skills, on the other hand, are **interpersonal skills**. These are much harder to define and evaluate. Soft skills include communication skills, listening skills, and empathy, among others.

**Let's focus on non-formal education!**

### **5) Collaborative assessment has its place in your classroom!**

It is not common to think about collaborative assessment as a teacher when you have always been used to be said that you are the one in charge of assessing the students. However, collaborative assessment has its place in your classroom!

Collaborative assessment is a kind of self-assessment where the members of a group assess themselves. This contrasts with learner self-assessment where each learner assesses his/her own skills or abilities.

To present it differently, we could say that a learner self-assessment asks this question: **“How good am I?”** although a collaborative group assessment asks this question: “How good are we?”

The focus might relate to goals that you or the group set earlier, things that they thought they did well, or things that they need to work on. Collaborative assessment tends to be discussion-based. Collaborative group assessment does not mean that everyone has to agree with everyone else either. For example, a good outcome for a collaborative assessment may include a discussion and a list of what people do and do not agree on with regards to their progress.

Techniques available for assessing collaborative learning groups include:

- Teacher observations during group work;
- Group grading for projects;
- Students grading each other or evaluating the level of contribution made by each member of a group project;
- Use of retake tests after receiving extra help from groups or the teacher;
- Use of individual quizzes, exams or assignments.

Staff, students, or both can determine the criteria for the assessment of group work. Groups are most successful when students are involved in establishing their own criteria for assessment. These criteria are then used to assess and grade the group work.

## **6) Preparing collaborative learning sessions requires as much preparation as a classic lesson**

A collaborative learning session must be as much prepared (if not more) as a formal lesson. Teachers are used to setting learning objectives for their students from an academic point of view. With collaborative learning, the objectives go beyond this. Other objectives must be considered, related to social skills development such as teamwork or peer accountability for example.

A special attention must also be given to the organisation of the session and the way the working groups will be organised. Teachers must ask themselves essential questions such as: “How long will the groups work together?”; “How many people should there be in one group?”; “Will the work be evenly distributed?”...

All elements must be planned beforehand, as well as the organisation of the working environment, the materials and so on. The type of assessment related to the activity that will be led must also be considered in advance, thinking also about how the students will help with that aspect.

Another part of the preparation must also be well prepared. A teacher must set up an environment in which the students feel at ease and show trust to their teacher. This latter must know how he/she will present clearly the set objectives, be clear with the time limits, accountability, and decision making within the groups.





# 4

## **Delivering Collaborative Learning in the Classroom**

## 4 Delivering Collaborative Learning in the Classroom

**T**here are many collaborative learning strategies that can be used across different teaching subjects and grade levels, however we understand that teachers need the resources and knowledge to put collaborative learning into practice and make collaborative learning a reality in the classroom.

In this section of the Toolkit, you will find a selection of **15 non-formal learning techniques for implementing collaborative learning** that can be used in your classroom. The techniques included here have been adapted, analysed and tested by 28 teachers of various subjects in Italy, Spain, France, Turkey, Belgium, Portugal and Austria, who have been involved in the CARMA project. These techniques have been introduced into different school learning environments across the different countries and have been directly taught by teachers to their students ranging from 11 to 18 years old.

The techniques are designed to engage students in larger groups, but they also work well in seminars and workshops. You can choose the

techniques based on the way you want to work with the learners as well as depending on which skills of your learners you want to stimulate.

### • Colour coded techniques

We have used 2 different colours to separate the techniques that don't require any specific prior preparation from those that require a) prior analysis b) space or c) materials preparation. Look for it throughout the Toolkit for your quick reference!

No preparation needed	Preparation needed
-----------------------------	-----------------------











### • Pick the technique

The 15 non-formal techniques selected all aim to increase **student engagement, motivation, cooperation** and collaboration, and to achieve and assess **specific learning outcomes and the impact** from collaborative learning (see Chapter 5).

**Increase student engagement, motivation, cooperation and collaboration!**

Some of the techniques focus on different elements: aim to stimulate visual expression of learners, foster communication skills, encourage self-reflection, active thinking and problem solving or include the use of technologies. For your easier guidance you can check the grid below and pick the technique that fits best to your classroom needs.

TECHNIQUE	VISUAL EXPRESSION	COMMUNICATION	SELF- REFLECTION	THINKING & PROBLEM SOLVING	TECHNOLOGIES
<b>1</b> The Visualisation/ Creative Technique	✗	✗	✗		
<b>2</b> Learning Through Storytelling	✗	✗		✗	
<b>3</b> Appreciative Inquiry in Learning (AI)		✗		✗	
<b>4</b> Petal Debate		✗	✗	✗	
<b>5</b> Whole Brain Teaching (WBT)		✗		✗	
<b>6</b> Constructive Controversy		✗		✗	
<b>7</b> Jigsaw		✗	✗	✗	
<b>8</b> Group Investigation (GI)		✗	✗	✗	
<b>9</b> The Box of Emotions		✗	✗		
<b>10</b> Open Space Technology		✗		✗	
<b>11</b> Crossover Learning		✗		✗	
<b>12</b> Co-operative Learning in Multi-Cultural Groups			✗		

13 Learning by Coding					
14 Mind Map					
15 Reciprocal Maieutic Approach (RMA)					

Through these techniques tested in the classroom, the teachers of the CARMA project observed their learners’ reactions, their level of participation and the effectiveness of the chosen non-formal technique on increasing students’ motivation and achievement levels.

*“I had chosen one of my classes to try the non-formal educational methods with them. The choice had fallen, not by chance, on a classroom from the technical tourism school that had been experiencing some problems. It was a class at risk of drop-out, where conflicting relational dynamics emerged immediately and where many of them had failed, so I thought it might be the appropriate class to test a couple of non-formal learning techniques in order to motivate them and make them grow as a group.” - **Angelo Pellegrino, teacher, Italy***

*“I had to face a complex situation with some colleagues. They were reluctant and really not convinced by what I was trying to implement. I took the decision to contact all of them explaining what I was doing since I was really convinced and motivated by non-formal learning activities. In the end, most of them came back to me and decided to join the adventure and they are now using several methods!” - **Fabiene, teacher, France***

**Read, analyse, adapt, test, use, integrate into your daily teaching, observe, evaluate, have fun!**

**To meet your students’ particular needs and interests, pick one method or test them all – it’s up to you.**

**As already mentioned, the most important thing is to be motivated!**

The background is a light cream color with a subtle, repeating pattern of small, faint circles. Overlaid on this are numerous circles of varying sizes and colors. The colors are primarily teal, red, and purple, with some circles appearing as lighter, semi-transparent versions of these colors. The circles overlap each other, creating a layered, organic effect.

# TECHNIQUES



### Step by Step

1. Ask students to draw a picture or create a clay sculpture with a specific topic. For example: Draw a picture about your education career or create a clay sculpture while being aware of your education and learning.
2. Ask students to mark 3 important events in their learning journey with different colours.
3. Afterwards in the group, ask each learner to describe their drawing and the way they created it. The other students should reflect and give feedback. It has to be made clear that the person who gives feedback talks about his/her own perception/impression and not about what the creator meant.
4. At the end of the exercise, discuss what the students felt, what they experienced and what they learned.

## Learning Outcomes

### Knowledge

The students learn about their biographical experience connected to groups and communities by reacting to each other and finding interconnections.

### Skills & Competences

The students build communication and reflection skills, and allow changes in the perspectives and perceptions by bringing clarity and awareness. They develop team-working competences.

### Hints and Tips

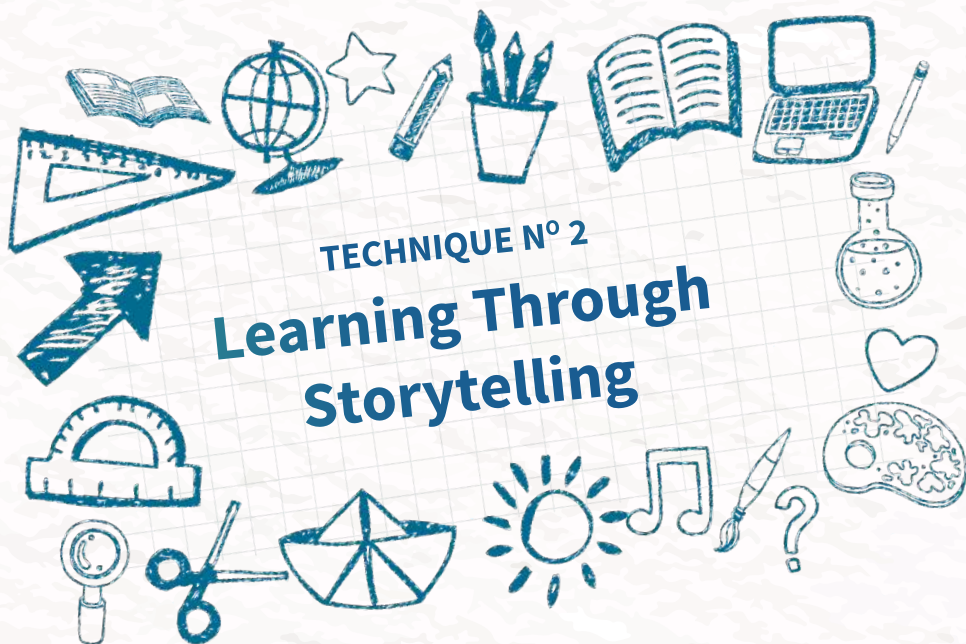
The teacher should initiate the working process, give impulses, observe progress of individuals and of the group, support group development. The exercise can be adapted for different subjects, such as history, literature, geography, etc.

*“For me, it has always been more important to work on processes rather than on the content, because the latter, thanks to the internet, has become easily accessible to us, while the capacity to critically assess the information still has to be developed.*

*For this reason, my aim is to support students to acquire or refine such capacities with the support of non-formal methods.”*

**- Barbara Pellegrino, teacher, Italy.**





## TECHNIQUE N° 2

# Learning Through Storytelling

*“Storytelling is the most powerful way to put ideas into the world today.” - Robert McKee (2015).*

### Description

Learning through storytelling refers to a process in which learning is structured around a narrative or story as a means of “sense making”. It involves the use of personal stories and anecdotes to engage students and share knowledge.

### Preparation

Stories have to be adapted to the teaching topic. If the facilitator does not have experience in storytelling, the teacher has to practice storytelling in order to reach the desired goals.





### Step by Step

1. Create a relaxed and informal atmosphere (e.g. students sitting in a circle, semicircle, indoors or outdoors).
2. Draw a grid on the board and then put one word in each box relevant for your subject and thought in advance. You can make your story grid any size you want but the bigger the grid, the more complicated the activity will become.
3. You can recycle vocabulary that students are currently working on in class in the story grid, but to ensure that they can create a good story you should include a mixture of words, such as people and place names, verbs, nouns, adjectives etc., and it is usually good to throw in words that might give the story a bit more spice, such as crime, love, hate, theft, broken hearted, travel, treasure, accident, etc.
4. Explain to the students that the aim of the activity is to create a story using all the words in the story grid. Students can use any vocabulary or grammar they want to but they have to include all the words in the story grid.
5. At the end of the activity the class could vote on the best stories in different categories, for example the most creative story, the most interesting story, the funniest story, the best-told story etc. This activity can also be easily developed into a creative writing activity, either individually as homework or as pair or group-writing practice.

## Learning Outcomes

### Knowledge

The students gain knowledge about the relevant topic through a new perspective.

### Skills & Competences

The students learn how to use the concepts they have been taught in other situations. They increase their pluralistic thinking, presentation, active listening and public speaking skills.

The students increase empathy, the ability to relate to other people and strengthen their intra and interpersonal competences.

*“My students have acquired new skills. They learn how to work in groups to achieve their tasks and feed their creativity to write their stories. Starting the lesson with brain-storming, then clustering the topics with connected themes has become a routine and they can easily regulate their learning.”*

**- Didem Sümbül, teacher, Turkey**

*“Storytelling makes them able to translate their fantasies into a clear and logical story, it increases their confidence to talk before the group.”*

**- Kim Vandenwijngaert, teacher, Belgium**

### Hints and Tips

Another option is to get students to create story grids for each other to use. Get the students to create their own stories in pairs or in small groups and once they have created their stories, they can retell their story to you, the rest of the class or to the other groups.

The teacher has to think about the subject (e.g. history, geography, literature, etc.) and link it to relevant words.

*“Using their own chosen systems and visuals has been an encouraging experience for the students. It makes my teaching better and more motivating. Furthermore, the students internalise their tasks. They were excited and cheerful while contributing to the work of each other in classroom activities.”*

**- Didem Sümbül, teacher, Turkey .**



*“These courses offer guidelines for reaching our full potential as complete human beings in all our dimensions, thereby enabling us to develop the courage, wisdom and leadership qualities required to constructively contribute towards building a culture of peace.” - UNESCO (2002) Sourcebook for Facilitators, Learners and Tertiary Level Instructors.*

### Description

Appreciative Inquiry in Learning (AI) technique is based on the assumption that when you focus on problems, actions result in a vicious circle, with energy and engagement spiralling downwards. The technique is based on 4-D Cycle: **Discover** (valuing, “What gives life?”), **Dream** (envisioning, “What might be?”); **Design** (dialoguing, “what should be?”), **Deliver** (innovating, “What will be?”).

### Preparation

The students group can be small (2 people) or larger (6 people). Small group work for the distinction of theme, discussion about the ways of presenting to larger group, preparing the presentation.

### Step by Step

1. Choose a positive topic as the focus of inquiry, frame the topic in positive terms, e.g. a lesson that went well, was interesting, where the students had the impression that they picked up something, etc.
2. Create questions to explore the topic: Questions should be positive “What went well, can you explain your success in this specific case”, etc. Questions should be prepared well and to the point so that the interview can follow a structured and specific pattern.
3. Use the questions to conduct interviews or share stories about the topic. Can be used in pairs, interviewer and interviewee change positions. They use the questions prepared and focus on the positive. Inquiry continues in groups. The learner can become an interviewer.
4. Locate themes that appear in the stories. What combines success, positive sentiments concerning the topic, etc.
5. From these themes, ask the students to create a shared image for a preferred future, i.e. a provocative proposition. This may be presented literally, in drawing, in mind maps, PPT, metaphors, etc. at the group’s choice. The presentation is done by the small group to the larger group.
6. Explain to the students that they have to find innovative ways to create that future, i.e., strategic intentions. The method should be SMART (Specific, Measurable, Acceptable, Realistic, Time-bound). The group has to share a common history and can start to set goals for the future.
7. Use the provocative proposition and strategic intentions to guide the students. It could do no harm to interrupt habit patterns in thinking about future by getting beyond comfortable competency and pushing the group to be as innovative as possible.

# Learning Outcomes

## Knowledge

The students gain knowledge on a certain topic and this increases their motivation, curiosity and creativity to explore the topic more deeply.

## Skills & Competences

The students enhance communication skills, such as public speaking, active listening, creativity, interpersonal and intercultural communication, social skills such as empathy, cooperation, assertiveness, self-control, teamwork and participation.

The students develop communication, co-operative learning, conflict resolution competences.

*“In my opinion, recognising the challenges and overcoming them was the most effective outcome in the classroom.”*

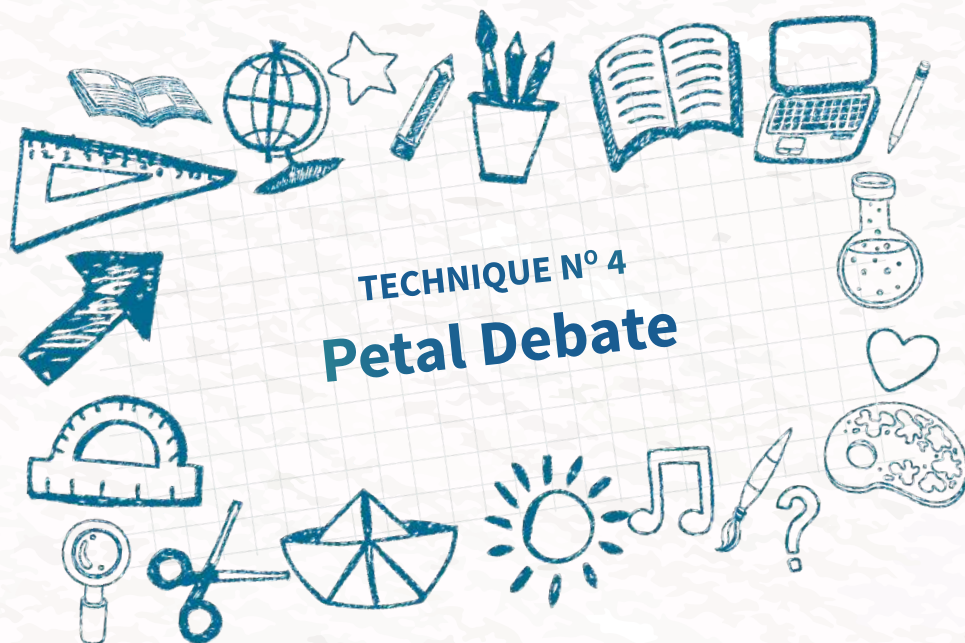
**- Robert Westreicher, teacher, Austria.**

## Hints and Tips

The facilitator has to be creative and skilled in positive communication and phrasing, well informed about the topic of the inquiry.

Learning materials might be needed for the presentation of the topic.





## TECHNIQUE N° 4

# Petal Debate

*“For good ideas and true innovation, you need human interaction, conflict, argument, debate.” - Margaret Efferman (2015)*

### Description

Petal Debate methodology facilitates decision by developing, in small groups and plenary, a “compelling argument” and a constructive debate.

### Preparation

Time is needed to decide topics and to arrange a training room:

- To arrange tables in a circle, they are petals of one flower and at the centre there are chairs (same number as tables).
- To post colourful paper to visualise different topics and keywords.
- To arrange a paperboard to draw and write the main ideas of the central discussion.

# Learning Outcomes

## Step by Step

1. Divide the group into smaller groups and ask them to sit around each table.
2. Announce the topic relevant for your subject and write it on each table.
3. Tell students that they have 15 minutes to discuss about their point of view, in what they agree or disagree with the topic or it can be an "initial proposition". Tell them that they must determine concrete ideas, solutions, and possible changes to make this proposition acceptable for everyone around their table.
4. Ask each group to choose one "ambassador" per table and they have to come to the flower's centre and, during 10 minutes to share their statement they agreed in a previous group and then debate.
5. Explain students that the centre has to find a common proposition with concrete changes. If the proposition is not common, ambassadors come back to their "petal" and they negotiate their proposition. Tell that other students have to listen actively, and they can note their reactions and new propositions.
6. At the end of the session ask one representative from all "ambassadors" to share with the group the final proposition/ decision and ask for a feedback from a group on the activity.

## Knowledge

The students enhance knowledge, understanding and strategies in dealing with heterogeneity and diversity in groups, accommodating multiple perspectives and views. Peers learn to build a "compelling argument", to resume a multiplicity of points of views, ideas, reactions about the topic to express one speech.

## Skills & Competences

The students' develop communication skills: active listening and capacity for clear expression, cross-cultural communication.

The students' develop communication, reflection, cognitive and relational/ cultural competences. Moreover, the students' learn to develop their opinion with the diversity of others point of view.

*“The majority of the students really liked this way of working. They had already done group work in other subjects but they underlined the fact that debates were taking place was a real asset and bringing a lot.”*

**- Fabienne, teacher, France**

*“All students actively participated in the lesson, though with a different engagement between each of them. Nevertheless, everyone has given a personal contribution to the activity. Eventually I was asked:*

*“Professor, it was an interesting session.  
When will we repeat it?”*

**- Teresa Cirivello, teacher, Italy**

*“At the end, my students discovered that to reach an agreement is easier than the thought at the beginning! Thanks to this group work, the relations between students improved.”*

**- Isabel Palao, teacher, Spain**

### **Hints and Tips**

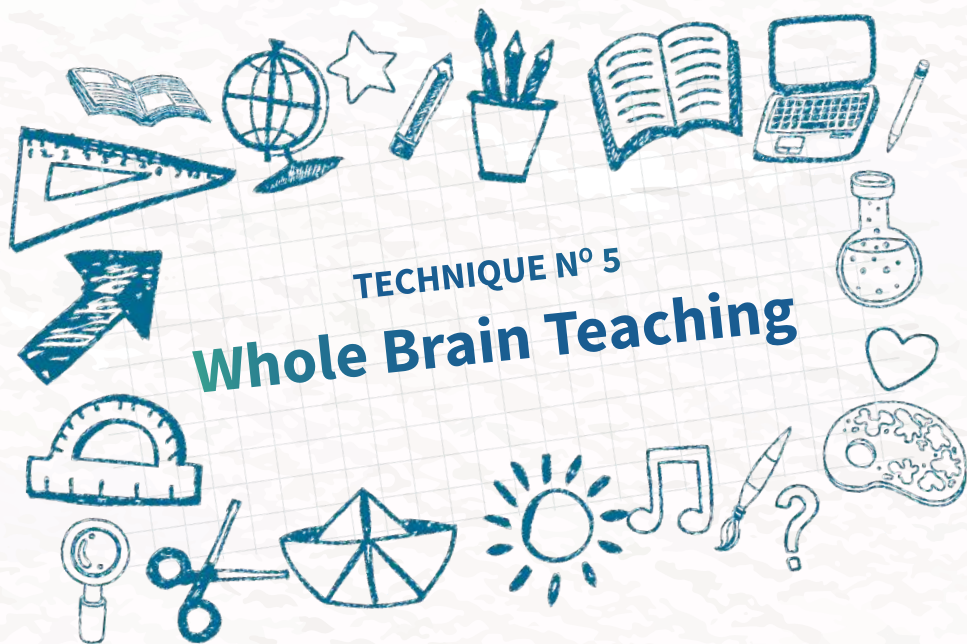
The teacher has to provide an introduction to the method, he/she has to facilitate a brainstorming and to be the timekeeper.

It can be really interesting to add graphic facilitation during the debate in the centre and to collect and capitalise on ideas through drawing.

*“I added techniques during the Petal Debate to increase the participation of every student during the interaction (e.g. a card or matches or to let a student be a visual moderator).”*

**- Lisa Verhelst, teacher, Belgium**





## TECHNIQUE N° 5

# Whole Brain Teaching

*“Teaching is a performing art.” - Chris Biffle (2015)*

### Description

Developed by Chris Biffle (2015), Whole Brain Teaching (WBT) is a system for classroom management and also a teaching technique that seeks to establish and strength relations between the right and left side of the brain... WBT is a research-based technique that uses chants, repetition, movements and gestures that keep the learner interacting with lessons.



### Preparation

If the teacher has no experience in WBT, additional research and preparation might be needed to fully understand WBT and to practice it.

### Step by Step

1. **Class – Yes.** Begin the class by saying “class” any way you like, and in turn, the class is responsible for mimicking your voice by responding yes. Therefore, if you say, “class, class, class, classy class!” The class

must respond: “yes, yes, yes, yessy, yes!” Once this step has been accomplished, move on to the next step.

2. **Classroom Rules.** Before beginning the actual “informative” part of each lesson, go over the five classroom rules with the entire class. This is to ensure that everyone understands the rules, but it will also help you in the end, if a learner is not following rules. The rules and gestures are as follow:
  - Follow directions quickly!
  - Raise your hand for permission to speak
  - Raise your hand to leave your seat
  - Make smart choices
  - Keep your dear teacher happy!
3. **Teach – OK.** This is the informative part of the lesson. Before beginning divide the class into two groups: 1’s and 2’s, in each pair you will rotate each time. Then begin to teach small sections of information, while incorporating gestures, songs, movements and chants. When you have finished a small portion of information say to the class “Teach” and the class responds “OK!” Taking turns, the students teach each other, mimicking the “lesson” taught. During this time, observe the students’ comprehension. If you are not convinced that the students understand the lesson, repeat this process. Otherwise, move to “class-yes” and begin another short lesson.
4. **Scoreboard Game.** Depending on the subject topic, you can use different scoreboard games, e.g. Students may receive a point when they perform a procedure well or they receive smileys or frowns in return for procedures performed well or procedures performed badly.
5. **Hands and Eyes.** This step is used at any point during the lesson when you want students to pay “extra attention” to what you are saying/doing. To begin this process say, “Hands and Eyes!,” and the students respond by mimicking your words and movements.
6. **Mirror.** Similar to “Hands and Eyes,” mirror allows you to gain control of the classroom as well as have students mimic your motions and speech. This is the main part of the lesson where you are expected to contribute with your own “silliness” and movements to the lesson.
7. **Switch!** This step is to be used with the “Teach-OK” step, while students are teaching. It is imperative that the same students do not act as teachers every time. Therefore, in order to get every learner involved in the lesson, you will direct the students to “Switch!,” the students will respond by saying “switch” and the teacher of the group will rotate.

# Learning Outcomes

## Knowledge

The students enhance their knowledge on particular topics through the engagement, positive interaction with their peers and fun learning experiences.

## Skills & Competences

The students increase their communication and problems solving skills. They enhance team-working competences, and they also learn how to turn an instruction into an action.

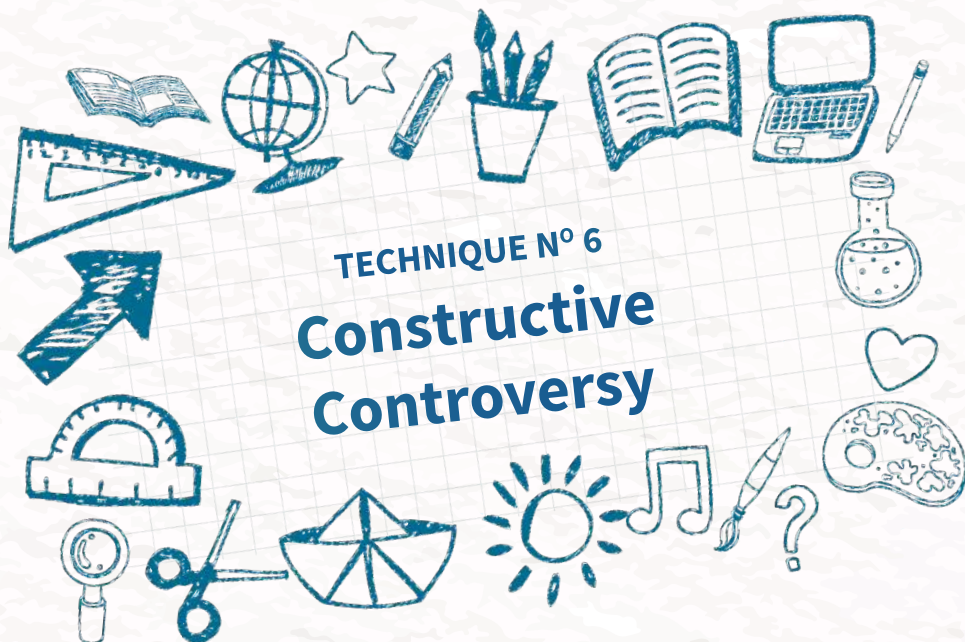
*“NFL techniques reinforce the communication among students, the techniques involve and engage students more during the lessons as they try to acquire knowledge. When I implement the new techniques, not only do my students enjoy new learning experiences, but I also manage to improve my teaching competences.”*

**- Serkan Solmaz teacher, Turkey**

## Hints and Tips

The teacher is an art performer.

Each day while using WBT, you can begin a new scoreboard, as well as integrate your own teaching style and flair into the lessons.



## TECHNIQUE N° 6

# Constructive Controversy

*“Constructive controversy is an instructional procedure that is designed to create intellectual conflict among learners and that meets these criteria... By structuring intellectual conflict in a lesson, instructors can grab and hold learners’ attention and energize learners to learn at a level beyond what they may have intended.” - Johnson & Johnson (2009)*

### Description

Constructive Controversy is a cooperative learning method that fosters students to take on and argue for, alternately, the two sides of a controversial issue and ultimately come up with a balanced opinion about that issue. In this sense, the purpose of this teaching approach is to encourage students to take into account all sides of a particular topic before expressing a final opinion and to reach consensus.

### Preparation

If the teacher has no experience in Constructive Controversy, additional information and preparation might be needed to fully understand the Constructive Controversy and practice it. The teacher has to organise the groups.



## Step by Step

1. Provide background information (lecture, text materials).
2. Assign students to groups. The class is divided into small groups of four students minimum. Then each group is divided into smaller sub groups e.g. pairs. Each pair is assigned one position, pro or con. Each pair receives materials supporting one of two sides of issue (connected to the topic). Pairs read material, discuss together the most salient points of the argument, and plan how to present their position to the other pair. Near the end of the period, pairs are encouraged to compare notes with pairs from other groups who represent the same position in order to revitalise the discussion.
3. Tell to the group that all pairs should present their position. Each pair makes their presentation to the opposing pair. When the first pair has given the arguments supporting their point of view, the other pair presents their reasons supporting their opposing position. Each member of the pair should participate equally in presentation. When a pair is presenting, the other pair should remain silent and take notes. Once reasons have been presented by each pair, students can ask for clarification anything they do not understand.
4. Open discussion for students. Students should debate back and forth, trying to convince the other pair that their point of view is correct or better.
5. Tell to the group that pairs should change assigned positions and prepare to present the new side of the issue. In this step, they are not given presented material supporting that side; they can use their own notes, but should not see the materials developed by the opposing pair. This supports students to view the issue from the opposite position. In this step, pairs should prepare their arguments in the same format as Step 2, but now they should be presenting the new position assigned to the controversy.
6. Explain that students should repeat Step 3 with their newly assigned position.
7. Explain to students that the final step is to reach consensus. Back in their groups, students must come to a consensus and formulate their opinion on the topic, based on evidence from both sides of the issue.
8. After the activity, groups must do what is called group processing. They must reflect and describe what member actions have been helpful and not helpful and make decisions about what behaviours to continue

or change. Therefore, you must allow sufficient time for it to take place, maintaining learner involvement in processing, and reminding students to use their teamwork skills during processing.

## Learning Outcomes

### Knowledge

The students gain the basic knowledge about coaching and beliefs system and identify their limiting beliefs about a certain situation or issue.

### Skills & Competences

The students develop skills to generate a creative thinking together. The students develop transversal competencies: communication, cultural, social, interpersonal/relational competences, and personal autonomy.

*“They really appreciate some time to debate with a few colleagues. This kind of opportunity is very important because in this group there are some kids that find it very hard to express themselves in the presence of some colleagues. In small groups, they feel more freedom to do so.”*

***Elisa Seixas, teacher, Portugal***

*“There was a noticeable increase in the ability of the students to express themselves... They were quite eager to express their feelings and thoughts.”*

***- Mustafa Evren, teacher, Turkey***

### Hints and Tips

A good topic for constructive controversy would be a topic that is relevant to the curriculum that has two clear positions, that is interesting for the students and, finally, a topic which instructor or students can locate a variety of resources and information.



*“We are enthusiastic about the method because it works; not only does it open the door to warmer, closer friendships within and across ethnic boundaries, it has also proved effective at raising the self-esteem of learners while improving their performance and increasing their liking for school and their enthusiasm about learning.” - Elliot Aronson & Shelley Patnoe (2011)*

### Description

The Jigsaw concept has been developed by Elliot Aronson and is a method of cooperative learning that encourages listening, engagement and emphasises the importance of cooperation (by giving each member of the group an essential piece of information which is necessary for the completion and understanding all material). It also encourages shared responsibility within groups and the success of each group depends on the participation of each individual in completing their task.

### Preparation

If the teacher has no experience in Jigsaw, additional research and preparation might be needed to fully understand the methodology.

### Step by Step

1. Introduce the topic to students.
2. Assign students into heterogeneous home base groups (4-5 students per group).
3. Divide the material needed to cover the topic (articles, reports, problems, etc.) into segments (as many pieces as number group members).
4. Assign each learner to learn only one of these segments. Each member must learn the material pertaining to their section and be prepared to discuss it with their classmates. Teacher must give students time to read and learn their segment and become familiar with it. Making sure students have access only to their own segment.
5. Form expert groups. Once students have learned their part, they move into expert groups by having one learner from each home base group join other students assigned to the same segment.
6. Explain them that they have to share ideas, and discuss the main points of their segment and plan how to present the information to their home base groups. In this point, you should give the expert groups instructions on their task. For example, if the task involves reading a chapter and carrying out a report, you may say to them, “discuss the reading with the group, reach a consensus on the main points you will teach your teammates and make sure everyone participates”, “think of some examples to clarify the main points”, “think and plan how you will check your teammates understanding”, “thank your expert group members for their help”. Give students in these expert groups time to discuss the main points of their part, and to prepare and rehearse the presentations they will make to their home base group.
7. After, tell students to return to their home base groups and take turns teaching their area of expertise to the other group member so each home group will have information about all topics. In this step is important keep in mind that some content will require to be dealt with in a specified order according to the teacher’s instructions. Ask each learner to present her or his segment to the group. Encourage others in the group to ask questions for clarification.
8. At the end of the session, give a quiz on the material. At this time, team members should not help each other.



# Learning Outcomes

## Knowledge

The students enhance knowledge and integrate it into a whole. It helps students to appreciate diversity and take account of others' point of view.

## Skills & Competences

The students develop social interaction skills, self-management, communication, trust, leadership and establishes an atmosphere of cooperation and helping school wide.

## Hints and Tips

After the activity, the teacher should give students time to reflect and analyse what they have accomplished, and how well they worked together, discuss their group skills and reflect on their learning (group processing): What worked well? Have we worked effectively together? What will we do differently in the future?

In the same way, the teacher should reflect on his or her own actions by asking: Were my students successful? Did my instructional decisions meet the needs of all students? What worked well? What will I do differently in the future? What are my next steps? Did the students understand the jigsaw structure? Were my instructions clear enough? Do any students need more instruction in the jigsaw strategy? Did they learn what I wanted them to learn about the topic? What do I need to teach next?

***“The process enabled me and other teachers  
to identify and set goals for improving daily  
implementations,  
which we will transfer to our peers.”  
- Karin Villgrattner, teacher Austria***



## TECHNIQUE N° 8 Group Investigation

### TECHNIQUE

*“Group Investigation is a cooperative learning model that integrates interaction and communication among learners with the process of academic inquiry. As learners take an active part in their inquiry in the course of a GI project, the classroom becomes a social system built on cooperation in learning within groups and on coordination of learning among groups.”*

**- Sharan, Sharan, & Tan (2013).**

### Description

Group Investigation (GI) is a cooperative learning method and a powerful strategy to involve teams of students researching a topic. This method can be used to study a wide range of subject areas, as long as the question or issue being investigated lends itself to broad inquiry. GI uses open-ended problems that provide students significant control on the focus of their investigation.

## Preparation

If the teacher has no experience in Group Investigation technique, additional research and preparation might be needed.

## Step by Step

1. Present the topic and use several key questions to define the scope of inquiry. You can encourage students to scan a variety of resources to activate their prior learning and stimulate inquiry.
2. Clarify the topic: Develop a list of questions that the students would like to investigate. You may guide this or have the entire class brainstorm together.
3. Classify questions to create sub-topics.
4. Form investigation groups: Students select subtopics of interest and form cooperative groups by themselves. Ensure that the groups have a good mix of contributors.
5. Clarify the task: Each group should explore its subtopic and formulate a research problem. Focus questions are developed to outline the scope of inquiry.
6. Develop an action plan: The group should decide:
  - Aspects to investigate;
  - Deadlines for reporting back;
  - Resources needed;
  - Assign or have students select jobs and responsibilities.
7. Explain that then group members should complete an action plan for each investigation day, gather data from resources, assess the relevance of the data related to the question and apply the data/ share their data to solve the group problem.
8. Explain that students should select a reporting method. It may be a presentation, poster, etc.
9. Explain to students that they should plan the report: discuss individual roles for the presentation and complete a presentation plan.
10. Finally, ask students to present the reports and respond to the report. Other groups may seek clarification or give feedback.
11. Check for understanding: Be sure that the students understand at the beginning how they will be evaluated. Students may complete a self-evaluation and add it to their portfolios. You may also require an individual report or testing of the material after the final presentation.

# Learning Outcomes

## Knowledge

The students learn how to appreciate diversity and take account of others' point of view.

## Skills & Competences

The students develop skills to generate creative thinking, as well as develop higher level thinking skills, social interaction, problem solving skills and ability to solve problems jointly, communication skills, self-management, trust, and decision-making.

The students develop transversal competences: communication, cultural, social, interpersonal/relational competences, and personal autonomy.

*"I could see the progress  
of all my students!"*

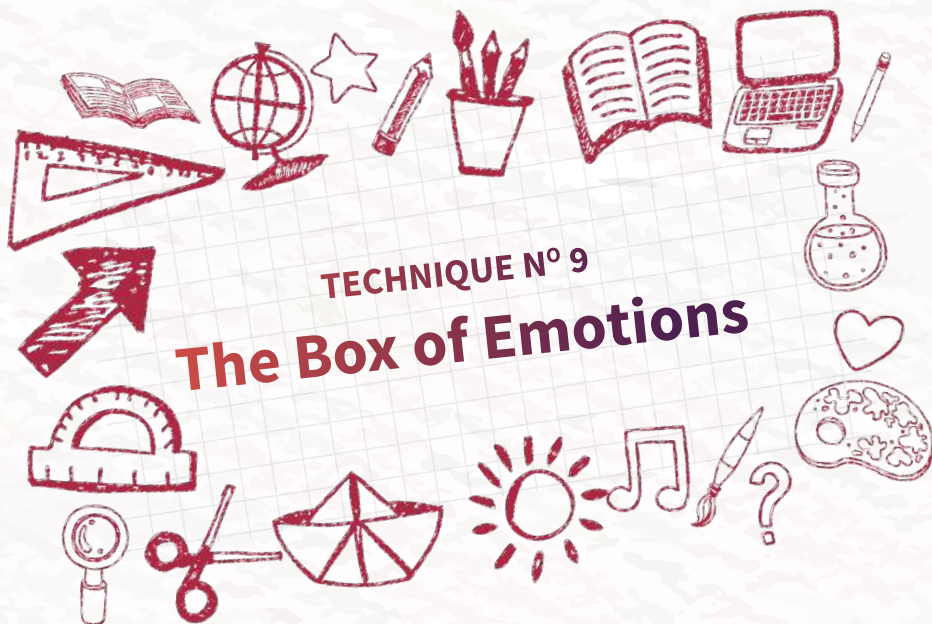
**- Purificación García, teacher, Spain**

## Hints and Tips

One of the elements that differentiates Group Investigation from other methods of cooperative learning is that in GI, students have the freedom to decide on the composition of their teams based on their interests and can assign their roles and responsibilities.

Students form interest groups of 2 to 6 members and work to carry out their project and synthesise the individual contribution into a group project, and present their findings in a group presentation for the class.





*“Your intellect may be confused, but your emotions will never lie to you.” - Roger Ebert (2013)*

### Description

The Box of Emotions technique is part of the “Didactics of Emotions” created by the Emotional Training Center<sup>11</sup> (ETC) in Italy. It is a method mostly used in schools with children and teenagers, but can be also used during workshops and seminars or personal development program with the aim of recognising, managing and modulating emotions.



### Preparation

The teacher has to prepare a cardboard box before the implementation of the activity. Additional reading about Didactics of Emotions and Emotional training or Emotional Intelligence could be very helpful.

<sup>11</sup> Emotional Training Centre, ETC:  
<http://www.educazioneemotiva.it/>

### Step by Step

1. Create a box and prepare blank cards for students where they can write their emotions.
2. Ask students to write on their cards messages about their feelings and possible causes for these feelings.
3. Give 10-15 minutes for introspection and writing, and invite the students to deposit their messages in the box.
4. Organise a semicircle and invite each learner to take one card and to read out loud the message, students should not read their own message.
5. Give the opportunity for group discussions: the students can comment and compare or guess the person who wrote the message.

## Learning Outcomes

### Knowledge

The students gain knowledge about the identification of needs-activation and communication channels.

### Skills & Competences

The students develop introspection skills and become empowered to recognise and personally decode emotions, sensations and moods, modifying actions and thoughts in a positive way.

By using this technique repeatedly, the students enhance their communication competences, group awareness and participation.

*“Once, I developed the technique outdoors and it was very helpful for shy students, that time they were more talkative and active!”*

**- Esperanza Manzanares, teacher Spain**

*“They loved to talk about feelings and emotions. Some of the students showed they feel comfortable expressing their feelings. The most reluctant were also capable of showing some of their inner emotions.”*

**- Ana Fernandes, teacher, Portugal**

### Hints and Tips

The teacher should give feedback and moderate group discussions. Active listening and empathy are important qualities of the teacher. All students together should decide how safe they feel to express their feelings in the group.

*“Once, I developed the technique outdoors and it was very helpful for shy students, that time they were more talkative and active!”*

**- Esperanza Manzanares, teacher Spain**



## TECHNIQUE N° 10

# Open Space Technology

*"It is the dance between chaos and order that is truly creative."* - **Harrison Owen (2000)**

### Description

Open Space Technology facilitates empowerment for students on their learning, and they decide what and how they want and need to work on the topic. This method is to work on a general topic with a lot of workshops proposing by learner to exchange, to discuss and to learn together in peers. The goal of an Open Space Technology meeting is to create time and space for people to engage deeply and creatively around issues of concern to them. The agenda is set by people with the power and desire to see it through, and typically, Open Space meetings result in transformative experiences for the individuals and groups involved.

### Preparation

The teacher needs to prepare the training room (plenary and small group spaces), an invitation paper and document folder for each student, and paperboards in each space.



### Step by Step

1. Organise chairs in circle in the middle of the classroom prepared for the Open Space.
2. Put around the room letters or numbers to indicate meeting locations, prepare a blank wall that will become the agenda and a news wall for recording and posting the results of the dialogue sessions.
3. Ask the student group to convene in a circle and provide an overview of the process and explain how it works.
4. Invite students with issues of concerns to come into the circle, write the issue on a piece of quarter size flip chart paper and announce it to the group. These people are called the “conveners”. The conveners place their paper on the wall and choose a time and a place to meet. This process continues until there are no more agenda items.
5. Then ask the group to break up and head to the agenda wall, covered with a variety of sessions. Tell students to take note of the time and place for sessions they want to be involved in. Choose recorders in each group and explain them that their role is to note the important points and post the reports on the “news wall”. All of these reports will be rolled into one document at the end of the meeting.
6. Following a closing or a break, ask the group to move into convergence, a process that takes the issues that have been discussed and attaches action plans to them to “get them out of the room.”
7. End the meeting with a closing circle where students are invited to share comments, insights and commitments arising from the process.

## Learning Outcomes

### Knowledge

The students enhance knowledge, understanding and strategies in dealing with heterogeneity and diversity in groups, accommodating multiple perspectives and views. The students are more conscious about peer learning and the learning process, they recognise themselves as experts too and their empowerment by being active for their own learning.

### Skills & Competences

The students develop communication skills such as active listening and capacity for clear expression, presentation, cross-cultural communication. They develop transversal competences such as communication, reflection, cognitive and relational/cultural competences.

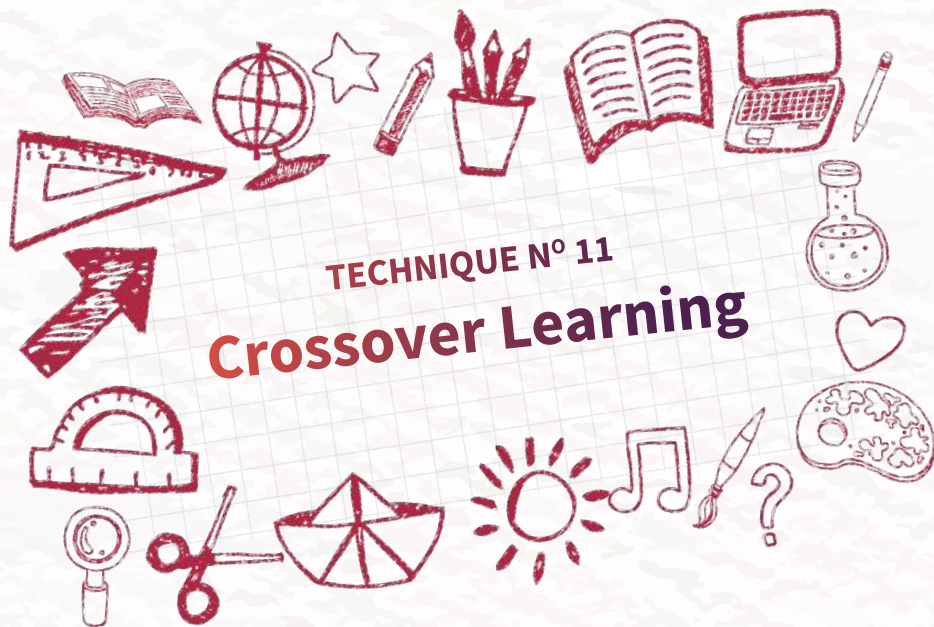
### Hints and Tips

The teacher has to facilitate the entire process of the workshop; the main challenge is during the introduction, therefore make the rules and the law understandable for students.

*“I have understood the importance and the impact it has to be well organised and to plan the activities with a real plan regarding the time.*

*It helps to keep a real dynamic and a rhythm that are essential when you are using non-formal education methods.”*

**- Isabelle, teacher, France**



*“Art is an ideal starting point to build resilience in children”. - **Museum M Leuven (2004)***

### Description

Crossover Learning is learning in informal settings, such as museums, clubs, academies, and all kinds of providers of extracurricular or “out-of-school activities”. Crossover learning experiences exploit the strengths of both environments and provide students with authentic and engaging opportunities for learning.

### Preparation

The teacher has to be well prepared about the theme linked to the chosen environment; he/she has to be able to ask the right questions to arouse interest, to link to the theme, so preparation in advance is crucial.

Whilst during the visit, students can be split into pairs. If a larger group is required, a maximum number of students suggested is 4 in a group. The duration depends on the tasks and place to visit.

### Step by Step

1. Before the visit, start the investigations in class, propose and discuss a question by using open questions, whether the subject is linked to science, mathematics, language, (descriptive writing, artful thinking, etc.) The students can e.g. already look up pictures, artworks, etc. that relate to the theme (e.g. patterns used in abstract Art, nature and how it is presented in painting, etc.).
2. Link to the visit to the museums, prepare tasks and questions in advance. Let the students use technologies, such as tablets or other computing devices, to look up some information. The theme, tasks, and the aim of the course have to be carefully pre-arranged with the museum guide.
3. Tell that the students have then to explore the question on a museum visit or field trip, collecting photos or notes as evidence. There can be a written assignment on the theme, and answers can be presented afterwards.
4. Ask students to share findings back in the classroom to produce individual or group answers.
5. Back in the classroom, evaluate the activity with students and their learning outcomes.

## Learning Outcomes

### Knowledge

The students increase their knowledge within a subject area, increase understanding of connections between subjects, increase learning across subjects and increase intercultural understanding.

### Skills & Competences

The students increase ability to work with others and their ability to make informed choices beyond and within planned experiences.

The students increase self-confidence and self-esteem, increase cultural understanding and respect and tolerance for others.

*“The students were really motivated and the session was very interesting. The development of the communication was quite noticeable because the indication of the problem encouraged the suggestion of solutions”.*

**- Paula Fernandes, teacher, Portugal**

*“This crossover learning experience provided students with authentic opportunities for learning and helped them recording, linking and sharing their own learning activities.”*

**- Paula Fernandes, teacher, Portugal**

### **Hints and Tips**

In the discussions, the teacher has to be attentive to involve all students. It is recommended to use open questions, there are no wrong answers. Similar didactics for other contexts (visiting social organisations, exhibitions, cities, botanical gardens, etc.) can be used.





## TECHNIQUE N° 12

### Co-operative Learning in Multi-Cultural Groups

*“Future is in the hands of people who have the power to lead, to cooperate and to tackle all kinds of situations involving every strata of society. And we can make such learners in our classroom by cooperative learning method developing such social skills in them that they can lead a socially cohesive nation. On the whole, although there are various problems concerning learning and teaching in a multicultural environment, it should not be forgotten that there are also serious benefits that can be taken from multicultural education.” - Sharma & Metha (2014).*

#### Description

Co-operative Learning in Multicultural group (CLIM), is a technique where students work together in a diverse group. The interaction in CLIM combines intercultural education with academic content learning. Central CLIM principles include intellectually challenging and open-ended tasks that evolve around a central concept. They rely on multiple-abilities so that each individual brings different abilities, problem-solving strategies and experiences to the task consequently providing opportunities for equal participation of all pupils in the interaction. CLIM projects require a classroom management system using activity cards that allow pupils to decide for themselves what and how they are to do their work, co-operative norms, learner roles and a non-traditional teacher role.

## Preparation

The number of students is analogous to the number of roles during the task (group can consist of e.g. leader, reporter, mediator, timekeeper/materials manager, and information manager).

The teacher has to prepare clear instructions on paper for the group. If necessary, some literature about the subject, flash cards with the indications for each role can be added. Depending on the instructions, the students might be free or not to present the results of their tasks, choose the material, way of presenting, any other means of presentation.

The teacher has to prepare the topic, theme, instruction material, flash-card and roles for the students.

## Step by Step

1. Set up the groups of students each consisting of 5 students.
2. Allocate the roles to students in each group: leader, reporter, mediator, timekeeper/materials manager, and information manager.
3. Explain the way each learner intervenes in the process and any role rotations or group reconstructions.
4. Distribute details of the tasks to be completed prepared in advance.
5. Provide space to students to express their impressions of the notion/concept to be acquired: this can be divided into two phases: (1) an individual expression by the learner using an ad-hoc support (list of words, drawing, diagram, Q-sort, photo-language...) then (2) exchange within each group on the different impressions, followed by a confrontation or debate. This is supposed to develop an initial level of reflexivity with regards to the notion/concept to be acquired and boost the learner's motivation.
6. Propose to students to do reading on the various complementary resources proposed by the teacher, each of which offers a certain insight into the concept/notion. If the nature and origin of the resources are similar from one group to another, they should be different for each learner.
7. Implement cross analysis between students who have had the same resources.
8. Ask students to return to the group (or create new groups ensuring that all the resources are present in each group) and encourage sharing between the students of the key elements in each of the documents.

9. Ask students to present conclusions from the problem situations in a plenary session. Motivate students to imagine original presentation methods (theatre, role play...).
10. Review the key points to be retained on the concept/notion, reply to any outstanding questions, highlight the difficulties encountered during group work sessions and question the behavioural aspects of cooperation (what works, what doesn't) in a concluding session.

## Learning Outcomes

### Knowledge

The students increase certain level of academic knowledge of the subject, certain level of spelling and formulation.

### Skills & Competences

The students develop intercultural skills, organisational skills, enhance participation, assertiveness and social skills, are able to better manage information. They develop communication, co-operative learning, conflict resolution competences.

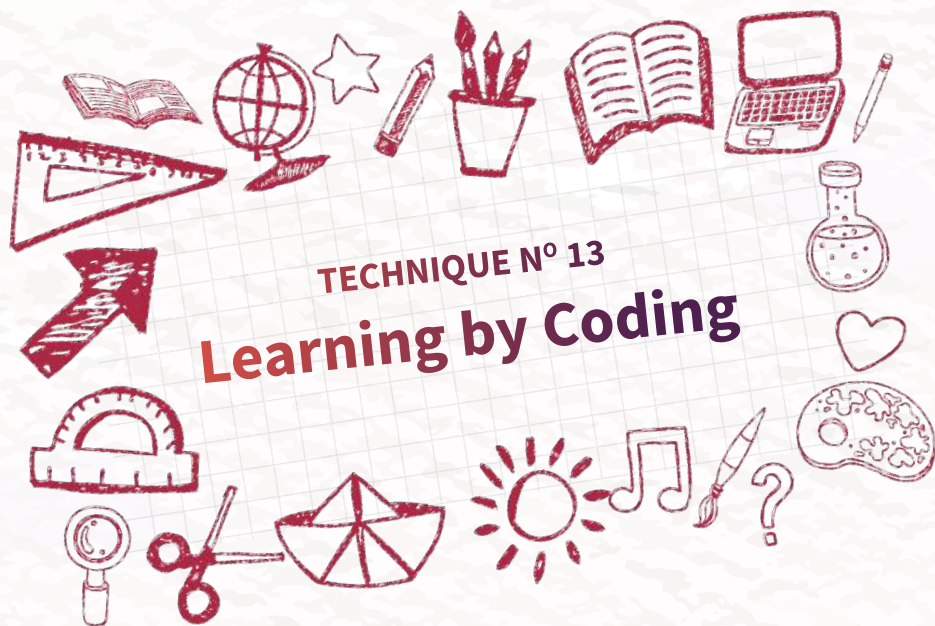
### Hints and Tips

The teacher observes while the pupils perform the tasks, gives feedback and assigns competence after the pupils have presented their tasks. These principles force the teacher to take on a non-traditional role, i.e. to relinquish control and delegate authority to the pupils.

*“Students became conscious of their identities and realised ways to enhance this. They realised their potentials, values and behavioural patterns.”*

**- Martina Plonker, teacher, Austria**





*“When you learn to read, you can then read to learn. And it’s the same thing with coding. If you learn to code, you can code to learn.” - **Mitch Resnick (2012).***

### Description

The Learning by Coding Teaching Strategy is based on the constructivist approach. The theory suggests that humans construct knowledge and meaning from their experiences. Students construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences. Learning how to write code teaches students to blend logical and creative thought to solve problems, and that is a skill that will benefit them in any career.

### Preparation

Experience in Learning by Coding is necessary and the teacher has to prepare instructions for the learning materials, presentations, handouts for students, templates for evaluation forms, etc., add links for the programmes and apps. Computers and an internet connection are also needed.

### Step by Step

1. Introduce the topic: begin with a simple, fun activity to build interest and introduce the topic.
2. Explore: Let students do hands-on activities and interactive projects that engage them in expanding and applying the subject matter. The process moves from simple to increasingly complex and imaginative concepts and tasks.
3. Connect (Deepen understanding): Encourage the students develop deeper and broader understanding of major concepts, obtain more information about areas of interest, and refine their skills.
4. Imagine (Integrate creativity with purpose): After learning the core concepts and practices, ask the students to design and build an innovative project that addresses a community or world problem.
5. Remember (Synthesis and New questions): At the end of each module, ask the students to review the lessons and collectively highlight key points, formulate questions, and deduce meanings from their experiences and discoveries.

## Learning Outcomes

### Knowledge

The students increase their knowledge in mathematics, science, foreign and native languages in an attractive form.

### Skills & Competences

The students gain problem solving, entrepreneurship, creativity skills. Moreover, they increase their communication, planning, reflecting, decision-making, thinking skills, algorithmic thinking and mathematical thinking. The students enhance their ICT and digital literacy competences.

*“The result of the activity has been very beneficial because thanks to this technique students are aware of the utility of the knowledge for real life!”*

**-Patricia López, teacher, Spain**

*“Learning by coding has been very beneficial especially for students with low motivation for the subject. One of my students is very demotivated in general (also he is thinking to leave the high school) and in this activity he achieved the highest mark!”*

**- Patricia López, teacher, Spain**

### Hints and Tips

Encourage students to become active constructors of their own knowledge through experiences that encourage assimilation and accommodation.

Use cognitive terminology such as “classify”, “analyse”, “predict”, “create”  
Allow students responses to drive the lessons, shift instructional strategies and alter content.

Facilitate ‘Discovery’ by providing the necessary resources.

*“To implement the coding sessions, I have worked and validated the algorithm with the maths teachers. It was helpful also to feel more confident.”*

**- Nathalie, teacher, France**

*“I noticed that some students did not participate in the activity to prepare the algorithm, leaning on the rest of the group. I therefore decided to erase the blackboard on which we had created collectively the algorithm. I had told them this in advance. I think this idea contributed to create peer cooperation.”*

**- Nathalie, teacher, France**



*“Learning how to learn is life’s most important skill.” - Tony Buzan (2010)*

### Description

Mind mapping is a visual and nonlinear way to organise information and stimulate the thinking power of the mind developed by Tony Buzan. It enables the students to give freedom to their mind and to explore new territories, to mix ideas up in new ways, develop new patterns and channels of thoughts and to go deeper into a subject while maintaining a broad overview.

### Preparation

Time is needed to decide on the topics and to arrange the space for the activity: organise tables for small groups of 4-5 students and place flipchart paper on each table.



### Step by Step

1. Introduce mind mapping to students by explaining different ways of communication, different intelligence models and the benefits of collective competences.
2. After introduce that the work/ scheme will be organised as following: topic shall be presented in the centre, problematic situations/ issues shall be presented in square boxes around and solutions to problems in bubble boxes around the problems.
3. You can encourage students to vote to choose topic priority.
4. Divide the group into smaller groups and ask them to design their mind maps.
5. At the end of the session, ask all the groups to hang their presentations and explain the outcomes.

## Learning Outcomes

### Knowledge

The students learn how to make connections between thoughts to develop a systemic view, to reflect the expression of multiple points of view and opinions, and to facilitate the resolution of problems/conflicts.

### Skills & Competences

The students develop communication skills: active listening and capacity for clear expression, presentation, cross-cultural communication. The students learn to express themselves by a creative way and to provide an explicit structure to think and organise information.

*“All students are actively involved in the activities. Even students who are usually shy in the classroom were eager to express themselves.”*

**Mehmet Arda, teacher, Turkey**

### Hints and Tips

Put a word or symbol that represents what you want to think about in the centre of a page.

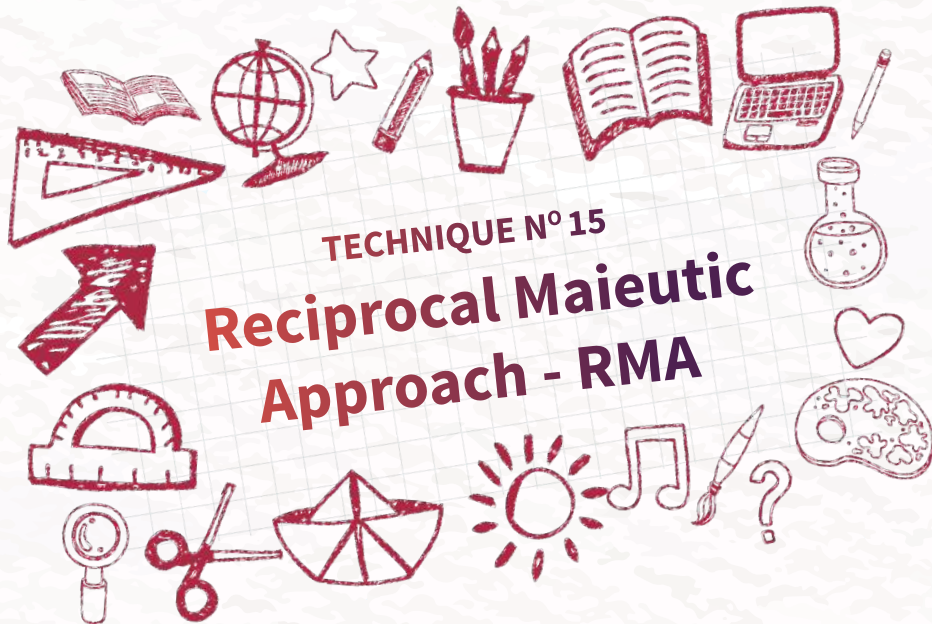
Capture every thought that comes to mind (No censoring!).

Link thoughts to the centre focus by printing key words on lines extending out from the centre.

Ideas related to each other are as “branches” of the original line from the centre.

Use colours as a way to organise thoughts, stimulate new thoughts or just because it is fun! Use symbols to create thought pictures.





*“The Reciprocal Maieutic Approach is a process of collective exploration that takes as a departure point the experience and the intuition of individuals.”*  
**- Danilo Dolci (1996)**

### Description

The Reciprocal Maieutic Approach (RMA) is a process of collective exploration of possible problem solutions and alternative paths that departs from the experience and the intuition of individuals, as theorised by Danilo Dolci. The RMA is a process of dialectical inquiry based on a democratic and open structure that can be used as an assessment tool.

The RMA learning process<sup>2</sup> starts with a long-term process of analysis and discussion about meaningful themes for the group, getting deep into feelings, inner perspectives and needs that people have. In a continuous dialogue that embodies a new way of educating, we begin by emphasising individual students’ capacity to discover their own vital interests and to express their feelings freely on the discoveries they have made. Word analysis is a practice used in RMA that aims to boost people’s capacity to analyse deeper the reality and develop their capacity of self-reflection. The ultimate goal is not to understand some “true meaning”, but rather to verify

how meanings “resonate” in many ways to different people and, more importantly, to reconstruct them through a shared experiential process of reciprocal discovery and respect.

In the RMA process, to educate is intended in the classical meaning of the word, that is “educere”, to take out. It aims to discover, resolve, decide, learn, design, think, build together as well as to know themselves more deeply by fully valorising everyone’s contribution.

With RMA, the educational process happens in two senses: the real discussions that happen and that might have concrete results and the development of competences through the discussions and group meetings. The experience of reaching decisions this way, of learning to modify and coordinate one’s own demands to those of others, and of learning to plan ahead, both personally and in a group, is important for everyone. Conversation encourages students to express themselves. The disposition to listen allows the educator to get closer to the learner’s way of thinking and seeing.

### **Preparation**

If the teacher has no experience in RMA, additional research and preparation might be needed to fully understand RMA and to practice it.

### **Step by Step**

1. Ask the group to sit in a circle so everyone has the same distance from the centre and can look at each other in the eyes.
2. In the first meeting, ask students to introduce themselves in a personal way, or by describing their personal dreams.
3. Afterwards, introduce the issue or a “good question”, e.g. What is education according to your personal experience? What is the transmission of information? What did you gain from the activity you participated in? What was the most important thing that you saw in your class and in yourself in terms of growth? Think about a question relevant to your subject. In some cases, students can be informed about the “question” in advance.
4. Ask the students to speak and express their opinion about the issue. It is important that everybody listens actively to each other’s voice. You might also invite silent students to speak, and allow or even inspire

moments of silence where people are not pressed to necessarily give some kind of answer, but rather to silently reflect on what they have just heard from other people, and then talk.

5. You can intervene when appropriate and give your own contribution in order to enable true reciprocity, but without influencing the group discussion by expressing the personal opinion on the topic being discussed.
6. Close the session by summarising and, if it is the case, talk about the next encounter, when, at which time, and about what. Ask a short evaluation from all the students about their personal experiences and about what they have learned within the group.
7. You can also close the session by doing a short evaluation of the meeting.

## Learning Outcomes

### Knowledge

The students enhance knowledge, understanding and strategies in dealing with heterogeneity and diversity in groups, accommodating multiple perspectives and views.

*He (my student) says that for him it is not easy to talk to others because he is shy and is afraid to make mistakes, and that people think he is stupid. He adds that during this activity he felt as if everybody was stupid and no one could make fun of anyone. Another student confirmed that in those two hours she felt free. -*

***Barbara Pellegrino, teacher, Italy***

### Skills & Competences

The students develop communication skills: active listening and capacity for clear expression, presentation, cross-cultural communication. They develop transversal competences: reflection, cognitive and relational/cultural communication.

*“It surprised me how because of RMA, the students can show effective and flexible ways of expressing themselves.”*

***- Marlene Seeberger, teacher, Austria***

*I'm very happy with how the RMA session worked. It was a very positive experience. All the students thanked me for giving them this opportunity to learn in a non-formal way.*  
**- Angelo Pellegrino, teacher, Italy**

### Hints and Tips

To ensure the educational process of RMA happens effectively, the teacher should harmonise the group discussion in order to allow each learner to have the proper amount of time during each session, so that each one can express her/himself on the issue.

It is important to put emphasis on real needs, interests, desires and dreams of students first.

The teacher should be capable of listening, summarising and giving feedback. Also, he/she should be good at time keeping, whilst allowing the time needed to express ideas.

It is useful to have a flipchart or a notebook to write down the diverse feedback and to record the outcomes of the sessions since RMA is used as an assessment method.

*“Drawing during the RMA helps, but sometimes it is too difficult and then they have to stop. Drawing supports pupils with weaker language skills”.*  
**- Veerle Smits Teacher, Belgium**

*“Conduct RMA using co-teaching as much as possible, that way the teacher can focus only on what the pupils are saying and not on class management.”*  
**- Lisa Verhelst, Teacher, Belgium**

# 5

## **Designing and Developing Learning Outcomes for CARMA**



## 5 Designing and Developing Learning Outcomes for CARMA

*“We need to be much clearer about what we do and do not know so that we don’t continually confuse the two. If I could have one wish for education, it would be the systematic ordering of our basic knowledge in such a way that what is known and true can be acted on, while what is superstition, fad, and myth can be recognized as such and used only when there is nothing else to support us in our frustration and despair.”* (Benjamin Samuel Bloom, 1981)

### How did we develop our teacher and student learning outcomes based on the CARMA approach?

**L**earning is a process: we build upon our former learning to develop more complex levels of understanding, we understand well before applying, we apply to understand better, we analyse the process before evaluating it.

Defining a clear set of learning outcomes is at the heart of any successful learning experience, therefore, the **learning outcomes for teachers and students** of the CARMA project were developed based on adapting Bloom’s taxonomy of learning (Bloom,

1956) and other works on Bloom’s taxonomy (Anderson & Krathwohl 2001; Churches, 2006). It proposes that knowing is composed of six successive levels arranged in a hierarchy, with the three lower levels (knowledge, comprehension, and application) being more basic than the higher levels (analysis, synthesis, and evaluation).

The CARMA project implemented a series of activities based on the main levels of learning to develop **teacher and student learning outcomes in collaborative practices**.

#### 1. CARMA Research on ESL

- Firstly, the CARMA project carried out research that investigated trends and statistics on **ESL** in Italy, Spain, France, Turkey, Belgium, Portugal and Austria, best practices in collaborative teaching and learning and national frameworks to support teacher assessment. From this research, we discovered that there is no recognised national framework to evaluate secondary school teachers’ competencies in all 7 countries of the partnership centred on collaborative practices (see [“Early School Leaving – Statistics, Policies and Good Practices in Collaborative Learning”](#)).



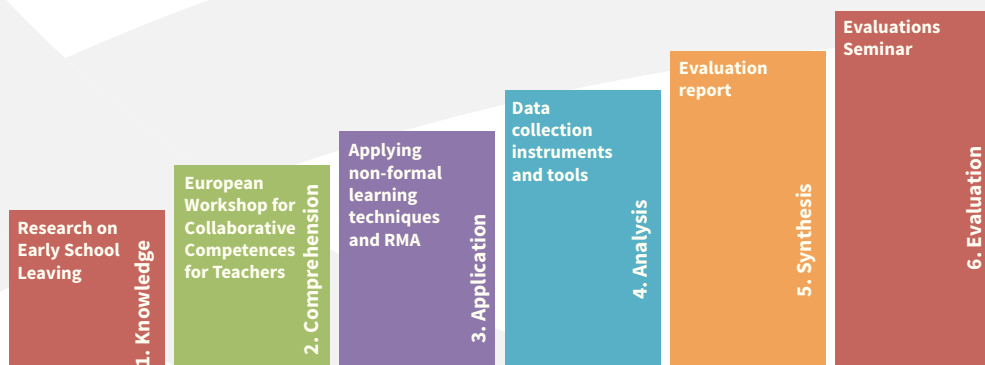


Figure 2: Bloom's Taxonomy and the process of CARMA's activities to develop learning outcomes

- An online survey was delivered which has collected more than 1100 responses from teachers, students, parents and other professionals in the education sector across the 7 countries. The survey explored and identified specific needs faced by schools and sought to gain a deeper knowledge on how to adapt non-formal learning methods to each school system. Survey results show that teacher training is one of the most important factors to develop good collaborative practices. Regardless of the country of origin, from all the teachers surveyed, findings show that they have not received any specific training regarding collaborative learning (see [“Needs assessment report with summary of findings”](#)).
- 2. CARMA European Workshop for Collaborative Competences for Teachers**
  - Secondly, 25 teachers the 7 countries, supported by 7 **non-formal learning experts** for 5 days were fully involved in exploratory sessions of techniques that **fostered collaborative learning and teaching** during the **CARMA European Workshop for Collaborative Competences for Teachers**. Teachers increased their knowledge of non-formal learning methods and RMA as an assessment tool and their confidence to deliver collaborative learning with own students (see [“European Workshop Evaluation of Learning Outcomes”](#)).

### 3. Applying CARMA non-formal techniques and RMA (testing activities)

- 26 teachers implemented **collaborative learning and assessment sessions with students** during the 2016-2017 school academic year and tested the range of non-formal learning techniques and RMA with a total of 3038 students ([see Overall Piloting Report](#)).
- These teachers **used RMA as an assessment tool** and the sessions dedicated to RMA supported teachers to understand and measure the impact on students' motivation and engagement as a result of participating in the pilot activities.
- Non-formal learning experts with teachers and involving the students implemented **Demonstration Workshops** to show the progress in the learning made by students while applying non-formal learning techniques in the classroom. Workshops included presentations of the activities tested to other teachers, school staff and parents, group activities between different classes and between

older and younger students and evaluation and feedback with school stakeholders i.e. school headmasters, parents, educational professionals and representatives from educational municipalities.

### 4. Data collection/ CARMA Evaluation report and European Evaluation seminar

- Monitoring of progress and results included the evaluation of:
  - The impact on teachers – teacher competences gained in collaborative practices,
  - The impact on student's motivation and attainment of learning outcomes.
- Data was collected during the school year of 2016-2017 in 7 countries - Italy, Turkey, Portugal, France, Belgium, Spain and Austria. **Data was collected from the feedback and interaction of 26 teachers and 3038 students who tested the different non-formal learning techniques and RMA** using the instruments and tools described in the next chapter (*Evaluation Tools and data collection Methodology*).
- Then data was analysed and the **CARMA “Evaluation report for Teachers, Students and Stakeholders”** was developed.

- Finally, the **CARMA Evaluation Seminar** gathered a group of 23 teachers and experts in non-formal education who had participated in the testing activities of the CARMA project to share with their peers their experiences in using different non-formal learning techniques and RMA in their classrooms, as part of their classroom activities.

CARMA activities and processes led to the development of **teacher and student learning outcomes in collaborative practices** that by defined by CARMA, are much needed in ensuring effective educational systems.

### 5.1 Evaluation Tools and Data Collection Methods

*“The process of writing itself helps trigger insights about teaching. Writing in this sense serves as a discovery process”* (Richards and Lockhart, 1996, p.7).

The partners of the CARMA project have developed specific tools to follow the experimentation and to be able to measure the impact of the sessions on the students’ learning and on the teachers themselves.

In order to follow the experimentation, the teachers involved in the CARMA project each completed what we called a **“Teacher’s Diary”** (see Annex 2). A Diary was chosen as the preferred tool and keeping a Diary throughout the whole process proved to be an effective strategy to support teachers to effectively record what happened in their classes and their thoughts about it. Furthermore, it allowed deepened collaboration and shared learning between the teachers and the NFL Experts, who analysed and observed the notes written by teachers in their diaries.

The Diary included a series of specific guiding questions with 4 main areas of teaching delivery; **lesson objectives, students, activities and materials** and **classroom management**, in order to support teachers in the analysis of their work and the impact of their sessions in the classroom.

Throughout the testing of the NFL techniques the Diary was completed after each session in the classroom and then after the process was shared with the experts in non-formal learning that supported the teachers in each partner country. The collection of the quantitative data using this specific method helped to analyse the impact of the

project and follow the experimentation. Importantly the use of the Diaries ensured a valuable tool for qualitative experimentation and assessment of impact.

From each Diary, elements and quotes have been extracted by the different NFL experts to measure the impact of collaborative learning in schools on teachers and students.

Eight indicators have been defined to have an overall vision of the experimentation:



In order to assess and monitor the learning of the students, each teacher tested each method several times with the same group class (at least three times) and in order to conclude this training cycle, RMA has been used as an evaluation tool.

The RMA was actually the tool used by teachers to measure the impact on their students. By giving a structured environment but not a strict one to the students, it gave the possibility to evaluate the impact of non-formal learning methods on their learning, motivation, interest and enthusiasm towards the new learning materials. A set of guided questions were used by teachers (not explicitly) during the RMA sessions to assess the impact in line with the learning outcomes.

## Key Evaluation Questions

**What is the impact  
on students?**

## Monitoring Questions

Did the students feel comfortable during collaborative practices?

Did they like learning in this way and why?

What did they like best about the collaborative practices?

What was the most useful thing they learnt?

Was there anything the students would like to change during the activities?

## Key Evaluation Questions

Where the students  
motivation during  
the collaborative  
practices?

## Monitoring Questions

Did the students engage  
with the teachers?

Did they participate in the  
activities?

## Key Evaluation Questions

Is it interesting for  
students?

## Monitoring Questions

Did the students skip the  
collaborative learning  
pilot sessions?



## Key Evaluation Questions

Where the new  
materials of value?

## Monitoring Questions

Did the students show  
enthusiam to the new  
materials being used?

## 5.2 Impact and results achieved

The CARMA project has been organised in a specific way to measure the impact during the whole process of delivering collaborative learning in schools. It has been analysed at two levels: on the teachers and on the students.

During the whole experimentation, teachers have written in diaries (see 5.1 Evaluation Tools and Data Collection Methods) that proved to be a very useful tool to support teachers to assess the collaborative practices and better understand the impact that testing the NFL techniques in the classroom had on them and their students. This process has also been very useful for the NFL experts who supported the teachers during the testing of the techniques in the classroom.

While analysing their own work with the students, the teachers also analysed the impact on the students' motivation, taking into consideration their attitudes and behaviour in the class.

The conclusion from all the analysis in the different partner countries have shown that the CARMA project had made a great impact on both teachers and on the students, and the general school classroom environment.

### 5.2.1 Impact on Teachers

The teacher perspectives in the diaries revealed the strength of four indicators in particular. Almost 70% of the quotes extracted from the teachers' diaries referred to the following indicators:

*I also believe that the use of non-formal techniques has played a decisive role in the success of the intervention. The students expressed their interests and their plans for the future. As a teacher, I found it very interesting because I got a chance to find out more about my students, the aspects that normally don't emerge from typical classroom activities. Behind each of my students, I have seen desires, passions and life projects. **Barbara Pellegrino - teacher, Italy.***

The teacher perspectives in the diaries revealed the strength of four indicators in particular. Almost 70% of the quotes extracted from the teachers' diaries referred to the following indicators:

### Increase motivation and engagement of the students:

It is evident that collaborative learning was a positive experience and different from traditional formal learning and teaching. This triggered the attention of the students and increased their motivation to attend and participate. **All teachers agreed that the level of participation and motivation of their students especially the ones who are shy and normally do not participate has massively increased.** The involvement between the classroom environment and the home environment got stronger leading to a **positive influence on the students aspirations for further learning.** Students' engagement was seen as a result of empowerment. The students were given a voice to express their feelings and to learn from and with each other through collaborative approaches. A strong catalyst to the increased motivation and engagement of the students was the fact that the **students were allowed to express themselves.** Furthermore, the students were more involved during the sessions because they were engaged with the content in different ways and because they were able to process the content by themselves. **They were learning without actually realising that they were learning.**

### Increase interaction in the classroom

The teachers across all countries expressed **high levels of classroom interaction among their students.** They felt at ease while interacting and working together. Collaborative methods provided them with some **freedom in the classroom**, like moving around which had an indirect effect on their motivation and a direct effect on their interaction. They felt **happy to collaborate and help each other, listen attentively and respect each other's turn.** The level of interaction among the different classes and the different methods being piloted had the same **positive effect in interaction among the students.** The participation and interaction of the students to some teachers was very emotional.

Collaborative methods provided the students with a platform to resolve problematic situations cooperatively. They **became aware of their abilities, they became aware of what collective thinking means** and how it can be important and beneficial within a group. They were able to discover a new space that is safe to reflect and to **exchange feelings and personal reflections.** Accordingly, collaborative methods **have highly facilitated the communication inside the classroom** and gave space to opportunities for students

to speak and to get involved in their learning process.

### Increase learning outcomes in the classroom

All teacher diaries reflected a **positive increase in the learning outcomes** in the classroom on several levels: the thinking process of the students and their analysis of the topics/situations, thoughts and expression of ideas, intelligent argument phrasing and deep thinking about the content of the lessons. What was also evident is that the students were using their **imagination and creativity** in their thinking and problem solving process. In addition to all this, the students **showed respect for each other** and listened patiently to the opinions of their classmates. They became more self-conscious and more conscious of the other.

### Increase in knowledge and competencies regarding non-formal learning methods to facilitate collaborative teaching and learning

According to most of the diaries, the teachers were **able to switch between the different methods and adapt them according to their students' needs** (or even students with special needs) depending on the characteristics of

the method and the content of the lessons. Furthermore, the teachers were able to **adapt the classroom space** to fit the requirements of the learning activities. According to all diaries, the teachers had a good structure and an organised lesson plan for conducting their sessions. They had their materials prepared ahead of time and were able to start and finish on time. They were **able to analyse and reinforce their own needs and skills, and develop their own learning plan**. The teachers understood the importance of the preparation phase before the sessions in order to fit with the learning objectives and to facilitate the learning process of the students. They were able to describe what collaborative methods are and were able to teach these methods to other colleagues. They became aware that their **role as facilitators can be of great importance**, rather than only a teacher delivering the knowledge. By facilitating, the teachers provided opportunities for their students to **explore their own learning**. Some teachers even attended a MOOC on neuroscience in order to exploit the complementarity between collaborative methods and the CARMA techniques.

### 5.2.2 Impact on Student Motivation and Engagement

The powerful impact of CARMA on students was recorded not only through the diaries of the teachers which highlighted teachers' own thoughts and perspectives about the experience of delivering collaborative practices within the classroom, but teachers were enabled to measure their students' progress and gain a deeper understanding of the impact of the collaborative learning practices they had incorporated in their own teaching through the use of RMA as an assessment tool.

Overall, we measured impact among a total of **3038** students from Italy, Turkey, Portugal, France, Belgium, Spain and Austria who participated in testing the non-formal learning techniques.

In general, we learnt that that during the delivery of the non-formal learning techniques as a way to incorporate collaborative practices in their schools, students felt comfortable and they engaged well with the teachers.

It was noted during the first sessions in the classroom, that there was some difficulty in enabling students to fully understand the aim of the methods. Some of the teachers had to explain and re-explain, for e.g.

one teacher prepared a roadmap to guide the students in understanding the new activities. However, as the sessions progressed, the students understood what was expected from them and their level of engagement was improved. Infact, these classes were those techniques were used, became the favourite ones among most of the students. They engaged in class discussions, group work, activity preparation and presentations. Only one class from one country demonstrated some difficult attitudes towards the sessions.

**Classes incorporating non-formal learning techniques became the favourite classes among most of the students!**

From participating in this new learning process, we saw a change in students' classroom behaviour including:

- Able to work in **groups**
- **Respected** their group members, **listened** to each other and **expressed** their thoughts and feelings freely
- Became **more open** towards their teachers and that played a huge role in the teacher – student relationship. They appreciated the teachers acknowledging them as individuals with potential, talents, and own opinion/voice.

- Opinions were listened to with **respect and without judgment**, especially during the RMA sessions, **they felt safe**. Very few students (one class from one country) showed feelings of resistance towards the methods.

*“Even though students had difficulty to express themselves during the NFL implementation, at the end of the RMA session, the satisfaction of the students was observed. The students informed me that they enjoyed during the lesson. The students told me that they loved very much the physics lesson when they play games and have fun. Each student had an opportunity to express their opinion freely and it contributed to the improvement of their thinking skills.” - Didem Sümbül, teacher, Turkey*

The students expressed positive feelings towards learning with non-formal learning methods. In particular:

- Change from a **structured formal setting to a fun setting**  
- They thought that it was more fun, in the sense that they could walk around, sit in a different place other than their daily seats, talk during the class while discussing in groups, present to the class, and sometimes (for

some teachers) having the class outside the normal classroom space;

- They could be more **creative**;
- They **learnt without feeling** that they had to put **effort** in;
- They **liked to be challenged** to **reach consensus** and **resolve problems** within the group;
- They became **excited about their efforts in group work** and to present to the class and prove (their group's) point of view/solution/etc.

*“The students were really asking to use collaborative methods, especially when they had to solve a conflict for example. Indeed, they understood the importance of taking collective decisions and of all being involved in the process.” - Isabelle, teacher, France.*

We have given you just a snapshot of the full impact on students that we have measured during our project. To read much more about the impact we saw across all countries, you can view the *Evaluation Report for Teachers, Students and Stakeholders* on the CARMA project website at [www.carma-project.eu](http://www.carma-project.eu).



# 6

## **Experiences and Reflections from Teachers and Students**

# 6 Experiences and Reflections from Teachers and Students

“Learning is more effective when it is an active rather than a passive process.” - Kurt Lewin (1890-1947).

During the school year in which teachers implemented non-formal learning sessions in their classroom, some methods have been used in order to teach about classic subjects such as mathematics or history for example, but some methods have also been used to tackle topics such as school or class environment.

After the process of testing the CARMA approach, questions have been asked to the teachers who led the non-formal learning sessions and with the students who participated. This section forms a collection of case studies and testimonies that share the experiences and reflections of the teachers and the students who participated. They give some insight into:

- The context in which the methods have been used (taught subjects, topics...)
- The impacts that have been noticed **on the students**
- The impacts **on the teachers themselves**
- How much the teachers are convinced the use of these methods and why they would recommend other people to use them.

## 6.1 Teachers' Perspectives

The following case studies explores the experiences from the teachers who have led the delivery of the non-formal learning techniques in their classroom and shows their point of view about the use of such methods and what these methods have brought to their teaching practice. We want to show these little moments that turn things around.

The background is a dense, abstract composition of overlapping circles in various sizes and shades of pink, red, and purple. The colors range from light pastel pinks to deep, saturated reds and purples. The circles are scattered across the entire frame, creating a textured, organic feel. The text 'CASE STUDIES' is centered horizontally and vertically, overlaid on the circles.

# **CASE STUDIES**

# CASE STUDY 1



## **Name of the teacher**

Barbara Pellegrino (Italy)

## **Taught subject/topic(s)**

Support teacher in languages, special needs activities

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Expert

## **Tested techniques**

Box of Emotions, RMA, Problem Solving, Group Investigation

## **Did you know the technique before the CARMA project?**

The first time I have read the word CARMA it was in an internal newsletter at school. That time I looked it up on the internet and I could not find anything about CARMA. Nevertheless, I decided to join the project because the internal newsletter was speaking about a new course on alternative teaching methods. This subject is very interesting to me. I have been working on this topic for a long time, otherwise I would not be able to consider myself a real teacher but I would be just a kind of after school lesson teacher who just asks students to memorise lessons and nothing more. I have been always working on these processes. What is important to me is to find those tools that are able to improve mental processes and reasoning. I have always found traditional formal methods quite heavy. This is why when I read about a new course on alternative teaching methods I was very interested.

## **For which special situation/topic did you use those techniques?**

In my first grade class there are students who still have an immature learning method. Even if these students have a big potential they present some of the new generation characteristics, so they are quite inattentive, selective in their studies, inconsistent, not very respectful towards each other and towards their teachers too.

My other class is a third grade class and it is very problematic. There are two heavily disabled students and many students who failed classes the previous year. The students of this class were coming from two different classes and they had been brought together as one class. In such a situation working was really complicated. These students were selective in their studies, inconsistent, they had bad marks and many disciplinaries.

### **What were the main result(s)/impact(s) on the students you noticed?**

When I applied the Problem Solving game the enthusiasm was great. This was the activity that the kids liked the most. The second round was great. It was just as I had wished. The Maths teacher was communicating with the students without talking, the students were helping each other without even being aware of it; the solution arrived at the end and everybody was happy feeling a common sense of relief. Among the students, only one of them who had serious attention issues and is hyperactive active could not understand the sense of the game and he just enjoyed the game itself. All the other students could understand the real meaning of the game. In this game, even if it was a group game, the students did not speak at the same time. Usually they talk whilst someone else is already talking but this time they all raised their hands asking to speak. The students had to wait for his/her turn to speak, respect and listen to each other in order not to say something that had already been said; everything was just great. The kids kept on asking me questions. It was not a real game, it was a logic game teaching them how to think logically.

For the RMA activities, the students had very positive reactions; this time there was not the childish excitement of the Problem Solving activity; there was a mature and reflective enthusiasm. This last time when they left the class they were very pensive. I cannot say if they were happy or not but they were surely pensive. According to me this was good: it means that we have stimulated something and that is an important thing.

### **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

With CARMA I have found out that I am not alone, that these methods are surely applied in Europe, and I think, all around the world, and this makes me feel better, it means that we can improve. It is useless to adopt traditional methods in a society that is not traditional anymore. We can

agree on this or not but this is the reality, so we have to take some actions and keep ourselves updated. What I have learned from CARMA is that some measures have already been taken and that this course that supports the professional development of teachers is not useless. Sometimes I find courses like these to be so useless because they do not teach you anything, but CARMA is different. Through this course, I have learned how to analyse myself and that even if my job is very hard it is not impossible to transmit your knowledge to other teachers. This course made me feel more self-confident; sometimes being an updated and specialized teacher makes you feel alone as if you have to ask for permission to do anything. It often happens to me that when I am having lessons with my students, other teachers complain saying that they can hear my voice from outside so they make you feel inferior. Thanks to CARMA, I felt stronger this year.

**To which extent are you convinced with the use of non-formal learning methods at school and why would you recommend it (or not) to your colleagues?**

There is a beautiful quote from Confucio: “If I listen I forget, if I see I remember and I learn”. These non-formal learning methods activate something new. The frontal lesson is only based on the student’s attention and it is known that after some minutes a child or an adult’s attention level decreases so if the teaching method changes its approach things will get better. I am thinking in the long term, there are no other alternatives other than new teaching and learning methods.

There are some places where the formal method can be kept but absolutely we have to leave our comfortable desk.



# CASE STUDY 2



## **Name of the teacher**

Esperanza Manzanares (Spain)

## **Taught subject/topic(s)**

Informatics

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Intermediate (with at least some experience)

## **Tested techniques**

The Box of Emotions, Learning by Coding and RMA

## **Did you know the technique before the CARMA project?**

No

## **For which special situation/topic did you use those techniques?**

In tutoring classes to deal with issues of coexistence in class because my group was a problem group, related to the fact that they not getting use to communicate each other.

## **What were the main result(s)/impact(s) on the students you noticed?**

The results were very positive because at the end of the course all the students speak and work with the, ones that they have never had any relation and they helped each other.

## **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

At first, it was difficult because I had never used this kind of methods. I prepared the session and I tried to imagine that I was the student like when we were in Palermo. It was easier to apply the methods of the sessions that I worked there.

After the first session of each method, I wrote the things that I could change for the next session. The second session always worked better than the first one.

## CASE STUDIES

# CASE STUDY 3



## **Name of the teacher**

Vanessa Contenot (France)

## **Taught subject/topic(s)**

French

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Novice

## **Tested techniques**

Petal Debate

## **Did you know the technique before the CARMA project?**

Absolutely not. I have discovered them thanks to a colleague.

## **For which special situation/topic did you use those techniques?**

I have used the petal debate in order to introduce my lesson about the “Hero”. By using different materials, the students have thought about the representation of the heroes across the ages.

## **What were the main result(s)/impact(s) on the students you noticed?**

The students have participated actively and have shown a real interest. They have been active in their learning process, thanks to the use of different materials from a group to another. Each of them has clearly wanted to share his ideas and to make a real contribution when the results were shared.

## **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

At the really beginning, I was afraid of not being clear enough with this method that was totally new for both my students and myself. My fears haven’t had any impact since the students felt really at ease with the method and made it their own. I have simply stayed in the background, letting a real space to my students and their ideas.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

This experience has been very positive for me and for my students. These latters are more involved and become fully active in their learning process and in the development of the lesson. It is a different dynamic, bringing some fresh air for the students.

It is in fact very easy to implement: it fosters the development of deductive skills and gives another dynamic to the whole class.

# CASE STUDY 4



## **Name of the teacher**

Fabienne Saint-Germain (France)

## **Taught subject/topic(s)**

History and Geography

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Intermediate (with at least some experience)

## **Tested techniques**

Petal Debate

## **Did you know the technique before the CARMA project?**

No

## **For which special situation/topic did you use those techniques?**

In History and Geography but also to prepare teachers' conference.

## **What were the main result(s)/impact(s) on the students you noticed?**

A better participation of the students in their work and a better group cohesion in the class.

## **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

A better knowledge of the difficulties that were faced by the students. A better dynamic in the class and a more benevolent attitude from my side.

## **To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

I am convinced by the usefulness of the method of the petal debate and I am using it with all the classes I am teaching to. I present it to all my new colleagues and to the interns (future teachers who passed their exams but who need to teach during one year before being officially teachers).

# CASE STUDY 5



## **Name of the teacher**

Maria Paula Fernandes (Portugal)

## **Taught subject/topic(s)**

Physics and Chemistry

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Intermediate (with at least some experience)

## **Tested techniques**

Crossover Learning

## **Did you know the technique before the CARMA project?**

No

## **For which special situation/topic did you use those techniques?**

To learn the themes:

- Electric course and electric circuits:
  1. The electricity and the day to day.
  2. Good and bad electric conductors.
- The electric course's effects and the electric energy:
  - a. Electrical receiver's output.
  - b. Kwh as an energy unit.

## **What were the main result(s)/impact(s) on the students you noticed?**

The Crossover Learning experience helped them to become better at connecting the concepts learnt in class with the daily experiences.

## **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

I tried to stimulate students' motivation and participation. I provided opportunities for all the students to participate, but it was very difficult because they were too many and they participated in a messy way, since everybody wanted to speak at the same time.



I understood (also by the evaluation made by my student) that students value an ordered class and that they evaluate the success of the activities by the peace with which they occur.

In general, I felt that the use of these methods allowed me to increase the bond with my students and to make them more interested and motivated on the subject.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

I would recommend to my colleagues the use of non-formal methods because I think the students increased their ability to understand other people's opinions and to make the connection between informal and formal subjects.

Also, I consider that Crossover Learning can be used as an efficient tool to increase the students' learning process. Finally, I notice that the students with learning difficulties were able to get better at linking realities and they even remembered the concepts learnt in class.

# CASE STUDY 6



## **Name of the teacher**

Ana Cristina Lopes Fernandes (Portugal)

## **Taught subject/topic(s)**

English

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Intermediate (with at least some experience)

## **Tested techniques**

Box of Emotions

## **Did you know the technique before the CARMA project?**

No

## **For which special situation/topic did you use those techniques?**

My aim in using Box of Emotions was to get closer to possible deeper problems of my students. As teenagers, they face lots of difficult situations among their mates.

## **What were the main result(s)/impact(s) on the students you noticed?**

Students tend to be closer to their mates, as they could understand the hidden feelings and moods of all the others.

With the second strategy, students tried to think “out of the box” and so, they react within a wider perspective on a given problem or situation. They tend to be more open-minded.

## **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

As considering my position as a teacher, I assume I used these strategies as long as I was a teacher. So, it was a pleasure to apply these techniques, in a more formal way, with the purpose of showing their impact on the Portuguese students and at the same time, tending to facilitate the life of a student.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

I really think they are a good way of teaching and solving students' concerns. So, I intend to continue applying them this year.

# CASE STUDY 7



## **Name of the teacher**

Elisa Seixas (Portugal)

## **Taught subject/topic(s)**

Society and Citizenship

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Novice

## **Tested techniques**

Philosophy with Children (project with 5<sup>th</sup> year students); Constructive Controversy; RMA.

## **Did you know the technique before the CARMA project?**

I was already reading about Philosophy with Children before and then when I saw this method within CARMA I was truly motivated.

## **For which special situation/topic did you use those techniques?**

Philosophy with Children: Identity; Justice; Responsibility.

Constructive Controversy: International conventions of Human Rights; Checks and balances between the State institutions; The importance of the parent licence for the fathers.

RMA: Evaluation of the non-formal and collaborative learning methods.

## **What were the main result(s)/impact(s) on the students you noticed?**

In the classes of Philosophy with Children, the main impact is the ability to think over about some of abstract concepts that gave them some rational arguments to change their behaviour (for instance, about homework and the notion that the grown people – teachers and parents don't do only what they pleased, but mainly what they have to do). They also learned to respect the other opinions (not only these,) but argument reasonable.

**What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

I started to use more group dynamics in my classes, not only the ones that I choose, but others also (Petal Debate, Box of Emotions). I managed to use RMA in dealing with some relationship problems between students.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

I am very convinced I can apply non-formal methods in all my classes. I was also invited to present to other school teachers in March/April in another school of my town (it will be a practical seminar with 12 hours and certificated).

# CASE STUDY 8



## **Name of the teacher**

Kim Vandenwijngaert (Belgium)

## **Taught subject/topic(s)**

English and Dutch

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Expert

## **Tested techniques**

Storytelling, Crossover Learning and RMA

## **Did you know the technique before the CARMA project?**

Storytelling: yes

Crossover Learning: yes

RMA: no (but we already did this without knowing, but not as extended)

## **For which special situation/topic did you use those techniques?**

### **Storytelling**

I have used this method during the Dutch lessons. The first item was 'reading to toddlers'.

Students received a children's book to prepare their sessions. They were supposed to make material to support their reading to toddlers, to make it more interesting for toddlers to listen to them. After preparing, they went to a school to read their books out loud to the toddlers. Afterwards, the students also had the opportunity to record their voice/story to be included in the book that toddlers can get at the library.

The second item I have used it for, is to write a story about a secret. Students close their eyes and listen to the teacher. Teacher tells them to imagine being on an island, with nothing but sand, water and a gentle breeze. They have to invent a character with a secret: Who is it? Where does he/she live? etc. What is the secret, where is it hidden, who wants to find out,...



Afterwards, students open their eyes, without looking at each other and write down everything they were thinking of. Once the stories are written, they read them out loud in front of the class room.

### **Crossover Learning**

Our third year students go to Paris at the end of March. During that week they will learn a lot, but it's important for them to go with some cultural background. Students will make a presentation about one of the topics/monuments/people who are/were important for Paris and its history.

They make a mind map, text and presentation about it. They present it as a real guide would do in Paris. Once they arrive in Paris, they feel proud of the fact that their fellow-classmates know something about already. They finally see the result of months of preparing.

The second item is 'Shakespeare'. Students go an English theatre about Shakespeare. To be prepared for it, they learn about Shakespeare in groups: his biography, plays, poems,... They need to use this information during the theatre to perform the short version of Shakespeare's plays. During this theatre, they learn new information about him, new plays, typical topics, etc.

The third item is 'damage due to MP3-players'. Students look up information about it and create in groups, their own campaign which they then present to all the classes at school. (1 -6 ASO)

### **RMA**

It's not easy to ask every learner about their experiences, because some classes contain 25 students.

For e.g. I have created new ways of doing RMA with big groups: a box where students put in a piece of paper with their thoughts. Teachers can read them out loud.

'Traffic lights' to show their learning: green – I learned something because ... orange – I have difficulties because..., red – my learning stopped because ... Students get post-its to stick onto the traffic lights.

**What were the main result(s)/impact(s) on the students you noticed?**

Students seem to like learning from their classmates. It's a nice alternative to learning. RMA helps them to form an opinion and ask help where needed. Students are more motivated because they learn in a non-formal way, which is something completely different for them and they are also more active.

**What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

- Getting to know ALL the students.
- It can be chaotic in bigger groups, but the second time it becomes easier.
- Connection with the students.
- A lot of preparation but as a teacher you feel proud when you see students 'shine' and be proud of themselves.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

At our school, we try to implement non-formal learning techniques more than before. We have special days, workshops, etc. to explain these non-formal ways and teachers can visit during lessons to see the non-formal techniques.

Our teachers join lessons given by their colleagues to learn from each other. We try to think outside of the box.

21<sup>st</sup> century education asks for changes, step-by-step, but we as teachers can learn so much from each other.

# CASE STUDY 9



## **Name of the teacher**

Lisa Verhelst (Belgium)

## **Taught subject/topic(s)**

Project General Courses (PAV)

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Expert

## **Tested techniques**

Petal Debate, Crossover Learning and Reciprocal Maieutic Approach (RMA)

## **Did you know the technique before the CARMA project?**

Petal Debate: no, but similar debate methods

Crossover Learning: yes

RMA: no

## **For which special situation/topic did you use those techniques?**

### **Petal Debate**

I used the method to think about some topics in our student council. I also like to use the method to figure out the opinion of my students about a topic. E.g. after my topic about addiction and smoking (biology, society, ...) I organised a debate with some statements about smoking at school or at the football club. The students had to apply the knowledge they learned in their arguments.

### **Crossover Learning**

I think it is important to always think about the real life transfer of what students learn at school. CL is always a good idea. The excursions do not need to be spectacular.

E.g. topic of selling and buying – excursion to a shop parents of one of our students owned, learning about how the shop works and applying it in an exercise in class.

E.g. topic of time and history – excursion to a museum about prehistory, where students guide their classmates.

E.g. topic of traffic – walk around the school neighbourhood and take pictures of dangerous spots.

## RMA

Assessment of any topic. It helps when you ask a question, opposing two concepts, e.g. “what is the difference between an addiction and a habit?”

### **What were the main result(s)/impact(s) on the students you noticed?**

Learning: applying knowledge, giving an opinion asks a higher level of understanding (e.g. in a debate).

Assessment: because everyone talks, you have a better understanding who in your class gets the subject and who doesn't.

Motivation: student are the centre of the communication,, their opinions are heard, the don't always realise they are learning, they work actively.

### **What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

Connection with the students.

Better understanding of the talents and characters.

Mutual respect, students know they are heard.

More work before the class, but once the lesson is made, you can apply it often.

It facilitates co-teaching.

### **To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

I am convinced that all teachers should know some techniques and know the theory behind it. If every teachers would apply one or two methods every year, education would be better. Further steps would be, working together with your colleagues, making a plan for spreading techniques in different courses, levels, ...

# CASE STUDY 10



## **Name of the teacher**

Didem Sümbül (Turkey)

## **Taught subject/topic(s)**

Science

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Novice

## **Tested techniques**

Pedal Debate, Storytelling, Constructive Controversy, RMA

## **Did you know the method before the CARMA project?**

No

## **For which special situation/topic did you use those methods?**

RMA and Storytelling are the most useful techniques for me. I am implementing these techniques as real motivational tools for students. I am testing them in the high schools who will take the university exams. My previous implementations are so boring and these lessons are rewarding because they are good for promoting interaction among students and creating a more safe and enjoyable atmosphere. They are useful to decrease the stress of exams.

## **What were the main result(s)/impact(s) on the students you noticed?**

Pedal Debate was very new and challenging technique for the students. They have experienced the techniques of debating but at the same time, they learnt how to defend and come up with an argument. The students enhanced their knowledge, understanding and strategies in dealing with heterogeneity and diversity in groups.

**What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

It enhanced the creativity of the students while creating their games and stories. Apart from this, the students learnt how to use the concepts they have been taught in other situations and adapting them to real life. All techniques were useful to support the collaborative skills of the students. They learnt how to do team work, share responsibility, timing and planning skills. Constructive Controversy was effective for expression, critical thinking and problem solving skills and it helped the students think out of the box.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

The implementation of these techniques were new for the students and they need to be well-informed before the implementations. It took some time to get used to being involved in the activities. Apart from this, these lessons need to be integrated with other lessons and collaboration with other teachers. There are time constraints because students are eager for these lessons but teachers have concerns about the exams and curriculum. Planning these techniques took more time than my usual lessons. Mostly integrating with the topics that I taught in physics. I believe that it is easy to integrate with social science but not easy for all topics of science.



# CASE STUDY 11



## **Name of the teacher**

Marlene Seeberger (Austria)

## **Taught subject/topic(s)**

German and educational trainer

## **How did you consider yourself in using collaborative methods before the CARMA project?**

Intermediate

## **Tested technique**

Storytelling

## **Did you know the method before the CARMA project?**

No

## **For which special situation/topic did you use those methods?**

I have a mixed class of migrant and local students. It is sometimes very difficult to work with this group because they have no motivation to learn. Another problem is that the children no longer have any respect for each other. When I heard about the techniques developed within the CARMA Project. I thought I could use these methods in my class. I had heard of storytelling before, but I had no idea how to start.

## **What were the main result(s)/impact(s) on the students you noticed?**

Of course, at the beginning you couldn't have that many expectations. However, it was very nice to be able to see these changes step-by-step from the beginning. Some students developed very quickly, some needed more time. Because other effects play a big role, like family, friends.

The students developed understanding, respect and appreciation for other cultures and can promote a positive attitude towards people from different countries, races and religions. The students shared a remarkable variety of personal experiences, values and ways of understanding.

**What were the main result(s)/impact(s) on yourself as a teacher you noticed?**

Storytelling is an important tool that I like to use in my class. I get the feeling the students respect me more. They also have the feeling that their value gives to my students. Thanks to this method, I really believe that I am more careful and have more control in class.

**To which extent are you convinced with the use of non-formal methods at school and why would you recommend it (or not) to your colleagues?**

Storytelling is a strong element of communication, and the narrative is just as convincing. They humanised learning. Storytelling touches our emotions and makes us laugh, cry, fear and have anger.

Not only Storytelling, but other techniques are very helpful to increase motivation in the classroom.

The background is a dense, abstract composition of numerous overlapping circles. The circles vary significantly in size, from small dots to large, dominant shapes. The color palette is warm, featuring a range of oranges, from pale peach and cream to deep, rich reds and browns. The circles are scattered across the entire frame, creating a textured, organic feel. The word "TESTIMONY" is centered horizontally and vertically, rendered in a bold, sans-serif font. The text color is a solid, medium-brown, which provides a clear contrast against the busy, multi-colored background.

**TESTIMONY**



## 6.2 Students' Perspectives

We must not forget that the students were also central to the project, and that is why it is also necessary and interesting to have a look at what the students thought after having participated in the non-formal learning sessions.

Here are some testimonies from students who have participated in the different sessions.

TESTIMONY

# TESTIMONY 1



**Marta and Francesco (Italy)**

**Both 17 years old**

EXPERIENCED TECHNIQUES:

**THE BOX OF EMOTIONS, RMA AND PETAL DEBATE.**

The teacher told us about this project but about the non-formal methods, she did not tell us too much. She preferred to let us discover them step-by-step. That moment was very interesting. We have an Italian teacher who already applies the RMA approach a lot, she has always liked it and we do it together sometimes.

Non-formal methods in general could help a lot, because even the topics we discussed during PETAL DEBATE were arguments that sooner or later would have been covered in a normal lesson, but the learning outcomes in this case were much higher.

The Box of Emotions technique was really interesting as I had a chance to find out what my classmates felt and I had to guess which classmates wrote which emotion.

With non-formal methods, I can better memorise subject matters, both in literature and in concepts of history.

All teachers have to be trained and they have to follow updated courses where they can learn about non-formal methods. The teachers should first learn it and then they can teach them. I think that using non-formal methods lessons would be more interesting, nobody would get bored; it happens so often that a lesson is boring, too long and hard so if you want to make it as easy as possible the best thing would be to involve everybody. Sometimes in the classroom, sometimes for the teacher, sometimes for students, it is difficult to establish a good relationship.

The relationship is limited to: I teach you, and that's enough, the relationship

ends there, and in my opinion this is wrong. We should create almost a relationship of friendship. Of course, each one has its own role, but this relationship we look for is very important.

Making school more attractive and involving the students as much as possible with methods and systems is necessary; the teachers should firstly learn these methods and I think it should be compulsory. This way, lessons will not be so heavy but lighter with a higher participation from students. This would change everything!

# TESTIMONY 2



**Adrián Andrés Ortega (Spain)**

**17 years old**

EXPERIENCED TECHNIQUES:

**THE BOX OF EMOTIONS, LEARNING BY CODING AND RMA.**

It was something that surprised me, because there were classmates with whom I never related before and after the experience it was like if we met each other a long time ago.

The change in the classroom environment was very noticeable, at first we only met in groups, the ones we knew. Afterwards, everything was different. Everyone spoke with everyone, always with more friendship.

I would recommend a more important use of this kind of techniques, because it is an easier and a fun way to learn something new and to make students learn to live with each other.

TESTIMONY



# TESTIMONY 3



**Sarah (France)**

**16 years old**

EXPERIENCED TECHNIQUE:

**PETAL DEBATE**

I didn't know the Petal Debate method and I was curious about it when the teacher presented it to us.

When we used it the first time, I have understood its interest though I have found it a little bit difficult. But in the end, I have understood and I liked it. I have learnt much better with this method since the lesson was done with our words. Moreover, many students have participated seriously and have liked the method.

I recommend this technique to other teachers so that the students understand better their lessons.

TESTIMONY

# TESTIMONY 4



**Lina (Portugal)**

**12 years old**

EXPERIENCED TECHNIQUE:

**PHILOSOPHY FOR CHILDREN**

I thought that it would be a fun class, very diversified class. I felt enthusiastic about it and it was very positive changing the class configuration (in circle). I also liked that there were not any formal test to do.

I felt that it would be fun and a great opportunity to talk about different things. Since it was the first time in this school, at first, we didn't know each other and this classes gave us also the opportunity to share our thoughts, emotions and feelings.

I have the impression that I have learned more about "life" in general and how to think better about things that I usually don't give a second thought. It helped the class in accepting, respecting difference and learning to respect other opinions.

I liked that we have this class (philosophy with children) also in the 6<sup>th</sup> grade because it gave the possibilities in continuing thinking in other things (like exclusion and bullying).

TESTIMONY

# TESTIMONY 5



Rafael (Portugal)

15 years old

## EXPERIENCED TECHNIQUE: **CONSTRUCTIVE CONTROVERSY**

When I was approached with this method, I thought it was really confusing. Many of the students in the class had some doubts about what was going on.

The fact that we had to make groups as well didn't really help that much, since that took most of our attention and then we had to listen to the teachers' explanation at least 3 times. The groups were always too noisy, and that was really distracting, and I realised that most of the groups weren't really interested in the problem we had to solve. Apart from that, I actually enjoyed the way we were treating the matter. I think it was helping for that particular subject (not sure if it would work for others).

It was undoubtedly a different way of getting to a conclusion that may or may not have been different but if it was better or not I would have to say that I found other methods I have used in the past in school worse.

As I mentioned before, the class was a lot more disturbing and loud and I don't think everyone was best exploiting the new form of dealing with subjects.

I would recommend this method to some teachers and some classes that I know could take full advantage of this.

We need to be more sensitised to these methods to be sure they are efficient.

# TESTIMONY 6



**Eda (Turkey)**

**15 years old**

EXPERIENCED TECHNIQUE:

**RMA**

RMA is a kind of technique getting students opinions about an abstract word by sitting in a circle.

I was excited when I tried the technique for the first time and I was curious because I didn't experience this kind of activity before, but this feeling was short and it led me depth of inquiry and sense of wonder.

At the beginning of the technique, my classmates and I were a bit nervous. Later, when we were informed about how to create our arguments and we searched for cooperative effort, accommodating the perspectives and reasoning of others. We understood that all of us should be involved in discussion as teams, and the atmosphere of the class has changed positively.

The students feel relaxed when the teacher creates a free and friendly environment where everyone can express their opinions in the classroom. Because we are not under stress and we trust our teachers so the knowledge we get is stuck in our mind.

To be honest, it was an activity that everyone followed first with surprise and then with interest. The atmosphere of the class became more and more exciting during the activity. I observed that my classmates did not lose their interest and curiosity until the end of the lesson.

I would recommend the use of this technique and even others because this method has strengthened the relationship between my classmates, myself and my teacher, and made it possible to create a better learning environment.

TESTIMONY

# TESTIMONY 7



Egemen (Turkey)

15 years old

## EXPERIENCED TECHNIQUE: **STORYTELLING**

I loved the technique that we wrote the stories in groups about the topics that we chose.

When I first experienced the technique, it was a bit strange for me since I am not used to doing it in the class with our teachers. It was quite new but I am happy to test new things in our class.

I did not really get along with my friends in the group before the session but then, I felt closer to my friends with the motivation of being a team during the session. Now I am more interested in the lessons and feel more focused on the topics.

The stories we wrote as a group consisted of the content of the lessons we were dealing with at the same time. As a result, I understood the subjects better and kept them in my mind. The effect of this event on the class atmosphere was positive, as everyone has finished the event as a team in an uncompetitive and unprinted way.

I would recommend other teachers to use this method. The method contributes the students' to uncover their imaginations and interiorise the subject, also it helps to become a positive atmosphere substantially.

# TESTIMONY 8



**Mohamed (Austria)**

**16 years old**

## EXPERIENCED TECHNIQUE: **STORYTELLING**

Our teacher hadn't done anything like this before in class. Of course, that surprised us all and I was curious. I asked myself very often at the beginning; what happens now?

I come from abroad and didn't feel so comfortable in the class at the beginning. When our teacher started with storytelling activities, I felt very comfortable in the class. I don't usually talk so much in the classes, but with these activities I have found a lot of opportunities where I can talk. It was a big motivation for me to talk in the group because all my classmates respected me.

I think I can learn much better. Because, thanks these activities and our teacher, I am more motivated in the school. I can express myself better. We show more respect in class. We listen when one of our classmates talks. We do a lot of activities together. Everyone in the group can express their opinions openly.

The activities are very well prepared and help the students a lot. Students like me can find more room in the classroom with these activities. This also promotes integration.

TESTIMONY





# 7

## **Assessing Teachers' Skills Delivering Collaborative Learning**

## 7 Assessing Teachers' Skills Delivering Collaborative Learning

It is crucial that teacher competences in collaborative practices are measured effectively to support the desired learning outcomes for both teachers and their students. A Competence Assessment Model has been developed aiming to define common standards in recognising teacher competences using the CARMA approach. Importantly, it has been co-developed by the CARMA partner organisations with contribution from the teachers from different countries and different teaching contexts.

The Model offers a teacher-led approach by which teachers can self-assess, or together with their peers assess themselves against a set of skills and competences they have acquired when putting collaborative learning into classroom practice.

The Model does not presume that there is a “one size fits all” approach to measure the competence development of teachers in collaborative practices. We understand that this may differ from country to country and from subject to subject. However, in defining common standards, the model intends to answer to the needs of teachers who when implementing collaborative learning in their classroom, are unsure on how to effectively assess their own skills and competences, which as a result can hinder the readiness to incorporate collaborative learning into daily teaching practice.

The Model can help you and your school establish a framework for measuring the skills and competences of teachers in understanding, identifying and implementing successful collaborative learning environments, whilst reflecting on the principles of non-formal education together with actual classroom practice.

## 7.1 How to use the Competence Assessment Model?

The CARMA project has included the development of an assessment model for the teachers in order to make them aware of their skills and what they have learnt thanks to the use of non-formal learning techniques in their classroom.

The tool is foreseen to be used at individual level but also within a peer-to-peer method with other teachers to support them in assessing their skills development when they implement non-formal learning techniques in the classroom.

The model is organised with 4 main competences (with some abilities related to each competence):

1. Facilitation and moderation skills
2. Competences in collaborative learning
3. Know-how in collaborative assessment
4. Use of non-formal education

## 7.2 The Competence Assessment Model in Practice

### **Self-reflection and evaluation**

#### **First step:**

As a teacher, the idea is here to think about yourself and to “take a picture” of the skills you have regarding the competences and abilities that have been defined in the Model.

For each of the competences, evaluate your level regarding the skill that has been defined. You have to “locate” yourself on a line without thinking too much about it. It is a first step to start thinking about the skills.

The only question to ask yourself is: “**Where do I think I am?**”

*Example:*



## **Second step:**

This step aims at leading you to think more about the different skills of the Assessment Model by thinking of concrete examples, concrete lessons you have led to keep on analysing your ease with the different skills and capacities.

A few questions you can ask yourself:

- In terms of actions, what happened?
- How did the students react?
- What was the impact on their learning process?

## **The peer-to-peer approach**

In order to do this part, you need to identify someone with whom you can feel at ease enough to express yourself and to talk about what you implement in the class.

The key point for this is to have a real dedicated time to exchange about your practices. This starts with a real moment of presentation and practice analysis without being interrupted by your peer. It is essential not to be interrupted for the analysis since it gives many elements to the other teacher who is listening to you.

Once you have presented what you wanted to share, the other one has to make a constructive feedback about what he/she has seen in terms of knowledge, know-how and social skills.

A variant of this method could be to make a “clarification interview” during which your peer asks questions to support a deeper analysis. For that, it means that the interview must be focused on one example of practice so that the questions can make sense and that the peer also understands clearly what you are talking about.

Once all the questions have an answer, it is up to the peer to sum up what your strengths are and what the remaining challenges are.

As part of our collection of supporting resources for delivering collaborative learning in the school environment, the CARMA Competence Assessment Model for teachers can be found as an annex to this Toolkit and be downloaded from the project website at:

<http://carma-project.eu/resources>



# 8

## Conclusions



## 8 Conclusions

This Toolkit has demonstrated that establishing a culture of collaboration within the school community is possible! We hope to have inspired and encouraged you by introducing you to the benefits of collaborative learning in school education by providing a step-by-step guide on how to implement collaborative learning activities in the classroom, together with guidelines using a competence focused approach on how you can assess individually or with your peers your own skills and competence development. We hope that no matter what level of your experience or knowledge is when using collaborative practices, whether you consider yourself a novice or an expert, with this Toolkit you have a great resource for adopting collaborative practices in your school.

The non-formal learning techniques we have shared with you in this Toolkit have given you some great examples on how you can incorporate our tested approach to collaborative learning into your own teaching in order to bring about change in your classroom and effectively increasing students' motivation, participation and raise their achievement levels.

We have also given you a basis for developing expected learning outcomes for teachers and students with specific indicators that can be replicated to fit your teaching context. The explanation of the activities we have delivered during the course of the project can give you some inspiration on some of the activities that can be developed with teachers and students to foster such outcomes that can be achieved when delivering collaborative learning approaches in schools.

You have read about the impact of the CARMA project shown in the experiences of the teachers and students from Italy, Spain, Portugal, France, Belgium, Turkey and Austria, and the inspiring journeys that they have made as a result of participating in the project. So, however complex your school environment may be, we believe that you too can make the collaborative learning environment a reality in your school and make a positive impact!

Remember, we understand that teachers need support to deliver collaborative learning in the classroom. Whilst using this Toolkit, it is important that there is support from School Head teachers and leaders, teachers, parents, inspectors, teacher trainers, curriculum developers and many other stakeholders from the wider school community. Take inspiration from the teachers who have participated in the CARMA project and go tell your teacher colleagues about the different non-formal learning techniques you are using and how they have brought about motivation and participation among your students, so they can be inspired to try out the methods too.

and so finally...

With this Toolkit, you have the knowledge and tools to make a change in your classroom and school. **So what are you waiting for? Go for it!**



# 9

## **Acknowledgments and Resources**

## 9 Acknowledgments and Resources

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The CARMA partnership

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## Further Reading

The Strategic Framework for the European Cooperation in Education and Training (ET 2020) [http://ec.europa.eu/education/policy/strategic-framework/index\\_en.htm](http://ec.europa.eu/education/policy/strategic-framework/index_en.htm).

Erasmus+ programme <https://eacea.ec.europa.eu/erasmus-plus>.

CARMA project website [www.carma-project.eu](http://www.carma-project.eu).

Collection of reports produced by the CARMA project:

Early School Leaving – Statistics, Policies and Good Practices in Collaborative Learning.

Needs assessment report with summary of findings.

European Workshop Evaluation of Learning Outcomes.

Evaluation Report for Teachers, Students and Stakeholders.

A collection of further resources can be accessed on the [CARMA Resource Bank](#).

## Annexes

[Teacher Competence Assessment Model](#)  
[Teacher's Diary](#)



# The CARMA Partnership



Project Coordinator,  
CESIE- Italy  
[www.cesie.org](http://www.cesie.org)



Pistes-Solidaires - France  
[www.pistes-solidaires.fr](http://www.pistes-solidaires.fr)



University of Murcia - Spain  
[www.um.es/gite](http://www.um.es/gite)



Asist Ogretim Kurumlari A.S. - Turkey  
[www.dogaokullari.com](http://www.dogaokullari.com)



University Colleges Leuven-Limburg - Belgium  
[www.ucll.be](http://www.ucll.be)



INOVA+ - Portugal  
[www.inovamais.eu](http://www.inovamais.eu)



Verein Multikulturell - Austria  
[www.migration.cc](http://www.migration.cc)

# CARMA

Non-formal learning for student motivation



[www.carma-project.eu](http://www.carma-project.eu)



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