

## **S1E2: Who is your science communication for?**

Hello and welcome to the SciComm Toolkit podcast. The show for researchers and science communicators to get all the tools they need to communicate their science with confidence and bring science stories to life. I'm Soph and I am a full time science communicator. That still feels weird to say even now. Like people actually pay me to do science communication as my day job. It still feels so surreal that someone like me does this now. I guess I'm very lucky to do what I love every day.

Anyway, this episode is the second in the mini series I am doing to kickstart my whole podcast passion project. We are looking at what I like to call the SciComm Foundations. The big questions that you need to ask yourself before you even start doing science communication. Even before you even start planning out your idea. The SciComm Foundations are the what, where, when, why, who and, the one that doesn't quite fit into the alliteration, and that makes me a little bit upset. That one is the how.

In part 1, we looked at the why and touched on the what. Today I want to just focus on the who. No matter what kind of science communication you do, you need to have an audience in mind. And I'm going to kick off with one of my biggest pet peeves that crops up in science communication a lot and that is when might people say: 'Oh I want to give this talk to the general public'. Ergh.. it makes me feel kinda weird saying it.

Let me clear this up right now. If there is only one thing that you take away from this episode or the whole season, or even every episode of the podcast I ever make, I want it to be this. There is no such thing as a general public. Just think about it, the average human doesn't have 2 legs. By grouping everyone into the same audience, your scicomm isn't going to be as successful as you hoped. Everyone has a different baseline understanding of the topic, not everyone is going to be invested in your talk about the latest exoskeleton research, people speak different languages, have different beliefs and voices and opinions that should be listened to. The point is that really understanding your audience - and I mean really understanding them - that is going to help your science communication become so much more impactful. The success of your project, event or idea is going to depend on how well you can tailor it to your audience.

Today I want to introduce you to two... how would I describe them... um... terms? models? ... Two terms slash models that may give you a framework to help you work out who you want to communicate with. And then share a few questions that you might want to ask of the event or project organiser, or directly with your audience so you can really step into their shoes and begin to really understand what your audience would be interested in.

So, the first term that I want to introduce you to today is 'science capital'. So, what is it? Unfortunately it is not the capital of planet science. Instead it is a concept to help us understand how people engage with science that was developed from a collaboration between King's College London, University College London, the Science Museum Group and BP. There is [a fab video](#) that explains it all which I will add into the show notes for you to watch.

The best way to describe it is to imagine everyone on Earth is carrying around an invisible backpack or rucksack. Every time a person learns a new bit of scientific knowledge, is exposed to something related to science, attends a science festival or gains a new skill, whatever it is is added into this invisible rucksack. The more things you collect, the higher your science capital and the more you are going to think that science is for you, and vice versa. Your science capital is broken down into 4 key areas: what you know, how you think, what you do and who you know.

Knowing and understanding your audience's science capital can help you use it as a tool to engage with them and make your scicomm project more impactful. There is lots more that you can read about science capital and the research and teaching approach it is being used for, but at this stage it was something that I wanted to introduce. The key takeaway is that it is a way of connecting science to what your audience relates to and cares about most and sparks that interest and curiosity.

The next is the British Science Association's Audience Model. Science capital tends to focus more on school students and teaching, although I think it can be applied to all audiences. The BSA's audience model though focuses on audiences that are 16 years of age and older. It helps you to understand how different proportions of your audience see science. There are 4 categories that your audience can fall into with this model. The first is Professional. These are people who study or work within the STEM subjects of science, technology, engineering and maths. Next you have Engaged. Those who are curious about science and seek out scientific events or info but don't work within the sector. Next you have Inactive. These people would say that they have an interest in science, but they don't spend much if any time or effort looking for science. Finally, we have Not Interested. These are people that don't see science as something for them. Just as an FYI, the British Science Association and King's College London did some research in 2016 I think it was which suggested that the 'Inactive' and 'Not Interested' groups in this model make up about three quarters of the UK population. That is a huge amount, but that might be your reason for doing science communication right? You might want to help people move from Inactive to Engaged and who knows, maybe even into Professional.

It may be a simple model but it can be used as a really handy tool for planning your project and also evaluating its success. It can help you understand which audience group might be the best for you to engage with based on your why and your project goals, and it can also help you work out the effect of your scicomm activity. For example, at the start of your science festival, you might find that half of your attendees might be 'Inactive', but after your activity, some of those now feel they want to look for more information and might tick the 'Engaged' box instead. Being able to see the changes in your audience as a result of your project is obviously the goal and this model is one way that you could try to measure that. Again, I will link some useful resources and links in the show notes so you can read some more if you want.

I am not going to talk more about these models and concepts in this episode, but if you want to learn more about how you could implement them and use them, do get in touch and let me know and we can cover that in a future episode. For today, I just wanted to introduce you

to them as I have found them quite useful for some of the projects I have been involved with. But now - let's focus on helping you work out a little more about YOUR audience.

Hopefully if you have been invited to give a talk at a school, be interviewed on the radio about your research or to prepare a demo to present at a local science festival, then hopefully your audience has been defined for you. But if you are inspired to write a book about science, get an innovative project off the ground or start a scicomm Instagram account, then you have to do a little bit of work to figure out who you are communicating with and who you want to engage with your science communication idea. So I have identified 5 questions that you need to ask yourselves and your audience in order to do that.

Question 1: Who do you really want to communicate with?

There are so many groups out there you could choose. It could be scientists, it could be journalists, it could be school children, cancer patients or community groups. I could go on and on, and of course each of those groups could be broken down even further. All of them could be interested in cancer research, let's say. But doing an event and inviting all of these groups is going to leave many lost and disappointed. While these audiences may have a common interest in cancer research, they are going to want very different things. Trying to create something for everyone, will most likely actually end up leaving everyone unfulfilled. So, really think about who you want to engage with in this project. You can always do different science communication projects on the same topic - the trick is knowing how to share the stories of that topic with each of the groups. You need to change the content, the style, your language, the method of delivery. All of this is why I started this podcast so we will get into that in the future. But for now, just focus on one group.

And ask yourself, does that group really fit with my why? If you haven't listened to the episode about why you should do science communication, then I would highly recommend going to listen to episode number 1 after this one too. But if this group doesn't align with your why, if you and your target audience aren't seeing eye to eye then you might need to revisit your project plan and see if there is a better audience to reach out to.

Question 2: What do they know already?

Now you don't need to know the education levels of everyone in your audience or anything like that, but this is where that term science capital comes into play. Get to know their backgrounds. How much exposure have they had to your science topic, or science in general? And if science isn't high on their priority list, find out what things are. What do they care about? Maybe it's playing video games for example. If so, maybe you can incorporate that into your science story somehow. All this background info is going to help you to know your audience and what they know. You are going to know what makes them unique. You are going to know how to make it relatable for them.

That also doesn't mean that they have to have an interest in let's say space already if you are an astrophysicist. You can absolutely create something that is going to capture their imaginations and drive them to be curious about a whole new topic. But if they don't know

anything about space, how are you going to grab their attention? That is where knowing their wider interests will come in and help guide your science communication project.

Question 3: What do they think they know?

Another crucial question to ask that links back to the previous. Just like you have to try and suss out what your audience cares about, it is also really important to understand what their concerns are about the topic or going to an event you might be planning. This is going to help you myth bust any common misconceptions right at the start.

It might also be useful to know where these misconceptions came from. This might give you some clues about where they get their information from, what type of person they trust to give them accurate information, or maybe what they believe is factual information. Again consider your audience's science capital. Think about that audience model and where they might sit on that. All of this is going to help you to work out how best to communicate your science.

Question 4: What barriers might your audience have?

What might stop them engaging with you. This could be physical barriers. It could be resource availability. It could be geographical or financial, or language barriers. Maybe certain members of your audience will have different disabilities and needs. There may be other beliefs or cultures that you need to take into consideration. Having all this information in advance is going to make sure you have the things you need to make sure anyone who wants to can access the information you are sharing, and feels comfortable and safe to get involved. Again it will also help you to determine the best way to deliver your science story to this audience - what would be the best format or the best location or set up for you and your audience.

Question 5: What is in it for them?

Knowledge, education and skills - yes! - but they can get that from school, books, the internet. What is going to make them engage with YOU? Your audience needs to care before they will invest any time. We will talk about this in more detail in future episodes, but I thought it was really important to bring up at this stage. How are you going to grab their attention and invite them in?

Even if your audience has been defined in your given scicomm opportunity, it is really good to ask these and more questions so you can be as prepared as possible and learn from previous events. Questions like 'who do they expect to come along', 'what was the feedback from previous events', 'what worked before and what didn't work so well', 'what are the backgrounds of the listeners' and so on. Even if you think it is a stupid question, or that they might not know the answer, ask it anyway. I'm a firm believer that it is better to have as many tools at your disposal that you can.

It's going to be tricky to completely understand your audience, especially at the start. Sometimes you will just have to make your best educated guess and run your event, launch your project or deliver your talk and then reflect on how well it went afterwards, collect some

feedback and make some changes. I could talk about evaluation for a long time, and we will cover that in future episodes, but my point here is it is probably never going to be 100% perfect, but if you can put in the work and ask the right questions to know more about your audience you are going to be setting yourself up for success.

Right, it is time for some DIY. This is the section of the podcast where I tell you all about the next tool you can add to YOUR scicomm toolkit. You can head to my website now and download the worksheet that goes with this episode. You can find it at [sophtalksscience.com/scicommtoolkit](http://sophtalksscience.com/scicommtoolkit). You can print this as many times as you need to use it but it's going to help you develop your audience identities.

On the worksheet, there are 8 different silhouettes. The purpose of this worksheet is to give these individuals a name, give them an age and jot down some key things about their background and interests. Note down their motivations and what barriers they have, Then use that to think about what additional considerations you will need to put in place. It might be a braille version of an info sheet for example. With your project in mind, think about what things you will need in place for your target audience, that is then going to help you weigh up whether you have the means to put these things in place too, or whether your project needs some tweaking.

By the end of this exercise, you will really know your audience. It's not just going to be the local community group that you have identified as your target audience for your project. It will be the local community group who want to understand more about the latest cancer research so that they can incorporate that into the fundraising events that they do. They also go to church every week, most of them go to some kind of craft class from knitting, to crocheting to pottery and two of them don't speak English as their first language. Hopefully you can see how this description of your target audience is making it clearer how you should engage with them.

I'll give you another example. One of my ideal audiences for this project idea is graduate or PhD students. But not just PhD students. It's PhD students who want to do science communication but they lack confidence and are struggling to find the time to get started. Maybe they don't know how to start and their boss isn't interested in letting them go to any training course because they don't see the value. That is one of the reasons I then chose to do this as a podcast. I used this audience identity to help inform the best way for me to do my science communication. But in the words of Tayce from Drag Race UK - that's a story for another time, or another episode in this case.

Fill the worksheet in from the questions you have asked your audience, or from the event or project organiser. Once you have these filled out, use them to reflect on your why. Do they match up? Are they cohesive? And then use that to plan the next steps of your science communication project. If you have any questions about the worksheet, then as always please do get in touch.

It's also really important to not just do one audience profile per project you do. Even if you really understand your audience, everyone is still a unique individual so really consider the diversity that could be within what 'on the outside' looks like quite similar. Or there could be a

few similar groups that your idea could cater for. Take some time and really try and get in the mind of who you want to be engaging with in your science communication.

Just like a researcher would get to know the background of their topic before they start their research project, do your background reading and work before starting your science communication.

So that is the podcast episode for today. I hope that that has given you some new resources and things to consider before you get started in science communication. Or even if you already do science communication, it is always good to come back and review this, and the other SciComm Foundations from time to time. Please do go away and have a play with and experiment with finding and defining your audience, and really get to know them. I promise it will help you to up your game as a science communicator.

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