CON■■NECT

Inclusive open schooling with engaging and future-oriented science

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Guidelines for implementation report

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Executive Summary

The role of the Guidelines for Implementation is to help each participant successfully implement scientific actions using the resources and tools developed in the project, with a particular emphasis on coaching processes and partnership valorisation.

In this respect, guidance is provided to the implementation teams to select coaches, appropriate coaching models, a possible coaching program and tools for evaluating coaching. The methods and techniques presented can be localized and adapted to the particular situations in each partner country.

It also provides a general framework for creating partnerships to facilitate the implementation of science actions and general principles for achieving an effective educational partnership.

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1. Introduction

The *partnership* represents a key concept in *open schooling*, being highlighted by the European Commission (Ryan, 2015: 10).

In open schooling, "*collaboration between formal, non-formal and informal educational providers, enterprise and civil society should be enhanced to ensure relevant and meaningful engagement of all societal actors with science and increase uptake of science studies and science-based careers to improve employability and competitiveness*".

Open Schooling is defined as "*schools, in cooperation with other stakeholders, to become an agent of community well-being; families are encouraged to become real partners in school life and activities; professionals from enterprise, civil and wider society are actively involved in bringing real-life projects into the classroom.*"

In open schooling, there are three key relevant factors:

- promoting partnerships between teachers, students, researchers, innovators, professionals in enterprises, and other stakeholders in science-related fields, in order to work on real-life challenges and innovations, including associated ethical and social and economic issues.

- developing guidelines on how to integrate responsibility and responsiveness into formal, non-formal and informal Science Education, following the principles of CSR (*Corporate Social Responsibility*) and RRI (*Responsible Research and Innovation*).

- promoting partnerships that foster networking, sharing, and applying science and technology research findings amongst teachers, researchers and professionals across different enterprises (start-ups, SMEs, large corporations).

2. Conceptual delimitations for "partnership" and "coaching"

The educational partnership is a type of "formalized relationship, which aims to increase the efficiency of instructional-educational activities, with direct effects on the formation and development of children's / students' personality". Appeared as an effect of modernization and democratization of education, the concept of educational partnership has value in principle in postmodern pedagogy because it is, in fact, an extension of the principle of unity of educational requirements and student focus, stated long before. This is about establishing a mutual commitment between teachers, students, parents and/or representatives of other institutions/organizations (church, police, local government, public health institutions, NGOs, etc.), based on a contract of partnership which includes a

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system of rights and obligations of the parties, mutually agreed, as well a series of activities through which the partnership is objectified (Petrescu, 2014).

At the same time, the partnership can be considered 'the process of cooperation between two or more parties, acting together to achieve common interests or goals' (Velea, Toderaş, & Ionescu, 2006)

In other words, "when two parties come together for the common good of a school or to enhance student learning, we call this an educational partnership. Partners can include anyone interested in or committed to enriching educational experiences for students, families, schools, and the community." (Cox-Petersen, 2010)

The partnership in education defines a pedagogical reality developed at the level of (post) modern education systems, which employs a functioning structure of the school with an open character towards:

- non-formal organizations (clubs, student camps; school/university libraries/media libraries; school/university media: radio-school, school/university television, etc.);
- social actors (economic agents, military/artistic, sports, religious cultural organizations) involved in organizing activities / actions and schools with a special profile (professional, military, artistic, sports, confessional, etc.);
- community factors (family and local communities) - through consensual relationships.

The three openings are achieved through complementarity relationships (with non-formal organizations); contractual relationships (with social agents organizing schools of different profiles); consensual relationships (with family, local communities) (Cristea, 2013).

At the same time, the educational partnership is simultaneously a concept and an attitude in the field of education. Thus, from a conceptual perspective, the curricular, flexible, and open approach to education/training is envisaged in relation to the needs to know, respect and harness individual and social diversity. This diversity relates to the fact that "each child has his/her different particularities, determined by subjective, individual characteristics and by belonging to a sociocultural space and identity." (Vrășmaș, 2008)

As an attitude, the educational partnership involves:

- acceptance of differences and tolerance of different options;
- equalisation of the chances of participation in a joint educational action;
- interactions accepted by all partners;
- effective communication between participants;
- collaboration (joint action in which each has its different role);
- cooperation (joint action in which interrelationships and common roles take place).

The general, objective functions exercised by the educational partnership are aimed at:

a) improving activities/actions with explicit and implicit formative purpose, at the level of resources and methodologies of design, realization and evaluation;
b) flexibility of the framework for the organization of education/training in relation to Community requirements - global, national, territorial, local;
c) harnessing the external context of education/training under contractual and consensual conditions that allow the continuous development of the education system at the national, territorial, and local levels.

The structures of the pedagogical partnership, determined by these general functions, are fixed at the level of the open organization of the education system within networks that support the necessary interdependence relations between (Cristea, 2013):

- formal and non-formal (extra-curricular) education/training;
- the school, as an organization specialized in education/training and social actors interested in its exploitation at the level of profiling, specialization, professionalization;
- school, seen as a social community specifically/specialized and explicitly engaged and family and the local community, naturally and implicitly empowered pedagogically."

Considering all from above, the educational partnership can be achieved between (Vrășmaș, 2008):

- educational institutions: family, school, community;
- educational agents: child, parents, teachers, specialists in solving educational problems (psychologists, psycho-pedagogical counsellors, therapists, etc.);
- members of the community with influence on the growth, education and development of the child (decision-makers, representatives of the church, police, etc.)
- the educational influences exerted at certain times on the child;
- parenting, childcare and education programmes,
- forms of education in the same period or at different periods.

On the other hand, coaching represents a process that aims to improve performance and focuses on the 'here and now' rather than on the distant past or future. While there are many different models of coaching, we are considering the coach as a facilitator of learning. There is a huge difference between teaching someone and helping him to learn. In coaching, fundamentally, the coach is helping the individual to improve his/her performance: in other words, helping them to learn (https://www.skillsyouneed.com).

In the last decades coaching is used both for personal development and for life issues (life coaching) and in professional fields: education, sport, music, business, theatre, oratory, etc., representing a method of development that allows addressing needs for change in a short time and, at the same time, facilitates greater customization of change interventions (Gavrilă, 2014).

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Coaching activities involve a type of 1 to 1 work strategy, based on dialogue, on communication-oriented towards identifying effective solutions to the problems faced by the beneficiary. Coaching is a way of training the mind, which can provide us with a good communication capacity and effective control of behavior; it starts from a knowledge base and personal skills, develops competencies and unlocks individual resources. In essence, coaching is a synthesis of principles, methods, theories, and techniques of success, involving the provision of professional support, for following an individual path to performance, self-management and continuous personal development.

As shown in the figure below, coaching equally involves consulting, training, mentoring and even therapy (with the sense of problem-solving and remediation of malfunctions) but does not fully overlap as meaning and scope, over none of them.

CONSULTING	TRAINING
Providing expertise in a given field to advise and inform a beneficiary how best to solve a problem.	The process wherby an expert instruct and teaches the trainee to develop new skills.

COACHING

Facilitate growth and unleashes potential to perform at our peak.

THERAPY	MENTORING
The process of healing past hurts and resolving personal pain. The focus is 'to fix' what is broken.	An unequal relashionship where the more experienced person imparts his knowledge, skills and experience to the less experienced person.

Figure 1 What is coaching?[1]

Among the many roles of coaching, especially for the educational field, we note as significant (Gavrilă, 2014), the following:

- free a person's potential to maximize his performance
- helps and supports beneficiaries to learn, and does not teach them directly
- facilitate development, performance, and learning
- Support the beneficiary to become what he wants, to become as good as possible in a particular area
- aims to change the beneficiary in the direction he wants.

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[1] Source: http://www.lead.com.co/whats-it-all-about/

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3. Types of educational partnerships

In terms of the partnership format, a distinction is made between:

a) *Informal partnership* – between similar parties, who know each other well enough or who have had the opportunity to work together before. The purpose of the partnership is specific to each of the parties and each party can be involved in its implementation. It can be done over a shorter or longer period (e.g. making a school magazine or organizing a trip).

b) *Formal partnership* – between parties different in terms of the form of organization and institutional mission, but which cooperate/collaborate to solve a particular problem. The field of activity and the common interest represents the link of this type of partnership. Formal partnerships are usually established for a longer time and each partner has different sets of actions to perform (e.g. partnership between the school and local authorities to ensure the functionality of a tourist information center).

In terms of the partnership objectives, we can identify:

a) The *operational partnership* in which the cooperation/collaboration process is carried out based on an actual project, which may be proposed by one of the parties or be the result of common concern (e.g., making a local radio station for children and young people).

b) The *representation partnership* arises from the need to coalesce the partners in order to achieve a common goal (e.g., student council).

In terms of financing of the partnership, we meet:

a) *Partnership requiring funding* occurs in the situation of complex actions, the implementation of which involves the distribution of the financial burdens to each partner (e.g., creation of a multimedia education/training center).

b) *Partnership that does not require financing* arises if the proposed purpose can be achieved with minimum financial resources (e.g., carrying out cultural activities within the school, involving pupils, parents, and teachers) (Velea, Toderaş, & Ionescu, 2006)

Also, in terms of partnership duration, there are:

a) *Short-term partnerships*: of the kind encountered during cultural or religious holidays, organized according to the specifics of the locality (e.g., Christmas or Easter shows).

b) *Long-term partnerships,* carried out over longer periods, ranging from 1 to 4 years.

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Constantin Cucoş (Cucoș, 2009) considers the different types of educational partnership as follows:

- depending on the field of collaboration: partnerships to finance the implementation of projects; partnerships to carry out joint institutional development projects; partnerships for the development of joint teaching projects; partnerships covering research contracts; partnerships aimed at vocational training activities; partnerships with a view to organize scientific events and publishing products; partnerships to initiate, conduct, evaluate international programmes.
- depending on the purpose and objectives pursued: representative partnerships - federations, unions, councils, alliances, coalitions; operational partnerships with actual projects as a reason for the association.
- depending on the duration of the operation: short-term partnerships; medium-term partnerships; long-term partnerships.
- depending on the form of funding: partnerships with full funding; partially-funded partnerships; partnerships without funding; partnerships with self-financing.
- depending on the type of unit: educational unit; economic operator; central/local governmental institutions and bodies; non-governmental institutions."

3.1 Partners in education

Educational partners of educational institutions may be parents and legal supporters of pupils, other educational institutions, scientific research institutes/centers, religious and/or cultural institutions, local or central public administration institutions, central or local governmental organizations, economic agents, non-governmental organizations, etc.

The selection of potential partners can be made with the help of a self-assessment, by answering several questions (Velea, Toderaş, & Ionescu, 2006) such as:

- "Who are we?"
- "What do we want to do?"
- "Who do we want to do it for?"
- "How long do we want to do that?"
- "What resources do we need?"
- "What resources do we have?"
- "What can we do on our own and what should the partner do?"
- "What can we offer to our partner?"
- "What can we do if we don't find a viable partner?"

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The answers to those questions can help us to establish the "portrait" of the future partner with whom we will collaborate to carry out the proposed activity. These partners have the task of making a joint effort in carrying out the activities of the partnership.

3.1.1   Partnership with the family

The partnership, as a form of communication, cooperation and collaboration between family and school, requires a unity of common, convergent, congruent requirements, options, decisions, and educational actions. To this aim, "to transform the family into a real partner of the school, each educational establishment must develop strategies aimed at improving relations between school and family" (Cucoș, 2009)

In the context of this action unit, between the school and the family, the roles of the partners must be clearly outlined. The school, as a socio-educational institution/organization, fulfills cumulatively the following roles:

a) inform parents about the pupils' school situation, the educational offer of the school, the projects and actions carried out by the school;
b) consult parents on various psycho-pedagogical issues;
c) train and develop to parents a range of skills necessary for better relation/communication with their children;
d) offer students textbooks, scholarships, prizes, etc., supporting the family even from a material point of view.

In turn, the family must exercise the following roles, in relation to the school organization, as the basic unit of the education system:

a) provide the school/teachers with various information about the student, about the didactic-material conditions existing in the family environment;
b) provide informational support to the school, depending on the training of the parents, in various professional fields;
c) contribute to the improvement of the school's didactic-material base as well as to the organization of extra-curricular activities;
d) engage, where appropriate, in the management problems of the school.

Collaboration between school organizations and the family should be viewed from the perspective of a win-win relationship. It is in the best interest of parents to be supported by the school in the complex activity of exercising their pedagogical role. On the other hand, it is in the interest of the school to transform the educational community of parents into an authentic partner, socially, educationally, didactic-material and even financially involved.

The importance of partnership with the family is obvious because any education system, however scholarly it may be, remains powerless if it collides with indifference, opposition, divergent opinions on the parents' side. All possible achievements from school buildings, textbooks and teaching methods or funds

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allocated to education will have no significance if they collide with indifference or even opposition from parents, which makes "educational effort braked, diverted or even totally distorted" (Stern, 1972).

3.1.2 Partnership with the community

The relationship between the school and the community involves identifying the participants in the educational process, in the community context, motivating and engaging them, training them as educators and agents of community change and development, significantly involving them in the decision-making process and harnessing their specialized training in certain areas. "The idea of a partnership between school and community must be based on the principle of complementarity of social services provided by the various organizations working in the community." (Agabrian, 2006)

Thus, *partnerships between educational institutions and local authorities* may aim to: take joint steps for the enrolment/participation of children in pre-school and compulsory education; develop education programmes for parents, to organize and develop various leisure programmes/activities.

Partnership with other educational institutions can be achieved in order to encourage the exchange of good educational practices, to carry out educational activities in a collaborative manner, to improve the image of schools in the local community, etc.

The partnership of a school unit with a scientific research institute/center aims at several objectives such as: familiarizing students with the world of science and technology, including discoveries made in some areas of avant-garde science, stimulating students' interest in science and technology, carrying out activities that encourage the involvement of teachers, students and even the general public in the processes specific to Responsible Research and Innovation (RRI).

As regards *partnerships with health facilities*, those may include several activities aimed at helping to ensure the mental and physical health of children and their families, on topics related to personal, house, class and school hygiene, providing first aid in emergencies, prevention of drug use, alcohol, tobacco, sex education, sports practice and healthy eating, etc.

 Partnership with the church/religious institutions usually involves organizing cultural-artistic events, on the occasion of major religious holidays, the participation of students and teachers in religious services, the realization by priests of activities to inform students about different aspects of religious, spiritual life, the organization of excursions, pilgrimages to monasteries, involvement in helping socio-economic disadvantaged people, etc.

Partnerships with cultural institutions, such as museums, theatres, cinemas, libraries, aim in particular at enriching the cultural universe of students through activities such as regular screenings of films or theatre performances, guided

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visits to various tourist attractions, collaborative organization of artistic and scientific cultural events (e.g. competitions, celebrations, performances) etc.

Educational institutions can collaborate, through *partnership contracts, with economic agents* by providing the necessary spaces and facilities to carry out the professional practice of the students within the economic units; hiring graduates, granting scholarships to students with good school results, organizing and carrying out continuous training activities for school employees; providing information, guidance and career advice services for students, etc.

The partnership between the school and non-governmental organizations can be placed on the axis of the relationship between the public and private environment, consisting of providing social services to both children and their families, in day or after-school centres.

The partnership between the school and the police aims to: ensure the personal integrity of pupils, teachers and the inhabitants of the community in general; prevention of juvenile delinquency; preventing and combating acts of domestic violence, on the street, in the school (bullying), road education and promoting civilized behavior in society.

The partnership agreement or contract is the official document concluded between the partners governing the organization and functioning of the educational partnership and implicitly all the actions or activities subsumed thereto.

There are a variety of models of partnership agreements (Annex 1) but uniformly, all those documents must include:

- Partners identification data (name, address, legal representative, etc.);
- The purpose of concluding the Partnership Agreement;
- Objectives pursued through activities to be carried out in cooperation/ collaboration;
- Partners rights and obligations;
- The date of entry into force and the period during which the partnership is active;
- Conditions for amending/suspending the partnership agreement or terminating contractual provisions, etc.

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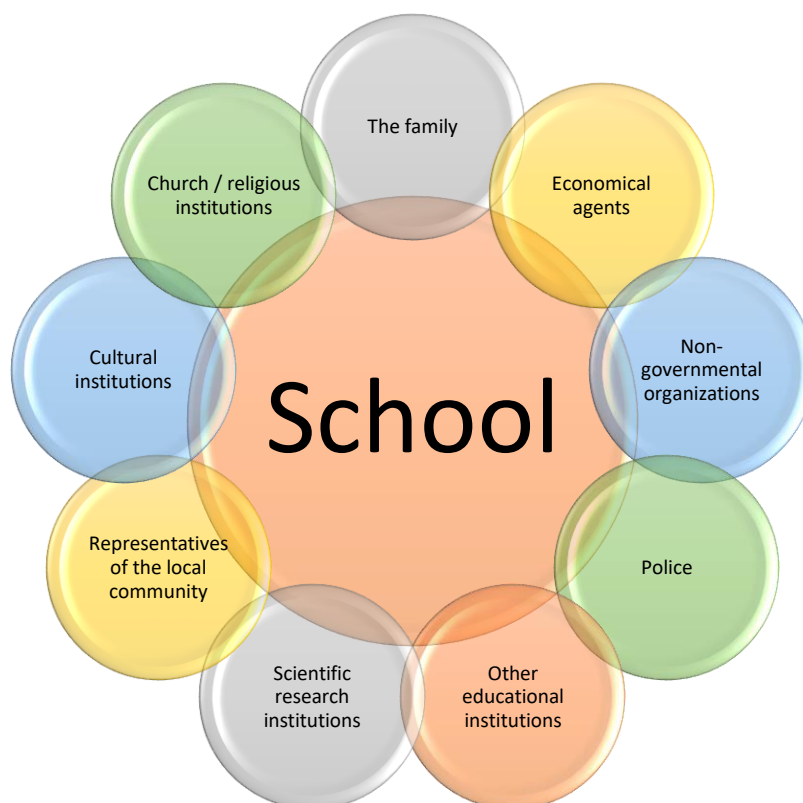
Figure 2 Partners in education

3.2 Efficient educational partnership

In order to achieve an efficient educational partnership, it is necessary to cooperate with all those categories of partners, directly or indirectly interested in optimizing the educational phenomenon as well as respecting values, attitudes and behaviours, at the level of all the social factors involved. Thus, "educational partnerships can be achieved at macro and micro-social level by organizing specific training programs and by carrying out educational projects in partnerships that include representatives of different categories and institutions of the community that promotes common values, at the level of all the partners involved (equality of opportunities in education, revival of the civic spirit, promotion of dialogue, transparency, communication, initiative, collaboration, discipline and responsibility)" (Petrovan, 2011).

Few principles must be followed to achieve a sustainable and effective educational partnership:

1. **The principle of indispensability** relates to the fact that there are certain institutions to be taken into account in the partners' actions. These are those institutions that have the main resources or the necessary expertise in a

community, and the educational institution has to try to involve them in its endeavours.

2. **The principle of equality**. According to this principle, each partner must be treated equally and without any discrimination.

3. **The principle of responsibility** refers to the fact that any responsibility assumed must be realized, following the original agreement and to achieve the ultimate goal. If one of the partners fails to fulfill its obligations, then the final goal can be difficult, if not impossible, to achieve. It is therefore important that, at the time of the conclusion of the Partnership Agreement, all obligations incumbent on the partners to be precisely specified and any risks to be anticipated, as far as possible.

4. **The principle of flexibility**. The partnership requires the parties to cooperate, to continuously communicate while showing a certain degree of adaptability, flexibility, and mutual understanding.

When two or more distinct groups associate, they come with their perspective on how to act. "Successful partnerships (...) exploits this diversity to get a hybrid that encapsulates what is best in both. The secret to pooling these advantages is to create an environment that stimulates creativity and risk-taking – an environment in which people feel they can experience new ideas without fear of being rejected or penalized. The result is an innovation that neither group could have reached on its own. It is a product of vitality, creativity, diversity and synergy, which only partnerships can generate" (Goraș-Postică, 2013).

In order to successfully achieve the educational partnership, all stakeholders and, in particular, those initiating the partnership project/programme need to be aware of the importance of key factors such as:

- the triggers of the partnership, the needs of the school organization that are required to be met through the activities of the partnership project;
- the human, material, financial, space and time resources available to partners;
- the aims and/or objectives that the partners propose to achieve in the context of cooperative/collaborative actions;
- the roles and responsibilities to be assumed by each partner;
- the activities to be carried out within the framework of the partnership, their description and staggering over time;
- expected results and intended to be achieved through the activities implemented.

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Figure 3 Key terms in designing and achieving effective educational partnership.

3.3 The CONNECT partnership

In the CONNECT Project, we conclude that today the educational partnership is an absolute necessity, in the context of modern and postmodern education systems that are open. Its realization is beneficial from the perspective of:

- students, as direct beneficiaries, who need a uniform and coherent interpretation of messages promoted from different educogenic backgrounds;
- family, as an indirect beneficiary, who needs the support of school organizations, the local community, in order to achieve a quality education;
- schools, under the impact of the principle of decentralization, which allows logistical support (economic, financial in particular) provided by parents and the community, under legally validated, managerial and ethical conditions;
- local community that needs to know the problems faced by schools and parents in order to socially engage in their solving.

In fact, we identify multiple categories of benefits, that regard each type of actors (Cox-Petersen, 2010):

- **The school benefits** by gaining:
1. better communication among all parties;
2. improved student discipline;
3. reduced school violence;
4. better working conditions for teachers and staff;
5. better acceptance and understanding of students which are different and their families;
6. enhanced interpersonal relationships among students;

7. enhanced attitudes, communication, and relationships among teachers, students, and families;
8. more family participation in school events.

- **The families benefit** by gaining:
1. increased power and understanding of education;
2. closer relationships with their children;
3. better community support
4. better communication with school;
5. increased knowledge about how to help their children learn;
6. more information to provide positive learning activities at home;
7. better understanding of the curriculum, instruction, and events;
8. more opportunities to work with teachers;
9. better expectations about homework and home learning practices;
10. greater access to school (and community) resources;
11. empowerment to make decisions that will enhance their children's education.

- **The students benefit** by gaining:
1. higher achievement and motivation to learn;
2. a positive attitude toward school;
3. better-quality homework and more frequent completion of homework;
4. better attendance;
5. decreased dropout rates, suspensions, and discipline problems;
6. improved self-confidence;
7. better family relationships.

- **The teachers benefit** by gaining:
1. improved morale;
2. positive teaching experiences;
3. more support and appreciation from families;
4. fewer discipline problems;
5. responsive students;
6. less stress and frustration;
7. awareness of family diversity with less stereotyping;
8. closer relationships with students;
9. higher expectations for all students.

- **Administrators benefit** by gaining:
1. better relationships with students, families, and teachers;
2. fewer complaints from families;
3. better use of resources;

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4. increased communication with families;
5. greater family and community support

- **The community benefits** by gaining:
1. students who are prepared to work collaboratively as contributing members of society;
2. families who assist in the educational development of their children;
3. schools that work within a broader community.

At the same time, it should be noted that in any social context "effective school is a school in partnership with the student, by valuing and respecting his identity, with the family, by recognizing its importance and attracting in the teaching process, and with all the educational resources of society, which it identifies, involves and actively uses." (Vrăsmaș, 2008)

The educational partnership tends to become a reality of contemporary education. From this perspective, it is increasingly and substantially based on the design and implementation of the activities included in the (initial and continuous) training programmes of teachers, following the principle of cooperation, communication and partnership; informing teachers about the scope of the concept of educational partnership; motivating the teachers to develop effective partnership relationships; raising awareness among local community and society as a whole about the problems facing education; creating a flexible legislative framework for the initiation of educational partnership programmes (Iosifescu, 2001).

In order to successfully achieve the objectives of the project, it is recommended to conclude educational partnership agreements between educational institutions in which science action units will be implemented and various institutions or organizations with involvement and expertise in the field of science. In this respect, partner relationships can be established with science institutes, libraries, museums, botanical gardens, zoos, non-governmental organizations, state/governmental institutions for environmental protection, etc.

In the context of the research partnership, science experts or representatives of other partner institutions will carry out a series of activities (visits to partner institutions, experimental/laboratory activities, Open-door events, European Researchers' Night, etc.) aimed at helping teachers and especially students to perceive, understand and internalize everything related to the field of science in an attractive interactive, stimulating and motivating manner.

4. Coaching in education

4.1 What is the profile of a good coach?

Generally, there are highlighted several characteristics which define the profile of a good coach. Of these we note as significant the following (Gavrilă, 2014):

- is open, flexible, adaptable in communication with the beneficiary;
- makes the interlocutor feel listened and understood;
- communicate simply, clearly and make himself understood by the one he works with;
- through the questions asked, he/she helps the beneficiary to access his/her resources;
- supports the beneficiary to delineate in more detail the problem he is facing and to analyze it from several perspectives;
- has the ability to always provide constructive feedback;
- remains impartial, does not judge or introduce prejudices or generalizations from his personal life;
- empathizes with and supports the beneficiary and encourages him to achieve his or her objectives;
- is able to help the beneficiary better understand their thoughts, feelings, attitudes and behaviors;
- has a permanent supportive attitude and give importance to the well-being of the beneficiary;
- directs the beneficiary's attention to the objectives and the steps to be taken to achieve them;
- pursues long-term results, showing patience and perseverance in achieving them;
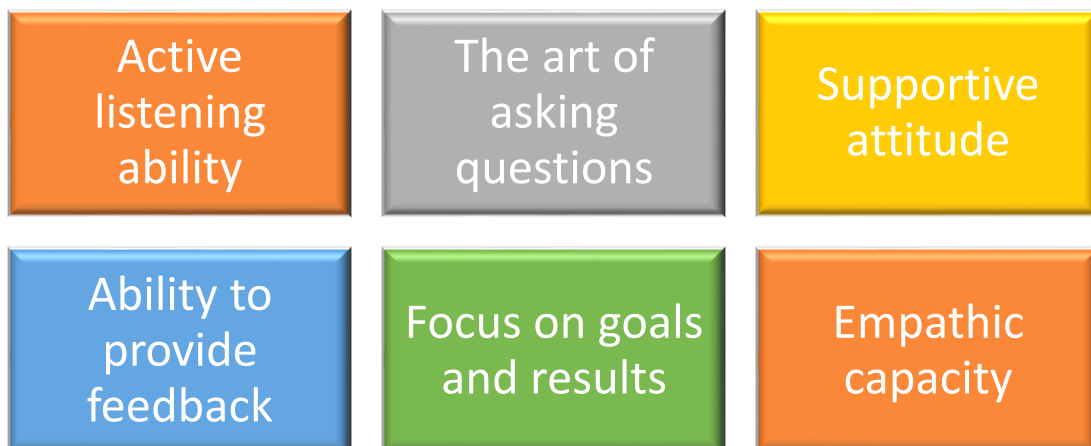
Active listening ability	The art of asking questions	Supportive attitude
Ability to provide feedback	Focus on goals and results	Empathic capacity

Figure 4 The coach optimum profile

4.2 Coaching techniques

There are a variety of coaching techniques and tools in both literature and established practices. It is important to select the most appropriate techniques and tools, in relation to the real needs of the beneficiary and the results he wishes to achieve. Here are some of the most commonly used coaching techniques and tools, which can be used, sometimes in a slightly adapted manner, in CONNECT Project coaching activities.

- Technique of setting SMART goals

In the context of any activity, implicitly in coaching as well, SMART objectives are easier to achieve because they are specific, measurable, achievable, results-oriented and time-frameable. This technique is useful for a vague objective such as "I want to be a better teacher" or "I want to teach effectively" to turn into a much more concrete, operational one. Moreover, setting smart goals also helps us in setting up the action strategy that will lead us step-by-step towards achieving the desired results. This implies an adequate understanding of the situation and a clear definition of concepts. As a result, a goal of the type *I want to be a better teacher / I want to teach more efficient* can be transformed into *I want to do every day something that makes me feel more and more efficient / I want to do something weekly to confirm that I teach effectively*. The next step is to define and clearly understand key concepts, such as a high-performing teacher/effective teaching. Periodically, in the context of coaching activities, beneficiaries should be encouraged to structure lists, as detailed as possible, with elements (things, people, actions, etc.) that confirm whether they achieve these objectives.

Figure 5 SMART goals

- Highlighting and sharing gold ideas

This technique involves asking the beneficiaries to share those ideas that they find truly valuable during the coaching session. Beneficiaries can be supported by questions such as " what do you feel that gave you the most to think about in this coaching session?", "what did you like most about this activity?", "at what point did you feel put in difficulty?". This technique is useful both for the beneficiaries, as it gives them a clear picture of what they received/lived/felt during the coaching activity, and for the coach, as it can easily identify the insights of the beneficiary.

- Open questions technique

Open questions help the beneficiaries of coach activities to include several elements of a cognitive, affective, and attitudinal nature in discussions with the coach, which contributes to a better understanding of the issues addressed. Through the open questions they formulate, the coach manages to better access and understand the thoughts and feelings of the beneficiaries.

- Feedback technique

It involves administering evaluation/appreciation questionnaires at the end of each coaching session to observe, monitor and evaluate the effectiveness of the coaching process. At the same time, the coach will integrate these messages received through the feedback questionnaire in the context of future activities, which will demonstrate to the beneficiary that he is understood and supported in the coaching process.

- Managing coaching tasks

In coaching, as with formal education, the tasks are very useful because they serve to provide continuity and sustainability to direct coaching activities. Coaching tasks can take the form of questionnaires, worksheets, reflection tasks/journals, etc. By successfully and systematically achieving these tasks, the beneficiary implements the foreshadowed objectives rapidly and efficiently. (https://gratielavlad.ro/coaching/)

4.3   Coaching stages

Coaching is a complex process, which involves several stages, designed to lead the beneficiary of coaching sessions to the achievement of the predetermined objectives. Without claiming an exhaustive approach, we present a possible, phased scenario of the coaching process, applicable inclusively to the CONNECT project.

1. Setting the meeting and objectives

To achieve genuine results, it is mandatory to develop a relationship based on trust, openness and respect between the coach and the one who benefits from coaching. At this stage, it is appropriate to apply the technique of open questions, such as:

- Why did you want to address this topic?
- What would you like to accomplish the most?
- What would you like to happen in this meeting?
- What changes would you like to make about...?
- What would you like to happen in the present and not happen?
- What result would you like this meeting to have?
- Do you find realistic what you have set out to do?
- Do you think we can achieve this today?
- How important is this to you? Argues!

All the above are questions with a clarifying role. The following coaching steps may be determined in relation to the answers provided by the beneficiary.

2. Evaluation and anchoring in reality

It is a stage in which the coach, through different techniques and with the help of various tools, tries to find out from the beneficiary how he perceives his current situation. This establishes the starting point of coaching sessions.

Questions such as:

- How would you describe the problem you are facing right now?
- What particularly displeases you?
- How much does it affect you?
- What things/situations/people are also affected by this?
- How do people perceive the situation?
- How do you perceive this situation?
- What have you been trying to do up to this point?

3. Results visualization

At this stage, the beneficiary must be helped to configure as precisely as possible the objective that will be translated into the final result. It is also useful for him to try to visualize, in the best detail, the route he must take in order to reach the anticipated result through the objective set. In this context, the coach will address to the beneficiary several tasks such as:

- Describe to me an ideal situation where you think you can get to the result
- Try to enter as much detail as possible about people, actions, places, sounds, colors, images, etc. into the description.
- Why do you think you need to put into practice what you described?

4. Identifying solutions and options

At this stage, the actual action strategy, which will be effectively implemented, must be finalized. For this, the beneficiary must be helped to think in terms of possible solutions and options. Appropriate questions for this stage may take the following forms:

- What can we do to change the current situation?
- What alternative solutions exist?
- Which one do you prefer?
- What do you think the barriers/locks/limits would be?
- What do you think the benefits/advantages would be?

5. Resource analysis

At this stage, it is necessary to analyze all the resources that are considered to be needed to achieve the final result. Resources can be analyzed as internal resources - external resources, human resources - material resources, spatial resources - time resources, necessary resources - available resources, etc. For this, questions, as an example, it may be asked:

1. What are the steps you need to take?
2. When do you think you could start?
3. Do you have a special need to accomplish this?
4. What are the barriers/blockages that may occur?
5. How do you think we could remove them?

4.4 Coaching models. Examples of good practice

What is a Coaching Model? A Coaching Model is a framework on which to base a coaching process. It helps a coach and a beneficiary understand the coaching intervention from a systems perspective. It is a snapshot of the entire coaching journey taken by a coach and a client during their coaching engagement. However, it should not be prescriptive or a rigid 'must-be-this-way' kind of thing. In coaching the conversation is always about the beneficiary (Chhibar, 2019).

Below are presented some coaching models, some of which are already internationally recognized as examples of good practices in coaching activity and others are relatively recently developed, and the time and evolution of the field will confirm their value or not.

4.4.1 G.R.O.W. Model

GROW is an acronym for **G**oal, current **R**eality, **O**ptions (or **O**bstacles) and **W**ill. These elements are considered the most significant for both a single coaching session and an entire coaching process. Each of these elements can be

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correlated with a series of questions by which the coach helps the beneficiary to address the problem he is facing. Some of these possible questions are illustrated in the table below:

Table 1 GROW Model characteristics

Goal	What would you like to achieve as a result of the coaching process? What specifically do you want? What are the desired/anticipated results of this meeting/week/month? What would you like to focus on now? How will you know you've achieved your goal? Etc.
Reality	What is the current situation? What have you done so far? What's the result you've reached? In what CASK (Circumstances, Attitudes, Skills, Knowledge)? What stops you from moving on?
Options/Obstacles	What else do you think you could do? What are the benefits? What are the difficulties? What exactly do you think would help you/what support do you need? How many possibilities for action can be defined?
Will	How will you achieve the goal? What are you going to do first? Do you think that action will bring the desired result? What obstacles might arise? How involved are you in this action, on a scale of 1-10? What's next?
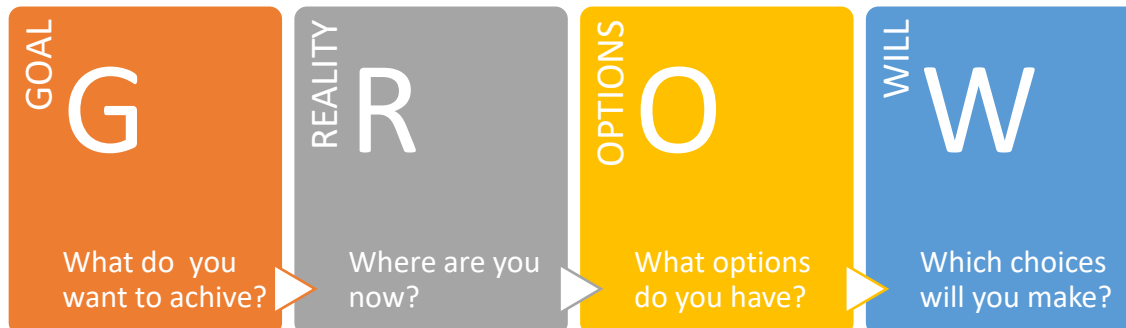
Figure 6 GROW Model

4.4.2 OSKAR model

OSKAR is an acronym derived from the English initials of the five phases of the coaching process. It is a model used mainly in focused solution coaching. Using this model involves a faster, more efficient, and more effective focus of the beneficiary, with the help of the coach, on the *solution* (which is, how it can be done, etc.), than on the *problem* (why it appeared, how it manifests itself, etc.).

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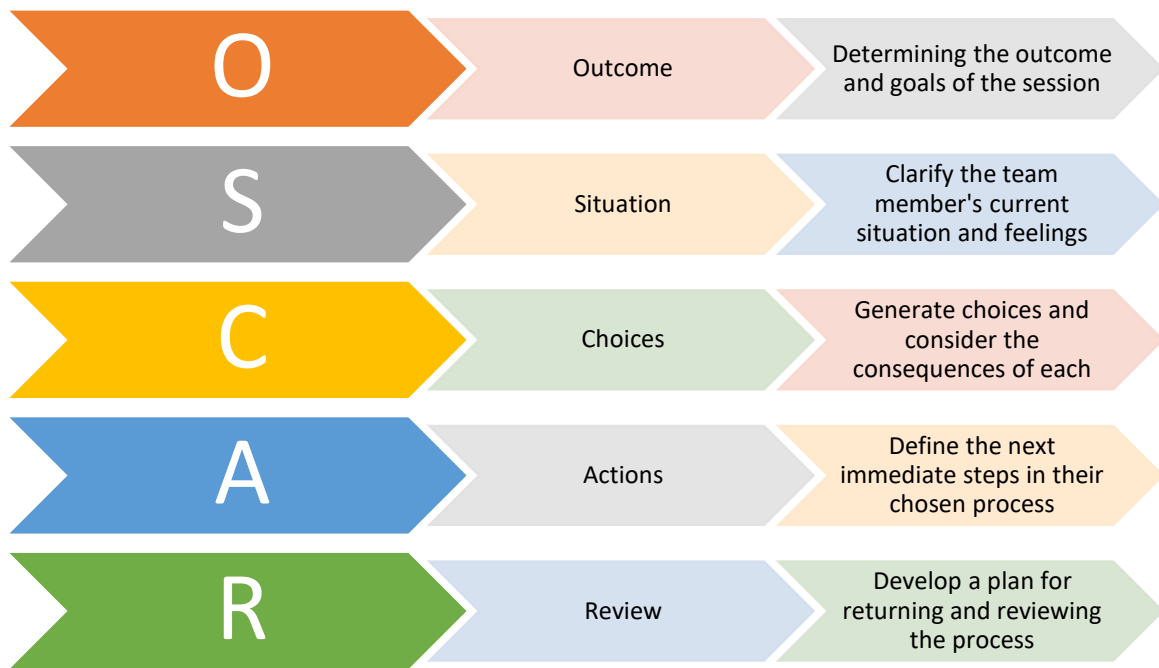
Figure 7 OSCAR Model

- **Outcome/result:** what the beneficiary wants to achieve – in the long, medium and short term. In this first stage, the beneficiary will be asked questions about what he wants to achieve as a result of the coaching process and how he will know that this will be useful to him in resolving the situation. It is a stage in the coaching process where the coach can successfully use the question "If a miracle were to occur and you found the solution, what should actually happen?" In response, the client has the opportunity to view and detail the result he wants.

- **Scaling/measuring:** after the person being coached has clarified what is the desired outcome, the coach asks questions to help determine as realistically as possible the position in which he or she is currently, in relation to the expected outcome. It is about inviting the beneficiary to position himself on a scale of 1 to 10 from the desired goal, from various perspectives: how close he is at present, how much he wants to go, etc.

- **Know-how/what and how to do it:** a sufficient time frame must be allocated at this stage to identify available resources and how they can be used. The coach asks open questions to help the beneficiary be as realistic as possible in assessing what he must do and the extent to which he can actually achieve it, as well as the courageous/unprecedented steps he can take.

- **Affirmation and Action:** is the phase in which the coach must provide validation, make some remarks to recognize, with confidence and admiration, those aspects that the beneficiary has listed as his strengths, as skills on which he relies in solving his problem or as situations in his life that favor the achievement of the desired result. Expressions such as "I'm impressed with your knowledge of the field...", "extraordinary as you've

done in the past, you can see the power to get things done", "from what you're saying, it's obvious that you'll be able to..."

- **Review/recap:** is the final stage, dedicated to assessing the progress made, as a result of the actions taken by the beneficiary, during the coaching sessions/meetings. Often, this recap takes place at the beginning of the next session. The focus should be on seeing what went right, with questions like "what's better now?", "what have you done to make change successful?", "what are you thinking about changing next?", "what's the next step?" (Bunea, 2017).

4.4.3 ACHIEVE model

ACHIEVE model is based on Whitmore's GROW model and consists of seven steps (Dolot, 2012):

1. **Assess the current situation.** This stage aims to build trust and relationship, a better understanding of the beneficiary by the coach and the beneficiary by his or herself. This stage can use various tools, such as the 360-degree assessment. The model is based on the assumption that the catalyst for the start of coaching depends on the beneficiary, and it can be, for example, a clearly defined need for development, the desire to continue one's personal development, the desire for faster and more serious progress, dissatisfaction with the current situation and/or employment, or anxiety connected with what the future will bring. The coach must know the beneficiary's situation and environment, and understand and identify the areas of development (but without forcing the beneficiary to choose these areas, because it is the beneficiary who must define and express them).

2. **Creatively brainstorm alternatives** – This step aims to improve the prospects of the beneficiary and formulate a solid basis for creative solutions and behavior change. It is also a step that significantly distinguishes coaching from other training methods. Coaching is designed to unleash the potential inherent in the beneficiary, using creative methods of problem-solving (e.g. brainstorming). At this stage, it is desirable to use different techniques to stimulate creativity.

3. **Hone goals - specifying targets**. The third stage is the cornerstone of the training and aims to define and clarify the goal, which will take place throughout the coaching process. The techniques used here (eg SMART, PURE or CLEAR) aim to determine the objectives (the idea is that the goal should be considered in many aspects and should initiate thought processes about how it can be achieved). The coach can use sensory ways to create a complete picture of the goal, as it will look when it is reached so that the beneficiary can see if this is what he really wants.

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4. **Initiate options** - At this stage, the objective is to create a wide variety of different ways to achieve the objective. This quantity, novelty and variety of opportunities generated by the beneficiary are more important than their quality and feasibility. The coach should establish a proper, creative atmosphere, and should use different methods of creative thinking. The coach serves as a guide in the process, and not someone who is imposing a vision and opinions.

5. **Evaluate options** - At this stage, an analysis of risks, constraints, or difficulties in the implementation of the earlier established goals is performed. The creators of this model suggest a list of criteria against which options should be evaluated and a selection of priorities. It is possible to use a structured point scale and to write down the whole process of evaluation in order to be able to refer to the decisions made.

6. **Valid action program design** - design activities. This stage aims at the beneficiary's commitment to work and design specific activities (also drafted), which will contribute to achieving the goal. The coach should pay attention to possible obstacles, necessary resources and deadlines. The more time is spent on preparing for action, the more likely the action is to be effective.

7. **Encourage momentum** - motivate, inspire enthusiasm. This stage consists of assisting the beneficiary in consistent work on the determined objectives, affirmative action, appreciating results and reviewing progress. The coach may encourage the beneficiary to experiment with new behaviors. The greater the change occurring in the beneficiary's behavior, the greater support is needed from the coach.

A	Assess current situation
C	Creatively brainstorm alternative
H	Hone goals - specifying targets
I	Initiate options
E	Evaluate options
V	Validate action program design
E	Encourage momentum
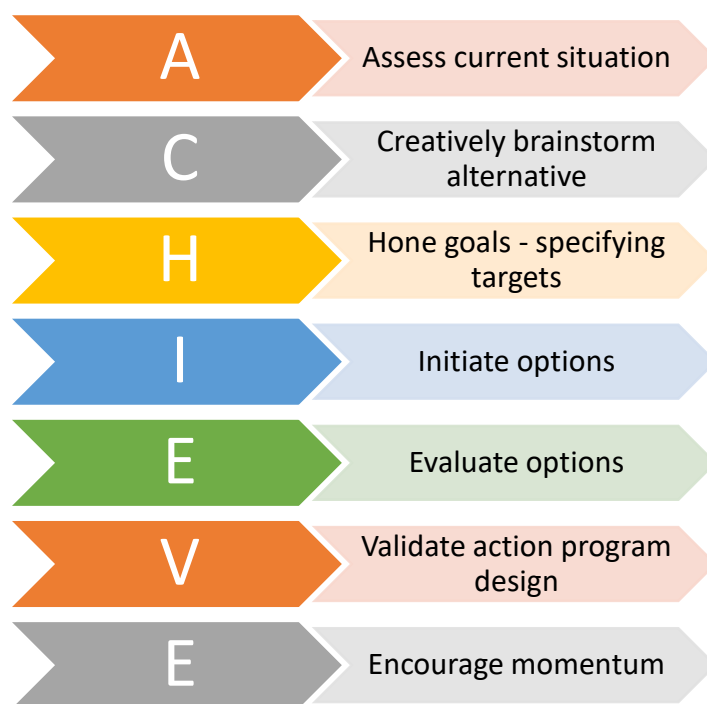
Figure 8 ACHIEVE Model

4.4.4 SEEK model

The SEEK coaching Model is a framework that consists of 4 key steps presented below (Easton, 2020):
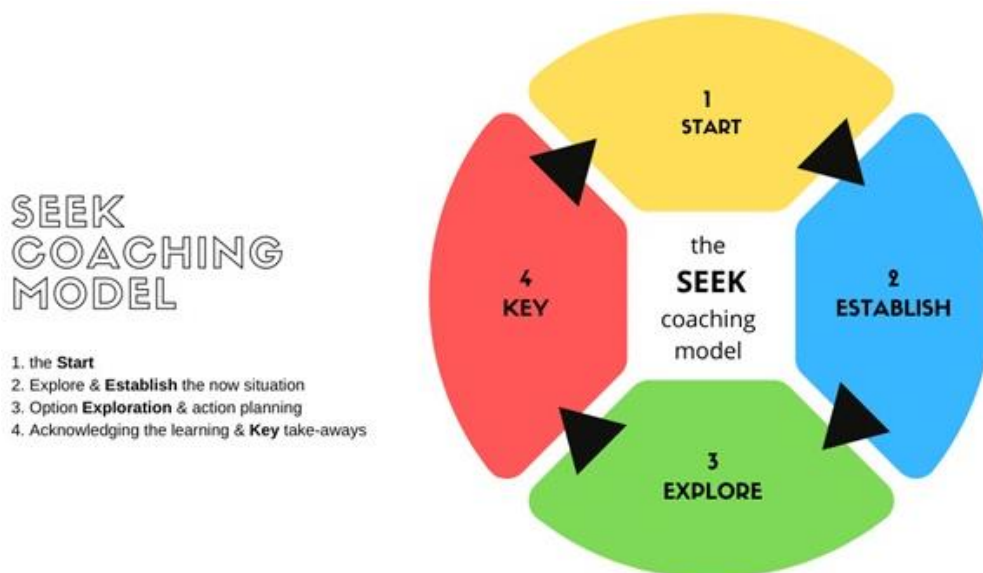
Figure 9 The SEEK coaching model (Easton, 2020)

1. *The Start*

This stage aims at building trust, which is critical for the session's success, to select the coaching topic and to explore the beneficiary's thoughts, and establish clarity in his/her desired outcome or result from the session. It is important that the beneficiary's expectations are managed from the outset and therefore an outcome needs to be established that can be achieved in the session time available.

This step also presents the chance to check the session goals to align with the overall objectives of the coaching relationship identified during the first discovery session. There is further opportunity to explore with the beneficiary, the importance of the desired outcome or goal means to them and can encourage a deeper level of thought and further revelation

2. Explore and Establish a new situation

To allow the beneficiary to acknowledge where he/she is and what he/she might need to do to move towards his/her goal, it helps the beneficiary to understand the current situation.

This stage seeks to establish with the beneficiary what the current situation looks like and what he/she needs to address to make progress towards the desired goal or result.

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3. Option Exploration and action planning

Once there is an understanding of what 'now' looks like, the beneficiary can start to explore potential options that will help to move closer to the goal. In the end, the beneficiary will be able to select an option or options with which to move forwards.

Actions are identified and thoroughly explored to ensure that all dependencies or inputs needed to complete the action are understood. Spending sufficient time investigating the dependencies or identifying the support necessary is critical so that realistic timeframes for their completion can be allocated and the beneficiary can be held accountable.

4. Acknowledging the learning and Key take-aways

This final stage is all about reflection of the session. The question of learning requires the beneficiary to reflect on the progress and by identifying the key takeaways from the session he/she should be encouraged to acknowledge him/herself for the effort and outcomes that he/she has achieved.

4.4.5 The CLEAR Coaching Model

Originally developed in the early 1980s, as a supervision model, and then as a coaching model, CLEAR (**C**ontracting, **L**istening, **E**xploring, **A**ction, **R**eview) is a "systemic transformational coaching" model, which purposefully facilitates the adult learning component of transformation (Hawkins & Smith, 2006). (NCTA, 2012).

The CLEAR model can be applied either to an individual coaching session or to a series of sessions. There are 5 steps to the journey, and it is not necessarily a linear journey, with the beneficiary going back and forth between the steps.

1. **C**ommunicate the Outcome:

At the beginning of the session, the beneficiary specifies what it is that they wish to be coached on, and what outcome they would like to have from the session(s). For some beneficiaries, the outcome they wish to achieve may be quite obvious. In this case, powerful questioning at this stage will help the beneficiary to get clarity around the outcome they wish to achieve.

2. **L**ook at the current situation:

This stage involves obtaining more information about the beneficiary's current situation. Active listening, powerful questions, and intuition will guide the beneficiary to awareness his/her current situation. At this stage, the customer's core beliefs and values will be explored.

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3. **E**valuate the Options:

In this stage, the beneficiary will generate options to achieve change. The range of options will then be evaluated. Open-ended questions can help the beneficiary here e.g. what would you do if you knew you could not fail? The coach could guide the beneficiary to explore what has worked in the past, and why, and encourage more of the same. Another technique that can help here is to ask the beneficiary to visualize the result, and the steps to get there.

4. **A**ction:

This is the step that involves developing a concrete plan which will take the client from where they are today, to where they want to go. A clear, detailed, specific plan with time commitments and a support plan would be produced. The coach would establish how much accountability is required, and what that accountability looks like. The coach should guide the client to establishing how they will know when they have been successful.

5. **R**each Out:

The coach is available to the beneficiary in between sessions. The beneficiary should view the coach as being a motivator and a true believer in the ability of the beneficiary to achieve. The coach is a partner who encourages, challenges and empathizes with the beneficiary. The coach will help the beneficiary to recognize their achievements and encourage their celebration.
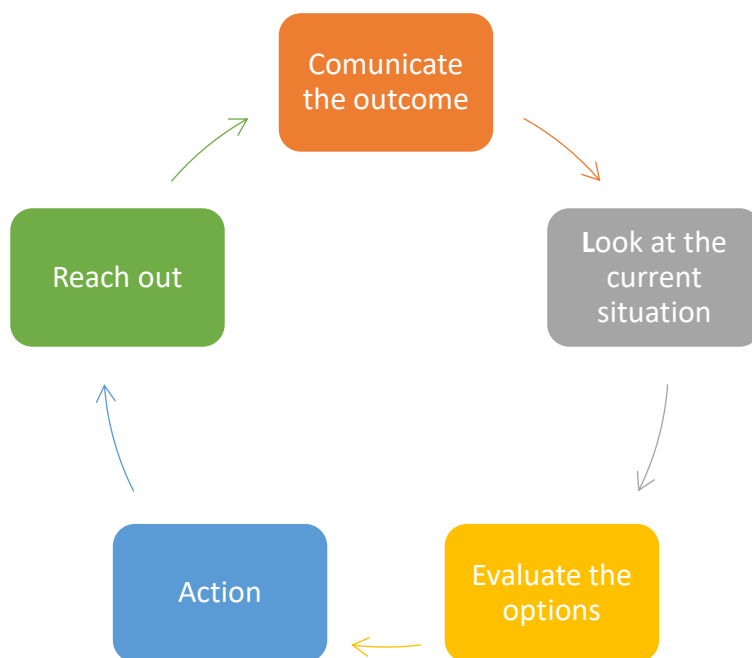
Figure 10 CLEAR Model

4.4.6 The CONNECT Coaching Model

The CONNECT coaching model is created by Milena Carruzzo (Carruzzo, 2020) and has 7 stages.

In coaching, the coach connects with the beneficiary. The coach supports as well the beneficiary to connect with himself and on finding ways to connect with other people to create healthy relationships. In the process, the coach supports the beneficiary in connecting with his emotions, feelings, behaviors, beliefs, and values.
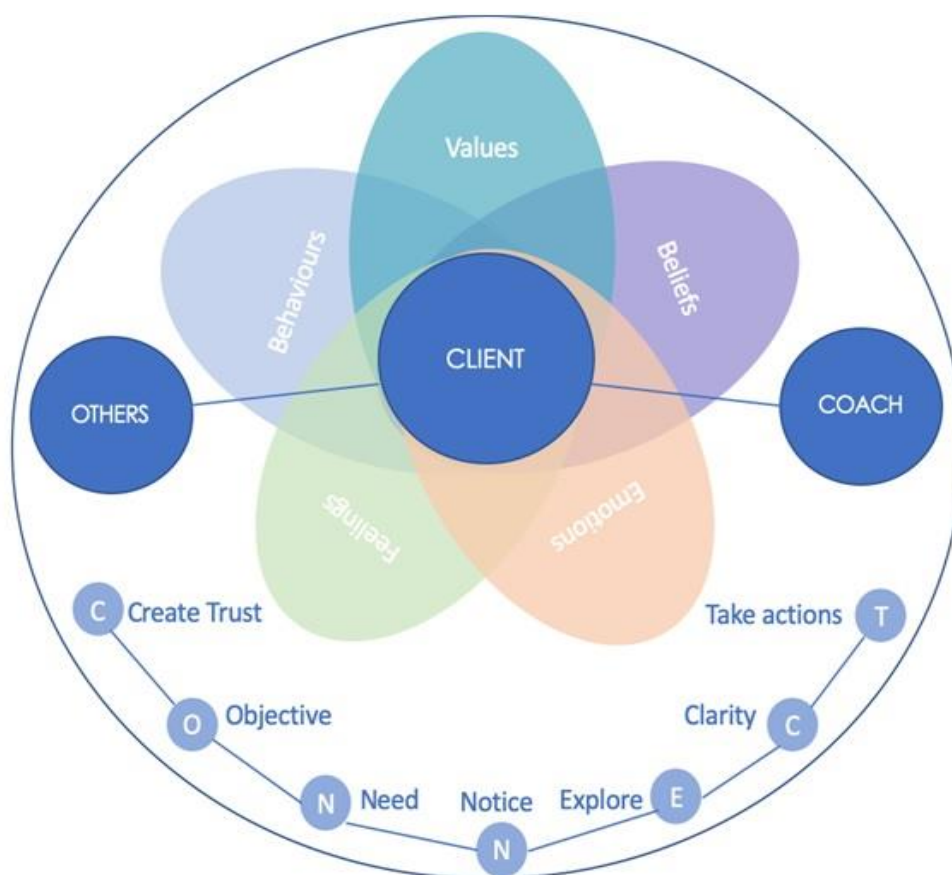
Figure 11 The CONNECT model (Carruzzo, 2020)

C: Creating Trust

The foundation of any strong and healthy relationship is trust. At the beginning of the coaching session, the coach works on creating trust with the beneficiary. It can be done by offering space free of judgment, where the beneficiary feels safe to open up. The coach shows support by focusing on what the beneficiary wants and needs. Creating trust is also about recognizing the beneficiary as resourceful and whole. Building trust will continue during the whole coaching process by always following the beneficiary's agenda, acting in the beneficiary's interest, actively listening, and holding space.

O: Setting the Objective

Coaching is about supporting the beneficiary to move and reach his objective. Setting the objective or goal is crucial for the success of the session. The objective needs to be clear and measurable. Defining the objective gives direction. This objective serves as a solid pillar that can always be referred to make sure that the content discussed and explored is useful.

N: Defining the needs

The coach asks the client what is it that he needs to address to reach his objective. This part gives the client a choice but also supports the client in considering what is missing for him to reach his goal. It allows the client to explore what he needs to look at and solve to move forward. It encourages the client to take ownership and responsibility for what needs to be changed. The focus is on what needs to be changed in the client and the way he connects with others.

N: Noticing what is happening

The coach notices what is happening in the session by sharing observations with the client. The coach notices the language of the client, his tone of voice, and the shift of energy allowing the client to get more awareness. The coach also notices the progress, the strengths, or awareness of the client and acknowledges the client to empower him.

E: Exploring

The coach supports the client in exploring his emotions, feelings, behaviors, beliefs, and values. By doing so the client has a chance to go deeper and get a better understanding. While exploring the client also can evaluate discover what is triggering his emotions, how his feelings are serving him, what is motivating his behaviors, and what values are connected.

C: Clarifying

The coach clarifies with the client where he stands regarding his objective. The coach also clarifies what the client has been learning about himself and overall during the session.

T: Taking actions

The coach encourages the client to take action. The coach supports the client to define smart actions by making them specific, measurable, achievable, relevant, and time-based.

The connected model supports the client to reach his goals by connecting.

It is about encouraging the client to connect with himself, his emotions, feelings, behaviors, beliefs, and values to be in a better place to give and receive. It is about empowering the client to control the way he connects with other people to create healthier and more fulfilling relationships (Carruzzo, 2020).

4.5   Coaching tools

4.5.1   Questionnaire addressed to teachers to identify the needs and interests regarding coaching

> **Conceptual delimitation:**
> **CONNECT** is an inclusive, sustainable model to help more schools adopt open schooling and increase students' science capital and their aspirations to pursue science. It will embed science-action in the core curriculum, and uses participatory science with families, universities and enterprises. It aims to increase learners' interest and foster an attitude of "Science is for me" in life, now and in the future.
> **A science-action** is a problem-solving response by students using science knowledge, skills and attitudes to tackle a future-oriented socio-scientific issue. Students learn knowledge and skills and then apply it by taking actions to benefit their lives, their community and society.
> *"Open schooling"* refers to schools/universities that become an agent of community well-being by connecting real-life projects to their course in cooperation with real partners: scientists, professionals from enterprises, families and civil society. (EC, 2018)

Given the concepts clarified above, please answer honestly the questions in this questionnaire, which aims to capture your perceptions and attitudes in relation to the objectives of the project, your needs and interests in relation to your professional development. We assure you that the data provided is confidential and will only be used for research purposes.

1. Are you currently satisfied with how students are taught (teaching-learning-assessment) in the field of science, in your country?

To a very great extent	To a great extent	To some extent	To a small extent	To a very small extent

2. Referring to the following areas of professional interest please position them on a scale from 1 to 5 (5-very interesting for me, 1- not very interesting for me):

Areas of professional interest	1	2	3	4	5
Science-action					
Responsible research and innovation (RRI)					
Open schooling					
Educational partnership					

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Science in society					
Educational coaching					
Professional development					

3. For you, educational coaching represents:

....

....

....

4. Personally, you appreciate that you need coaching in order to optimize your professional skills, related to science training:

To a very great extent	To a great extent	To some extent	To a small extent	To a very small extent

5. What are the needs felt by you as a teacher in order to improve student's learning in sciences?
   a. Continuing professional training of teachers;
   b. Allocation of a larger number of hours, in the curriculum for the disciplines in the area of sciences (physics, chemistry, biology),
   c. Flexibility of the curriculum in terms of the contents approached,
   d. Restructuring the contents by correlating them with the problems of daily life
   e. Modification of the methodology of teaching, learning and evaluation of sciences
   f. Other:

   ....

6. What are your expectations regarding the benefits that your participation in the coaching activities within the CONNECT project will bring?
   a. Living positive teaching experiences;
   b. Understanding new pedagogical approaches for students with science-action and performance assessment;
   c. Prepare students with engaging and future-oriented socio-scientific issues;
   d. combining formal with non-formal and informal learning;
   e. Designing and carrying out engaging pedagogical approaches with activities including scientists and families;
   f. Increasing the receptivity and the level of participation / involvement of students in learning activities (including disadvantaged youth);

g. Improving self-esteem and the level of professional satisfaction, as a result of the positive feedback received from students related to their motivation and achievements;

h. The supportive and appreciative attitude from the students' families;

i. Reducing students' discipline / behaviour problems;

j. Improving relationships with students and their families;

k. Other:..

7. What are the expected effects that the implementation of a science action type learning unit may have on students based on your views about CONNECT?

a. Increasing interest in sciences;

b. Making interdisciplinary connections;

c. Increasing motivation for learning;

d. Promoting a positive attitude towards school / education;

e. Optimizing school results;

f. Better involvement in school and extracurricular activities;

g. Decreased dropout rates, suspensions and disciplinary issues;

h. Improving self-esteem and increasing self-confidence;

i. Other:

....

8. To what extent do you appreciate that the coaching activities within the CONNECT project will meet your needs and expectations?

To a very great extent	To a great extent	To some extent	To a small extent	To a very small extent

Name and surname: _____

School: _____

Didactic function: _____ Speciality: _____

Seniority in education: __ years.

☐ I understand and agree that the processing of personal data will be carried out in compliance with the provisions of Regulation No. 679 / 2016 enforced by the European Parliament and the Council of the European Union for the approval of the protection rules regarding the processing of personal data, as well as the rules related to the free movement of this type of personal data.

4.5.2 Coacher selection criteria

In order to be involved as coaches in the activities of the CONNECT project, the candidates must respond positively to at least 6 of the following selection criteria:

No.	Criteria	Yes	No
1.	Initial training in science (physics, chemistry, biology);		
2.	Experience in pre-university education of at least 10 years;		
3.	Participation as a trainer in at least one project (national or international) / continuous training program in the field of science teaching in the last 5 years;		
4.	Participation as a trainee in at least one project (national or international) / continuing education program in the field of science teaching in the last 5 years;		
5.	Experience in similar activities (Methodist, mentor, coordinator of pedagogical practice, head of methodical commission, head of pedagogical and methodological meetings, etc.);		
6.	Participation, in the last 5 years, in scientific events (conferences, symposia, workshops, round tables) on the issue of education for science, open science, open schooling, etc .;		
7.	Good communication and relationship skills;		
8.	Proactive, constructive and supportive attitude;		
9.	Teamwork skills;		
10.	Open, flexible attitude to change and innovation.		

4.5.3 The Coaching Program (in CONNECT)

The coaches who will be selected to work in the CONNECT project will participate in various activities within a three-stage structured program, briefly described below. It is recommended to organize and carry out a minimum number of 3 activities or meetings, one for each stage. The program will be established together with the beneficiaries, in relation to their community needs and interests.

No.	Stage - name and brief description	Coaching instruments	Recommended minimum number of activities / meetings
1.	**The Stage of inter / self-knowledge and familiarization with the ideology of the CONNECT project** - involves the achievement of the following activities: • inter-knowledge, in which, through reflection and conversation, the coach will identify the coaches' strengths and weaknesses, the aspects they want to improve in the own activity, the interests and needs felt in relation to their professional development. • familiarization with the ideology of the CONNECT project, knowing the team of specialists from each country (directly involved in the project and with whom they will collaborate during the activities), knowing their duties and responsibilities. • identification of own expectations, related to the experience / expertise to be gained from participating in the activities within the CONNECT project, etc.	*Personal SWOT analysis - designed from the professional point of view* *Information material concerning the CONNECT Project (ppt)* *Questionnaire addressed to teachers for identifying the needs and interests concerning coaching*	**1**

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2.	**The Real Coaching Stage** involves: • a detailed analysis - from the scientific and methodological point of views - of the "*Science Action*" Type-Units to be implemented; in this context, discussions will be held having a clarifying role, in relation to each stage of the projected didactic scenario, for each "*Science Action*" Type-Unit. • in the piloting phase of the project, for the real implementation of a didactic scenario "*Science Action*" typology, the teachers will benefit from the support of specialists, both from the scientific perspective, but also from the didactic and methodological one. In order to identify more accurately the problems encountered by teachers in the process of implementation of "*Science Action*" Units, discussions can be held, based on the tool entitled: *Guide for organizing discussions, within the coaching activity.*	*The "Science Action" Unit* *Guide for organizing discussions, within the coaching activity*	**1**
3.	**The Evaluation Stage of the Coaching Activities** involves: • administration of dedicated tools for collecting the feedback (questionnaire, reflection sheet, etc.) addressed to the teachers involved in CONNECT project. • collection and qualitative and quantitative processing of the resulted / obtained data, as well as identification of several solutions for the optimization of future coaching activities.	*Reflection Journal* *Questionnaire addressed to teachers for the evaluation of coaching activities*	**1**

4.5.4 Guide for organizing discussions within the coaching activity

Suggestions for identifying problems encountered by teachers in the implementation process of "*Science Action*" Units

No.	Possible questions
1.	*What were the difficulties encountered so far in the implementation process of the "Science Action" Unit entitled ...? Please, list some of them…*
2.	*Which stage of the scenario do you find as being the easiest for implementing? Please, motivate the answer...*
3.	*What methodological or scientific aspects have been improved / clarified during the coaching activities carried out so far?...*
4.	*Concerning what methodological or scientific issues, do you think you still need support for?...*
5.	*How would you describe the way students received the proposed learning experience, by implementing the "Science Action" Unit entitled...? Think about aspects that are related to enthusiasm, involvement, participation, motivation, cognitive and emotional acquisitions, etc.*
6.	*How would you describe your attitude about the successful implementation of the "Science Action" Unit entitled...? Think about aspects related to professional development, motivation, acquisitions made in the methodological, cognitive, and emotional plan, but also considering the relationships with students, parents, and other educational partners, etc.*
7.	*What suggestions do you have regarding the design and implementation of the "Science Action" Unit entitled...? Think about aspects that can be adapted, optimized, etc.*
8.	*What aspects would you like future coaching meetings to focus on?*

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4.5.5 Reflection logs following the participation in the coaching activities within the CONNECT project

Name and surname: ....

School: ....

- *From my point of view, the coaching activity involved:*
....
....
....

- *Did the coaching activities meet your expectations? Briefly motivate the answer:*
....
....
....

- *Referring to other colleagues, it would be interesting to know how they managed*
to:...
....
....

- *Following the participation in this project I think I can contribute to the development of the educational community in my school through:*
....
....
....

- *The biggest difficulties I encountered in coaching were:*
....
....
....

- *The happiest moment lived in the context of mentoring activities was:*
....
....
....

- *Do you consider that the use of science actions is appropriate for teaching science in your country? Briefly motivate the answer:*
....
....
....

- *The most important lesson I learned from participating in coaching activities is the following:*
....
....

Thank you for your feedback!

4.5.6 Questionnaire addressed to teachers for the evaluation of coaching programme

Please answer honestly the questions in this questionnaire, which aims to capture your opinions regarding the participation in the coaching activities within the CONNECT project. We assure you that the data provided is confidential and will only be used for research purposes.

1. To what extent do you appreciate that the coaching activities within the CONNECT project will lead to the optimization of the training process of students (teaching-learning-assessment) in the field of sciences, in your country?

To a very great extent	To a great extent	To some extent	To a small extent	To a very small extent

2. Personally, do you appreciate that the coaching activities you have participated in have added value in terms of your professional skills, related to science training?

To a very great extent	To a great extent	To some extent	To a small extent	To a very small extent

3. How do you rate on a scale of 1 to 10 (1 – completely unsatisfactory and 10 – excellent) the relationship between you and the coach?

1	2	3	4	5	6	7	8	9	10

4. How do you rate on a scale of 1 to 10 (1 – completely unsatisfactory and 10 – excellent) the quality of the coaching methods and tools used?

1	2	3	4	5	6	7	8	9	10

5. How do you rate on a scale from 1 to 10 (1 – insufficient and 10 – optimal) the time allocated to coaching activities?

1	2	3	4	5	6	7	8	9	10

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6. How do you appreciate the acquisitions you made, following your involvement in coaching activities?
   a. very good, I have understood what has been discussed and I am ready to apply science action units to the class;
   b. good, I managed to internalize almost everything that was discussed, and I am partially ready to apply science action units to the class;
   c. satisfactory, I managed to internalize only some aspects that were discussed but I still don't feel ready to apply science action units to the class;
   d. unsatisfactory, I still have many aspects to clarify / internalize.

7. To what extent your expectations related to the coaching activities have been met?

Expectations	To a very great extent	To a great extent	To some extent	To a small extent	To a very small extent
Living positive teaching experiences					
Designing and carrying out attractive and stimulating training approaches					
Increasing the receptivity and the level of participation / involvement of students in teaching activities					
Improving self-esteem and the level of professional satisfaction, as a result of the positive feedback received from students					
The supportive and appreciative attitude from the students' families;					
Reducing students' discipline / behaviour problems					
Improving relationships with students and their families					
Other:					

8. What are the effects that the implementation of a science action type learning unit will have on students?
   a. Increasing interest in sciences;
   b. Making interdisciplinary connections;
   c. Increasing motivation for learning;
   d. Promoting a positive attitude towards school / education;
   e. Optimizing school results;
   f. Enhancing students' science capital;
   g. Better understanding about the purpose/ nature of science;
   h. Better involvement in school and extracurricular activities;

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    i.   Decreased dropout rates, suspensions and disciplinary issues;
    j.   Improving self-esteem and increasing self-confidence;
    k.   More awareness about science-based careers;

Other..

Name and surname: _____ _____

School: _____

Didactic function: _____ Speciality: _____

Seniority in education: __years.

☐ I understand and agree that the processing of personal data will be carried out in compliance with the provisions of Regulation No. 679 / 2016 enforced by the European Parliament and the Council of the European Union for the approval of the protection rules regarding the processing of personal data, as well as the rules related to the free movement of this type of personal data.

5. Conclusions

Nowadays, science education research, innovation and practices have to become more responsive to the needs and ambitions of society. As stipulated by Ryan (2015), *better ways to nurture the curiosity and cognitive resources of children must be set up*, but also *there is a strong need for enhancing the educational process to better equip researchers and other actors with the necessary knowledge, motivation and sense of societal responsibility, with the view to participate actively in the innovation process*.

Open schooling represents a solution and a recommendation - in this respect, educational actors are encouraged to promote open schooling, in the following contexts (Ryan, 2015):

- where *schools* - in strong cooperation with stakeholders - *become an agent of community well-being*;
- where *families are about to be active* (as real partners) *in school life and its activities*;
- where *professionals* (coming especially from the economic environment), *civil and wider society are actively involved in bringing real-life projects into the classroom*.

In this respect, the role of partnerships is essential. A functional partnership will produce the most suitable instruments and find the proper way for promoting open schooling. That is a particular target for CONNECT - to set up partnerships that can facilitate the implementation of projected science actions. Subsequently, the designed coaching process is targeting to ensure a qualitative implementation. Proper coaching methods and techniques will be analyzed, discussed, localized and adapted - with each project partner - to the particular contexts and situations found in each partner country, considering also this pandemic period that brings more innovation in educational demarches.

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