

A Strategy for Reading Research Articles

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Transcript

Hello and welcome to this video.

In this video, I'll talk to you about a strategy that you can use for reading research articles, which is a something that you will have to read a lot of throughout your undergraduate degree. But about me, my name is Jonathan and I'm a professor at the University of Toronto Mississauga and I work out of the Robert Gillespie Academic Skills Centre where I talk a lot about things like reading strategies and writing skills.

I hope this video will be helpful for you, as well as interesting. And maybe even entertaining.

So the two things I'll talk about in the video are: "What are research articles?" and then a strategy for reading them.

So to start off, what are research articles?

They are essentially short pieces of writing that appear in academic journals. Could be 10, 10 to 20 pages, sometimes they're more, sometimes they're less depending on the discipline. And they appear in these things called academic journals. So here's an example of one. This is the New England Journal of Medicine.

And academic journals produce issues each year, a number of issues each year, and each issue contains a series of research articles. So a major journal like the New England Journal of Medicine will produce a new issue each week and each one of those issues will have a series of original articles. This one has 4. And some academic journals produce 4 issues per year, some 12, 1 every month. Depends on the on the field and the journal, but academic journals is where research articles appear.

Research articles, they're the most common and most important type of writing that scholars produce. Something you should get really familiar with. You'll need to understand how they work and how to read them in order to do any of your research-based assignments throughout your undergraduate career. And if you go to graduate school, you'll need to be even more familiar with them and how they work and start to even write them or contribute to them.

The reason that they're the most important and most common type of writing that scholars produce is because they are the primary means by which knowledge is advanced or produced in every discipline. Scholars write a research article when they have something new to say that somehow advances their field. So if you've ever been

listening to the news or watching the news and you hear something like, "Researchers at the University of So-and-so have discovered or have found a link between this and that," what they are doing in those news media articles is reporting on new knowledge, advances in the field that scholars have produced in research articles.

I did a quick Google search, and in June 23, 2021, this is a media article produced by CTV News: "Young adults with mild COVID-19 suffering from persistent symptom six months after infection, a study". And what they're doing here is researchers--so, "While long-term complications"--this is a quote from the media article--"While long-term complications after COVID-19 are common in hospitalized patients, "the study, conducted by researchers out of the University of Bergen in Norway, "noted that symptoms in milder cases can linger for months".

That's new knowledge. Before the study was conducted, they didn't know. They knew that COVID symptoms last and can linger in severe patients. They didn't know the degree to which these symptoms can linger in asymptomatic or mild patients. We didn't know that. They conducted a study, conducted their experiments, however they went about it, and they produced this new knowledge where they established that these symptoms can persist even in mild cases.

So that's just an example. Scholars are producing new knowledge all the time and where they share this knowledge is in research articles.

So a bit more about what these things are.

Research articles--something else you should know is that every article is evaluated by anonymous experts to ensure that they make valid contributions to the field. This is a process known as blind peer review.

So a good academic journal like the New England Journal of Medicine, when scholars conduct some research, write up an article, they send it to a journal editor and the journal editor sends it off to experts in the field who don't know who the authors are and the authors don't know who the experts in the field are. And these experts, which ensures objectivity, they evaluate whether or not this is a valid contribution to the field. They evaluate, look at the article on a number of different levels and go back to the editor and say yes, this is worth publishing, or this is worth publishing if they make so-and-so revisions. And every single one of these articles goes through this process of peer review, which is why they are a really reliable source of knowledge that you should be getting familiar with.

There are thousands and thousands of academic journals. Tens of thousands, maybe hundreds of thousands, I'm not sure. But thousands upon thousands of academic journals. And each of them produce well over a million journal articles every year. So this is why they're such an important piece and type of writing that you should get familiar with.

It could be two million--no one really knows because there's new journals coming, old journals closing down, but it's well over a million research articles that go through this long peer review process, are produced every year. And all of them in one way or another advance knowledge in their fields.

So they're super important.

Because of this, you will need to read a lot of research articles as an undergraduate student. For most of your research-based assignments, research articles are going to be one of the most important or the most important research source for those assignments.

Fortunately, and this is what I'm going to talk about in this video, because they all have this goal of producing new knowledge, they do common things. They have common features that they need to do in order to produce new knowledge. And if you know how to identify these common features, you can actually learn to understand their main purpose quite quickly, and this is the strategy I'll be talking to you about.

So let's move onto a strategy for reading research articles.

I'm going to start with an example of a research article. This is research that was done early on in the pandemic. It's an article called, "Mass testing for asymptomatic COVID-19 infection among health care workers at a large Canadian hospital", and this appeared in September 2020, volume 5 of the Journal for the Association of Medical Microbiology and Infectious Disease Canada.

And I'm going to highlight the second paragraph of the article. The second paragraph of the introduction of the article--and feel free to pause the video and read over this paragraph--but I'm going to highlight and I want you to think about why the authors say particularly these underlying bolded lines.

Why they say that.

"So, there have been many debates regarding optimal testing strategies for the general public and for healthcare workers specifically. Some experts promote mass testing of healthcare workers to reduce occupational spread," et cetera, et cetera. "Others argue that the harms of mass testing outweigh the benefits, particularly with laboratory testing constraints."

That was a big problem early in the pandemic. Some experts promote this, others argue this, others this--the other side.

"Limited studies, however, have examined the results of health care worker testing strategies that include asymptomatic persons." In one study, a London-based National Health Service did this and they found a positivity rate between 7 and 1.1 percent. Another study in the UK found a 3 percent positivity rate among asymptomatic

healthcare workers. "To our knowledge, no studies have reported uptake of testing and disease occurrence among asymptomatic health care workers in Canada." To fill this gap, this article examines exactly that: the mass asymptomatic testing campaign for a large Canadian hospital.

Why do you think the authors use these lines?

One of the points I'm going to make in this video is that this language that we find in this paragraph is super common. In fact, it's pretty essential in this type of language and saying these kinds of things are super common in research articles. And if you can understand what the authors are trying to do, you can understand key things that they're doing as a means of understanding the main purpose and point of a research article.

Well, if you paused it and thought about why you think the authors are saying this, the point I want to make is that the language here is very conversational.

When you contribute to a conversation, any good conversationalist will respond to things that have been said before. 'Oh, I like what you said over there', 'You kind of disagreed and here's why, but this person made a good point over here, so here's what I think.' Give a bit of a recap of things that have been said and then you weigh in.

This is exactly what the authors are doing here.

There's debate over there, people are talking about how we should go about testing, or testing people during the pandemic. Some people say we should just test everyone all the time or health care workers all the time, others say that's too much, we shouldn't do that. "Limited studies"--here's what, here's how I'm going to add to the conversation. "Not enough studies have looked at this", one study has done it here, another study's done it here, but we haven't done it in Canada. We're going to do this in Canada.

It's very conversational language.

Now a way of understanding this sort of conversational, interactional language that you see in a paragraph like this--which is so common in research articles--is according to Graff and Birkenstein. So these authors, Gerald Graff and Kathy Birkenstein, have wrote a book that they call, "They Say I Say: The Moves That Matter in Academic Writing".

There's many editions. I have a well-worn copy and the later editions have a third author. And they essentially argue that academic writing boils down to an interaction between 'they say' and 'I say'.

So 'they say' is typically, 'Here's what research says', 'Research articles typically', 'Research says this, this and this and they say this'. And they disagree and you describe what they say and then you respond, 'I say this', 'Here's my response'.

So this essentially suggests that academic writing--it's like a conversation. It involves summarizing what others have said and then responding to what they have said. And this is exactly what we have here.

So pause the video and try to distinguish what is 'they say' and what is 'I say'. So what is a summary of what's been said before, and what is a response to what's been said before in here?

If you've taken a minute to pause the video, here's what I have come up with.

This right here would be the 'they say' lines. 'Here's a debate, here's what a bunch of people are talking about.' One side of the debate, they say this, another side of the debate, they say that. One study did this and found this, another study found this. They're clearly summarizing what has been said before in a conversation.

The other elements of this is the 'I say' response. "Limited studies however", "It's true that limited studies have examined", is describing something that has been said before, but they're not just saying this has also been said. They're saying, "Limited studies HOWEVER", meaning not enough studies have.

This is a response.

'They're all saying this but I don't think enough people are doing this', 'I don't think enough people are saying this', so, "Limited studies have examined the results of testing strategies that include asymptomatic persons".

And then we literally get first person pronoun kind of 'I say' response. "To our knowledge, no studies have reported uptake of testing to fill this gap this article examines", and et cetera, et cetera. This is an 'I say' response to what has been said before.

I want you to focus on this 'I say' response. Here's the 'they say'.

What are the authors trying to do?

Don't think about what they're saying, think about what they're doing. Think about this as a conversational move. Whenever a good conversationalist adds to a conversation, they make a move. They, say, summarize and then they jump in somehow. They find their moment and they jump in. This is a conversational move that the authors of the article are doing. What are they trying to do?

Well, good if you said something like, 'demonstrate the urgency of this research', or 'justifying why they did what they did'--you'd be totally right. That's exactly what they're doing with this, and a good way of understanding--by the way, this is the language that I want you to really focus on when it comes, this language is essential. Identifying this

language is an essential component of the strategy for reading research articles and identifying their main purpose quickly.

What I want to suggest is that this is an article's hero narrative.

This is where, so an article, most research articles will have this kind of language which we will have a hero narrative. So the hero narrative is the place in an article's introduction where the authors identify some critical problem in previous scholarship that has not been adequately addressed. It's like this urgent thing that needs to be addressed and they present themselves as heroes who are stepping up to address this critical problem.

'This really needs to be known and no one's doing it. We're going to step up as the heroes and address this problem that really needs to be addressed'.

The hero narrative: it's the most important 'I say' move that scholars make. Really, when scholars find a hero narrative, that means they have an idea for a research article.

'We have all this knowledge in this one area. People have done this, people have done this, but no one's asking this one question, or no one's doing this one thing. Well, I'm going to step up and do that because I think it's really important and we need to do that. I'm going to be the hero.'

For our purpose in this video, this hero narrative is THE key to figuring out the main point of a research article--the key to doing this quickly. Typically, this is the kind of language they use in hero narratives.

'Although scholars have found X, more researchers need to determine Y'. 'Much progress has been made on issue X. However, more is needed to add to our knowledge on Y'. 'Despite recent advantages in scholarship on so-and-so, there is scarce research on issue Y'.

These are statements of, here's a problem out there that really needs to be attended to. And then they follow this up with a purpose statement.

'Here's how we're going to solve or address this critical problem that no one has adequately addressed'. 'The purpose of this research is to dot dot dot in one way or another fill this gap in scholarship that they've identified'.

In other words, the purpose is to advance knowledge by examining something that no one has before. Really, kind of the essential part of a research article introduction.

And that's exactly what we find here.

"Limited studies", not enough have examined testing campaigns that involve asymptomatic persons. Therefore, particularly, in Canada this has never been done,

therefore we're going to step up as heroes and conduct an asymptomatic testing campaign at a large Canadian hospital in order to identify positivity rates so we can know. So the people who have this debate over testing strategies can be better informed as to what they should do in terms of testing strategies. Keep in mind this was early in the pandemic that this research was conducted.

The hero narrative--I should say I did not come up with the hero narrative. I got this from a book by Karen Kelsky called, "The Professor is In: The Essential Guide to Turning Your Ph.D Into a Job". And in this book, the book is written to graduate students and early, early career academics as a way of helping them navigate through academic professions. And she suggests that the essential element or the most important element of a grant proposal, which is a type of writing that graduate students often have to write, and the core element of a good research grant proposal, is a, what she calls the foolproof research proposal template, the core element of that is a hero narrative.

And her hero narrative is where I came up with this for research articles. It follows the exact same pattern that I just described in research articles. So, she uses this to help graduate students know how to go about writing research proposals.

What I want to say--this is my 'I say' response, she says 'they say' this, 'I say'--what I want to say is that the hero narrative can apply to research articles in general and it can be used as a strategy to identify the main purpose of an article for undergraduate students to understand the main purpose of an article quickly.

So let's look at some examples of what I'm talking about here. I have a selection.

Here's one right here that we've talked about at length. I have a selection of research articles, I did not look hard for these. I just went to different disciplines, found some articles that might be interesting to the average undergraduate student and identified hero narratives.

So I'm going to walk you through some of these examples.

So here's an article called, "Learning from tutorials: a qualitative study of approaches to learning and perceptions of tutorial interaction". And in the final paragraph of the introduction, we have, "Notwithstanding tutorials' widespread use, little study has been done of students' experiences of tutorials..."

What words signal the hero narrative there?

"Notwithstanding" blah blah blah, comma, "little study has been done of" the benefits of tutorials from a student's perspective.

And then this is followed up with the purpose statement.

"The aim of the current study was to", dot dot dot, examine the impact of tutorials from a student's perspective--the thing that we didn't know before.

Here's an article called, "Do Peers Matter? Resistance to Peer Influence as a Mediator between Self-Esteem and Procrastination among Undergraduates". This is from the *Frontiers in Psychology* journal.

And I believe this is the second paragraph of the introduction. We have this language: "Although previous research which focused on self-esteem for explaining procrastination was useful, little attention has been paid to the function of self-esteem itself and the social pattern of procrastination."

What words signal the hero narrative here?

If you identified, "Although previous research" et cetera, et cetera, "was useful", comma, which is sort of like, it's like a backhanded insult. They're finding a problem with previous research but masking it as a compliment. Although it was useful, little attention has been paid to whatever this is. We don't need to know what that is yet. The function of self-esteem and the social pattern of procrastination.

All we need to know here is that there is a key conversational move happening. A key rhetorical move happening here, and it's really key to understanding what the main purpose of this article is.

And then this will be follow--oh, here's another line. "Although no research has examined the relationships between RPI and procrastination, RPI has recently been recognized as a variable that affects impulsivity, which was considered as a correlate of procrastination."

I don't know what a lot of that means, this is not my field. I'm much like you watching this, many of you watching this, you won't know. I don't know what RPI is and what they're talking about here, but I know conversationally there's a really important conversational move happening here. I know there's a hero narrative happening here.

No research has examined the relationship between procrastination and whatever RPI is. "Even though": so this is the urgency, this is why this is a gap in scholarship, a problem that requires attention immediately. RPI is really important for what these reasons, so therefore it probably has a big impact on procrastination amongst undergraduate students. We're going to step up as the heroes, and here we have the present study where we are going to somehow understand the relationship between procrastination and RPI.

Oh, by the way, just because I've looked over this article, RPI is resistance to peer influence. I still don't know what that means but it's an indicator of something's resistance to peer influence.

Here's another article: "Testing the Predictive Validity and Construct of Pathological Video Game Use" in Behavioral Sciences. Another article that might be interesting to undergraduates.

And in the third paragraph, we have this line. Read this through. What language here signals to you that a hero narrative is going on?

"Although some researchers have provided descriptive statistics about the pathological video gamers, additional empirical evidence is still needed. Many of the prior studies were conducted with a single sample of adolescents between 12 and 18. Hence, those studies may not generalize well to other groups, such as older adolescents who live a more independent life from parents in different educational settings. Studies are needed to test the construct in multiple samples."

If you're reading this and basically underlining or highlighting the whole paragraph, you'd be right. This paragraph is just laced with hero narrative language.

Although researchers have done this, additional evidence is needed. Many of the studies only looked at 12 to 18 year olds. They may not generalize to others like 18 to 22 year olds, let's say, undergraduate students. Studies are needed to test the construct in multiple samples.

And you can bet that the purpose statement which is coming very soon after this will be, 'In this study, we looked at pathological video game use among 12 to 18 year olds and distinguish them from 19 to 22 year olds', let's say.

Hero narrative. So now let's get explicitly to the strategy.

Now that you understand what a hero narrative is, what to look for in a research article and how to find it, let's talk about the steps you can take--the strategy you can use to read a research article.

Step 1. If you haven't guessed already, find the article's hero narrative.

In the introduction, sometimes it's called background, sometimes it's called literature review, sometimes it's just in the first section. Sometimes there's a few sections, a few introductory sections of an article. In there, you're probably going to find it at least once. Often the hero narrative is repeated throughout an article introduction and often repeated in a conclusion as well. But find that article's hero narrative.

Step 2 is, so you basically find the hero narrative and work backwards from there. Find the hero narrative then you go back and find the summary of previous research.

So because a hero narrative always starts with, 'Here's a problem with current research', 'Here's what we don't know and need to know', their articles are always going to start with a summary of previous research where they say, 'Here's what we do know'.

They can't say, 'Here's this thing that no one's looked at that we need to look at' without at least providing an overview of, 'Here's what we do know', and, 'Here's what scholars have looked at'.

So you find the hero narrative and work back. Find that overview of existing knowledge, that summary of previous research.

Before they can add to what's been said in previous research, they must identify and summarize what had--before they can identify what hasn't been said, they need to say what has been said and what has been done in research before. So find the hero narrative, find the summary of previous research.

In this article, this is the summary of previous research which we've talked about.

And then step 3, this is the most important step. Often this step is intuitive, but figure out how the author's hero narrative contributes something new to the conversation or previous research.

So the example of the asymptomatic testing article is really intuitive. Public health needs to know how to go about testing strategies. There's an urgency there. Some people think yes, some people think no. Yes to asymptomatic testing, some people say no to asymptomatic testing. What we need to do, there's an urgency, it's intuitive, we know how they're adding. Some people say yes, some people say no.

Well, in order to further this conversation and advance this debate, we need to conduct a mass asymmetric testing campaign in Canada to figure out positivity rates in order to help public health make their decisions. It's intuitive.

Figure out the hero narrative advances what currently is known, how it advances the conversation that scholars are having with each other. In that article, it's intuitive.

In a lot of articles, like for example, the article with procrastination and RPI. I don't know what that means, so you might have to go to your textbooks or other sources to look up some of this foundational knowledge. So, you're putting steps 1 and 2 together to figure out how the hero narrative contributes something new to the conversation or previous research. How their 'I say' actually says something new, that the 'they say' hasn't said before. So it often requires some work.

Sometimes, in some articles it's really intuitive and easy to grasp like in the video game one. Previous research only looked at 12 to 18 year olds. We're going to do whatever they did in the previous research on 19 to 22 year olds to distinguish between the two.

That's fairly intuitive, but often because research articles are written by experts for experts as they share new advances in knowledge in the field, you as undergraduates, me as someone who doesn't know what RPI is and doesn't know about biology or sociology or a lot of these disciplines, will need to look up some of these key terms.

So sometimes step 3, which is the most important step, sometimes it's intuitive but often you'll have to look up some key terms in order to figure out, in order to put steps 1 and 2 together. But once you've done that, then the last 2 steps are pretty simple. Once you've figured out how the hero narrative contributes something new to the conversation, you have figured out the main purpose, the main thing that they are trying to figure out with their research and the main contribution that they want to make to the current field.

So once you figure that out, you can use it like as an interpretive key to kind of unlock what's going on in the rest of the article.

So you can look at every section and every paragraph and ask, how does this advance the hero narrative?

And depending on what you need from it. You will need, for any research-based assignment, you will need certain things from a research article. You may need the results, you may need their main conclusion only, in which case you can skip from hero narrative right to the main conclusion at the end.

Research has been conducted where they compared expert readers with non-expert readers when it comes to research articles, and one of the things they found that expert readers do is they read non-linearly. They don't start from the beginning like it's a novel and then they just read through to the end. They jump around, because they know what to look for and where to get it from the research article.

You as undergraduates who are new to a field and not experts in the field: first thing to do, find that hero narrative, figure out how it advances the conversation, then use that as an interpretive key to jump around the article. You might just need the conclusion. If you skip ahead to that asymptomatic testing article, they found a 0.2 percent positivity rate. That's all I need from that article. Hero narrative, 0.2 positivity rate. And if I'm writing an essay with a thesis about what public health should do in terms of testing strategies, it's probably all I need for that. If I'm writing an article critique though, then I'd probably want to read other sections more carefully, especially the methods, and describe that and somehow critique that.

So depending on what you need from the article, read whatever you need from the article starting with that hero narrative. Use that hero narrative to understand the rest of the article and just take what you need from it.

All right, that's all I have to share in this video. I hope this has been helpful for you.

Don't be afraid to contact us at the RGASC. We're on Instagram, Twitter and Facebook.

Thanks for watching and I hope this was helpful.