

Aneta Stepien:

Welcome to Reflections Podcast.

Aneta Stepien:

In the last episode of the series, we are going to focus on why disinformation and conspiracy theories are threats to scientific community, including to students and their research process.

Aneta Stepien:

I am Aneta Stepien, your host, and my guests today are Rachel Seaman and Jack Madden, second-year students at Maynooth University. Together, we are going to talk about the importance of critical reflection while dealing with information, and discuss research strategies and attitudes, which can protect students from falling victim of disinformation, which are very important research skills.

Aneta Stepien:

So hello, Rachel and Jack.

Rachel Seaman:

Hi.

Jack Madden:

Hi, Aneta. Thank you for having us.

Aneta Stepien:

Thank you for accepting the invitation and agreeing to participate in this project. Your presence is really enriching our experience, so thanks for agreeing to be here.

Aneta Stepien:

In the earlier podcast, but also through our discussion while working on this project, we have established that there are certain areas of public life where disinformation thrives. Would you be able to sum them up?

Rachel Seaman:

Yeah. It seems that disinformation sort of pops up in politics a lot, especially around election campaigns. It circulates on social media easily, especially in relation to certain celebrities or public figures around maybe more scientific issues. There's debate like the climate change, climate crisis and in technology, I suppose. We saw recently with 5G and conspiracy theories around coronavirus, so that seems to be an area that it just circulates quite easily.

Aneta Stepien:

That's great, Rachel, that you also mentioned the COVID-19. Obviously, we see intensified disinformation campaigns in relation to that.

Aneta Stepien:

I want you to think for a moment why these particular subjects attract these disinformation campaigns and fake information. But, first, let me read you a quote from a scientific publication published in 2020, which is titled, Science Denial and COVID Conspiracy Theories, so that's a quote. "Low science literacy contributes to denial of science. The relationship between anti-science viewpoints and low science literacy underscores new findings regarding the brain mechanisms that form and maintain false beliefs. The role of social media echo chambers is they amplify these theories, reinforcing false beliefs and discouraging people from seeking the truth."

Aneta Stepien:

What would be your comments to this?

Jack Madden:

I would say scientific knowledge is not always easily accessible. When people don't have the basic knowledge about an issue, they may prefer easy, acceptable lies. The complexity of scientific explanations can make them distrust scientific sources, especially when simpler explanations are so relatable. When things that are threatening like climate change or COVID-19, it's hard to believe something where a direct impact on our lives may not be obvious or visible like the Australian bush fires. People consume opinion as much as fact with blurring of the two.

Aneta Stepien:

This is really good, especially the last comment about blurring of the lines between what is opinion and what is a fact, which we see a lot on social media.

Aneta Stepien:

So this is really interesting, Jack, what you just said because as students you know well that in college, we value and promote evidence-based research. What you described, Jack, can be actually summed up as devaluing scientific knowledge, which obviously threatens and undermines the scientific community and, in a way, the process of knowledge production, which is fact-based, evidence-based, and it's very rigorous, and it takes a lot of time and, indeed, in science, we celebrate the variety of perspectives.

Aneta Stepien:

You as students know because we really pressurized you last year on coming up with different hypothesis, so we value different explanations of things, various hypothesis, while actually conspiracy theories tends towards an ultimate explanation or one explanation, and they don't allow any alternative explanation. So it's kind of negation of really what we value in scientific community and how knowledge is built on kind of bouncing the ideas against each other. But we know that the problems like climate change or COVID or even the production of vaccination, these are very complex issues for which there are no simple answers.

Jack Madden:

100%. I think the threat disinformation poses to the academic community is people beginning to distrust all sources of information. Despite credible sources proving the research, conspiracy theories question research as suggesting they try to harm people in some way by hiding information and technological advances. So this is, obviously, spreading to the academic and research level.

Jack Madden:

On the other hand, during the process of their study, our research students are also at risk of being exposed to biased, non-reliable sources when they lack skills or simply not alerted to fake information. Googling research now to get different opinions can no longer be as easy as most articles now seem to focus more on attention-seeking and entertainment than news and research.

Aneta Stepien:

Yeah. I agree, Jack.

Aneta Stepien:

Last week I was listening to RTE1 program on Deepfake, which is topical now, and it was discussing actually the famous Tik-Tok video of Tom Cruise. Basically the program was kind of covering the story, but also touching upon some deeper issues that video is showing that we pass through a threshold where we can't actually distinguish between what is real and what is not real, so it's almost like a breakthrough.

Aneta Stepien:

But interestingly in that program, the video was shown to someone who is dealing with disinformation who knows about the subject, and they immediately were able to spot that there was something not right about the video. It's something about the content, some technical glitches.

Aneta Stepien:

My point with this is to say that with education and constant self-education and engaging with the topic, this is perhaps the only way to be able to develop that healthy skepticism towards the content online and be able to call out bullshit. This is something that we can even use and think of as a concept. Calling out bullshit is actually a good concept to think about as an ability to deal with disinformation or fake news. Just check your sources and claims.

Aneta Stepien:

I remember, Rachel, when we were chatting, you mentioned that the knowledge that you gained during your first year on how to distinguish between different types of sources really helps you in your research. It really proves to be very useful. Could you talk about that?

Rachel Seaman:

Yeah. I learned a lot in the Critical Skills course, but particularly around how to develop a research process that's reliable for your benefit so that the work you're producing is good. I learned that searching on Google Scholar or by using the university library search, it's the safest and kind of the easiest option to ensure that you're not being exposed to disinformation. By using scholarly peer-reviewed articles, you know for sure that your points are supported with information that isn't biased.

Rachel Seaman:

Critical Skills, we looked at identifying those credible sources. We looked at how scientific papers, academic papers are produced and how that rigorous process is there to protect you from fake news, from disinformation. That there's no space for fake information to sort of slip through the cracks into those pieces that you then read when you search on Google Scholar with your university library.

Rachel Seaman:

Quite often I'll begin my research process maybe browsing on YouTube or just online generally to get a direction I want to go in. But the places where I really gain information on the topic, I kind of move towards the more reliable platforms and towards scholarly writings and publications.

Rachel Seaman:

I know that I have friends that didn't do Critical Skills in first year and they find that process much more difficult. They find it hard to pick and choose what's credible, what's reliable, which sources should I use. Quite often it's easy to slip into those echo chambers to decide on your idea and find sources to support it, rather than doing your research more generally. But it can be a really confusing area and trying to research without any understanding of how to refine your search or how to determine between sources, it can be really challenging to do.

Aneta Stepien:

Could you maybe briefly explain what type of sources or tier sources are there?

Rachel Seaman:

We learnt about your tier one, scholarly article. It's a peer-reviewed publication. It's the kind of thing you find by searching on Google Scholar on your library search. Then you move to tier two, credible non-academic sources like governmental reports, websites. Then tier three, you have sort of credible newspapers and websites. They maybe have a good reputation for being well-checked, but they don't go through the same peer review process, as you see with other sort of scholarly articles. Then tier four is more on certain pieces. Maybe they could be influenced by someone's particular bias or by a particular agenda, kind of like blogs or random websites.

Aneta Stepien:

That is actually really useful to know. Hopefully, our listeners will also find that. I don't know if you agree, but would you assign social media into that fourth tier, thinking about the fact that they use algorithms and so, obviously, they care about how many people are viewing their websites and how many people are reading the news?

Rachel Seaman:

Yeah. I think as well, there's sort of a big time difference. The information you get through social media is quite often there's a quick turnaround. Whether it's journalism through videos or articles that are kind of trying to click-bait and to get people to read their articles, they're not focusing on the quality of their information. They're sort of stuck on focusing on views and clicks. Whereas the time that then goes into something like a scholarly article is 10 times more than that. It's looked at by multiple people, and it can take a really long time to fact-check. So I think definitely things you might see on social media circulating, it's far away from that tier one source that you're trying to look for your research.

Aneta Stepien:

I think your comments going back to what you said about how you could see the difference between you taking, obviously, a course, which focused on developing some research skills and your peers who didn't take such course, I think it raises a important point about different levels of information literacy

that exists in students and in people generally. What do you think the consequence of that might be that we do have different levels of literacy?

Rachel Seaman:

Well, I think like with anything, something is easier to do if you understand it and you kind of know what you're trying to do. So if you don't have that basic knowledge of what different tiers are, what kind of articles are better than others, that efforts on all the reading and searching involved in thorough research, it's too much for some people and especially if you don't have something like Critical Skills to sort of point you in the right direction.

Rachel Seaman:

People can turn to platform where the scientific knowledge or facts has been adapted or simplified or interpreted in some way to make it more accessible. But the risk with that is that there may be a new agenda behind it, or the information might be presented in a different way that kind of leads you to a different conclusion.

Aneta Stepien:

I think we looked in one of our courses at spurious correlations. Obviously, these are scatter plots graphs, which show one thing influencing the other, where they only look like that, but we know this is not the case. But they can be easily manipulated and presented as actually two things influencing each other.

Aneta Stepien:

I remember one of such spurious correlations, which was quite hilarious. It showed that there's a relation between organic food and autism because it looked like there was an increase in cases of autism, which correlated with the increase of the consumption of organic food, which obviously is false. But we have to be wary about that, that even scientific data can be manipulated.

Aneta Stepien:

And I think you touched upon doing research shortcuts. So something is too complex, let's just find something simplified. So looking for sources, we might end up looking for sources anywhere on the internet and when students do that, they can easily fall into that trap of coming across fake information.

Aneta Stepien:

Of course, the expectations of the students are that they will not make such shortcuts since university is the center of knowledge production. And as you enter university, you are becoming young scholars. You are not only consuming knowledge, but you are also producing knowledge so you're contributing to knowledge production.

Aneta Stepien:

Would you agree that there is greater obligation on students to be proactive in tackling disinformation, or perhaps that there is some kind of responsibility on you as those people in that center of knowledge, of scholarship to inform yourself a bit more on and engage with that issue more than the rest of the society?

Jack Madden:

You know, I would agree because students don't follow the topic of fake news. A student must be prepared to question their own reality and delve deep into multiple topics like racism, sexism, oppression, manipulation, and many more that become intertwined with fake news. Therefore, I would say it's not a student's obligation in tackling misinformation, but an obligation as a person, as a good citizen.

Jack Madden:

Students need time to learn all the skills they can, most important skill of being that of how to be a student. When tackling topics like fake news it is a constant battle of learning and being able to endure. The process of constantly learning is about over repeatedly losing and winning. Misinformation and fake news will continue to evolve, therefore, the best way to tackle it is to realize that knowledge and learning should not end after your graduation.

Aneta Stepien:

You know, I really like that you said that the students have to kind of question their own reality, and you mentioned certain topics like racism and sexism. Why these particular topics?

Jack Madden:

I think these topics are so innately connected. Someone might experience it more than you, but you need to take the time to learn, to understand where someone else is coming from. And when you don't understand, fake news can get in there, and it can manipulate what you think. Then that can affect how you approach other people or speak to them and engage with them.

Aneta Stepien:

Perhaps you can say that there's a responsibility to become aware of things and deepen our knowledge of things that might not affect us directly, as we mentioned earlier with climate change or even COVID. Lots of people are not affected by COVID, and they think it's an invisible virus we cannot see. How do we know it exists, right?

Aneta Stepien:

Rachel, what would your answer to that question be? Is there an obligation on students?

Rachel Seaman:

Yeah, I agree with Jack completely. I think sort of an unexpected aspect of university and of education is how often you do have to face yourself and your own opinions and thoughts and biases.

Rachel Seaman:

But I remember at the beginning of my first semester a lecture saying, and it sort of always stayed with me, that a college education and all the sources that are made available to you through the library and just through your university education, it's a huge privilege. That idea has stuck with me that it is a huge privilege and it's a privileged position to be in to have all this information available to you. I think being in that position, it is kind of my job and as a student, it's our job to learn how to navigate it and to use it well and use it properly.

Aneta Stepien:

That sounds really great. I hope that other students will get as enthusiastic at gathering knowledge and that kind of responsibility, but also privilege. So thank you for sharing these really insightful comments.

Aneta Stepien:

I think we can conclude our discussion by saying that the critical approach, the critical attitude that we develop towards the content online, combined with set of hard skills like research skills and some fact-checking tools are really a powerful weapon or armor to help us to protect ourselves from disinformation. The more we know, the more we can also take action. I don't know if you agree that we can argue with someone or be able to point out to someone that they are saying something that is not fact-based, or it might come from the point of their bias, which is unchecked.

Rachel Seaman:

There's definitely been a change from first year to where we are now. I think people were sort of bursting with their own ideas at the beginning of first year, kind of wanting to share their opinion and being met by lecturers who you're not just being told you're wrong, but it's being explained to you, well, how do you know that, and where does that information come from? It makes you sort of, like I said before, really just face yourself and say, okay, where am I getting this idea or information from?

Aneta Stepien:

I think we could end the podcast by offering a toolkit, but a different one than you can find on many websites, usually within libraries of colleges and universities, which kind of offer the basic toolkit, check the image, check the authorship, the title and so on and so on. But I actually would like us to think about toolkit which takes into consideration what we discussed in the podcast today, but also in the previous podcast, so to kind of summarize these ideas and show them in a more practical way so what actually are these good attitudes that we could develop to improve our literacy with dealing with online sources?

Aneta Stepien:

The first point I was thinking about listening to you today was: do your search using safe platforms like your university libraries or Google Scholar when you are searching. I really liked that in one of your assigned readings in the first year, which is *Writing in College* by Amy Guptill, she actually says to think about the library search as problem-solving, so you are staying in that safe zone that Rachel was talking about.

Aneta Stepien:

What would other advice be?

Jack Madden:

Yeah, the advice I would give is don't be afraid to make mistakes, especially when you're starting out. Even with the library search, it's a good source, but you're going to take time to get used to it. Especially with the information landscape the way it is, it's constantly changing. You can say that even over the last year with COVID and everything moving online. So you have to give yourself time to make these mistakes and refine your own process.

Jack Madden:

But we're saying that you have to be also careful that you don't fall into echo chambers and that your own opinion doesn't just bounce around your own mind. You have to get information and sources even from friends, family, other students and just kind of see where they're coming from and bounce off your own thinking, chip away at your own process and mold it together.

Aneta Stepien:

I'm really glad, Jack, that you mentioned the echo chamber, which was our discussion in the second podcast. So I'm really happy that you reminded our listeners that we have to check if we are not staying in our own bubble and where we usually access the information.

Aneta Stepien:

Any other advice based on what we discussed today or in the previous podcasts?

Rachel Seaman:

I completely agree with what Jack is saying that you have to not be afraid to make those mistakes. But a good way to sort of guide yourself through the mistakes is familiarizing yourself with the different tiers, the different types of sources that are out there so that you feel more comfortable yourself navigating them and knowing what's been fact-checked for you and what you might need to look into a bit more.

Aneta Stepien:

Yes. And thank you, Rachel, for introducing the definitions of different tier sources for us. It's really helpful. Obviously, we talked about a social media landscape as well, so this is also something to be wary about, yes.

Rachel Seaman:

Yeah. And I think what you said as well, that it's not just about sort of research steps. It's about a research attitude that you're kind of constantly aware that there is biases in what people are saying, whether it's when you're sitting down to do your research or whether it's just something you see on Instagram or something you see in TikTok. I mean, in a digital age where so much is virtual and so much is online, it kind of is always around us in media, so just that attitude of being aware of it and being ready to kind of face it.

Aneta Stepien:

It's not research steps, it's research attitudes. Let's have it as a motto. Very good, Rachel.

Aneta Stepien:

So thank you very much, Rachel and Jack, for accepting the invitation to participate in this podcast. Thank you so much. And to our listeners, our podcast lives on the website, www.criticalskills.ie, where you can find all episodes of this series, extra readings and resources on disinformation, including a section on how to get involved in fighting disinformation if anyone is interested.

Aneta Stepien:

This transcript was exported on Mar 29, 2021 - view latest version [here](#).

This podcast is a part of the SPARK Initiative Project at Maynooth University, and today's episode was delivered to you by-

Jack Madden:

Jack.

Rachel Seaman:

Rachel.

Aneta Stepien:

And Aneta. Thank you.