53. Professionalisation in Science Communication: reflections on competences perceived by PCST2012 participants as required in their work

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Introduction

What are exactly the competences that science communicators need to acquire? It seems that most curricula in Science Communication (SC) did not make competences explicit (Hong & Wehrmann, 2010). SC-students cannot grasp where exactly they are heading to, while employers do not know what to expect from SC-graduates. In the meanwhile, SC-researchers try to understand the field as a whole, and promote new ways of looking at the relationship between science and society. Dialogue, deliberation, participation; this is what SC-researchers pressingly ask from SC-professionals. But does that reflect reality?

There comes the freshly graduated SC-student, starting a first job. This graduate may feel helpless on the first workday already, for dialogues are not part of the daily business at all! The employer might think “What the ..(..)..<, this science communicator cannot even write ten good articles per day!”. Unfortunately, this is reality. Time to rebuild bridges.

PCST-session on professionalisation

During the PCST2012 panel-session on Professionalisation. Working Towards Competence-based Science Communication Career Models for Science Communication Students and Curriculum Developers, we took the step to enrich theoretical thoughts about What is science communication as a profession?, with the visions of those that work in the field on a daily basis. We wanted to give SC-students more clarity on the SC-field and -education, give SC curriculum developers insights on which competences to educate, and provide SC-professionals acknowledgement for the great variety of tasks that come along with working in the field.

Prior to the conference, we asked 30 colleagues in the field (varying from researchers, to science centre content developers, journalists, and strategic advisors) in a short survey, What knowledge, motivations, skills or personal traits do you need in your daily practice? We derived these questions from the four elements of Spencer and Spencer’s vision on competences (1993), and gained from this survey preliminary insights on SC-competences required according to SC-professionals.

During the PCST-session, our panel introduced Spencer and Spencer’s vision on competences, and stressed the need to map competences perceived by science communicators as ‘required and useful to work effectively in the field’. Two panel-members also inspired the session’s participants with competences they experienced themselves as needed in their daily practice.

After the panel’s introduction, we made our session’s participants brainstorm in three groups about the same questions we asked in the survey. Around thirty enthusiastic students, PhD’s,
and SC-professionals with a variety of jobs (from science center employees to strategic advisors) worked together. The groups came-up with lists of competences they perceived as relevant in their work. One group focused on skills, another group on motivation, and the third group thought about skills, motivation, knowledge and personal traits of science communicators all at once. Thoughts were shared in plenary by means of five-minute elevator pitches.

The panel session delivered us a lot of data about skills, knowledge, personal traits and motivation perceived by SC-professionals as required in their work. We felt the urge to make sense of it. So we transcribed, analysed, summarised, discussed, and came to several commonly agreed findings, conclusions and possible implications.

**Competences of science communicators**

Summarising the visions of our PCST-session participants, SC-professionals need to have the following specific knowledge, personal traits, skills and motivations:

- **Knowledge about**: science (history, trends, methods, the culture), communication models (psycho-sociological fundamentals), people (*What characterises my public or my stakeholders? What do they need/want?*), and (mass-) media (*which medium to use when?*).

- **Personal traits like**: curiosity (broad interest in people and topics; from the level of science up to societal scale), socially engagement (be a networker, connect with people, easy small talker), flexibility (adapting to context, like chameleons), and creativity, (develop innovative solutions to (unforeseen) circumstances).

- **Skills in**: Socialising and interpersonal communication, story-telling (about researchers themselves and their work), writing, teamwork, using (mixes of) media, planning, and budgeting.

- **Motivations to**: learn and reflect continuously, take (and be ready for) action, be missionary, striving towards a higher goal, such as a good science-society relationship, and democracy.

On top of this, participants of our PCST-session mentioned in their pitches that the competences themselves (as given above) are not unique, but the sum of the competences is what makes a science communicator. Also, one brainstorm group identified a cyclic relationship between- and in advancement of personal traits, motivation, knowledge, and skills of the science communicator. Last but not least, the elevator pitchers emphasised a shift from one-way communication to more interactive two-way communication in SC-practice, asking for good interpersonal and facilitation skills.

**Reflecting on ‘what makes a science communicator?’**

Our interpretation is that we can derive several conclusions from the list given above:

- A *science* communicator might be different from *general* communicators for having knowledge about one or more scientific disciplines, and the world (that is hidden) behind science such as methods or culture. General communication professionals may not necessarily be knowledgeable about that.
A generic interest in science should really be part of the science communicator’s personal traits.

The science communicator needs to be motivated to strive for higher goals such as democracy or a ‘good science-society relationship’, in which science is a serious party in every day’s society and society is an important part of/in science.

These interpretations, call for SC-curricula that help students to identify and experience the benefits of a good science-society relationship. Attention for reflexivity in curricula is required. Since competences on the levels of motivations and personal traits can be rather invisible (Spencer & Spencer, 1993), SC-curricula that aim to work on personal traits or motivations of SC-students might need to communicate extra transparently about that.

The above listed SC-skills may seem comparable to a general communicator. But these skills still make science communicators different from (other) scientists. Science communicators know how to communicate effectively, either verbally, written or visually, especially when interacting with other people. This fact confirms that SC-curricula should definitely offer practical trainings on these skills, and thereby help SC-students to thoroughly experience the theoretical (communication) models they learn about.

Further thoughts

Previous research emphasised that each element of science communication is to be found in other domains, but that their total sum creates the uniqueness for what science communication really is (Van der Auweraert, 2007). SC-practitioners’ visions shared during our PCST session on ‘competences required in the field’ make us able to confirm that. But it evokes critical thoughts. Are these insights new? Is this list of competences useful for SC-students, curriculum developers, or SC-professionals? Are we not just talking ‘just’ about generic (post-academic, communicator) competences? Are we really talking about competences here? Or merely activities? Final judgments are up to readers, but we provide one thought below.

Van der Auweraert defined the SC-field by eight building blocks (2007): content of SC, approaches to SC, levels of SC, domains of SC, collective motives to perform SC, SC-effects on public, functions of SC, and the overlap of SC with other disciplines. Comparing Van der Auweraert’s SC building blocks with our insights based on this PCST session, the knowledge, personal traits, skills, and motivations we found can be placed quite well within these building blocks.

However, the variety of our PCST session participants shows that the span of the field is broadening. Van der Auweraert’s building blocks may, therefore, need expansion. SC-professionals can work as science (communication) researchers, executive professionals, or strategic professionals. Executive professionals have practical tasks like science promotion or science-society knowledge exchange facilitation, while strategic professionals enable other’s to communicate, based on their strategic advisory or plans. The amount of ‘science’ as part of communicated content seems to vary within those different SC working fields. Besides ‘content of SC’ focused on science and technology itself (Van der Auweraert, 2007), communication about topics like research themes, R&D strategies or the science culture, also belong to the daily practice of some SC-professionals.

With this highly explorative study on SC-competences, we hope to have refreshed some in-
sights in SC-practice. May it help SC-theorists to grasp the real nature of SC-professionals’ work in the ‘field’, and vice versa!

References

