



Professionalisation for learning in technology and science
141872-LLP-1-2008-1-BE-GRUNDTVIG-GMP

D3.2: Report on the needs of explainers

Workpackage 3: Assessment of needs

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Date of creation: 10.3.09

Date of submission: 15.09.09

www.thepilots.eu

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein

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1 Executive Summary

To investigate the profile, roles and training practices of explainers in museums and science centres in order to identify their training needs, focusing to the role of explainers in adult lifelong learning and engagement in science and technology, is the main objective of the qualitative and quantitative surveys designed in this project.

The first step, the qualitative survey, aims to collect explainers' training needs and self-perception, in order to help the design of PILOTS training courses. This paper presents the results of the qualitative survey.

The aim of the synthesis presented below is to lead to a better understanding of the cultural role of the explainers in their institutions. After some preliminary analysis of the job's representation, the analysis is built around two main points. First, to clarify the day to day activities of the explainers, their role and their concerns, in order to bring to light the essential skills and know-how involved in the job. In a second part, a focus on the training is done: training received (the explainers' professional background and their in-house training) and then training needs.

2 The methodology

As specified in the D 3.1, in February and March 2009, 30 explainers from the five organizations involved in the project, which have scientific explainers, took part in a series of collective interviews: focus group interviews, with 4 to 6 participants, for a duration of 3 hours for each interview (for more detail see the D3.1 Survey plan document and the Focus group guidelines in annexe). When possible an integral transcription of the interview was made (4 focus groups).

2.1 Profile

The institutions concerned were :

- Technopolis, the Flemish Science Centre (Mechelen – Belgium),
- Museo della Scienza e della Tecnologia Leonardo da Vinci (Milan – Italy),
- Cité des sciences (Paris – France),
- Ciência Viva (Lisbon – Portugal)
- Unstanova Hisa experimentov “The house of experiments” (Ljubljana-Slovenia).

Profile of the Explainers interviewed

It had been decided to mix as much as possible, the origin, gender, experience and background of the explainers interviewed, in order to widen the range of answers, and to make this group as representative as possible of the Explainers diversity.

Number of Explainers interviewed by country

Country	Number
Belgium	4
Slovenia	6
Portugal	4
Italy	6
France	10

Number of Explainers interviewed by gender

Women	17
Men	13

The range of age was very large from 21 years old to 48 years old. The range of seniority in the job was also very wide from 6 months to 22 years.

2.2 The Limits

As we needed to have some first insight very quickly of the explainers training needs, in order to help design the first tools and training session, we limited ourselves to interviewing the Explainers of the Pilots project' partners. The quantitative survey with a much larger target, will permit to assert if we can extend these first results to the whole European population of Explainers. The language barrier has also created some discrepancy in the material that has been analyzed. While some of the science centres have produced integral transcriptions of the discussions (reports of about 40 pages), others have been able to provided only English syntheses (about 3 pages long). This discrepancy made it difficult to further in some of the topics.

For instance, while the explainers were very enthusiastic when talking about their job, one group mentioned that, although rewarding, the job was considered temporary because of a lack of career development prospects. However interesting this consideration may have been, it was not possible to include it in the analysis because it might have been specific to one group only.

3 Definition - What is an explainer?

As it is generally the case, the focus groups have revealed that there is no consensus, neither about the tasks that define the Explainer's profession, nor even about the way it is named.

As a matter of fact, when we asked Explainers how they named their profession, they have generally answered "*moderator*" "*animator*", "*mediator*" or "*explainer*". Some of them have outlined that the terminology could change according to the person they speak to. So, what permits to avoid confusion is the use of "*scientific*" in front of the generic term since "*mediator*" or "*animator*" have a broad definition and may refer to other professional fields. In one of the respondent groups, we found as well the reference to "*demonstrator*" or "*lecturer*" which raises an interesting point: it seems that, for some of them, being a scientific explainer could refer to a set of activities. The terminology therefore changes according to the main activity they do. Anyway, more general terms as scientific Explainer, moderator or mediator seem interchangeable, generic terms more usually in use.

Nonetheless, if we go beyond the name of the profession and if we focus, on the representation that the Explainers have of their job, of their role with the public, the differences between Explainers clearly disappear. It becomes then easier to have a representation of that profession, not as an addition of tasks that may vary from one institution from another, but as a profession which requires both dedication and specific skills.

3.1 The role of the explainers

The explainers define themselves as a "human complement" of the exhibition, or even as a "*human media*". They are providers of precisions and explanations who enhance the exhibition with an advantage on the other media: they interact with the public. In brief, to help the public in its learning and questioning approach, such is the role the explainers give to themselves. This characteristic is closely linked to the explainer profession's specificity.

3.1.1 The popularization of scientific information in a playful way

All the scientific explainers groups have come to an agreement about the definition of their role. In an interface position between the world of sciences shown by the exhibition and the visitors, their mission is to make accessible and understandable

scientific facts in a playful way to a variety of people. It is about “*democratizing*” the information and giving it back to the public, translating it in order to reach people so that they understand the information best. A mediator explains his role:

“according to me, the mediator role must be to make understand a scientific notion to the great majority. It is a little like being a diplomat. People are afraid of sciences and I hope we succeed in showing sciences under another spotlight and make it more understandable”.

To sum up, it is about translating complex scientific facts in order that they become within the reach of the learning and questioning approach of the public. *“It is a way to understand something more easily”.*

3.1.2 Transmitting a desire to understand by raising curiosity among the public

The explainers outline their role by insisting on the fact that they wish to “raise curiosity” not only during the visit, but also in the long run. Many of them have said that their biggest satisfaction would be to know that when they come back home, visitors continue thinking about the topic, and go on collecting further information. So, the explainers’ mission is to transmit an interest for science, a curiosity, by engaging the public in the exhibition or in the activities. In order to create such enthusiasm, the explainers are convinced that their main tool is their ability to transfer information differently from the more formal learning provided by schools, books, lectures. Some of them have outlined this role by putting forward the lively side of the animation: to question the audience, to create the interaction so that the public feels like getting into the game.

The key words mentioned by the respondents are: “*a go-between*”, “*an help*”, “*a link*”, “*a relay*”, “*a sharer*”, “*a facilitator*”. The explainers hope to share the scientific knowledge by the means of interplay and the conveying of emotions instead of too serious lectures. The message they want to transmit is that science is not only an abstraction for specialists and mad inventors. It is something accessible to all, in their daily life.

3.2 Activities and skills

To complement this first theoretical approach of what an explainer should be, let’s focus on the explainer’s practice. The panel of explainers was asked to define all the activities involved in their profession. Each of these activities is related to specific skills, that is why we consider it relevant to treat these two areas together.

First of all, we have to make it clear that science centres and museums work differently depending on the existence of a hierarchical division among the explainers between juniors and seniors, as seems to exist in Lisbon, Ljubljana and Milan. The

explainers perform the same tasks when there is no hierarchy among them, whereas their field of activities differs with their status when there is one. Besides, the tasks of the explainers also vary from one centre to another. Since some points remained difficult to analyze in the focus group outputs, we will concentrate on the activities most commonly performed and then on those that are specific to some science centres.

3.2.1 Interacting with the public

The explainers all defined their scope of work as interaction with the public. Earlier in the discussion, we focused on the explainers' self-perception. Their answers were all pointing out their central role of interacting with visitors. So, it is not very surprising that this activity was the first one the explainers thought of. It symbolizes the result of their work. The aim of all the activities that come before is to prepare that step.

"The time we spend with the public is important and in my opinion it is the cornerstone of what we do. All what we do is done in the perspective of that specific moment."

This phase appears to be the central point of the function of explainer but it also seems to be the most gratifying one. The artists have the opportunity to judge the success of their show by the public's reactions (laughter, applause, etc). The explainers also have the chance to estimate the impact of their job. Indeed, knowing that they have captured the visitors' attention, that they feel at ease to ask questions, that they try something new and have fun, are all indicators of a good experience that the explainers look for.

"There is a good feedback. People look at you as if you were an encyclopaedia. It is very satisfying. They pay attention and they rack their brains, but at the same time they spend a good moment."

On the contrary, the interaction phase with the public can be different and a lot less satisfying for the explainers whose task consists in staying in the exhibition room and answering questions from the visitors who need to be advised (to locate the restroom for example, as well as to give details on the exhibition). Some of them also need to look after the equipment and to make demonstrations (often at the same place with the same engine), a task which is boring when repeated all day long. It can be a mechanical gesture such as starting a car, as well as conducting the same exhibition tour or activity.

> Associated skills

- Skills related to the "stage-setting" of oneself: be an actor, control one's voice and body language, occupy the space, be able to improvise, be dynamic
- Relational skills: have a good appearance, be sociable, be careful and attentive, be flexible

- Speaking a foreign language

3.2.2 Activities design

This is mainly teamwork (except the information collection phase described below). It includes identifying the type of audience for which the activity is designed, managing a budget, attending team meetings, creating items, media and material that are going to be used in the activity.

> Associated skills

- Relational skills related to the ability to work in a team: as a member of the team: be attentive, know how to get to an agreement on the team work, as a project manager : to know how to steer a team, how to coordinate different people, with different point of view...
- “Artistic” skills: be creative and inventive
- Computer skills (for the development of the workshops items): be able to use image-processing software, graphic design...
- Organizational skills

3.2.3 Collection of information

The specific training needed before each new exhibition and the continuous self-training of explainers are a big part of the job. Indeed, it requires a regular renewal of knowledge to bring it up to date. The explainers receive collective training from the science centre and complete this learning by surfing on the internet or with the help of books. We have already underlined the fact that the explainers are conscious of their aim to transmit knowledge to the visitors. They want to help people enjoy learning because learning is a delight for them.

“When I started working here, it was the first time I was paid to learn. This is great.”

Finally, some explainers developed the idea that, in order to be confident enough to improvise and not fear visitors’ questions, it was important to do research on all the dimensions of a specific subject, well beyond the few elements explained to the public.

“When I feel confident with the subject, I can go with no fear.”

“It is an absolute necessity to question all the dimensions of a particular subject even though in the end, we only explain the tip of the iceberg.”

> Associated skills

- Scientific skills and “researcher” skills (to select and organize the information collected)

3.2.4 Handling of administrative and technical aspects

It includes all the “*parasite*” activities the science explainers have often to deal with, which consist in handling the unexpected organizational problems and the administrative complexity. For example: filling in a form, placing a purchase order, finding a key informant... The time spent on these activities is necessary to the progress of the project but the explainers often feel useless when doing them, wasting their time and energy.

“Every time someone asks what we did today and we are not able to answer, it is because we have spent 3 hours on the phone, or because we had to go outside to get something that was missing. There it is, all this time that we cannot count. But it is also obvious that at the end, this time helps to move the project forward.”

> Associated skills

- Organizational skills and knowledge about the functioning of the science centre as far as possible (where to ask for a form, who are the resource people)

3.2.5 Activities outside the science centre

Sometimes, the explainers work outside the science centre to represent it on some events. The objective is to make it known in the scientific arena but also to approach a larger public. Besides, it also happens that they go to school to organize workshops (several explainers are involved in Ljubljana).

> Associated skills

- Sociability (events)
- Pedagogical skills (work with children in schools)

3.2.6 Conclusions

If some of these results come as no surprise and confirm what we already know about the explainers' profession requirements in term of skills :

- **scientific** skills for the collection and analysis of information in order to be at ease in front of the public. This is particularly important, if the target audience is adults. In that case, the quantity of knowledge they must possess must be much more important than what they are going to say to the public. And they must be able to deal with unexpected questions.
- **relational** skills to deal with all kind of visitors (flexibility, capacity to talk as well as to listen) and the ability to work in a team (for the preparation phase of the activities)

Some skills required are more unexpected and related with the invisible part of their job that is often underestimated. These skills deal with the preparation of the activities that they will do with the public. Before interacting with the public, they must create activities (even a simple visit, or short, on site, interaction needs preparation). They must create the medias and support necessary, give a shape to, invent the rhythm of that activity.

And so :

- **creative** skills for the design of activities phase, usually associated with artistic professions, are required in scientific ones as well

and of course :

- **organisational** skills to handle efficiently the different activities.

3.3 The public

The main focus of the work has clearly and unanimously been identified by the explainers: the contact with the public. However, there are not one but many types of audiences and we are now going to focus on their specificities. According to the explainers, flexibility and adjustment to the audience are essential skills. Indeed, most of the explainers have to deal with groups of individuals as well as school visits. In both cases, the science explainers have to adopt the behaviour and speech that catch the attention of the visitors. For this purpose, they need to adapt themselves to their public's age and knowledge. In some of the scientific centres or museums, school groups and groups of individuals are not attending the same days of the week: school

groups in the week and the others on weekends. In other institutions, the explainers have to adapt themselves to both groups every day.

These two groups of visitors are distinct from each other and they must be approached in a perspective that respects their particular nature. A focus on these groups' features will give us a better understanding of the task of the explainers.

3.3.1 Specificities and expectations of the school groups

The aim of school visits is to supplement the knowledge gained during school lessons and to test the knowledge that the students already have. In order to meet the teachers' expectations, the explainers have to adjust their speech to fit into the school program and to adjust it to the level of the class. An additional difficulty comes from the fact that this particular visitor does not choose to attend the exhibition. The initiative does not come from the students, thus the first stage is to gain their interest. For this purpose, the explainers give priority to the playful aspects, linking fun and seriousness. Besides, informal explanations enable to break the ice faster and stimulate the interaction and the discussion between the explainer and his group. The stake consists in making student interested in scientific facts studied in class but with an approach that makes them feel far away from the classroom. The explainers take their role of youth education support very seriously. As the explainers have developed many pedagogical tricks, the school groups who don't play the game seem to be very rare.

The reason some explainers have a preference for that kind of public is that they have little knowledge, which makes them very receptive to information. Others justified their choice for the school public by the possibility of having a less formal speech than with the adults and by making science an entertainment.

3.3.2 Specificities of the familial public / individuals

The other groups of visitors the explainers are engaged with are made up of persons on their own, with friends or family, who may be disabled, retired. Groups can be composed only of adults or include different age groups. In all cases, the explainers must be able to adapt their communication to their audience.

"This group's specificity is that we don't know whom we speak to whereas we know the level of a school group, so we know whom we are dealing with."

The specificity of that kind of public is its heterogeneity. Besides, individual visitors are more autonomous than school groups, enabling more opportunities for improvisation (no school program to conform to). Let's now focus more precisely on the particular nature of the adult public.

3.3.3 Specificities and expectations of the adult visitor

The questioning concerning that public are mostly centred on how to involve more this public in the activities.

At the beginning of the activity or the exhibition tour, adults tend to be reticent. The explainers have to display all their tricks to make them more self-confident, to provoke reactions and to make them take an active part in the activity. An explainer gives the example of an efficient joke:

“Who thinks white? Hands in the air... Who thinks black? Oh? The rest doesn’t think? ...Next time, the others will also wave their hands.”

The adults have a tendency to hide their lack of understanding of some subjects behind the knowledge they already have. On the contrary, other explainers have underlined the fact that the main difficulty they have to handle is not to make adults participate in the discussion but to manage those who flaunt their knowledge too much and monopolize the discussion.

“The most difficult with adults is to deal with those who are convinced that they know.”

The groups of retired people are the exception to the rule. Indeed, a group of explainers underlined that working with them was very pleasant because that they are not afraid to ask questions. Finally, adult visitors demand more knowledge than school groups because they expect deeper answers from the explainers.

Like young people, adults do not expect a lecture from the explainers. They appreciate being entertained, especially with collective games. Playing among a group of unknown persons makes them feel at ease. The explainers who have a preference for the adult public justify their choice by the ability this public has to talk and conduct a real conversation with the explainer.

Finally, heterogeneity of audiences is refreshing for the explainers because each group has specific characteristics that they have to discover and to understand in order to catch its attention. A former teacher who became an explainer says:

“I have never regretted that I came here because it is true that the audiences are various and this is really a good thing. Because you know, as a teacher, you are always in the same position, there is always the same number of students, the same kind of students and you teach more or less the same things every year. Here, it is an opening to different subjects, and every day you learn something new about these subjects.”

The continuous renewal of the public is – to some extent – the condition for the repetition not to become boring.

The explainers take their role to heart and there is no consensus in identifying which public is the most likable; there is however one kind of visitors they most dislike! The people who come to the scientific activities like consumers, who remain passive and don't really pay attention to the explanations given, are firmly criticized. That glib behaviour seems to mirror to the explainers a reductive image of their job that would be limited to its entertainment dimension. To finish, this analysis clarifies the meaning of "*transmitting knowledge in a different way*". The explainers do their best to establish a horizontal relationship with the visitors (and not a vertical one like a teacher or a lecturer does for example.) Of course, the explainer is the one with the answers but he really makes his best to stimulate an interaction. The public must become an actor of the exhibition tour or of the activities.

3.3.4 Conclusion

If heterogeneity in the visitors is generally the rule and is considered by the explainers as an enrichment of their activity, this heterogeneity is also a difficulty that they have to deal with. Concerning the adults, a lot of explainers expressed their difficulties to involve them in the activities. And that raises the question of why the adults visitors are not involved? Is this because they feel that the activities proposed are not for them? Is it a question of topic, of type of activity proposed? And are there some specific activities for them in Museum and sciences centres outside the conferences? It seems to be very rarely the case.

4 Training and needs

Having pointed out the specificities of the explainer's job and their most relevant skills, we need to concentrate on their professional training in order to estimate if there is a consistency there. In order to do this, let us first specify the backgrounds that led them to carrying out this job. What professional fields or academic path do they come from? Then, we will make a point on "in-house trainings" provided by the science centres, ending with the training module needs the explainers have identified.

4.1 Professional background

The analysis of the explainers' professional background first shows that they often come from three common fields. On the whole, they have a degree in sciences, education, or art and culture. Most of them have a professional experience with young people, often in the field of running activities. Hisa experimentov (Slovenia) is an exception because all the participants in the focus group were still students (their respective fields were not mentioned), whereas in the other groups, participants had completed their studies and most of them were familiar with the professional world. However, the different science centres and museums don't exactly give priority to the same skills. The explainers who work at La Cité des Sciences (France) and from Technopolis (Belgium) have quite similar profiles: they come from the education or scientific field (researchers, science teachers or people who more generally have a degree in sciences) and most of them already have a professional experience with young people. In the Italian national museum of science and technology Leonardo da Vinci, the range of profiles is larger. The explainers' panel comes from the areas of sciences, arts, culture and / or communications. Finally, in Ciência Viva (Portugal), scientific skills are favoured.

From all this, two types of skills emerge. First, scientific skills clearly appear as the gateway to becoming an explainer. In second are self-expression skills, the ability to transmit, to communicate. All explainers have such capacities, whether they are artists who convey emotions or messages through inventive ways, or they have pedagogical skills acquired from their teacher or animator's background. Those with a teacher background have specifically expressed their willingness to leave the rigid frame of classic education, which did not fulfil their expectations. Their desire to teach in a different way made them become explainers. "*Transmitting knowledge in a different way*", "*rousing curiosity*", "*conveying emotions*" are the explainers' goals. Therefore, there is a global coherence in the choice of profiles that science centres make, but it seems that the combination of scientific skills and communication skills is the most pertinent option.

The scientific / communications skills appear to be ideal to fulfil the mission of an explainer. But, some explainers from the panel estimated that there was no need to be an expert or to have a high degree in science to be an explainer: the most important being to have an inclination for sciences. Thus, between a person whose sole qualification is that of a scientific researcher and someone whose qualification is to be a summer camp counsellor, this group was in accordance to say that the counsellor would make a better explainer than the researcher (since the latter is too specialized to focus on the essential or to speak with “popularization” of scientific language.) Finally, one of the science explainer’s tasks is to find a balance between the scientific sternness and the entertainment.

4.2 In-house training

The explainers’ capabilities are improved by the in-house training(s). They all receive an initial training when arriving. But, some of them also have the opportunity to receive further training courses afterwards, which may be specific to the subject of a new exhibition or to more general issues related to the job in general: computer science, self-expression, etc. Since the focus groups did not elaborate on continuous trainings, we will not discuss it further, but concentrate on the explainers’ initial trainings.

There are wide disparities between the initial trainings provided by the science centres. There are as many types of initial training modules as there are science centres. In addition, some explainers from the same science centre don’t receive the same initial training, depending on their status (open-ended or fixed term contract).

4.2.1 La Cité des sciences et de l’industrie (France)

The explainers receive a one-month initial training that, in their opinion, looks like “*a meeting with the company*”: a global explanation about its functioning, a presentation of the organization chart, etc. In the explainers’ opinion, the word “training” is inappropriate to define this first approach of their new profession because there is actually no immersion in the explainers’ team. Then, they all attend a theatre training course, which they find very constructive. First, it is good self-expression training, but it mostly is a great opportunity for new explainers to integrate the group.

4.2.2 Technopolis, the Flemish Science Centre (Belgium)

The initial training consists in a briefing about all the dimensions and specificities of the explainer job. They are also trained by experienced explainers and they really appreciate this phase of observation and guidance. It was also underlined that regular feedbacks from their superior or colleagues and frequent evaluations of their abilities were very useful. Finally, they also have the opportunity to be recorded on video to self-evaluate their performance. According to this group, the feedback seems to be the keyword for a good training.

4.2.3 Ustanova Hisa experimentov “The house of experiments” (Slovenia)

The new explainer’s first mission is to observe their colleagues when working. They attend the exhibition tours and it gives them the chance to appreciate the public’s points of view. It helps them to understand the visitors’ expectations. This initial training is completed by a role-play: the explainer stands in front of an audience played by his colleagues. It seems to be a way to become self-confident but also to anticipate several scenarios that might happen in the future with the real public.

4.2.4 Ciência Viva (Portugal)

The explainers have received different trainings. For example, some of them were given a booklet with explanations about the museum and the role of a science explainer. The initial training also includes a theoretical module about how to handle a conflicting situation, how to communicate with the public... However, others participants from the group were not trained that way. They learnt how to do their job by observing and using the expertise of qualified explainers on site. Since 2008, a new initial training is established but none of the participants knows what it consists of.

4.2.5 Museo della Scienza e della Tecnologia Leonardo da Vinci (Italy)

The explainers’ first task is to learn as much as possible about all the museum’s collections. Moreover, the museum also provides trainings. The most significant training is again observing the other explainers when in front of the audience: “watching, learning and then doing it yourself.”

4.2.6 Conclusions

In brief, the explainer panel appreciates the aspects of the training that deal with fieldwork and immerse them into the concrete work: self-expression trainings, role playing or theatre training, trainings dealing with communications with the public... They wish to quickly be in the “*deep reality*” of their job and they disapprove the training themes that don’t specifically deal with the profession of explainer, such as institutional organization for instance, because it makes them feel disconnected from the team. However, they don’t reject this kind of training but they estimate that it should not be the first phase of the training. For the new explainers, the priority is to find one’s place within the team. “*This is the real training. The rest is only information.*”

4.3 Training prospects

According to their experience, the explainers have identified their training needs and most of them have agreed that training should be continuous. By analyzing the skills their job requires, the content of their in-house trainings and the areas that need to be improved, the explainer panel identified the themes of the ideal training. They are described below, starting from the most to the least frequently cited.

The explainers think that they learn the most about their profession from their colleagues. As a matter of fact, observing them on-site allows them to understand the main features of their job and to be in the reality of things. At first, the experienced explainers represent models who give ideas to the new ones so that they, eventually, create their own style. The experienced explainers are valuable advisors who guide the newcomers and share their experiences, answer their questions, teach them tricks, tell them anecdotes, etc. For the new colleagues, this training is an inspiring and concrete resource that allows them to have a better understanding of their job's different tasks. Eventually, when the training is over, the step afterwards is the integration in a team and in a structure. Feeling to be part of a group is a very important element because the explainers feel implicated in a common project which will help pave the way from their beginner status to a more experienced one.

4.3.1 The “stage-setting” of oneself

Many explainers during the focus groups have expressed the idea that the ability to communicate, to know how to transmit, is not possible to teach. This is a skill which you either possess or you do not. However, it is possible to improve the skill by working on it. As a matter of fact, a great number of trainers think that it is possible to improve by learning how to have a better appearance in front of the public. This training could deal with subjects such as speaking in front of groups, acting, voice training, body language, role-plays, etc.

4.3.2 Tips and tricks to deal with visitors

The explainers meet very different people. By the time they are engaged with visitors, they are in front of an unknown group they have to manage, cope with, and interest in a good mood. What should they do when some persons distract the group or don't respect the explainer's work? How to work with handicapped persons? How to cope with foreign visitors who do not speak the local language? Many explainers wonder how to do all this, and a notional training dealing with these aspects could be the answer. What they want is some guidance and before all, some pedagogical tricks to be able to respond to each situation. Some of them were also preoccupied by the security of visitors and wondered what to do in case of emergency.

4.3.3 Knowledge about the public

First of all, the explainers have to quickly capture the public's attention. However, the interests of children, teenagers, adults or older people, families or school groups, are very different. They think that a notional description by age-group or social profiles with, for instance, the main interests of each group, their way of learning, would help them. Tricks and advice to deal with these social categories will allow the explainer to have a better interaction with the public and anticipate its reactions.

4.3.4 Foreign languages

Many explainers feel frustrated because they cannot communicate with foreign visitors. They wish to learn new languages or optimize their knowledge in this field. To master English is essential but Spanish, German, Italian and French have also been quoted.

4.3.5 Cultural watch on science centres and museums

It is more a question of information than a question of training, but lots of explainers made it clear that it is a real necessity for them to be aware of the cultural events that take place in the other institutions. They could be informed about it via a website where everyone could post new facts on this topic, a community platform for sharing ideas.

4.3.6 Organization

Every day, the explainers juggle with multiple activities and the consequence is that they have only little time to concentrate on each. In order to optimize their time, some explainers would appreciate a theoretical training –and tricks- about how to be better organized.

4.3.7 Computing and multimedia

One group explained that they could make better and more beautiful visual aids such as boards, drawings and screenplays which are created on the design of the workshops phase, if they were regularly trained to use the new software, and the image processing software in particular.

4.3.8 Conclusion

This last point about computing and multimedia raises a question. The activities described by the explainers to explain what their job consists in refer to two steps: the design of the workshops and the interaction with the public. On the other hand, all the training needs mentioned, except the last one treated by only a group, deal with engaging a group of visitors.

Does it mean the other groups of explainers feel that they have no training need in those areas? Or is it because the persons in charge of the focus groups failed to go beyond the "interaction with the public" aspects of the profession? The study outcomes do not enable us to answer these questions.

The training needs, as identified by the Explainers deal first with their direct interaction with the public (stage setting of oneself, tips and tricks...), and it is only on furthering the questioning that the other needs appear (pedagogical, organisational or technical training needs). Concerning their knowledge of the public, they are interested in knowing more about the different type of public, their way of learning, their main interest... but with no specificity for one type of public. The adults are treated at the same level than the other types of public. No specific interrogation appeared during the interviews.

5 Conclusion

This qualitative survey has provided, confirmation of some already known reality on the scientific Explainer profession, it has also raised some very important questions.

It has shown behind the well known diversity of tasks and names, a very common goal, a same definition of their role : to be an interface between the world of sciences and the visitors, and of their mission : to make accessible and understandable scientific facts in an informal and attractive way to a variety of people.

The diversity of the tasks they deal with was already known too, but it is interesting to underline that there is, on the part of the Explainers, a focus on the "in front of the public activities".

It is only in furthering the questioning that they conjure up the hidden aspects of their work and their importance.

For their training needs as well, they express first the need to know more on how to deal with the public. And only afterward, do they evoke other training need (technical, organizational...).

It is interesting to note that there is no clear distinction between the different types of visitors. Explainers must adapt to all visitors. They want to know how to deal with all kind of publics and have no specific interrogation about how to deal with adults, apart from their interrogation on "how to involve more the adults, in the proposed activities?".

Anyhow, we must take into account this distinction : adults in family groups versus adults alone, for the tools that we will have to give to the Explainers. We should try to find a good balance in our training module between tools to interact with adults in family groups and tools to design activities and to interact with the adult public specifically. As for now, it seems that, in the eyes of the Explainers, the adult public is not yet clearly identified as being a public with specific expectations. They seem to underestimate the science and society interrogations of adults and the role that they can play in giving those adults the tools to make their own opinions.

The question of career development and possible lack of prospects in that field, that could not be treated here, will have to find its place in the quantitative survey too.