# Semi-structured interview with a Reader in the Faculty of Science and Technology

**Interviewer**: So, first thing is to provide you with a copy of Reading’s statement on Open Research, please do have a read?

**Interviewee**: Yeah OK.

**Interviewer**: So, what is your opinion on Open Research?

**Interviewee**: That’s quite broad, it’s a big question. In two words, a good thing… but beyond that I actually think it’s necessary really, and Open Research is a very broad church I think, and there are a lot of reasons why not only is it good, but it’s for, kind of, us to move forward as individual researchers and as, kind of, a society as a whole, it’s really fundamental that people have full access to data and resources from research projects both from, you know, purely economic reasons that it will save time, resources, money, being reinvested, people doing the same thing, collecting the same data when it’s already out there.

In terms of efficiency, you can do a lot of stuff with say, secondary data for example, without having again to re-collect new data. I think a really important issue is that, particularly in developing countries, they don’t have easy access to, you know, top tier journals or many academic journals, and making sure that papers and data are available so that anyone who needs that data, is so important you know. Many of the questions that we want to answer, you know, across the sciences, social sciences, relate to developing nations and problems that they experience, and so it makes sense that they should have as much access to data as people in, you know, ivory tower universities and so on.

I think, kind of, on a really selfish individual level, making your data open also is going to increase your own visibility, people are more likely to cite your work; invariably when someone comes to you in a few years’ time and says ‘oh can I have the data from this study you did years ago?’ you actually know where it is and probably you’ll be able to find it more easily in the online repository where you put it, then buried on some laptop that was discontinued 10 years ago. So, you know, there are so many benefits for the individual and society and the world at large, that it just seems like it’s a bit of no-brainer really that this is a good, important thing.

**Interviewer**: And do you think that there’s a role for senior leadership to play in relation to Open Research?

**Interviewee**: Absolutely. I think there’s a general sense that Open Research is much more of a grass roots movement probably, and being a lot of the people pushing it are more junior even, you know, PhD level, and now that those people are coming into, you know, post-doctoral positions, and actually at the top end there are far fewer, you know, senior managers and so on, so they kind of jump out because they’re few and far between, and when you see kind of, discussions about the benefits of Open Research or Open Science, and people kind of, who point out the dangers of Open Science and the negative aspects, they’re invariably more senior researchers and people who are very established in their field, and probably have done quite well out of the system to date, and they don’t appreciate that you know, there might be some survivor bias that is colouring their views of how the system has worked well in the past and so they don’t appreciate the difficulties that others face, and the advantage is that others will benefit from a more open and transparent system.

So I think, yeah, it would be great to get more senior researchers, managers involved, I think they’re the people who have the power to, sort of, change the incentive system really, to make it more rewarding for people to be involved in open practices; at the moment, you know, things like promotion criteria don’t clearly, and the university rewards or thinks that there’s actually a cost for individuals to engage in these practices, yeah, so more leadership would definitely help I think, move things forward.

**Interviewer**: And is there a role for the community to play?

**Interviewee**: Yeah, yeah I mean I think in a way a lot of the openness and transparency is about getting more for the community at large as I was kind of saying because there’s a cost for the individual, but when you look at the benefits for the community are much greater as more individuals sort of take on the burden of you know, making their data readily available and so on, those little costs, actually the benefits for the wider community are massive and become amplified the more individuals take on those little costs, and not so little costs at times, so certainly the academic community benefits and then the more people do it, the more norms change, hopefully then the more the incentive structure will change and the less cost there will be for individuals to do it. The community taking up these practices and normalising them will really help.

In terms of the wider community, yeah, I think, I mean there’s a role for you know, citizen scientists, even for individuals… you know, as an example someone might be suffering with a particular disease or ailment, or a family member and they may want to know more about it, often that cutting edge research that they want is hidden behind pay walls from you know, very expensive journals and if they’re not in a university or research institute they just simply can’t access that information and they don’t know how to access it. So if the papers are open access, if the data is open access then they can get what they need to help them understand their illness or move forward or even do a little bit of their own research if it’s you know, something that’s and under investigated area they can get some raw data, if they have the skills then they can maybe help answer their own questions, so the community and society at large certainly benefit as well.

**Interviewer**: How important do you think engagement events are? So, events that provide a forum for researchers to explore some of the issues associated with Open Research.

**Interviewee**: At the moment they seem very important, I think there’s a danger for individuals who are very involved already in open practices to find themselves in a bit of a bubble where like if you’re on [social media channel] or whatever, lots of people talking about Open Science, and you know there’s a lot of engagement there, it’s very obvious, but when you step outside that [social media] bubble, actually the practices are very unevenly distributed, some institutions really have made little to no progress, the only things their doing are, you know, when things are mandated by publishers to make your work open access or whatever, or by very top down initiatives like REF (Research Excellence Framework) 20/21. Things like that, so just increasing awareness of the problems that people and individual researchers and society faces by having a lack of transparency, lack of access to data, lack of access to published work, and highlighting that, and then presenting you know, some of the current solutions, and of course even people who are kind of engaged and broadly familiar, the solutions that are on offer are constantly evolving because this seems to be, it’s kind of a recent revolution I think in a way, and it’s ongoing so yeah, engagement events can really help basically.

**Interviewer**: So, I’m just going to provide you now with an adapted list of the eight pillars of Open Science as described by the EU Commission, so I’ll just give you a moment to have a glance at those.

**Interviewee**: No worries.

**Interviewer**: looking at this list, we have a Lancaster University Open Research Statement, Open Research Rewards and Incentives, Metrics to Measure Openness, Open Access to Publications, Open Peer Review, Open Research Skills and Training, Open Research Systems and Services, and Open Data. So, looking at the list, are there any particular areas that you would like to discuss further?

**Interviewee**: I mean, they’re all important,

**Interviewer**: Would you say any are a particular priority perhaps?

**Interviewee**: Yeah, I think, I mean open data seems a very fundamental issue for me. Basically, if people are doing research and they’ve completed a study, effectively the data should be made available, not just so other people can make use of it, but also, I mean a huge majority of research that’s being done is funded by you know, governments and state bodies and so on, so effectively tax payer funded, and so if they’re hiding the data you’re actually preventing wider society from making the most out of that and getting the best value for money, so from kind of a tax payer perspective it’s an extremely important thing to do, and I think also, as I said, kind of there’s a lot of techniques and new tools being developed and revised constantly.

One area that’s getting a lot of attention recently certainly in around psychology is meta-methods or meta-analytic tools so when you have lots of secondary data then you can do very interesting things, and get a much better picture of what’s going on in a particular area so, and having that open data allows you to counteract problems that many fields have experienced with publication bias, where in the past, not in the past even, still, you are much more likely to get published if you have a significant finding, a statistically significant finding, whereas if you have a non-significant finding people have more difficulty getting published and so they might just eventually give up because they can’t get it published and it becomes part of the file drawer problem, whereas if people have their data open, whether it’s significant or not, then people can get a complete picture.

If you don’t have that open data, all you’re getting is a biased picture, I mean, it’s like, you know imagining a published paper is like saying you know, a player on the [acclaimed sports team] or something, thinking that they represent the average person whereas they’re the ones that have just been filtered through and come out the top and are totally unrepresentative of the wider population, so that’s what open data gives you, the perspective you need, to see what’s going on, and I guess, you know, for people to be able to properly make their data available then they need things like you know, the research systems and services to support them, they need the research skills and training to be able to do these things, and it goes kind of hand in hand then with open access to publications that of course should be made available.

I think metrics to measure openness are important to a certain extent at this point in time to see that we’re making some kind of progress, but they kind of seem secondary to me, but they might be useful in helping people who are involved get recognition for what they’re doing, and again, so that feeds into the Open Research rewards and incentives, and that is something senior management and university leaders could really help with, building in openness, transparency, robustness into the criteria for people’s research into promoting criteria, at the moment that’s not really there, so if you’re getting high impact publications and lots of grant money that’s all they really care about but, you know, they don’t care that if the findings in the high impact journals are shaky as hell and unlikely to be replicated, or are completely non-reproducible, and, you know, we need to have some consideration for that, and, you know, statements from universities making explicit their support of these practices would be very welcome, it would be a very small and easy thing for them to do, I get the feeling that a lot of university managers still don’t understand the problems yet, because it’s been much more of a grass roots movement, they’re less aware of what the real issues are, but if we could help them understand then get them to get behind these kind of statements that would be really helpful.

**Interviewer**: And finally, are there any particular ways that you think the university could effectively support Open Research practices and paradigms?

**Interviewee**: Yeah, well start off by making this statement to say we support Open Research practices, and give some examples of what they do, that’s the easy bit for them, that wouldn’t cost them anything, but would send a signal that they’re aware of the issues and they believe it’s important, then they could follow it up by actually making some funds available to support people in various activities, I mean they could be things like engagement workshops, supplementing open access publication fees to a certain extent would help, you know, support for training, even support to run studies that meet the criteria for robustness and reproducibility, it’s amazing what you can do with a small amount of funding, and that would really help; so for example in psychology and kind of biomedical sciences recently a new kind of publication approach called registered reports has started to take hold where people submit their paper before they collect any data so the design and analysis plan and all those kind of things are peer reviewed before you do any data collection, and once the reviewers and the editor are happy then you get in principle accepted so they’re saying we will publish your paper regardless of what the result says as long as you do, so at that point if people have in principle acceptance then they of course have to go and collect the data but it would be useful to have the opportunity to say OK we’re going to get a paper published in this great journal, could we have some money now to actually complete the research, so that would really help people, you know, who don’t have large grants who work at institutions that maybe aren’t research intensive but who are still doing good quality research, to make use of these opportunities, so things like that, I think that even a small amount of funding made available but explicitly for Open Research would be useful, yeah.

**Interviewer**: So, I think that’s everything for today, unless there are any other areas that we haven’t touched on that you think are worth discussing or raising?

**Interviewee**: I think, so working on senior management and you know Vice Chancellors and so on and trying to make them aware of the issues is challenging at the moment, it would be really great to see, so I mentioned how they would support Open Research but one thing they could also do is actually make a senior administrative or research support position, something like, you know, Lead for Research Integrity or something like that or even lead for Open Research, something like that, that they would have role to, you know, create targets for departments or educate the university more widely, and again that would be showing that they were taking these things seriously.

The other area kind of, at the other end of the scale is that we really need to support early career researchers and PhD students, they are the ones who, sort of, bear the brunt of the poorer research practices that have gone previously, there have been many occasions where I’ve seen PhD students try to, you know, take a classic finding from the literature and kind of, just as part of the training, go away and replicate that finding and then kind of build on it, replicate it, extend the research only to find that it doesn’t replicate, they can’t get it to work and they feel that, well, that I’m doing something wrong, I must be a bad researcher and no matter how many times they try they fail, they’re going to fail, of course the problem is the original study is a false positive, basically cherry picked or the data being P hacked and it’s not reliable, it’s not robust, but because it’s out there, it’s published people accept it as a genuine finding, and you know. I shudder to think at the amount of wasted resources and PhD hours, and just emotional trauma that PhD students have gone through because of situations like that, and it’s far more common than people realise, that people accept, so, yeah so both at the PhD training stage, early career researchers and then at the higher end as well, and then people generally who are involved in Open Science just doing their best to normalise these practices and publicise them and just make people aware that there’s nothing, you know, to be scared of, that these are going to help everyone in the long run, so, yeah.

**Interviewer**: Excellent. Do you have any sense of what effective training provision and support for postgraduate research students might look like?

**Interviewee**: I think, so part of it has to be a kind of some educating around some of the issues that we’ve had in the past, and some of the bad practices that have taken place, and without being aware of what the effects of those bad practices are, it might be hard to motivate them, so some education on that, and then following up well then bar the solutions to that, so things like in psychology we might be doing things like pre-registering studies and pre-registering our analysis, so that kind of thing ties the researchers hands a little bit, but it makes sure that they don’t basically torture the data to find something that’s not really there, to find a signal in noise, but when you know that a researcher has taken these steps to lay out their analysis plan, whatever they find you can have reasonable confidence that that, you know, reasonably reflects the reality, whereas, you know, a significant finding or not, that this is a fair test of what they were doing and, yeah, just things like that, and then also you know, showing them how to use tools like online data repositories to post their data, pre-print servers to put up their pre-print manuscripts, things like that and

There’s a huge amount you could do in like two or three hours with a bunch of PhD students, but of course PhD students are often at the vanguard for these things whilst they’re the ones who really get a lot out of it and they’re doing things like you know, open coding and making it like OR (Open Research) statistical packages instead of like you know, proprietary packages like [redacted] and then they use things like [open repository] and the Open Science Framework and they’re much more on top of it than, you know, academics who’ve been at it a few years and certainly the senior academics, so, yeah.

**Interviewer**: Excellent, thanks for your time today.

**Interviewee**: You’re welcome.