Report & Portfolio Development

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Initialized: March 5, 2026

Entry TC-005 — YouTube: Dr. Alianna J. Maren

Source Metadata

Entry ID	TC-005
Category	Report & Portfolio Development
Source Type	YouTube Video — Instructional
Channel	Alianna J. Maren
Title	Writing Your Research Paper Abstract to Get Reader's Attention — Part 1
Date Published	September 17, 2020
Views	865 (as of March 2026)
URL	https://www.youtube.com/watch?v=12RqvpcQ9VE&list=PLUf2R_am1DRL-eGT0I67t97ujEZB_5zn_&index=6
Runtime	Approximately 8.5 minutes
Transcript Source	Provided by Dr. Alianna J. Maren; captured March 2026. Author-supplied chapter titles preserved as section headings.
Curator	Dr. Alianna J. Maren / Claude (Anthropic) — see Assessment below
Themesis Cross-Reference	Primary source for Abstract companion task in Gate 3 and Abstract revision in Gate 7. Directly follows TC-004 (Problem Statement). Playlist index 6. Cross-reference: 'Assignment 1 is NOT a Good Title' chapter connects back to Gate 2 Title Page Review.

Curator's Assessment

This assessment was developed collaboratively by Dr. Alianna J. Maren and Claude (Anthropic) on March 5, 2026, in the context of building the Themesis Report & Portfolio Development repository. It represents an informed but not exhaustive reading of the transcript and should be updated as the repository evolves.

> *"Writing your abstract is the toughest thing about writing your paper. The next toughest is the intro. You want to be in as good and clear and calm and refreshed a state of mind as you possibly can when you're writing your abstract — which is why I'm starting mine typically first thing in the day with really fabulous coffee."*

What This Video Gets Exactly Right

This video is a masterclass in live revision — and that is its most valuable pedagogical feature. Rather than describing abstract-writing principles in the abstract, Dr. Maren takes her own real, imperfect abstract and revises it in real time, talking through every decision as she makes it. Students watching this are not observing a finished product being explained; they are observing a working writer catching what is wrong and fixing it. That is a fundamentally different and more useful learning experience.

The before-and-after comparison of the opening sentences is precise and instructive. The original opening — beginning with an invented date and a method name — buries the problem and leads with a historical fact that most readers have no reason to care about. The revised opening — beginning with 'one of the biggest challenges in characterizing 2D image topographies' — leads immediately with the problem, giving readers an immediate reason to continue. The structural principle illustrated here is simple and transferable: open with the problem, not with the background.

The two-sentence structure of the revised abstract opening is a clean, teachable model: sentence one states the problem; sentence two introduces the method that addresses it. This is the minimum viable abstract opening — it earns the reader's attention and orients them to what follows. Students who internalize this structure will produce significantly stronger abstracts than those who begin with field context or historical background.

The homework sequence at the close is practically well-ordered and connects directly to the Gate framework: format your paper, write a meaningful title, start your abstract. These are precisely the tasks covered in Gate 1 (formatting), Gate 2 (title), and the Gate 3 Abstract companion task. The video independently arrives at the same sequencing logic as the AI Portfolio Coach gate structure.

The timing guidance — write your abstract Friday or Saturday morning, not Sunday night at 11:39 — is straightforward advice that students genuinely need to hear. It normalizes the idea that the abstract requires multiple revision rounds and a clear mental state, not a last-minute sprint.

The cross-reference to the 'Assignment 1 is NOT a Good Title' chapter is a direct connection back to the Gate 2 Title Page Review. Dr. Maren makes the point firmly: 'Assignment 1 no longer cuts it — putting down Assignment 1 as a title is going to get you some serious points off.' This reinforces the professional framing established in Gate 2 and reminds students that these are not separate concerns but parts of the same professional presentation.

Where Additional Nuance Is Warranted

This is Part 1 of the abstract series and ends before the full abstract structure is developed. It covers the opening two sentences — problem statement and method introduction — but does not address the remainder: data, methods summary, results, analysis and interpretation. The TC-004 video mentions the one-sentence-per-element structure for the body of the abstract; TC-005 does not yet reach that point. Gate 3 Abstract companion task guidance should draw on both TC-004 and TC-005, and note that a Part 2 video likely covers the remaining abstract elements.

The live revision approach, while excellent pedagogically, means the video does not present a single clean framework that students can memorize and apply. Gate 3 Facilitator Notes should distill the implicit framework into an explicit checklist: (1) open with the problem, (2) introduce the method that addresses it, (3) summarize data and methods in one sentence each, (4) summarize results in one sentence, (5) summarize analysis and interpretation in one sentence. No room for broad field context — that belongs in the Introduction.

The 'exalted state of consciousness' opening — fueled by magnificent local coffee — is charming and humanizing, and the orchids-and-coffee framing establishes a warm personal tone. It is worth noting for Gate 3 coaching: Dr. Maren's point is not about coffee, it is about mental clarity and unhurried attention. The abstract deserves your best thinking, not your leftover energy.

Relevance to the AI Portfolio Coach Gate Framework

TC-005 is the primary source for the Abstract companion task introduced in Gate 3 and revisited in Gate 7. Its key contributions to the repository are:

- The two-sentence model for the abstract opening: problem statement first, method introduction second. This is the minimum viable opening and the standard Claude should apply when reviewing a student's abstract draft in Gate 3.
- The live revision demonstration — before and after — as a model for how Claude should coach abstract revision: read the current opening, identify what it leads with, ask whether the problem appears in the first sentence.
- The timing and state-of-mind guidance: multiple revision rounds, clear mental state, not a last-minute task. Gate 3 should establish this expectation explicitly when introducing the Abstract companion task.
- The 'Assignment 1' reinforcement — connecting abstract and title quality to the same professional presentation standard established in Gate 2.
- The homework sequence — format, title, abstract — as independent confirmation that the AI Portfolio Coach gate ordering is correct.

CURATOR'S NOTE — Update trigger: *This is Part 1 of the abstract series. A Part 2 video exists in the playlist and should be catalogued as TC-006 when the transcript is available. Gate 3 Abstract companion task guidance is incomplete without TC-006 — the full abstract structure (data, methods, results, analysis) is not yet covered in TC-005 alone. Review this entry when TC-006 is added to confirm cross-references are complete.*

Full Transcript

Transcript captured from YouTube auto-captions. Timestamp markers and author-supplied chapter titles preserved as section headings. Minor punctuation added for readability. Source: https://www.youtube.com/watch?v=12RqvpcQ9VE

Orchids and Coffee — Opening [0:00]

Good morning — it may be any time during the day for you, but right now it's very early in the morning for me, and I'm fueled by some magnificent local coffee. So I'm in a somewhat exalted state of consciousness — not necessarily spiritual, but certainly feeling much better than average. And it's a great time to be kicking in on this abstract revision process that I promised you in the last YouTube video. Hello, I'm Dr. Alianna J. Maren — shortened to Dr. AJ — and you're here with me in AI After Hours. But right now we're not doing AI — we're taking a look at how to write your research paper. And this is one of a series of videos on that subject.

Report Organization: High-Level & Intro [0:46]

The most immediately preceding video was how to structure your paper with the information pyramid at the very beginning. If you recall, we went through a number of steps in developing the initial information pyramid. But the essence of today's video is that we're going to take an abstract that I previously wrote — and it's for an archive publication, I'll slip in the reference here shortly — but right now I'm reworking it and it's going to go into a journal.

New Paper for Entropy Journal [1:19]

The journal is Entropy, and it's produced by MDPI Press. They're a fine organization — they have many, many journals under their umbrella, and a very good editorial staff and quality reviewers. It's pretty solid. They're running a special issue on entropy in the brain, and this is one of my favorite topics. So I'm taking my work that I've done over the past four years since I last published in an MDPI journal — I'm reworking the results that I put into a previous archive publication, which was simply to stash everything into an archival repository. Now we're going to go into a journal, and I'm going to put a lot more attention on making it attractive to readers. So essentially you're looking over my shoulder as I go through this process.

Source for My Original Abstract — Reworking My Abstract [2:15]

Now I'm not trying to write my abstract from scratch. I already have an abstract — it's fairly decent, but it's not compelling. In fact, if I was reading my own work I'd kind of go, 'Yeah, it's

like put it in a stash someplace so I don't lose track of it, but I'm not going to stay up all night reading it — it's not that gripping.' So the important first thing, as we discussed in the previous video, is that we need a strong problem statement. Unless there's a strong problem statement — a compelling reason to read right at the very beginning — we're not going to bother. We just have too much to do.

Writing Your Abstract: Step-by-Step [2:56]

So I'm going to read to you my initial first couple of lines in this abstract and we'll see what we can do about it. And by the way, I'm doing this fairly real time. The original abstract reads as follows — at least the first two sentences: 'Despite being invented in 1951 by R. Kikuchi, the 2D Cluster Variation Method (CVM) has not yet received attention. Nevertheless, this method can usefully characterize 2D topographies using just two parameters — the activation enthalpy and the interaction enthalpy.' And it goes on. I mean, nice — but boring. It's certainly not going to make any heads turn while it walks down the runway. So here's the first revision — and I'm focusing right now on that first sentence and crafting a problem statement. Here goes: 'One of the biggest challenges in characterizing 2D image topographies is finding a low-dimensional parameter set that can succinctly describe inherent image patterns. The 2D Cluster Variation Method (CVM), initially developed by Kikuchi in 1951, can characterize very local image pattern distributions, which then further influence larger-scale patterns.' Despite being invented — okay, so now I'm rolling into the next sentences which I haven't deleted yet.

The Beginning — What the Revision Does [4:29]

So what I've done here is to create a strong problem statement in that opening sentence — the problem being that we're trying to characterize 2D image topographies with a very few number of parameters. That's the kicker: just a couple of parameters, but we're describing the nature of the image. Now that's worth paying attention to — that's important. So the second sentence introduces a method, it introduces an approach that — according to what I'm going to describe in this paper — solves the problem. So this is much better. I'm not saying it's perfect; we may have a revision to this down the road, but it's a good starting place. One more thing: I've not yet tried to broaden the scope, in the sense that I haven't yet identified the different kinds of images that we might work with, or how this could be used in some sort of machine learning system or any other kind of device. And that's actually a little bit way down the road because this is early-stage research. But I am talking about how the 2D CVM, which just deals with very local patterns, influences the larger-scale patterns. Now that's an important point to make, because as I saw when I started running experimental trials, there's some interesting phenomena — and we can abstract out of the local pattern description into a typical larger scale that's useful and interesting.

Instructions for Authors — What Comes Next [6:07]

Let's close for now, and we'll pick up on this with the remainder of this abstract in the next video. What we've got so far is the first two sentences — the problem statement and the methodology. Now in our next video, what we're going to do is take a look at guidelines to authors. You will always find them — you're going to find them in a journal where they actually

have guidelines to authors, you're going to find them from your professor if you're in a course. Somebody's going to tell you what they want. So we'll do that next round.

Homework [6:43]

Between now and then, as we close out, I'm actually going to introduce homework assignments. These are mostly for my students, but if you're attempting to cultivate your own capabilities, you might just put these into practice. Three steps for right now. Step one: format your paper. If you're enrolled in Northwestern University's Master of Science in Data Science program, you'll find that your professor has some sort of template that they can give you — because we've all gotten into the Chicago style and we're using a consistent approach right now. Second: put down an interesting, meaningful, preferably somewhat attention-getting title.

'Assignment 1' Is NOT a Good Title [7:24]

As a word to my students: 'Assignment 1' no longer cuts it. Putting down 'Assignment 1' as a title is going to get you some serious points off — just so you know. Now step three: start your abstract. Remember my starting off this video telling you about this wonderful cup of coffee that I was getting and how I was feeling so very good? Well, writing your abstract is the toughest thing about writing your paper. The next toughest is the intro, and then after that is the very end where you do your conclusions. You want to be in as good and clear and calm and refreshed a state of mind as you possibly can when you're writing your abstract — which is why I'm starting mine typically first thing in the day with really fabulous coffee. You might want to do the same.

Start Early! [8:19]

So if your paper is due at midnight on Sunday, the time to start writing your abstract is not 11:39 Sunday night. Try to do it like maybe Friday morning, Saturday morning — after you've woken up, you've slept on it, you've thought about it, you've mulled it over. Fresh coffee, clear head, look at it again. Maybe a little bit of tweaking Sunday morning — the same. Figure on multiple tweaking rounds with your abstract, because it's the most important part of your entire paper. Thank you folks — I'll see you again in the next video.