

Construction
a cross-cutting skills framework
of the scientific mediator's
profession

Mediation School 2016



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UNIVERSITÉ
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SUMMARY

The creation of a reference framework of competences for the profession of scientific mediator within the framework of the Mediation School project appeared to be necessary for several reasons: the extreme diversity of the places and methods of exercising the profession, of the collective agreements to which the profession is attached, as well as of the names of the actors, which makes it almost impossible to draw a coherent image of the profession. The lack of knowledge on the part of institutions and officials of the diversity of activities and tasks actually carried out by these actors and the skills they bring into play, generally leading to a devaluation of the profession. The Mediation School's desire to address all of these actors and to federate them, and therefore the need to identify whether there were any "core" skills used by professionals, regardless of where they work, and which all of the actors recognised. And of course the construction of training courses adapted as closely as possible to the expectations and needs of the players, which required a precise representation of their activities and skills.

This work on the skills repository, which follows on from the qualitative and quantitative studies carried out within the framework of the project, is a real collective work of co-construction. It was carried out with some fifteen experts and professionals in scientific mediation from structures as diverse as science centres, popular education and environmental education associations, universities, the Museum of Techniques and the Museum.

It has enabled the four main areas of competence to emerge and to be broken down into a tree system. These are

- Conducting mediation
- Designing mediation
- Enriching knowledge and practice
- Managing mediation projects

The work presented here is an essential step in the construction of the profession of mediator.

This document details the approach and the process that led to the construction of this standard and gives the main results. The standard can be consulted and downloaded online at the following address: <http://www.estim-mediation.fr/metier/>

1. INTRODUCTION

The Référentiel de compétences du métier de médiateur scientifique was drawn up between June 2014 and October 2015 as part of the Estim-Ecole de la Médiation project subsidised by the Investissements d'Avenir within the framework of the "Equal opportunities and promotion of scientific culture" programme, the aim of which is to develop a space for continuing professional training for scientific mediators and facilitators in France

This work appeared to us to be essential within the framework of this project, because even if there are already job descriptions to which the professionals relate (Referens for civil servants in universities and national museums, the Collective Agreement on Animation for staff working in the associative sector, the local civil service, the environment and sustainable development, etc.), there has never been any cross-referencing between these different descriptions.

In a context of lack of knowledge and recognition of the job of scientific mediator and the skills that it requires, and while the diversity of titles, responsibilities and tasks assigned as well as salary values contribute to a very fragmented and fragmented representation of the job¹It seemed important to ensure that there was a common set of skills that were recognised by all professionals and that could be exercised regardless of the type of institution in which they worked. In short, we wanted to know if there was a profession of scientific mediator (whatever it is called).

This work complements the qualitative and quantitative studies carried out within the framework of the project on the profile of scientific mediators and facilitators in France and should enable us to begin to draw the contours of the profession.

Thus, beyond the intrinsic value of the "Skills reference framework" tool, a dynamic is emerging that should enable scientific mediation to strengthen its foundations, assert its identity, guarantee the circulation of experiences, encourage innovation and enhance the skills around the profession at the heart of its field of intervention: scientific facilitator/mediator, and also create bridges with the cultural mediation field.

¹ Aubouin, Kletz and Lenay, 2009

2. AIMS AND OBJECTIVES OF THE "SCIENTIFIC MEDIATOR" COMPETENCY FRAMEWORK

2.1. Goals

The ways in which the job of scientific mediator is carried out vary greatly depending on the place where it is carried out: large museum or science centre, small association for the dissemination of scientific culture, research centre.... The performance of mediation functions can be divided between several "professions", some of which are more specialised in the design of devices, programmes and/or activities, others more specialised in direct interaction with the public.

In view of this multiplicity, it seemed essential to us to use a structuring reading grid to organise all the skills highlighted and considered essential by mediators in the exercise of their profession. This is true regardless of the name of the profession or the collective agreement to which it is linked. The aim of this work is therefore to bring out these "core competences".

The aim was therefore to draw up a reference framework of competences for the job of scientific mediator based on the professional realities of the animation/mediation professions as they are practised in very different professional contexts.

The frame of reference presented is that of the scientific mediator or any other designation as they appeared in the online quantitative study carried out in 2013 and 2014 on the profile of scientific mediators and facilitators in France: scientific facilitator, scientific facilitator manager, scientific mediator manager, etc.

In addition to this, there is the scientific terminology: some positions include the words scientific and technical (with as much emphasis on the latter as the former) or environment / environmental / nature...²

Specificities according to the themes tackled and the places of practice are of course to be added to this common base. They concern scientific, technical and environmental knowledge, ... to master, but also on the objects of their mediation (the mediation of a technical object undoubtedly requires some specificities compared to that on the preservation of species in their environment for example), as well as on the institutions themselves with the bias they implement and the values they defend

² See a non-exhaustive list of the names that will be recognized in this reference system in the appendix

2.2. Objectives

This work addresses four main concerns:

2.2.1. To inform about the job of the scientific mediator.

There is a great deal of ignorance about what the job of mediator entails, both in terms of the diversity of functions and activities performed and the skills involved. Many fragmented and even erroneous representations of what the profession consists of must therefore be deconstructed and replaced by a better understanding of the reality of the activity as experienced in the field and the skills deployed. This work, as well as the quantitative and qualitative studies carried out within the framework of the Estim-Ecole de la médiation project, contribute to achieving this objective. This information work is to be carried out with private or public institutions employing these professionals as well as with ministries.

2.2.2. To provide a professional framework for the profession of mediator.

The reference framework can be used to provide mediators and their superiors with a frame of reference, useful for integration into the profession, or for any organisational reflection on how to configure the activity, in interdependence with the other professions in the area.

2.2.3. To unite professionals and thus promote the recognition of their profession.

It is absolutely necessary for professionals to become aware that, despite the diversity of practice locations and names, they are using the same skills if we want to professionalise the profession. Only this federation of actors will allow the real emergence of the profession and its recognition. By bringing together professionals from a wide range of institutions (museums, museums, CCSTIs, popular education associations, environmental association networks, universities, etc.), the collaborative work on the reference framework has helped to emphasise the common points between professionals rather than their specificities, and has therefore contributed to this awareness. This work should of course be continued and extended.

2.2.4. Identify the skills actually used

This work will help to build programmes, products and training offers in line with business practices, allowing us to develop general or individualised training paths, based on the portfolio of skills to be developed.

Behind these objectives, there are different types of users of the repository:

- the mediators themselves, in their process of appropriating the profession and seeking recognition,
- Managers: help them to draw up job descriptions and assess the skills of their professionals in post, have the skills of the professionals in post recognised and valued.
- employers (management of cultural institutions, local authorities, etc.)
- the supervisory authorities (ministries, DRAC, cultural departments, etc.)
- perhaps even the public, if a communication campaign on the reference system allows a better understanding of the role played by scientific mediators.

3. ACTORS IN THE PROCESS

- a "steering group".
- a "project group",
- a coordinator,
- a "methodological" consultant

3.1. Steering Group

3.1.1. Function

The steering group's role was to define the objectives of the work, develop the methodology and select the composition of the trade group with a view to achieving maximum representativeness. It also had the task of refining and shaping the work of the trade group as it was developed. Lastly, the project was presented to various ministries (Ministry of Culture and Communication, Ministry of National Education, Higher Education and Research)

The steering group wishes to continue this information work and to contribute to making this reference framework of competences live through a wide distribution, first of all to the ministries already contacted, but also to those which have not yet been contacted (Ministry of Ecology, Sustainable Development and Energy, Ministry of Ecology, Sustainable Development and Energy, Ministry of Labour, Employment, Vocational Training and Social Dialogue, Ministry of Cities, Youth and Sports, Ministry of Decentralisation, State Reform and the Civil Service) and by initiating a reflection on the means to make it as operational as possible.

3.1.2. Composition

The steering group was composed of :

- Anne-Lise Mathieu as initiator of the project and coordinator of the Estim-Ecole de la médiation project,
- Frédéric Kletz and Nicolas Aubouin from the Ecole des Mines de Paris, for their great expertise and their studies on the field of mediation in France,
- Patrick Neveu de Signos, for his methodological skills and as facilitator of the various working sessions

3.2. Business Group

3.2.1. Function

It is this trade group that, during successive working sessions, identified the competences of the scientific mediator's profession and then organised and prioritised them.

3.2.2. Composition

The participants in the professional group were chosen for their extensive knowledge of the profession of mediator/facilitator as it is practised in their structure, being themselves mediators or former mediators, supervisors of mediators or for their expertise in the field of professional training in mediation, whether initial or continuous. About fifteen experts made up this working group.

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Ludovic Fournier	Discovery Palace	Ludovic.FOURNIER@universcience.fr	Responsible of scientific mediation
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Alexia Sagot	Association Planet Science	alexia.sagot@planete-sciences.org	Alexia Sagot : In charge of and leisure activities BAFA training courses
Yann Lemoigne	Association Les Petits Débrouillards	y.lemoine@lespetitsdebrouillards.org	facilitator, trainer, tool designer of tools educational
Valérie Lerouyer	Cité des Sciences et de l'industrie	Valerie.LEROUYER@universcience.fr	Scientific mediation officer
Meggie Hallet	Library of Sciences et de l'Industrie - Cité des sciences	Meggie.HALLET@universcience.fr	mediator, coordinator of group mediation
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Cedric Riquier	Planet Science	cedric.riquier@planete- sciences.org	Cédric Riquier: Head of of the School Animation Training at Planète Sciences

PROCESS OF CO-WORKING

The methodology adopted was that of participatory elaboration of a reference system of competences, with the help of a group of confirmed professionals and experts representative of the diversity of the practices of the profession of scientific mediator in France, by integrating the extent and the variability of the professional contexts.

3.3. Work schedule 2014

Steering group: 3 meetings

- September 2014
- November 2014
- December 2014

Trade group: 3 one-day meetings

- October 2014
- November 2014
- December 2014

2015

Steering group: 3 meetings

- March 2015
- June 2015
- November 2015

Business group: collaborative remote work with a Mindmapping tool

June to October 2015

Trade group: validation of productions in plenary: 1 day

10 November 2015

Presentation of the standard and collection of feedback from ministries

June 2014 - July 2015

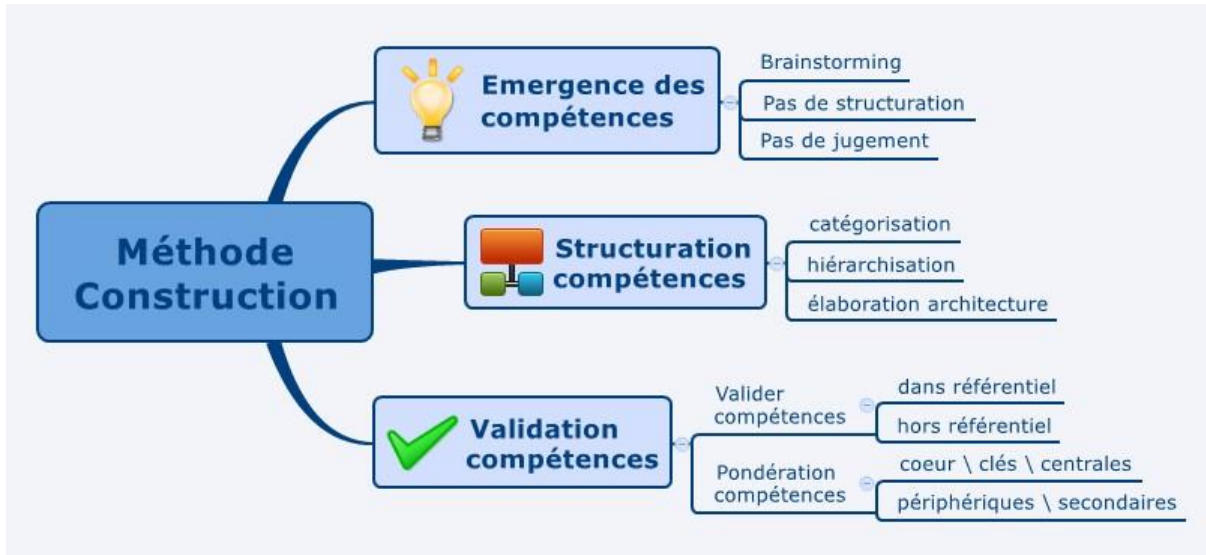
Presentation of the guidelines and collection of feedback from mediators

November - December 2015

In addition, remote work by e-mail between each meeting with the coordinator, the consultant and the participants of the business group was set up to continue the exchanges and also to work with the absent people who were able to complete the work offline and remotely thanks to the collaborative mind mapping tool set up.

3.4. The 6-step method

To facilitate this method, the School of Mediation called on SIGNOS, a company known for its participatory facilitation methods, to co-develop and co-validate each stage of the construction of the reference framework.



3.5. Visual animation techniques

The facilitation device is mainly based on visual techniques such as Mind Mapping, Perceptual Mapping and schematisation. As the English terms are sometimes better known than their French equivalents, we have chosen to quote the English term and its French adaptation.

These visual facilitation methods are very time-efficient and cost-effective for co-elaborating any type of intellectual output. The classic method of having an expert conduct interviews and use a personal expert grid to synthesise and structure the results is therefore not the chosen method.

3.5.1. Map format: how to read a "map"

Mind mapping is a tree structure of ideas

- the main idea is at the centre
- The map then reads clockwise from one hour.
- then you have the choice of reading by hierarchical level of information or exploring each main branch and its sub-branches before moving on to another

3.6. Mechanisms for collaborative validation of the repository

The very composition of the working group, dominated by the presence of practitioners, led to a reflection process driven by field experience.

3.6.1. Level of validation

Working with the Mind Mapping method makes it possible to work by level of information. We obtained the following structure

- Level 1: area of competence
- Level 2: fundamental "professional" competence. All the participants, whether they are mediators, facilitators or mediation officers, etc., recognise themselves in the competence and the terminology chosen to describe the competence
- Level 3: specific, non-exhaustive skills, often corresponding to specific professional contexts. The vocabulary has not been stabilised and validated either. We will present it anyway, as an explanation of the generic job competence. This level 3 helps to understand level 2 by giving examples of activities or sub-competences.

In view of the collective work time, we aimed to obtain validation of the work up to level 2 by each participant.

3.6.2. Mode of validation: holistic rather than democratic

In order to manage a project and to maximise the chances of achieving its objectives, the holistic approach is often preferred to the democratic approach.

However, this requires new methods of animation.

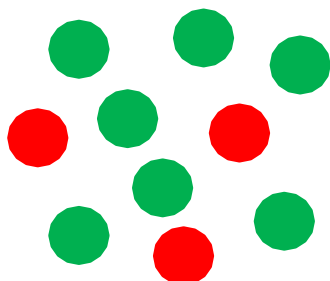
The aim is therefore to get real support for each element of the collectively developed reflection work.

In concrete terms, to better understand this method of validation, we asked the following question: *validate the branches to which you personally adhere more than 75% of the time*

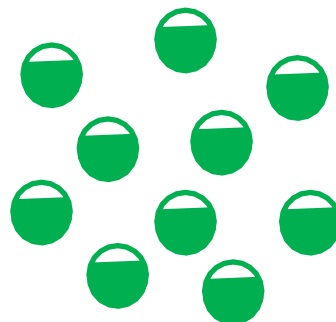
The decision was therefore not taken in a democratic way, such as validation if more than 75% of the participants agree.

We have chosen a holistic approach: individual adherence to all level 2 branches according to individual personal criteria with a degree of evaluation at 75% personal adherence.

Democratic validation
with 75% membership
with 10 participants



Holistic validation at
75% adherence
with 10 participants



4. FORMALISATION OF COMPETENCES

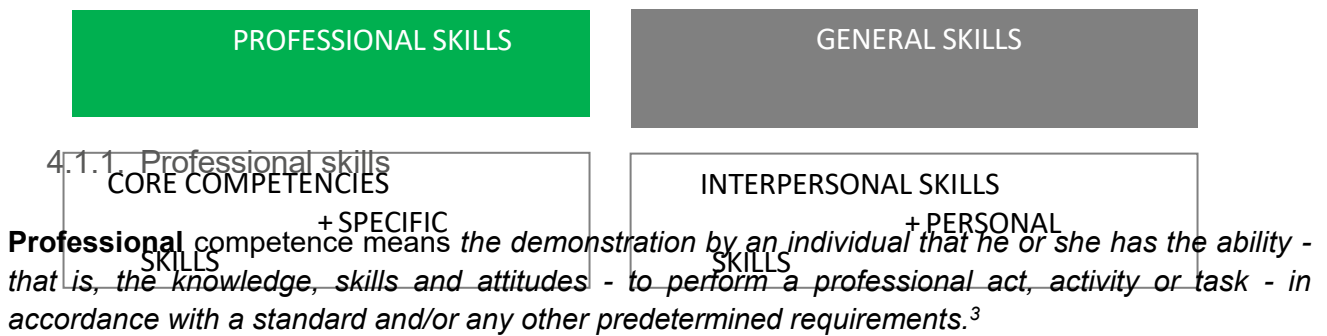
What definitions of competencies should be used to guide the structuring of a job reference framework?

The objective gives a valuable lead: it is indeed a question of developing a "job" reference framework.

- It is not a "sector" of activity reference comprising several "trade" reference systems
- In view of the time available and the composition of the working group, priority was given to professional or "job-related" skills rather than general or generic skills, even though these are necessary for the job of mediator.

4.1. Terms of reference

As an example, here is the simple approach used by the College of Certified Human Resources Professionals in 2013 in its Competency Guide



The professional competences are subdivided into two categories:

- **Core** competences: these are required of all individuals, regardless of their experience and field(s) of expertise.
- **Specialised** skills: these relate to each of the profession's fields of expertise.

³ As defined by the Canadian Vocational Association, <http://www.cva-acfp.org/ft/>

4.1.2. General skills

Also known as "transversal competences", they fall into two categories:

- personal skills
- interpersonal skills

In our work, we have therefore identified the professional competences: fundamental and specific. Relational and personal skills were excluded from the treatment but collected for future work.

4.1.3. All-skills approach. or not?

It has become common to translate everything into competences, which can sometimes be confusing. It all depends on the definition of competences that we wish to retain.

- Academic competencies: knowledge, skills
- Technical/trade skills: know-how, practices
- Cross-cutting competences
- Interpersonal skills
- Managerial skills
- Meta-skills...

In our context, it was initially the technical skills that interested us because the work had not yet been developed before, or at least not in such a transversal manner. The technical/occupational reference systems that already exist in certain sectors: Referens for the Ministry of Research, CNFPT job descriptions, job descriptions from the Ministry of Culture's job directory, guide/lecturer reference system, job descriptions from the Ministry of the Environment were listed, and they were able to inspire us. However, the work consisted in finding what was common between these different descriptions, not by starting from the descriptions themselves, but from the experience of mediation practitioners.

Identifying other types of skills (transversal/generic...) was useful to understand the success of the mediator but there were already standard reference frameworks which it was more economical to use by selecting the skills that concerned the mediators than to re-create.

We also collected information on ethics, deontology and the professional posture related to the job of scientific mediator, which should lead to the drafting of a professional charter.

5.2. Phase 2: Categorisation

Such diversity complicates communication and especially the emergence of a repository architecture.

The question of vocabulary is sensitive because it is a sign of a culture.

Categorisation is also complicated by different approaches to categorisation by different people, which can be summarised in two main approaches: conceptual or terminological.

- Sometimes the same term refers to several different ideas
- Sometimes the same idea is expressed through several terms

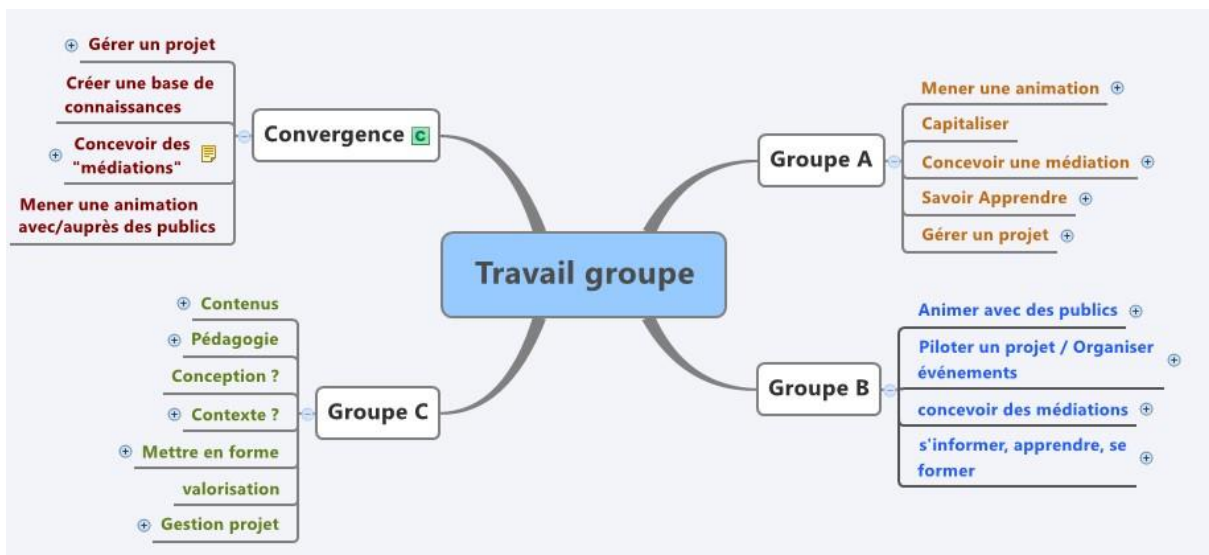
As it is easier to agree on the idea than on the term that evokes the idea, we chose to favour the conceptual approach first and then to work on the vocabulary.

Work in sub-groups allows the emergence of categories that are common or rather specific to a group's approach. The sub-groups formed were the following:

- 3 sub-groups composed of different institutions (A,B,C)
- A session to converge the work in sub-groups

This progression allows everyone to express themselves, to ensure that they have been heard and understood, so that they can better accept to let go later on of an overly personal vision of the architecture of the reference framework, and also to prepare the next validation phase.

Co-designing architecture is an ambitious act and so is co-deciding.



A first intermediate structuring work allows the identification of the fundamental competence branches. A colour code also makes it possible to identify skills that are not

necessarily specific to the profession of mediator but which we have chosen to retain because they are very structuring of the profession of scientific mediator

- Red: mediator skills
- Green: generic skills

The 'manage a project' branch is still green in this capture. Its title was only We started out by calling it a "project management" project. We specified it as "Animation/mediation project". It should be red however the sub-branches expressed ideas that were still too generic to be fully red.



Little by little, the work is being refined to arrive at the final version

5.3. Phase 3: First validation of the reference system

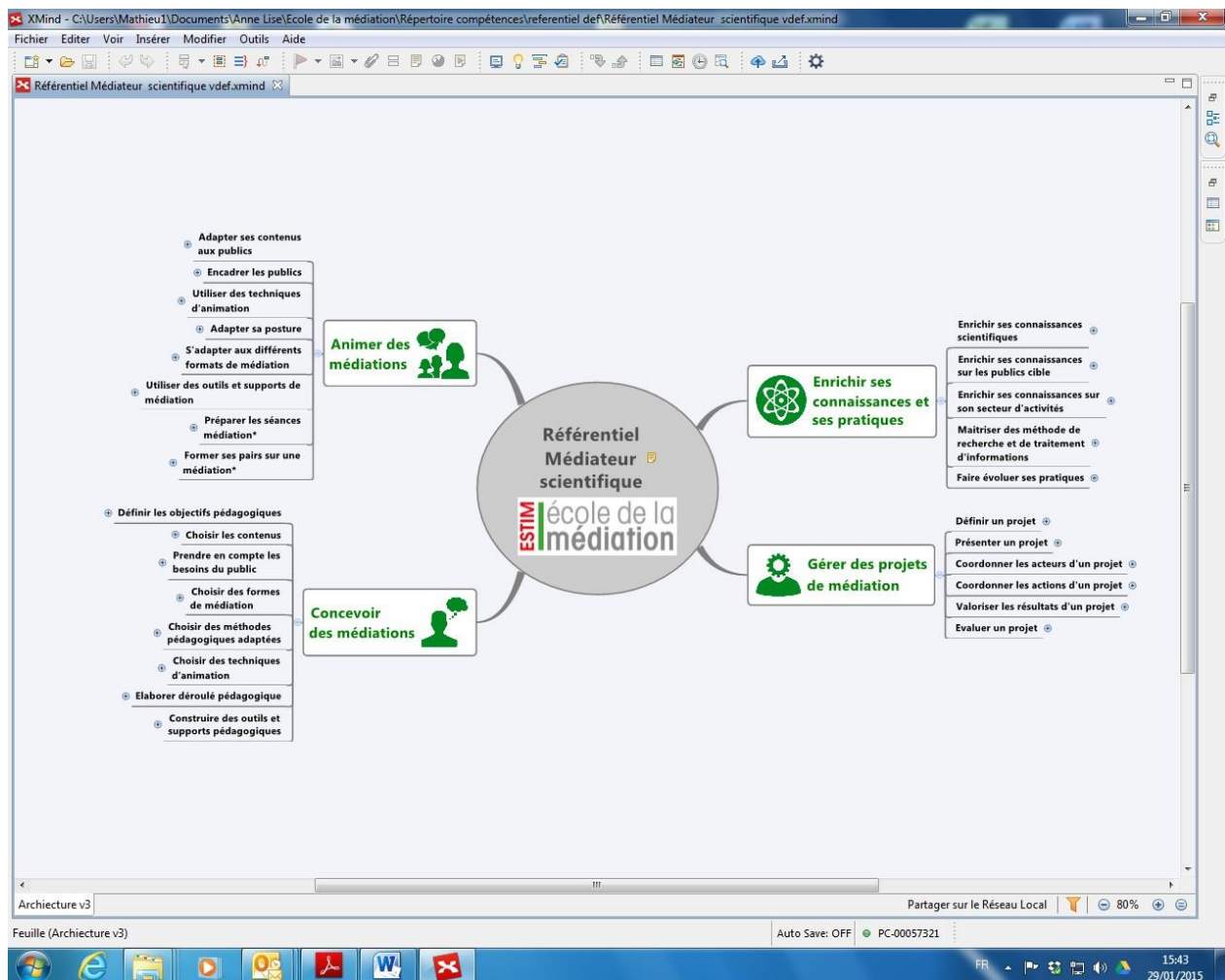
The validation was done in two stages to avoid going round in circles.

- Validation of the structure
- Validation of vocabulary

However, it is not always easy to separate these two moments of validation as they are intertwined to influence decision making. It is not always easy to separate the idea from the word that carries it. Below is the final version of the competence map validated at levels 1 and 2. Levels 3 and 4 specify more precisely the competences and activities and are still to be worked on.

As a reminder

- Level 1: competence area
- Level 2: Core domain competencies
- Levels 3 and 4: specific skills and activities



For more information on the work as a whole, contact Anne-Lise Mathieu: anne-lise.mathieu@universcience.fr . For more information on the method, contact Patrick Neveu: PATRICK.NEVEU@SIGNOS.FR

5.4. Phase 4: Collection of comments and recommendations from the institutions

Once this initial validation work on our reference framework had been carried out, we began presenting the reference framework and its purpose to various ministries in order to gather opinions and recommendations. Although our approach met with interest and a favourable reception from our various interlocutors, and although each of them informed us of their recommendations concerning the content of the reference framework, it is nevertheless far from certain that they would have direct use of it or that they would support the approach that would enable this profession to begin to exist. This lobbying work must be continued and intensified.

03/04/15	Paris	Presentation of the cross-cutting competence framework for the profession of scientific mediator to the Ministry of Culture and collection of comments and recommendations	Meeting with J Eidelmann. Manager and H�el�ene Hatzfeldt
17/06/2015	Paris	Presentation of the cross-cutting competence framework for the profession of scientific mediator to the CNFPT and collection of remarks and recommendations	Meeting with the Director of the Mediation Competence Centre of the CNFPT Ms Jenny Rigaud
17/07/2015	Paris	Presentation of the transversal competence framework for the profession of scientific mediator at the Ministry of Research	Meeting with Mrs. A. Bernier-Aliette

5.5. Phase 5: Finalisation of levels 3 and 4 of the reference framework and generic competences

The work on the levels of specific competences continued in 2015 with the same working group as before. However, the methodology was different. We asked the members of the trade group to work collaboratively on a trade map made available online (June to October 2015). Everyone had to make comments, suggestions for additions, modifications, etc. on this common map. The whole process was facilitated and coordinated by Patrick Neveu of Signos and supervised by the steering group. In parallel, work on the generic skills of the scientific mediator was also carried out remotely, but with a different methodology. The first proposals of the working group were enriched by Signos on the basis of already existing generic competency frameworks. The members of the working group validated each of the proposed skills using a Google form, specifying each time whether the skill in question was essential or accessory. They were also able to add other skills to those proposed. All of the responses made it possible to finalise the reference framework of generic skills for scientific mediators.

A full day's work in plenary (10 November 2015) made it possible to validate all the proposals and to arrive at the final document of the reference framework for levels 1 to 4, to which was added the cartography of generic competences.

5.6. Phase 6: presentation of the framework to mediators and institutions

A first presentation of the reference framework to scientific mediators and mediator supervisors was carried out by Mines-ParisTech during seven individual interviews. The feedback is presented here in the appendix.

The presentation work begun must continue and be intensified in 2016 and 2017, both with mediators and institutions. A training day on the competences of the profession of mediator and the challenges of recognition of the profession has also been developed. This day will use the reference framework developed as a key tool.

6. FINAL REPORT OF THE REFERENCE SYSTEM

The final output of this repository is presented in 3 formats:

- A very visual and synthetic presentation in computer graphics of levels 1 and 2 of skills (in annex)

- An evolutionary Mind mapping made with the XMind software, the free version of which can be downloaded in French at <http://xmind.softonic.fr/> or directly from the Xmind website: <http://www.xmind.fr/download-win.html> attached to the deliverable.
- A pdf presenting the complete cartography of the reference system, including the generic competences. Downloadable from the School of Mediation website at the following address: <http://www.estim-mediation.fr/metier/>

7. CONCLUSION

The work of constructing a reference framework of competences for the profession of scientific mediator, which has been carried out and presented in this document, is both an end and a step.

It is a first achievement in itself, which provides a reference framework for describing the activities and skills of scientific mediators. It offers a fairly detailed representation of the skills base common to all professionals working in this profession, beyond the differences linked to local, organisational or field of activity specificities. It is an instrument for the recognition of this profession.

However, this reference tool is only one step in the process of professionalizing mediators. Other complementary tools may be developed, such as bodies of knowledge, training courses, professional meetings, etc.

For all these other tools and devices, the reference framework can serve as a reference point and a lever; it can itself constitute the foundation on which developments in the process of professional construction of the profession can take place.

The important thing now is that the framework lives on and is used by the actors. We have described the situations in which it can be useful. This phase is obviously essential: not only does it constitute a sort of test of the tool's relevance and interest, but it should also serve to make it evolve. The activities and skills of scientific mediators are bound to evolve, according to the new needs of institutions and audiences, or according to technological developments. The reference tool must therefore be sufficiently flexible to allow for these changes, but sufficiently formalised to take them into account.

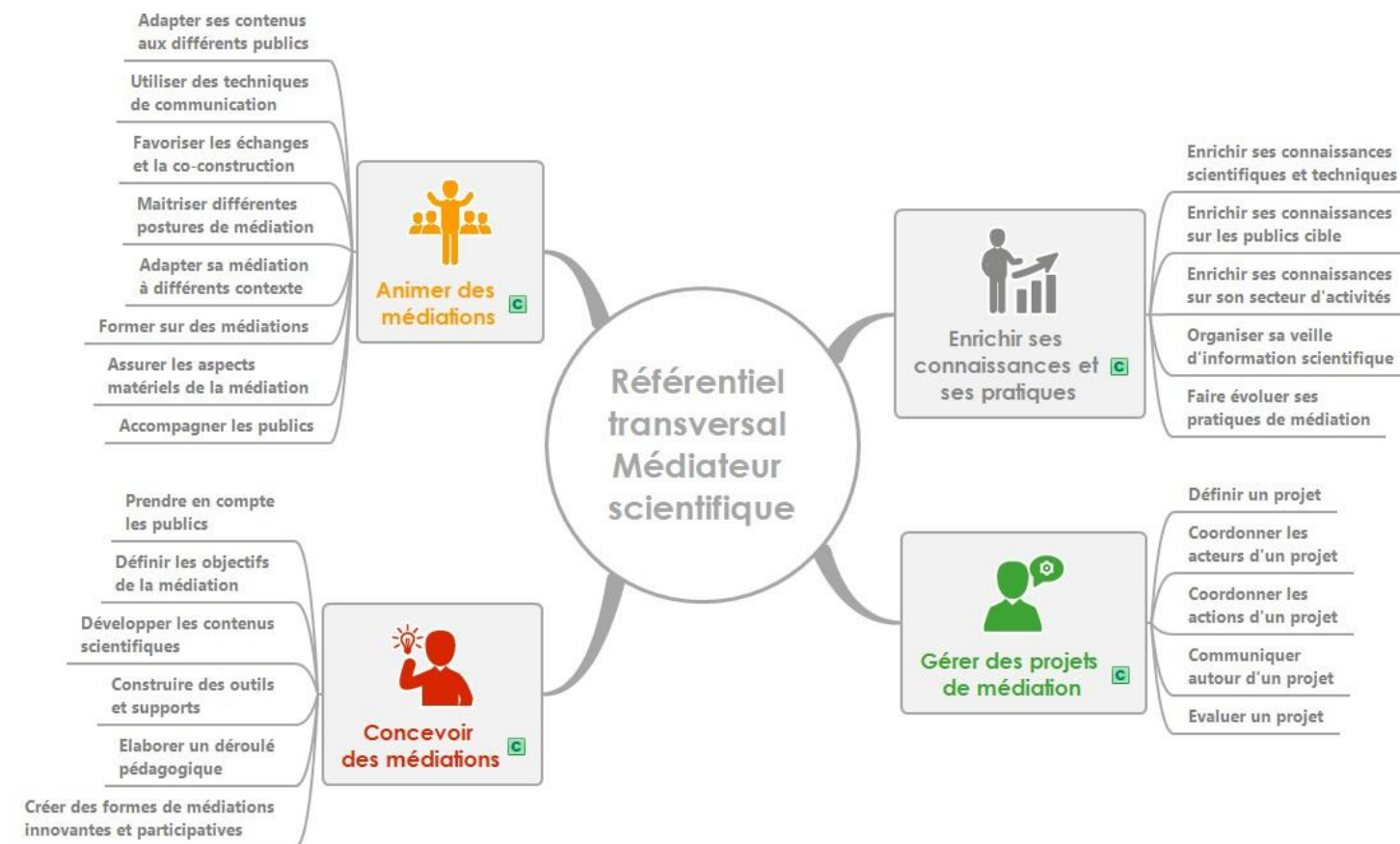
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9. ANNEXES

9.1. Visual mapping of the repository: level 1 and 2





ARMINES - MINESPARISTECH

Scientific Management Centre
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December 2015

INTRODUCTION :

Several major players in the field of scientific culture in France joined forces with Universcience in 2011, as part of the ESTIM project "Equal access to science, technology, innovation and multimedia", in order to participate in the creation of a School of Mediation.

The initial observation was that mediators were mainly trained by apprenticeship, and developed high-level know-how and skills, but these were insufficiently recognised and formalised.

The School of Mediation aims to accompany the process of professionalisation of mediators, to structure and develop continuing education in this field, to provide them with professional reference points, by offering them a complement to their training and professional experience, as well as better visibility. These complements can take the form of formal training schemes (several modules are already offered), or tools to help institutionalise the profession in the scientific and cultural landscape. Thus, for example, it has been proposed to develop a job reference system, a tool that shows in an ordered way all the skills required to carry out scientific and cultural mediation activities: technical skills, relational skills, know-how, organisational skills, scientific knowledge, etc.

is a vehicle for many issues: a skills repository.

Universcience wished to be accompanied and called upon the researchers of the CGS (MinesParisTech-Armines joint centre) for this purpose. The study they were entrusted with aimed to accompany the approach set up by Universcience and its partners for the construction of the Mediation School, and more particularly in the construction of the reference system.

The core of their intervention consisted in participating in a working group bringing together different mediation actors, operating in various institutions of scientific and technical culture (Les P'tits Débrouillards, the Natural History Museum, the Palais de la Découverte, Planète Sciences,...) and contributing to the construction of the reference framework.

But it also seemed to the researchers that it was necessary, in parallel with the work of developing the reference system, to gather the mediators' point of view directly. This point of view on the relevance of the reference system, but also on the difficulties of positioning mediators in their institution.

In fact, despite a context that might seem favourable to the development of the profession of scientific mediator (expansion of mediation activities in all scientific and technical culture venues: CCSTI, science museums, museums, etc.), supported in particular by a mobilising discourse from the ministries of culture, higher education and research and the

In addition to their work in the public sector (e.g. local authorities), mediators suffer from several difficulties, first and foremost a lack of recognition. Several studies carried out on the mediation profession (Kletz & al, 1991, Montoya, 2008, Peyrin, 2010) point to the precariousness of their position in these institutions and the lack of recognition of the importance of their role and the specificity of their skills.

It therefore seemed important to find out from the mediators themselves the extent to which the reference system under construction would respond to their concerns, which implied better identifying their needs. Given the above objectives, but also the intrinsic characteristics of skills and professions, which are not only made up of elements of objective knowledge, but also of social and/or cognitive recognition, forms of solidarity and professional identities, it was important to cross the views on skills and professions, and to place ourselves under the sign of the interaction of representations, those of job holders, scientific and cultural institutions, etc.

The interviews were intended to assess the mediators' representation of their position within their institutions, and the more general situation of mediators in the scientific and technical culture landscape. The aim was to question the reality of the work carried out by the agents, the difficulties they encounter, the way in which their skills are managed and their professional trajectory (training, career management, etc.).

The study did not aim to be statistically representative. It sought to bring out representations and opinions, with all their subjectivity, but an enlightening subjectivity that could have a retroactive effect on our own representation of needs, and therefore on the way in which the reference system could respond to them.

This analysis (interviews with mediators, project managers and line managers) was intended to consolidate our knowledge of the needs of mediators and their current or future skill sets, and of the way in which organisations mobilise these skills.

SURVEY METHODOLOGY

In order to reach and question the mediators, we had the idea of using the network of actors supported by the Estim project manager. We therefore sent a message through her LinkedIn network to about fifty actors in scientific mediation (mediators in practice, mediators in training, independent mediators, etc.). We received about ten positive responses to our request for interviews. These interviews (7 in total) took place either by telephone or in person during the summer and autumn of 2015. The sample obviously has no statistical purpose. It allows us to capture some "vignettes", testimonies of scientific mediators on their situation within their institution and to collect their opinion on the relevance of building a reference system for the profession and its competences.

The interviews were always structured in the same way:

- career path of the mediator interviewed
- current activity in mediation
- problems, dysfunctions of the profession of mediator
- How can the toolkit help?

Here is a summary table of the responses on these different topics:

	M1	M2	M3	M4	M5	M6	M7
Role/job	Scientific mediation officer	Science mediator CCSTI (multipurpose)	Mediator Town Hall	Former mediator of the Science Museum	Director -CCSTI deputy	Museum Conference	Head of Cultural Action Department
Training	Master's Degree in History - Philology - Mediation of science	DEA Bio	M2 Bio	Thesis	Master Chemistry	Thesis	Teacher, the Animation leisure centre
Further training in mediation		No	No	No	Yes (M2)	Yes, internally	No
Lack of recognition	Yes	Yes (but public recognition of the public)	yes	Yes	Yes, among our funders, recognition of disadvantaged groups	Yes, even if the structure provides information	Yes (strikes)
Place in the structure		Central, but poor coordination. Lassitude in the face of the activity quite little repetitive	Negligible	Considered non-strategic		False - CDI (not monthly salary)	Claims to be able to participate in exhibition design
Need training		In project management (planning, budget,...)					

Idea of the benchmark	TB	TB: we need to show the joint work between mediators	TB, but avoid the idea that an ombudsm an is obliged to do the design.	TB			TB
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As can be seen, first of all, all the mediators interviewed agree that the construction of a professional reference framework is relevant, and even a priority, as it fills an important gap in the system for making the activity visible and known. The mediators always express the insufficient recognition they receive and point out the contrast between the recognition of this activity and its importance for the public. They distinguish between the recognition they receive from the public, and sometimes from their scientific peers, and that which is lacking from their institution (*"we are not the institution's priority", "the institution's image does not depend on mediation", "secondary activity"*).

They believe that the reference framework would make it possible to raise awareness of the richness and scope of their activity, and therefore of the skills that need to be applied:

- to accompany the exhibitions organised by their structure (CCSTI, museum, etc.): prepare the documentation, create the workshops,
- for participation in off-site events,
- for administrative management (schedules of temporary workers, etc.)
- to be able to take on responsibilities: relations with the National Education system, relations with scientific associations in the area, relations with other museums and heritage sites in the area, etc.

Mediators from small organisations point out that they do not want to be considered as specialists, or as "being able to deliver specialist messages", because they have to keep up to date with the news in their workplace and therefore be able to move from one topic to another, which is often very different. Sometimes they need to have recourse to specialised scientific expertise, which they then seek from the scientific community in their network. They consider themselves much more as *"public specialists"*.

One of the concerns that often comes up is the fact that they are not involved in setting up the structure's projects: *"we often discover the projects once they have been decided"*. They also often find out about the budget allocated to mediation very late.

They also regret that, being on the front line with the public, they are obliged to repair, fix and tinker with the small problems that arise in the exhibition or workshop spaces. Sometimes they are also involved in the physical set-up of the exhibition, just before it opens, which is to the detriment of the time spent preparing their mediation.

Mediators feel that many of their colleagues enter the profession on the job, and as a result, have difficulty finding their feet. One example given is how far to go into a topic that a future mediation will focus on. Mediators would like to spend much more time on this than is possible given the multiple tasks involved.

Mediators emphasised the precariousness of their job: many unpaid hours, a race to find employers (one mediator said she had five employers at the same time for a year): Les P'tits débrouillards, Icare Science, Planète Sciences,...), often classified as category C, considered as "leisure centre leaders", or seen as service providers who are given slots in a timetable, extremely controlled by their hierarchy, asking them to write complete sentences in support of their mediation, in order to leave traces for future recruits, or having to provide a totally formatted workshop, or on the contrary, totally abandoned to themselves having to manage to provide an animation outside the walls without any specifications or help. Several of the mediators feel that the introduction of new private players into the scientific culture landscape has further deteriorated the conditions for carrying out mediation activities, by levelling down the playing field, by seeking mediators who provide more entertainment services ("fun, to amuse the gallery") than scientific activities.

Some emphasised the fact that their working conditions are somewhat uncomfortable, in the sense that they are responsible for managing relations with the public, without necessarily having the time to prepare their events properly, and without having all the levers to optimise these relations: often not invited to participate in the early stages of the project, i.e. the setting up of exhibitions or events, they have to run it "at the end of the day".

That said, this observation must be moderated, because several mediators told us that they had had managers who were convinced of the interest and importance of mediation and of the relationship with the public, of the dissemination of knowledge.

Finally, mediators have to face the idea that mediation is not a profession and that one cannot carry out this activity for a lifetime. Many actors (hierarchy, management, etc.) consider mediation to be a job, which is certainly formative, but temporary, in which *"one cannot make a career"*.

Through this analysis, we can better see the context in which the issue of the reference frame is situated.

Behind the support for the reference framework, another, more fundamental demand is emerging from the mediators interviewed. This is the determination of a specialised field and a more clearly defined area of autonomy, an area that could undoubtedly be described as a profession. The underlying issue is one of control of the activity: by limiting the recognition of the activity, by leaving it in the shade (paradoxically, because it is in the full light of day for the public), in the managerial shade, by leaving the mediators' skills in a space of confinement, the institutions are seeking to keep control of the activity, to make it part of an approach that is primarily geared towards taking care of a public (the "public face"), to the detriment of a work of conception that is nevertheless sought. Behind these questions of recognition, therefore, lies a struggle for control of the activity.

In addition, beyond the demand for better recognition, support for the emergence of a reference framework may also stem from the mediators' need for their interlocutors to have a better understanding of the activity in question and, above all, of the skills it requires.

Some mediators therefore asked that the reference manual should contain very concrete and illustrative examples and elements of the activity: that the fields of specialisation (astronomy, molecular biology, nuclear physics, naturopathy, etc.) should be included, that it should reflect the "kaleidoscope" aspect and the diversity of the mediators, and that it should reflect the lively character of the activity.

CONCLUSION AND POSSIBLE EXTENSIONS :

This study made it possible to identify the needs of mediators in their professional integration and to see to what extent the reference framework that we built with the various partners in the framework of the School of Mediation met these needs.

That said, many questions remain to be explored in greater depth:

- Shouldn't we consider drawing up other complementary job descriptions and breaking down this first description into different jobs? This option would make it possible to move away from a single job description that describes the common base of skills towards the recognition of skills specific to certain functions in mediation (digital/face-to-face, children/adults, animation/design/project management, etc.)?
- correlatively, should the level of the required diploma be explicitly specified in the reference framework (M1 or M2 level at the risk of excluding the least qualified, or a lower level at the risk of devaluing the profession and the related skills)? The advantage of moving towards

The reason for this is that it will probably be possible to specify a more homogeneous and coherent level of qualification per sheet.

- Couldn't we consider extending the reference framework to other cultural mediation professions and not just limit it to the profession of scientific mediator?
- Can information on the minimum organisational conditions for practising the profession not be included in the job description? Indeed, it seems that the content and form of the occupation change according to the organisational configuration in which it is placed (Aubouin et al, 2010).

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