Explainers, pilots, facilitators, mediators, educators; whatever their name is, these professionals have an essential role in science centres and museums (but also in outreach activities of universities and research institutes); they are the human, direct interface with the public, and therefore have a huge impact in the success of the communication of their institutions (Bevan and Xanthoudaki, 2008; Rodari and Xanthoudaki, 2005; Tran, 2006; Tran and King, 2007).

A key factor determining the quality of their work is training, but training schemes for explainers are very often, all around the world, very short and practice-oriented, mainly aiming to empower explainers to repeat activities’ storylines developed by others. Very often the initial training consists only in the shadowing of senior explainers, and it does not include reflections on theirs and museums’ practices, nor any theoretical/methodological input regarding informal learning or science communication issues. Besides a few, praiseworthy best practices, training schemes for explainers are far off the standards of the training practices for more developed professional families.

Usually the correct development of a training scheme follows precise steps as in Figure 1.
A professional family should be identified, and its work tasks listed. Then a dictionary of the competencies related to the tasks has to be prepared. When this background information is ready, a specific community can be tested in order to identify training needs. On the basis of this analysis a training scheme is designed. The training evaluation can feed the process again, so to develop new and better training schemes.

In the case of the explainers, however, those standard procedures are not possible: the identification of the explainers’ professional community and the definition of its tasks and competences is still work in progress, in which action, research and practice merge, together with a few international studies (Bailey, 2006; Love-Rodgers and Kelly, 2001; Tran 2008a).

THE group, the Thematic Human Interface Group is a working group of Ecsite, the European network of science centres and museums, dealing since 2007 with the professional development of explainers. Different international projects funded by the European Commission (e.g. Dotik, Pilots, Feast) have in recent years undertaken actions or research, aiming to understand explainers’ role and status in museums and science centres, and support their empowerment. Surveys on their demographic profiles, roles and training needs have been carried out, training courses at a European level have been organised (and carefully evaluated) and many international seminars have been held to exchange best practices and to discuss pro and contra of different training schemes (Richard and Barrett, 2011; Rodari and Merzagora, 2007; Rodari and Merzagora 2009). What can THE group’s experience and that of the related projects tell us about the state-of-the art of explainers’ professionalisation?

The explainers are a very diverse professional family, with a huge variety of profiles and roles, and work in institutions with very different organisational internal structures. In some institutions, for example, people who design activities and people who deliver them are different. In others, the same people are in charge of everything, from the visitors’ reception to the materials development and maintenance. In general, we can say that their work is defined by a continuum, in which every institution collocates in different way representing its own identity, mission and cultural context (for a more complete analysis of this issue see Aubouin, Kletz and Lenay, 2010). The continuum goes from activities at the backstage of museums and science centres, thus totally hidden to the visitors, to activities that become the institution’s public face.

As for the public programmes, a shared typology of the activities held in museums and science centres, still does not exist; on the contrary, the choice is based on the identity, strategies and priorities of each institution, and this means often limitations in the ‘transferability’ of programmes from one institution to another. In the case of EU-funded projects, a lot of time is spent just in order to understand which features characterize the different activities in the different institutions: guided tours, facilitation on the floor, science shows, science adventures, demonstrations, workshops, labs, debates, discussion games.

In general, explainers are engaged in a range of roles and tasks, that can be collocated on a continuum, that goes from the explainer as facilitator of visitors’ personal experience (debates, inquiry-based activities etc.), to the explainer as actor delivering performances in front of a mostly passive, but deeply engaged, large audience.

Neither is it easy to define explainers looking at their age, backgrounds and careers. The
Pilots project survey, coordinated by Universcience, deepened and confirmed the results of the previous Dotik survey, focusing also on the variety of ages and careers (Rodari and Merzagora 2009; Richard and Barrett, 2011). It is true that many explainers are very young people, students who use this profession to sustain their academic career, but there are also large groups of senior explainers, to whom this work is their loved profession.

However, a sense of community can be found in explainers coming from the most different institutions and of all ages and backgrounds, as has been testified by a few studies (Bailey, 2006; Rodari and Merzagora 2009) and during the international training courses organised by THE group and the related EU-funded projects. For example, it is amazing to see how drawings developed by explainers coming from different countries and asked to draw in different moments and locations represent the typical explainer in the form of a fantastic animal. The drawings are indeed surprisingly (or not?) very similar! (Figures 2, 3,4).

Considering the variety and complexity emerging in all aspects of explainers’ work, it is easy to understand that a process of professional development cannot be simple nor obvious. Should we opt for a complete training of explainers, this should cover a wide range of competencies:

- **Knowledge**, that comprises general knowledge (such as learning and informal education theories and methods, but also science and technology topics) and local (institution mission, vision, organisation, etc.);

- **Communication and relational skills**, comprising a large range of competences that specifically characterise the explainers’ job; competences linked to a macro-dimension of the explainers’ activities (such as how to communicate science, how to facilitate learning, how to engage different kinds of visitors) or to a micro-dimension of explainers’ activities (how to use questions as learning tools, how to manage emergencies and conflicts, etc.);

- **Personal and working skills**, such as voice and body control strategies, skills for flexibility and open mindedness, ability to work in a team, problem-solving, etc.
Besides these competences – that we may call since decades the evergreen of museum educators – new areas of expertise are building up in the last years, in line with the evolution of museums’ and science centres’ missions (Czajkowski and Hudson, 2008; Henry, 2006; Munley and Roberts, 2006). For example, explainers should now be able to contribute to the policies or strategies for better community integration, for example making the museum more accessible to different kinds of people with different needs and cultural, religious or social backgrounds. They should also be able to tackle controversial issues and to facilitate debates on ethical, economic, social impacts of science and technology.

Is it possible to organise all these competences in a standard professional development scheme, applicable to all institutions? Is it possible, even more, to design and propose a standardised higher education level course of studies? The discussion is open (Bevan and Xanthoudaki 2008; Tran & King 2007; Tran 2008a; Tran 2008b).

What THE group has been doing in recent years can be certainly considered a contribution to the process of professionalisation. With a bottom-up approach to the problem, many European institutions (and some extra-European; see Massarani, Rodari and Merzagora, 2008) organise international training courses in which sharing of experiences and knowledge gradually leads to an international learning community, still very fluid in practice, but with a growing awareness and reciprocal knowledge.

The advantages of this approach are many. An increasing number of explainers and heads of explainers are gaining the feeling of being part of a community; they are aware of debates and trends inside the museum and science centres community; they are able to meet people from all over the world and share practices and reflections; they are acquiring new skills and competences. In particular, through the participation of Ecsite – the European network of science centres and museums – conferences, with seminars and talks focusing on their work, are giving explainers external recognition of the importance of their role and contribution to their institutions’ mission.

A ‘hard’ interpretation of the word professional development should, however, lead to the hypothesis of a unique training scheme, offered by higher education institutions, recognised all around the world. Is this feasible, but is it also desirable? This hard approach presents, as viewed in the international debate on the issue, not only advantages but risks as well.

The advantages comprise a stronger external recognition of the explainers’ profession, and surely better career opportunities for practitioners. At the same time, to require something like a diploma for explainers, presents, at least in the present situation, not negligible risks:

- To lose the variety of people now acting as explainers, including young secondary school pupils as well as retired people, with all the richness this diversity offers (Martin and Tames, 2008; Vakevainen, 2005);
- To lose the variety of practices created by institutions with different histories and cultures; a variety that is able to produces new formats continuously;
- To stop change, meaning also change in thinking about what it means to engage people in science: from the public understanding of science we moved to the notion of scientific governance and citizenship; the communication of science is changing fast in a fast-changing world: would an institutional course of studies be able to quickly adapt to the future changes?
To reduce the distance from school educators. Many universities and higher education institutions do not have (with perhaps the exception of UK, USA and Canada) updated competences in informal learning; institutionalisation of explainers' training inside academies would risk bringing their profession too close to that of school teachers, losing the incredible innovation of explainers’ informal approach (Gomes da Costa, 2005).

To exclude the explainers from the definition and the development of their own role. In the actual bottom-up approach, the process of definition of their role and profile they see themselves as proactive actors (Motto, 2008). Would this role be guaranteed if universities and other higher education institutions take the lead?

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