In this next module, we're going to change modes.,For the rest of this unit, we're going to talk about the writing process itself.,How you approach writing can greatly influence your enjoyment of the process, as well as how the peace comes out.,At the end of the day,,I'm going to focus on scientific manuscripts, but the steps I'm outlining here would apply to any type of writing for scientific manuscripts.,I'm talking about the point at which you have done your experiments and you have your data and results in hand.,At that point, you are ready to write up your manuscript.,I like to break what happens next into three distinct phases.,And I really do separate these three phases in my head.,One of the major problems I think scientists have one writing is that they convolute these three steps.,This makes the writing harder and less efficient, and it reduces the quality of the final product.,Writing starts with what I call the pre writing phase.,That's when you're collecting and synthesizing and organizing all your facts, all the information that's going to go into your story or manuscript.,You're working out the taco messages.,You're figuring out the flow of ideas in the organization.,A lot of people just skip right over this step.,They think that it will be more efficient to just jump right into the writing and figure out what they're trying to say as they go along.,But when you convolute pre writing and writing, it's extremely inefficient.,It looks something like this. You sit down to write your production section.,You pop open that blank word document and write your 1st sentence.,since you haven't done any free writing, that statistic is not at your fingertips.,So you toggle over to pub Med and try to find the paper, and maybe you can't find it in pub Med, so you switch over to Google and find it there.,Then you pop up in the PDF, but the statistic is not in the abstract, so you've got to skim through the whole PDF.,Finally, you find the statistic, and you pop it into your ongoing draft.,Notice that at this point it's taken you about 20 or 30 min to write two sentences. This is a painful and inefficient way to write, because you're not actually doing any writing.,You're just fishing around for information.,When you write this way, you also tend to pay attention to just one detail at a time,, and you lose the big picture scope of the story, so you end up with a manuscript that's very disorganized and unfocused.,And of course, when you're toggling over to Google or Pubmed, there's a tendency to get distracted, right?,You are taking your focus away from writing, and writing is something that takes a lot of focus and energy.,But once you're over to Google, well, you might as well go to Amazon and order those supplies you need.,Then you go check your email, then you check Facebook, then Google News.,You end up being distracted. So I encourage you to invest time in the pre writing step.,Get all your information at your fingertips and organize it.,Lay out what's going into your piece ahead of time before you open up that blank word document.,The 2nd step is writing the 1st draft.,This is when you actually sit down at the computer, open up that blank word document and compose prose.,For most people, this is the most difficult step.,This is the hard part of writing, where you actually have to put your ideas into complete sentences.,I'm going to give you some tips to make this step a little bit easier.,Then the 3rd step is the revision.,After you've written a 1st draft, you go back and you revise it to make it sound better.,Now, again, a lot of people convolute steps two and three.,Here. They try to write and revise at the same time.,And this is extremely inefficient. A lot of students tell me, I can't move on to the next sentence until I get the last sentence perfect.,And I used to be guilty of this too, so I understand that impulse to want to be a perfectionist.,But this is a painful way to write.,It takes forever, and you end up with something disorganized and unfocused because you're paying so much attention to the small prose details that you lose sight of the big picture. It's better to write your 1st draft quickly, inefficiently, just get your ideas down, and then go back and revise, go back and make it sound prettier.,I want you to think about your own writing process.,Ask yourself, what percent of your writing time do you spend in each one of these steps, pre writing versus writing versus revision?,Take a minute and reflect on that.,Pause the video if you need to think about how you allocate your time.,I've pulled students on this before, and most students tell me that they spend the majority of their time on step number two, the writing, the 1st draft step.,Actually,,I think is a mistake to spend too much time on the writing step, the part where you are composing prose at the computer.,I'm going to try to shake up your writing process by telling you what I think you should be aiming for in terms of how you allocate your time.,This may surprise some of you.,This is what I think it should be roughly.,Obviously, these percentages are not exact, but this should give you a sense of where I think you should put your emphasis.,I think that you need to spend a lot of time prewriting.,In fact, the majority of your time should be spent in this prewriting stage.,I'll talk in more detail about what happens during pre writing in the next module.,But most people aren't spending enough time there.,Then notice that I allocated the smallest amount of time to writing the 1st draft.,That may surprise some of you, because here I am a writing teacher and telling you to spend less time writing.,But what I'm trying to get you to do is to write in a way that is more efficient.,If you are ready to write, and you're not trying to revise and write at the same time, you can write much more quickly.,Writing prose takes the most focus and energy.,It's the hardest step, so it's more efficient and less painful if you spend less time in that step.,And then finally, I've put 20% for revision, because I want to encourage you to spend more time revising than writing.,The 1st draft. Revision is where elegance happens in writing. I'll show you some examples of what I mean by this later, but these proportions really do reflect how I allocate my time when I'm writing a piece.,Through experience, I found that writing is most efficient for me if I divide my time this way.,In the next three modules, I'm going to go through each of these steps and tell you exactly what should happen in each of these steps.

在下一个模块中，我们将更改模式。在本单元的其余部分，我们将讨论写作过程本身。你如何处理写作会极大地影响你对写作过程的享受以及这篇文章在一天结束时的发表方式。我将把重点放在科学手稿上。但是我在这里概述的步骤适用于任何类型的写作。对于科学手稿，我说的是你完成实验并且手头有数据和结果的那一刻。那时你就准备好写稿件了。我喜欢将接下来发生的事情分成三个不同的阶段，我确实在脑海中将这三个阶段分开。我认为科学家在写作时遇到的主要问题之一是他们把这三个步骤搞得一团糟。这使写作变得更加困难，效率降低，并降低了最终产品的质量。写作从我所谓的预写阶段开始。那时，你要收集、综合和整理所有事实，以及将要包含在你的故事或手稿中的所有信息。你正在整理带回家的消息。你正在弄清楚思想的流程和组织。很多人只是直接跳过这一步。他们认为这样会更有效率，然后直接进入写作阶段，边走边弄清楚自己想说什么。但是，当你错综复杂的预写和写作时，效率极低。它看起来像这样，你坐下来写你的介绍部分，你弹出那个空白的Word文档然后写下你的第一句话。你开始写第二句话，你意识到你需要琼斯等人在那篇论文中写的具体统计数据。由于您尚未进行任何预写，因此该统计数据触手可及。所以你切换到PubMed然后试着去找报纸。也许你在PubMed中找不到它，所以你可以切换到Google然后在那里找到它。然后你会弹出PDF，但统计数据不是抽象的。因此，你必须浏览整个PDF。最后，你找到统计数据，然后将其弹出到正在进行的草稿中。请注意，此时，你花了大约20或30分钟才写出两句话。这是一种痛苦且效率低下的写作方式。因为你实际上没有写任何东西，所以你只是在四处寻找信息。当你用这种方式写作时，你也倾向于一次只关注一个细节，从而失去了故事的大局范围。因此，你最终得到的手稿非常杂乱无章，没有重点。当然，当你切换到Google或PubMed时，人们往往会分散注意力，对吧？你正在将注意力从写作上移开，而写作需要大量的注意力和精力。但是，一旦你去了谷歌，你不妨去亚马逊订购你需要的物资，然后去查看电子邮件，然后查看Facebook，然后查看谷歌新闻。你最终会被分散注意力。因此，我鼓励你在预写步骤上投入时间。让您的所有信息触手可及，并进行整理。在打开那个空白的Word文档之前，请提前列出文章中的内容。第二步是写第一稿。这是你真正坐在电脑前，打开那个空白的Word文档，然后写散文的时候。对于大多数人来说，这是最困难的一步。这是写作中最困难的部分，你实际上必须把你的想法写成完整的句子。我将给你一些小贴士，让这一步变得更容易一些。然后第三步是修订。写完初稿后，你回去修改它以使其听起来更好。再说一遍，很多人在这里错综复杂的第二步和第三步。他们尝试同时写作和修改，但效率极低。很多学生告诉我，在我把最后一句话弄得完美之前，我无法转到下一句话。我曾经也为此感到内疚，所以我理解那种想要成为完美主义者的冲动，但这是一种痛苦的写作方式。这需要很长时间，你最终会得到一些杂乱无章、没有注意力的东西，因为你过于关注散文的小细节，以至于你忽视了大局。最好快速、高效地写出你的初稿。只要把你的想法写下来然后回去修改即可。回去让它听起来更漂亮。我想让你考虑一下自己的写作过程。问问自己，在每个步骤中花费了多少写作时间。预写与写作与修订。花点时间反思一下。如果需要，可以暂停视频。想想你是如何分配时间的。我之前曾就此对学生进行过民意调查，大多数学生告诉我，他们把大部分时间都花在了第二步上。撰写第一稿的步骤。实际上，我认为在写作步骤上花太多时间是错误的。你在电脑前写散文的部分。我将尝试改变你的写作过程，告诉你在如何分配时间方面我认为你应该瞄准什么。这可能会让你们中的一些人感到惊讶。我认为应该是大致的样子。显然，这些百分比并不准确，但这应该让你了解我认为你应该把重点放在哪里。我认为你需要花很多时间进行预写。实际上，你的大部分时间都应该花在这个预写阶段。我将在下一个模块中更详细地讨论预写过程中会发生什么，但是大多数人花在那里的时间还不够。然后请注意，我花在写初稿上的时间最少。这可能会让你们中的一些人感到惊讶，因为我是一名写作老师，告诉你减少写作时间。但是我想让你做的是用一种更有效的方式写作。如果你已经准备好写作了，但又不想同时修改和写作，你可以更快地写作。写散文需要最多的注意力和精力，这是最难的一步。因此，如果你在这一步上花更少的时间，效率更高，痛苦也更少。最后，我把20％用于修订，因为我想鼓励你花更多的时间进行修改，而不是写初稿。修订是写作中优雅的地方。稍后我会给你看一些例子来说明我的意思。但是这些比例确实反映了我在写一篇文章时是如何分配时间的。通过经验，我发现如果我以这种方式分配时间，写作对我来说效率最高。在接下来的三个模块中，我将逐一介绍这些步骤，并告诉你每个步骤中应该发生什么。