PROFESSIONAL INTEGRITY: BEST PRACTICES FOR PUBLISHING YOUR RESEARCH

Text Preparation and Avoiding Plagiarism

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Collaborating Partners

American Physiological Society

Biomedical Engineering Society

Society for Biological Engineering
An AIChE Technological Community

Preparing Text and Avoiding Plagiarism

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Preparing Text and Avoiding Plagiarism Module

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I. Pedagogy

This module is designed to promote best practices in publication ethics for life scientists and biomedical engineers who publish research papers. The goal is for students to not only understand professional standards of practice in research manuscript development but also to be able to apply these standards to their own work AND to be prepared to teach them to their own students in the future. Toward that end, this module employs student-centered learning strategies that engage students across the spectrum of Bloom's taxonomy (see below). For best impact, students should not simply sit and listen or read and answer questions. Instead, we encourage you to use multiple teaching methods and activities that engage students in actively exploring the topic. Some suggestions you will find in this module include:

- **Interactive Lecture:** The lecture slides and notes include a number of places to stop and engage students in working out a problem, discussing a policy, or reviewing a case study.
- **Think/Pair/Share:** Often part of an Interactive Lecture, students are given a problem to address first on their own, and then they are asked to share their responses with a partner, followed by sharing with the whole class.
- **Voting Cards:** Particularly when discussing ethics issues, students prefer not to raise their hands to indicate their answer to a group question. Consider using voting cards with a simple large-print "Yes" on one side and "No" on the other. Everyone raises their hands and votes and you can quickly visualize the class response. An alternative is "thumbs up/thumbs down" but this is harder to see.
- **My Best Practice Checklists:** These are working documents each student develops to use now and in the future as their personal checklists of best practice in publication ethics.
- **PASS IT ON:** As part of their My Best Practice Checklists, students should make a plan for teaching publication ethics to their future trainees.

Instructors can pick and choose which activities and resources they want to use from the module. However, we encourage you to consider using the Learning Cycle approach because of its rich opportunities for student-centered learning. Alternatively, the Homework/Interactive Lecture/Activities (HILA) approach can be used when class time is limited. Both approaches are outlined below.

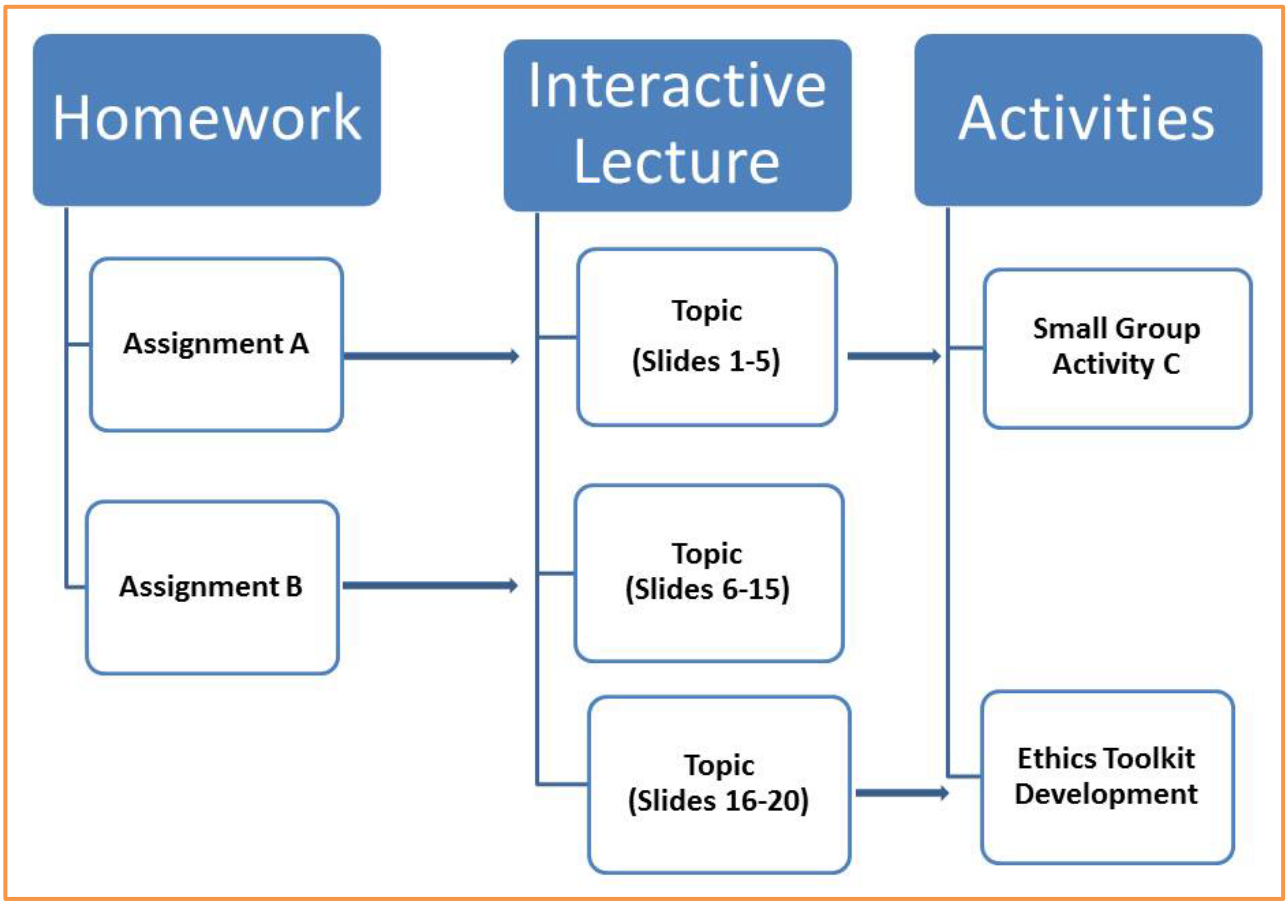
Learning Cycle

- **Engage**: Piques students' interest in the topic and poses questions or issues that capture their thinking. *Examples:* News articles on ethics violations and examples of manipulated figures.
- **Explore**: Students explore and ask questions, investigate via inquiry, make observations, and test hypotheses. Students should generate additional questions by the end of the exploration phase. *Examples:* Case study that students must try to resolve individually or in groups without additional information on professional standards of practice (these would be readdressed in the elaborate phase below), compare CV's of researchers, interpret letters from editors including comments/questions from reviewers, or write a letter to the editor describing figure manipulation in a manuscript to be submitted.

- **Explain**: Students and instructors use questioning/discussion, reference materials (print and online), expert presentations, and other resources to gain a better understanding of the key principles of the lesson and how they apply to the questions raised by students in the explore phase.
- **Elaborate**: Students apply what they have learned to real scenarios. *Examples:* Students revise their response to the explore phase case study using the principles and knowledge gained in the explain phase, and then do the same for a new case study or, ideally, their own work. Create a personal action plan or checklist for professional standards to use in the future.
- **Evaluate**: Evaluation occurs through each phase, with evidence collected of both student understanding of key principles and information and their ability to apply it to new situations and problems. *Examples:* Changes in approach to case study before and after the explain phase. Personal action plan/checklist addresses the key principles of professional practice. Key principles are applied appropriately to new case studies. Can also include quizzes or tests of content knowledge of professional standards of practice.

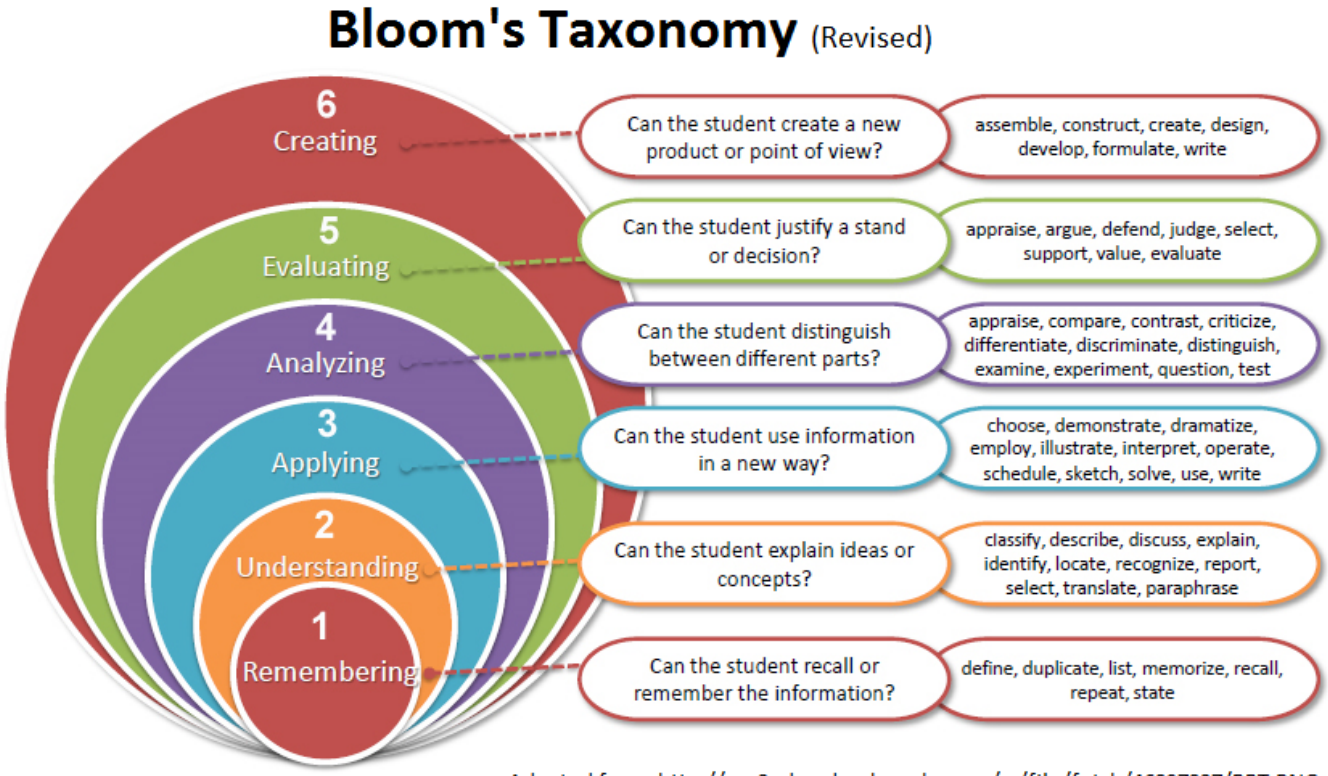
Homework/Interactive Lecture/Activities (HILA)

Homework activities are discussed either during the Interactive Lecture or during follow up activities.



Bloom's Taxonomy

Bloom's Taxonomy (established 1956, revised 2001) helps educators more effectively structure their teaching, student learning, and assessment of skills and knowledge. Organizing learning objectives by Blooms Taxonomy helps educators assure that lessons do not focus solely on memorizing basic knowledge but also challenge students to apply what they learn, evaluate new situations, and create solutions to challenging problems. Higher level objectives engage students in learning situations that are more complex and abstract. Overall, the professional ethics lessons in this series of seven modules focus strongly on the higher Bloom's levels (5 – Evaluating (20%) and 6 – Creating (21%)) in addition to including objectives for basic knowledge (Level 2 – Understanding (30%)) and application (Level 3 – Applying (14%)).



Adapted from: http://pcs2ndgrade.pbworks.com/w/file/fetch/46897827/RBT.PNG

Student Handouts

The student section of this guide is formatted for easy duplication. This guide is also available as an MS Word (.doc) file (See References). We encourage you to provide both printed and .doc formats to students. The lessons are designed to help students create a personalized guide for their future work; developing their notes and best practices plans in a .doc format will help students use as well as modify their plans in the future.

II. Module Objectives

Students will be able to:	Bloom's Levels
1. Define plagiarism and self-plagiarism and correctly identify examples of each.	1, 2
2. Identify who the stakeholders are in the publication process and predict how each stakeholder type would be affected by plagiarized content (readers, journals, the original author(s) and institution(s), each of the co-author(s) and their institution(s), and other collaborators).	2, 6
3. Develop a best practices checklist for preparing text, including how to cite sources properly, in order to avoid plagiarism and self-plagiarism.	5
4. Apply text preparation best practices checklist to develop appropriate and constructive feedback to give to co-authors during the preparation and revision of a manuscript concerning plagiarism and self-plagiarism.	3, 5
5. Develop a best practices checklist of the steps to take if an incident of plagiarism is suspected. Justify how these steps might differ depending on the stakeholder's role. Apply these best practices to common scenarios.	3, 5, 6
6. Identify text preparation resources at your institution and online.	2

III. Instructor Guide

Target Audience
This module can be used with both graduate students and undergraduate students. It was initially designed for early career graduate students in biological science, medical science, or biological engineering graduate programs. Graduate students are likely to be somewhat aware of the academic publishing process but may not have had first-hand experience. Undergraduate students engaged in research and scientific writing may also find the materials useful.

Instructor Tips
1) Select the objectives and related activities that you want to address. Edit the PowerPoint Presentation to include the activities and objectives selected.
2) The script/key points for the presentation are in the notes section of the PowerPoint slides.
3) We encourage you to share 1-2 minute personal stories, when appropriate. Keep the stories positive (i.e., "I had a dilemma and I utilized a best practice…dilemma resolved").
4) Allow students to reach conclusions on their own. You are their guide through this class. Facilitate discussion to keep them on task and within time limits.
5) **Be sure to include the "My Checklist" activity in each unit. This is the major "take away" lesson through which students integrate what they have learned in order to develop: 1) their personal checklists for ethical writing; and 2) their plans for teaching publication ethics best practices to their future trainees.**

Teaching Approaches
Learning Cycle and Homework/Interactive Lecture/Activities (HILA) approaches are outlined below.

Evaluation Rubrics and Test Questions
Evaluation rubrics for assignments and test questions are available on request from the authors (email: education@the-aps.org).

Preparing Text and Avoiding Plagiarism
Learning Cycle

Engage	• Students complete **Activity A**: What is Plagiarism? but do not receive feedback until Explain phase. • Students complete **Activity C**: Two-Minute Challenges, Part 1 to discuss below.
Explore	•Students complete **Activity B**: Truth or Consequences and share their findings. •Students complete **Activity G**: Institutional Writing Resources and bring to class •Students begin **Activity F**: Methdology Analysis by writing up the methodology of one of their experiments and bringing it to class.
Explain	• Present **Interactive Lecture** and review: • **Activity A**: What Exactly is Plagiarism? and • **Activity G**: Institutional Writing Resources.
Elaborate	• Do **Activity E**: Best Practices for Ethical Writing and Note Taking. • Review **Activity F**: Methodology Analysis. • Do **Activity C**: Two-Minute Challenges in class.
Evaluate	• **Activity D**: My Text Preparation and Collaborations Checklist. • Quiz/test questions and answer keys are available from the authors.

Preparing Text and Avoiding Plagiarism
Homework/Interactive Lecture/Activities

Homework

- Institutional Writing Resources (Activity F)

Presentation

- Share writing resources available at your institution (Slide 5 of PPT)
- What is your definition of plagiarism? (Slides 6 -11 of PPT)
- Writing the Methods section (Slides 12-13 of PPT)
- Outcomes of Plagiarism NPR Audio Report - Plagiarism at Ohio University (Slides 14-18 of PPT)
- Best practices for preparing text (Slides 19-28 of PPT)
- What Exactly is Plagiarism? (Slide 29 of PPT; Activity A)
- Collaboration and Plagiarism of Ideas (Slides 30–36 of PPT)

Activities

- Truth or Consequences (Activity B)
- Two-Minute Challenges (Activity C)
- My Text Preparation and Collaborations Checklist (Activity D)
- Best Practices for Ethical Writing/Note Taking Template (Activity E)

Activity A
What Exactly is Plagiarism?

Purpose This activity will allow students to assess whether they are able to detect writing practices that could be considered to be plagiarism. After completing this activity, students will be able to identify examples of plagiarism.

Objective
1. Define plagiarism and self-plagiarism and correctly identify examples of each.

Procedure **Learning Cycle:** Students complete the Activity A worksheet as an Engage activity. Instructor discusses their responses during the Interactive Lecture. Be sure to ask students to explain why each example is or is not considered plagiarism.
HILA: Students complete the Activity A worksheet during the Interactive Lecture, then instructor reviews responses with them. Be sure to ask students to explain why each example is or is not considered plagiarism.

Answer Key

Essay Extract	Plagiarism
1. During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced.	**Y**
2. During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced. (Rang et al., 1999)	**Y**
3. "During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced."(Rang et al., 1999)	**N**
4. In the 4th edition of their textbook Pharmacology (1999), Rang, Dale and Ritter state that: "During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced." Such a bold assertion understates the ongoing threat posed by microbial infection. It is estimated, for example, that worldwide there were over 8 million cases of tuberculosis in 1998 (WHO, 2000).	**N**

5. The development of safe and effective drugs to deal with bacterial infections has dramatically reduced the death rate arising from microbial diseases.	**Y**
6. During the post-war years, the development of effective and safe drugs to deal with bacterial infections has transformed medical treatment, and death and illness resulting from microbial disease has been dramatically reduced.	**Y**
7. The availability of antimicrobial compounds has transformed healthcare in the period since the second world war. People are far less likely to die or even be seriously ill than they had been prior to the introduction of these drugs.	**N**

Adapted with permission: C.J.R. Willmott &T.M. Harrison (2003), "An exercise to teach bioscience students about plagiarism" Journal of Biological Education (2003) 37(3) pp 139-140. (Figure 1-Student worksheet for plagiarism exercise)

Activity B
Truth or Consequences

Purpose This activity encourages students to consider the consequences of plagiarism. After completing this activity, students will be able to recognize how others perceive plagiarism and the implications that the act of plagiarism can have on one's career.

Objective

2. Identify who the stakeholders are in the publication process and discuss how these stakeholders would be affected by plagiarized content (readers, journals, the original author(s) and institution(s), each of the co-author(s) and their institution(s), and other collaborators).

Procedure **Learning Cycle:** Use in the Explore phase. Individually or in small groups, students should read one of the five articles, complete the Owl worksheet, and share their answers with the rest of the group. They should discuss how others perceive plagiarism and the implications the act of plagiarism can have on one's career.
HILA: Use after the Interactive Lecture. Individually or in small groups, students should read one of the five articles, complete the Owl worksheet, and share their answers with the rest of the group. They should discuss how others perceive plagiarism and the implications the act of plagiarism can have on one's career.

You will be using an activity from the **Purdue Online Writing Lab (Purdue Owl) Teacher and Tutor Resources** section. This site is an excellent resource for students and instructors at all levels of higher education.

Review the instructor directions and the reading links listed at Purdue Owl (https://owl.english.purdue.edu/owl/resource/929/04/) and review the student worksheet (https://owl.english.purdue.edu/owl/resource/929/05/).

Note: You can use alternate plagiarism articles if you find newer articles related to your field. If you have a large group, use the procedure written at the Owl site. If you have a small group, you can modify it, giving each student an article, as noted below.

Activity C
Two-Minute Challenges

Purpose

These case studies provide examples of common scenarios that students may encounter regarding plagiarism. After completing this activity, students will be able to identify and address concerns regarding plagiarism including best practices for text preparation, identifying stakeholders affected by plagiarism, and strategies for working with co-authors.

Objectives

2. Identify who the stakeholders are in the publication process and discuss how these stakeholders would be affected by plagiarized content (readers, journals, the original author(s) and institution(s), each of the co-author(s) and their institution(s), and other collaborators).
4. Apply text preparation best practices checklist to develop appropriate and constructive feedback to give to co-authors during the preparation and revision of a manuscript concerning plagiarism and self-plagiarism.
5. Develop a best practices checklist of the steps to take if an incident of plagiarism is suspected. Justify how these steps might differ depending on the stakeholder's role. Apply these best practices to common scenarios.

Procedure

Learning Cycle: Challenge 1 should be done in the Engage phase. Students can do this individually or in small groups. They should record their answers and, after the Interactive Lecture, they should revise their answers, if needed. In the Elaborate phase, in small groups, students should read the remaining challenge and then discuss the questions as a group (7-10 minutes). At the end of the exercise, students should write down their thoughts on how to deal with plagiarism when it occurs, and how to prevent it with collaborators and one's trainees. Their notes will be used in Activity D.

HILA: This activity should be done after the Interactive Lecture. In small groups, , students should read the challenge and then discuss the questions as a group. (7-10 minutes). At the end of the exercise, students should write down their thoughts on how to deal with plagiarism when it occurs, and how to prevent it with collaborators and one's trainees; their notes will be used in Activity D.

Answers for the Instructor are provided in *italics*.

Challenge 1: They're MY Words

Margo (postdoc): I just received a letter from Journal X regarding my first-authored manuscript that we submitted a month ago. It says that a reviewer raised concerns about plagiarism and the journal will not continue with the review until I explain why I used previously published text. They provided a plagiarism report and it looks like the first two paragraphs of the introduction are similar to our labs earlier publications. Jason, didn't you revise my introduction?

Jason (Principal Investigator): I did revise it and I'm sure I made it better than what you originally wrote. I inserted some sentences from our earlier manuscripts because they describe the scientific background perfectly. I used my words, not someone else's. It is not plagiarism. I will just tell the journal that they are wrong.

1. Who are the stakeholders in this scenario and how could this impact them?

- ***The journal staff/editors*** *expected that the work was original and provided resources to review the work. The journal could consider this a breach of good faith and ban the authors from submitting new work.*
- ***The reviewer*** *may consider his/her review was a waste of time and effort.*
- ***The authors*** *now have to address the plagiarism concerns before they can proceed with review of their manuscript. Delay in publication, loss of respect from the journal and reviewer and extra effort to correct the manuscript are all potential outcomes.*

2. Is Jason correct?

- *No. It sounds like Jason self-plagiarized a prior publication.*

3. How should Margo respond?

- *She should tell him that the journal may see the reuse to be self-plagiarism and suggest that they ask the journal to allow them the opportunity to re-write the problematic sections.*

4. How can Margo prevent this in the future?

- *She can ask Jason to note any areas that are copied from previous works. She also could use an online plagiarism-checker to verify that the text is original. Or she can revise text as needed.*

5. PASS IT ON: How would you assure that your trainees and collaborators understand that self-plagiarism is not accepted by journals? How would you teach this?

- *Various responses*

REMINDER: ***Encourage students to note ideas they want to add to their My Text Preparation and Collaborations Checklist.***

Challenge 2: Fast Draft

Tim (3rd year grad student): I finished the first draft of my biomaterials article.

Lara (5th year grad student): That was pretty fast. Didn't you start working on it about two weeks ago?

Tim (3rd year grad student): I did. I just took the final draft of the biomaterials paper that you published last year and replaced the data with my findings. I updated the introduction a bit and wrote the discussion. I figured that if the reviewers liked your paper, they will have to like mine.

1. Who are the stakeholders in this scenario and how could this writing style impact them?

- ***Tim*** *and* ***Lara*** *are the key stakeholders. Lara may not appreciate her work being repurposed for Tim's benefit. The* ***coauthors*** *on Tim's manuscript may be unaware of his writing style and not approve of it if they had known.*

2. Would Tim's process be considered plagiarism?

- *Possibly. Tim has to write the manuscript in his own words. Using the prior publication as a guide may be okay but he cannot just replace words and consider it a new manuscript. Lara may consider that he is unfairly benefiting from her effort.*

3. How should Lara respond to Tim?

- *She should let him know that he should really write the paper on his own. He would benefit a lot more by writing the text in his own words-and that the journal may consider it plagiarism of her publication.*

4. How can Lara prevent this in the future?

- *She can ask Tim for an outline of the paper first before he writes the manuscript. This would allow a discussion of "recycling" good text and its inappropriateness.*

5. PASS IT ON: How would you assure that your trainees and collaborators understand that plagiarism is not accepted by journals? How would you teach this?

- *Various responses*

REMINDER: ***Encourage students to note ideas they want to add to their My Text Preparation and Collaborations Checklist.***

Challenge 3: Ready to Sign?

Lara (5th year grad student): I just got the acceptance letter from Journal Y for the cardiovascular collaborative project. The journal requested that I sign the copyright release form. I only contributed to a small part of the project but they considered it to be significant enough for authorship (5th author out of 8). I don't think I even read the final version of the article before it was submitted.

1. Should Lara sign the form?

- *Not yet. She should read the paper and confirm that the work is credible. If she does not think she can defend the data, now is the time to contact the journal and the corresponding author to ask that her name be removed from the author list.*

2. What problems could Lara encounter as a co-author of article that she had little input on?

- *She may not be familiar enough with the manuscript preparation process to know if it was prepared appropriately. If concerns about plagiarism or other misconduct arise, her professional integrity may be questioned.*

3. How can Lara prevent this in the future?

- *She can keep regular email communication going about the status of the project and resulting papers. As the research develops, she can ask to be involved in the writing and/or editing so she is not blindsided by a completed manuscript that she has never seen.*

4. PASS IT ON: How would you assure that your trainees and collaborators understand that all authors must participate in all aspects of the publishing process, including preparing the data, writing the drafts, submitting the work, and responding to reviewers? How would you teach this?

- *Various responses*

REMINDER: ***Encourage students to note ideas they want to add to their My Text Preparation and Collaborations Checklist.***

Challenge 4: Copy and Paste

Pat (Visiting Scientist): I just received a letter from Journal X regarding my first-authored review article that was just accepted. It says that they identified plagiarized text as they were preparing the article for publication. They won't publish the paper until I explain why so many paragraphs appear to be from the work of other authors.

Sarah (Principal Investigator): Your review article was so well written, I know you worked really hard on it. How did you prepare the manuscript, exactly?

Pat: I read a lot of background articles and took notes. I wrote the manuscript from my notes, not from the articles themselves just to avoid the possibility of using previously published text. Of course, I have been collecting my facts for a couple of years, it is possible that I copied and pasted text from the articles into my notes with the intention of writing it in my own words later.

1. How should Pat respond to the journal?

- *He should explain what may have happened with the preparation of the manuscript. He should ask if he can rewrite the manuscript and have it reconsidered for publication.*

2. Should Pat inform anyone else about the problem?

- *He should let the co-authors know what happened and ask for their help in reviewing the next version of the manuscript. They should be informed regardless of how the journal decides to address the problem.*

3. What could Pat have done during the preparation of his manuscript to be sure that the work was written in his own words?

- *He could have written his notes in his own words so that the possibility of using previously published text in the review article would be significantly reduced. He could have added quotations around any text that was copy-pasted verbatim so that he would know that the words were not his own and must be re-written. He could use the Two-Column method to separate verbatim text from his interpretation.*

4. PASS IT ON: How would you assure that your trainees and collaborators understand that good writing and citation practices are essential to avoiding plagiarism? How would you teach this?

- *Various responses*

REMINDER: ***Encourage students to note ideas they want to add to their My Text Preparation and Collaborations Checklist.***

Activity D
My Text Preparation and Collaborations Checklist

Purpose

Students will develop a checklist based on course material that they can use now and in the future to guide ethical text preparation in terms of plagiarism, copyright, and acknowledgement of sources. They should use materials from the activities, readings, and Interactive Lecture. After completing the activity, students should have a checklist for text preparation and collaborations considerations AND a plan for teaching these best practices to their students.

Objectives

3. Develop a best practices checklist for preparing text, including how to cite sources properly, in order to avoid plagiarism and self-plagiarism.
4. Apply text preparation best practices checklist to develop appropriate and constructive feedback to give to co-authors during the preparation and revision of a manuscript concerning plagiarism and self-plagiarism.
5. Develop a Best Practices Checklist of the steps to take if an incident of plagiarism is suspected. Justify how these steps might differ depending on the stakeholder's role. Apply these best practices to common scenarios.

Procedure

Learning Cycle: Complete in the Evaluate phase. Students should do this individually but will want to share their lists in class or with the instructor.
HILA: Activity D should be done after the Interactive Lecture. Students should do this individually but will want to share their lists in class or with the instructor.

The following provides some of the material from the module that students may want to include in their checklist in some format. Students should create a checklist that works for THEM, not simply recreate this list. Encourage students to include these two definitions/resources and to include information on the questions below.

Definitions to Remember	
Plagiarism	*"When someone: uses words, ideas, or work products attributed to another identifiable person or source without attributing the work to the source from which it was obtained in a situation in which there is a legitimate expectation of original authorship in order to obtain some benefit, credit, or gain which need not be monetary."* International Center for Academic Integrity Source: http://www.academicintegrity.org/icai/integrity-1.php
Self-plagiarism	When "*…the writer republishes a work in its entirety or reuses portions of a previously written text while authoring a new work*." iThenticate white paper on the Ethics of Self-plagiarism Source: http://www.ithenticate.com/resources/papers/ethics-of-self-plagiarism
Copyright	Copyright is a "form of legal protection given to content creators through the

	assignment of specific rights to works that qualify for protection." RightsDirect Source: http://www.rightsdirect.com/international-copyright-basics/ Authors who sign a publisher's copyright agreement transfers ownership of the scholarly works to the publisher. That is, you… • Can't publish the article again without permission from the publisher • Can't sell the work to someone else for profit • Can't reuse the text or figures unless permission is granted • Must cite your work

My Best Practices Checklist

I. Avoiding Plagiarism and Self-Plagiarism	
A. Note-taking	
B. Acknowledging Sources (Quote & Paraphrase)	
C. Writing Methods	
D. PASS IT ON	My ideas for teaching best practices for avoiding plagiarism and self-plagiarism to MY students:
E. Other notes	
II. Preparing Text with Collaborators	
A. Work proactively	
B. Coauthors' text	
C. Troubleshooting	
D. PASS IT ON	My ideas for teaching best practices for preparing text with collaborators to my students:
E. Other Notes	

Activity E
Best Practices for Ethical Writing and Two-Column Note-Taking

Purpose Demonstrate the connection between note-taking strategies, proper citations, and ethical writing. After completing this activity, students will be able to describe best writing practices and utilize a technique for note-taking that can help prevent plagiarism.

Objective

3. Develop a best practices checklist for preparing text, including how to cite sources properly, in order to avoid plagiarism and self-plagiarism.

Procedure **Learning Cycle:** Complete in the Elaborate phase. Students should do this individually but will want to share their lists in or with the instructor in the Elaborate phase.
HILA: Should be done during the Interactive Lecture. Students should do this individually but will want to review their lists with the instructor.

Students will review examples of good note-taking strategies and of summarizing published works in one's own words. They also will be provided with a simple Two-Column Note-taking format that may be useful in their future work to prevent plagiarism, inaccurate quotes or citations, or missing citations. See Student Handout for details.

This lesson emphasizes four best practice strategies for note-taking:

1. Text that is taken directly from another source, without alteration, must be placed in quotes.
2. When paraphrasing others' work, substantial modifications must be made to the text.
3. When summarizing others' work, condense the information using your own words.
4. Using technical words and phrases is not considered plagiarism as long as the guidelines for ethical writing are followed.

Activity F
Methodology Analysis

Purpose

This activity helps students recognize the purpose of a journal article methods section and understand which information should and should not be included. After completing this activity, students will be able to critique a methods section for its completeness and understandability using a practical checklist. This checklist also can be used in writing their own methods sections.

Objectives

3. Develop a best practices checklist for preparing text, including how to cite sources properly, in order to avoid plagiarism and self-plagiarism.
4. Apply text preparation best practices checklist to develop appropriate and constructive feedback to give to co-authors during the preparation and revision of a manuscript concerning plagiarism and self-plagiarism.

Procedure

Learning Cycle: Students start this activity in the Explore phase and complete it in the Elaborate phase.
HILA: Should be done during the Interactive Lecture.

Ask students to write up the methodology for one of their experiments and bring it to class. Review the Methods Section Primer with students. Each student should pair with another student or do the exercise in small groups. Each student should use the Methods Section Primer and the Methodology Analysis Form to critique another student's draft methods section. Then students should share their feedback in pairs or as a group. All students should receive feedback on their methods sections. Instructors may want to review the feedback given.

REMINDER: ***Encourage students to note ideas they want to add to their My Text Preparation and Collaborations Checklist.***

Activity G
Institutional Writing Resources

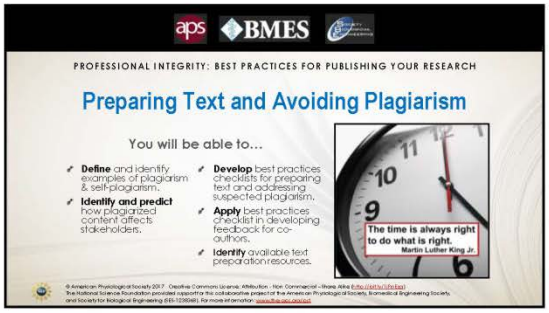
Purpose This activity helps students identify the writing resources (websites, offices, courses, etc.) at their home institution as well as other print and online resources. After completing this activity, students will be able to describe the writing resources their institutions offer and how to access them.

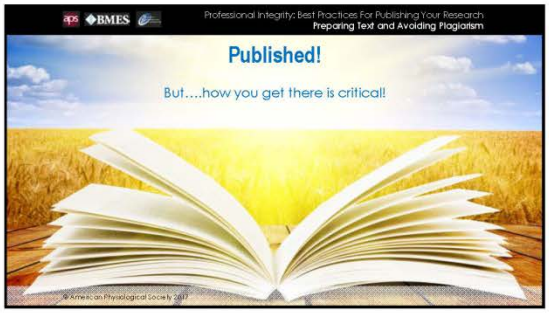
Objectives 6. Identify text preparation resources at your own institution and online.

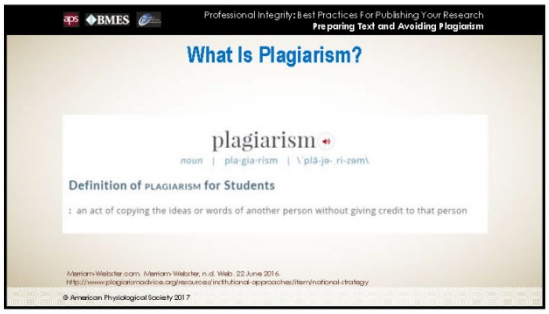
Procedure **Learning Cycle:** Should be done as homework in the Explore phase and findings shared in the Explain phase.
HILA: Should be done as homework and findings shared during the Interactive Lecture.

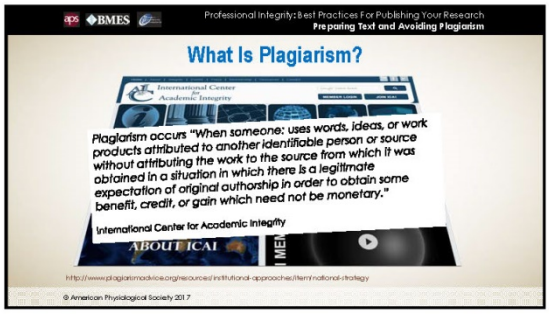
REMINDER: ***Encourage students to note ideas they want to add to their My Text Preparation and Collaborations Checklist.***

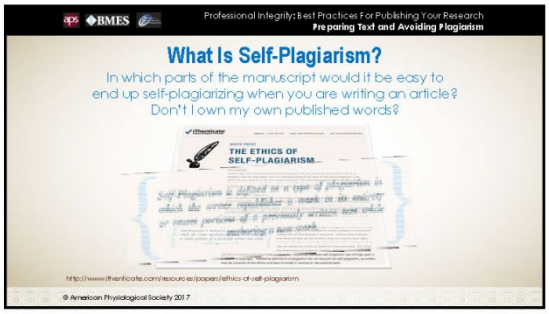
Presentation Slides

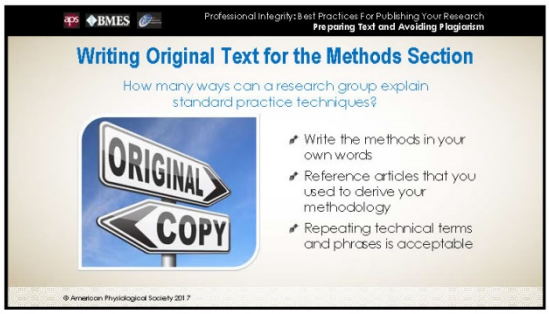


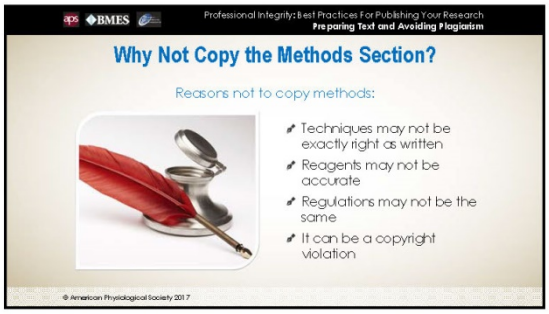











Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
Why Not Copy the Methods Section?
Reasons not to copy methods:
Techniques may not be exactly right as written
Reagents may not be accurate
Regulations may not be the same
It can be a copyright violation
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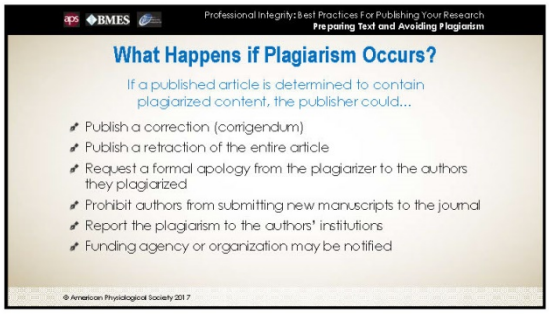
Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
What Happens if Plagiarism Occurs?
If a published article is determined to contain plagiarized content, the publisher could...
Publish a correction (corrigendum)
Publish a retraction of the entire article
Request a formal apology from the plagiarizer to the authors they plagiarized
Prohibit authors from submitting new manuscripts to the journal
Report the plagiarism to the authors' institutions
Funding agency or organization may be notified
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Plagiarism Is Defined as Research Misconduct
Code of Federal Regulations Title 42 - Public Health
§ 93.103 Research misconduct.
Research misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.
a) Fabrication is making up data or results and recording or reporting them.
b) Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
c) Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.
d) Research misconduct does not include honest error or differences of opinion.
http://www.law.cornell.edu/cfr/text/42/93.103
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Plagiarism Is Defined as Research Misconduct
Code of Federal Regulations Title 42 - Public Health
§ 93.103 Research misconduct.
Plagiarism...considered
Academic Theft
http://www.law.cornell.edu/cfr/text/42/93.103
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Preparing Text and Avoiding Plagiarism
Plagiarism at Ohio University
Goal: As you listen to the National Public Radio broadcast at http://n.pr/2mWpP7b, consider the following
Who was affected by the plagiarism?
Should the students be held solely responsible?
Should the advisors be held responsible?
Source: Ohio University Investigates Academic Cheating Allegations
http://www.npr.org/templates/story/story.php?storyId=5259274
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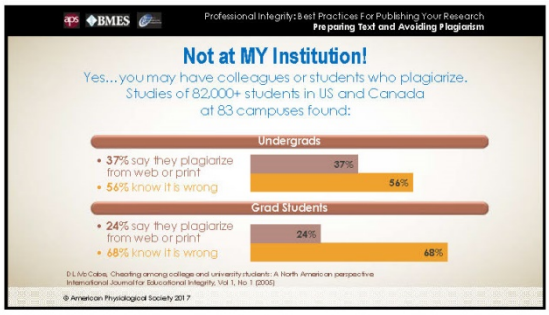
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Preparing Text and Avoiding Plagiarism
Not at MY Institution!
Yes...you may have colleagues or students who plagiarize.
Studies of 82,000+ students in US and Canada at 83 campuses found:
Undergrads
37% say they plagiarize from web or print
56% know it is wrong
37%
56%
Grad Students
24% say they plagiarize from web or print
68% know it is wrong
24%
68%
D.L.McCabe, Cheating among college and university students: A North American perspective
International Journal for Educational Integrity, Vol 1, No 1 (2005)
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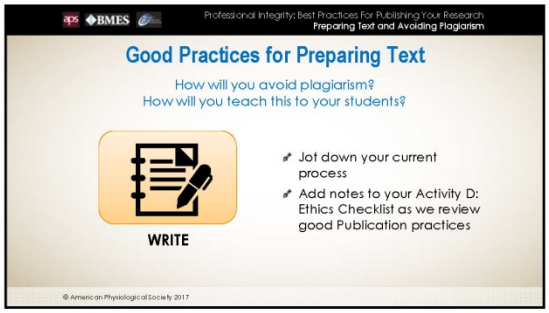
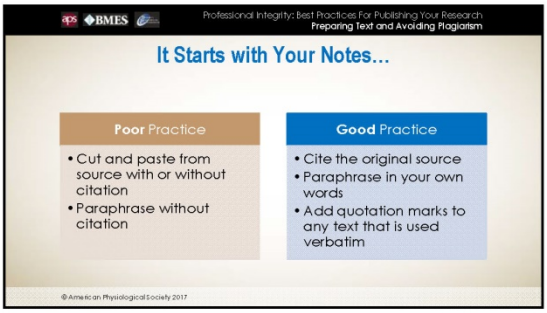
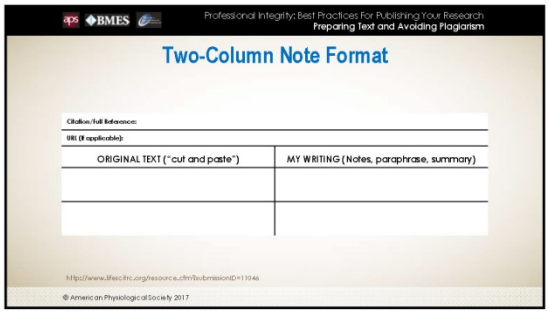
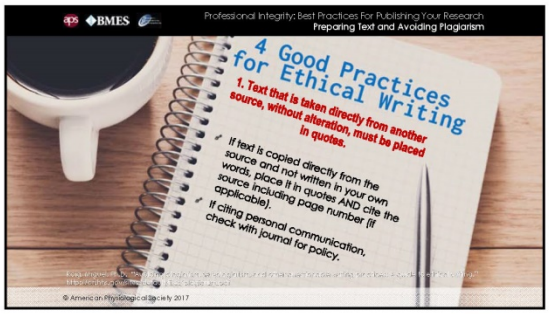
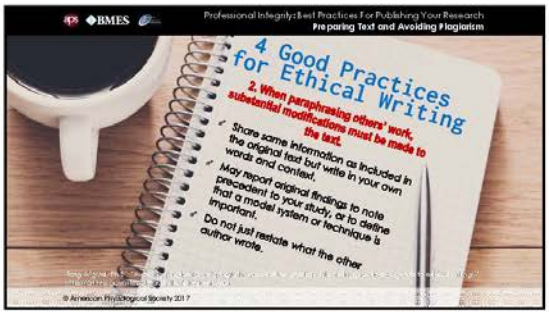
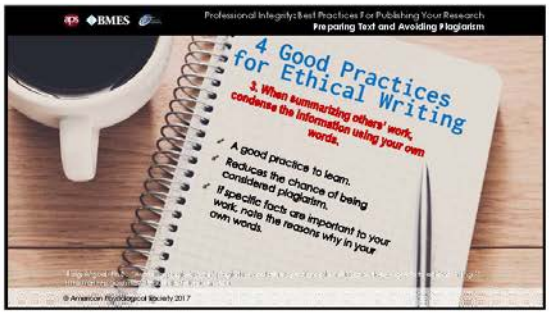


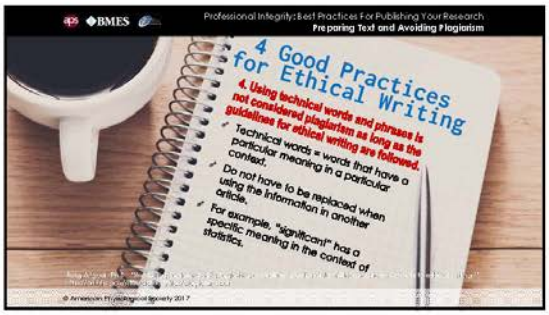







Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
2. When paraphrasing others' work, substantial modifications must be made to the text.
Share same information as included in the original text but write in your own words and context.
May report original findings to note precedent to your study, or to define that a model system or technique is important.
Do not just restate what the other author wrote.


Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
3. When summarizing others' work, condense the information using your own words.
A good practice to learn.
Reduces the chance of being considered plagiarism.
If specific facts are important to your work, note the reasons why in your own words.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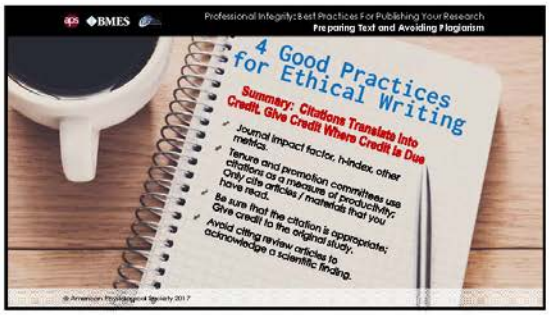
Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
4. Using technical words and phrases is not considered plagiarism as long as the guidelines for ethical writing are followed.
Technical words = words that have a particular meaning in a particular context.
Do not have to be replaced when using the information in another article.
For example, "significant" has a specific meaning in the context of statistics.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Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
Summary: Citations Translate into Credit. Give Credit Where Credit is Due
Journal impact factor, h-index, other metrics.
Tenure and promotion committees use citations as a measure of productivity.
Only cite articles / materials that you have read.
Be sure that the citation is appropriate.
Give credit to the original study.
Avoid citing review articles to acknowledge a scientific finding.


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Preparing Text and Avoiding Plagiarism
"What Exactly Is Plagiarism?" Exercise
Goal: How many instances of plagiarism can you identify?
WRITE
Let's Review The Answers.


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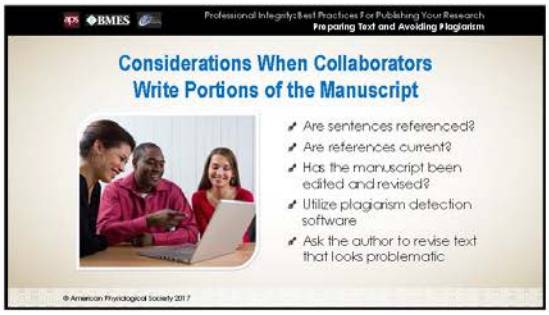
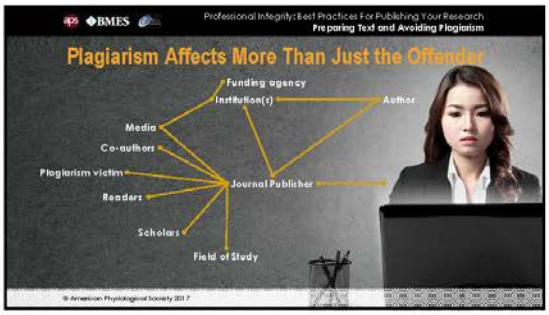
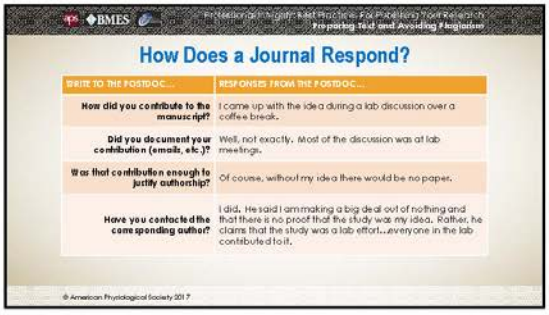
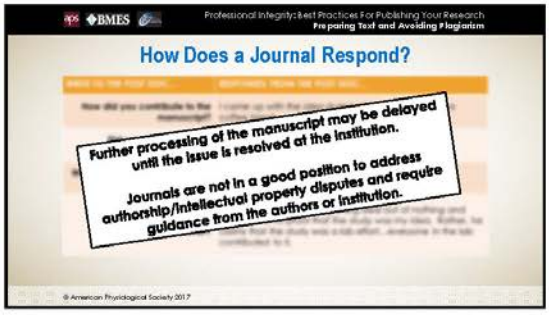
Preparing Text and Avoiding Plagiarism
Collaborations and Text Preparation







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Preparing Text and Avoiding Plagiarism
Small Group Activities
Your instructor will provide directions for these activities
DISCUSS
These activities will help you APPLY what you have learned so far to common scenarios
BE SURE to add notes from this presentation to your "My Publications Best Practices" document.
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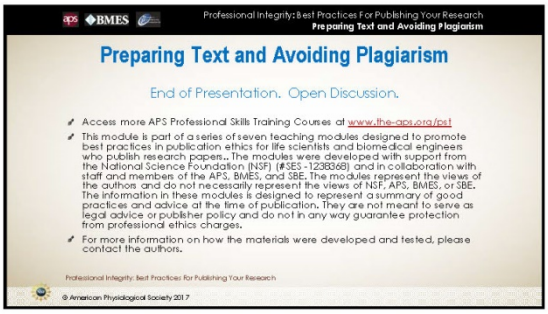
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Preparing Text and Avoiding Plagiarism
End of Presentation. Open Discussion.
Access more APS Professional Skills Training Courses at www.the-aps.org/pst
This module is part of a series of seven teaching modules designed to promote best practices in publication ethics for life scientists and biomedical engineers who publish research papers. The modules were developed with support from the National Science Foundation (NSF) (#SES-1238368) and in collaboration with staff and members of the APS, BMES, and SBE. The modules represent the views of the authors and do not necessarily represent the views of NSF, APS, BMES, or SBE. The information in these modules is designed to represent a summary of good practices and advice at the time of publication. They are not meant to serve as legal advice or publisher policy and do not in any way guarantee protection from professional ethics charges.
For more information on how the materials were developed and tested, please contact the authors.
Professional Integrity: Best Practices For Publishing Your Research
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Presentation Slide Text

Slide #	Text
1	This presentation is part of the professional skills training series on professional integrity best practices for publishing your research. Today we will review best practices for preparing text for manuscripts and avoiding plagiarism. This presentation will help you to: • **Define** and identify examples of plagiarism & self-plagiarism. • **Identify and predict** how plagiarized content affects stakeholders. • **Develop** best practices checklists for preparing text and addressing suspected plagiarism. • **Apply** best practices checklist in developing feedback for co-authors and • **Identify** available text preparation resources.
2	If you haven't already done it, complete the "What Exactly is Plagiarism" exercise (Activity A) before continuing. The goal of this exercise is to see how many instances of plagiarism you can identify. At this time, pause the presentation to complete the activity. Before discussing your answers, let's learn more about writing, publishing, and plagiarism.
3	A manuscript is developed through a number of stages. However, one author usually takes the lead in writing the first draft of a scholarly article. Often this is the first author. The first author may begin by outlining the data or information they have, and arranging it in an order that tells a good research story. That is a story that describes a series of experiments that lead to a distinct conclusion. The first author will then begin drafting the first version of the manuscript. Usually this involves performing a literature search to aid in writing the introduction along with writing up the methods, results, and discussion. The first author will also incorporate portions of text written by co-authors. Then the first author will meet with a senior author, likely their mentor, to refine the draft. This is a great learning opportunity to see how someone with more experience prepares a manuscript. It is critical to listen to their suggestions with an open mind. This is your first "reviewer" of the draft. Drafts are then sent to co-authors for comments. Again be open-minded about their suggestions. And finally, the manuscript is ready for submission. With constructive comments from reviewers and a few more revisions….

4	…you will finish the process with a published work. How you and your co-authors prepare text for publication is important.
5	One of your homework assignments, Activity G, was to identify writing resources that are available to you at your institution. Did YOU find any? You may have found writing centers, plagiarism software, English as a second language support, writing tutors, or editing services. These resources are valuable. They can support development of good writing practices and provide resources to avoid the major ethical concern regarding text preparation, that is plagiarism.
6	Let's take a moment to consider how we define plagiarism and self-plagiarism. Write down your best definition of plagiarism and self-plagiarism. Pause the presentation until you are ready to continue. What did you come up with? Let's look at a definition of plagiarism.
7	The Merriam-Webster definition of plagiarism is the act of using another person's words or ideas without giving credit to that person.
8	For those involved in research, the definition of plagiarism has broader implications. According to the International Center for Academic Integrity, their definition of plagiarism adds that plagiarism not only involves using someone else's words and ideas but it is used with ***a legitimate expectation of original authorship in order to obtain some benefit, credit, or gain which need not be monetary***. In scholarly publishing and in any scholarly writing, there is a "legitimate expectation of original authorship" and the benefit obtained, "a publication", while not monetary, is a form of currency with significant value. The expectation of originality not only applies to not using other people's work, it also means that you are not to plagiarize your own prior work. Each scholarly article should be different from the ones before.
9	Self-plagiarism, according to the iThenticate white paper on the Ethics of self-plagiarism, is when an author reuses portions, or all of, his/her previously published work in a new work.

	Can you think of reasons why it would be easy for you to self-plagiarize your prior work when writing a new manuscript? Take a moment to write down your answer. Did you think of the introduction and methods section as text which could be reused in more than one manuscript? Many authors think that they own their published words and can reuse the text in future context. To some extent that is true. Authors have a style of presenting their work. They describe techniques and mechanisms similarly time after time. However, scholarly articles are supposed to represent new contributions to the community, which includes new text. Thus, it is not acceptable to reuse previously published text.
10	In fact, many journals require you to sign a copyright release form prior to publishing your manuscript. The release form states that the publisher owns the article, not the authors. Therefore, authors are not allowed to reproduce or republish the text from the article without permission from the journal. This does not mean that you cannot use the contents of your paper for teaching, lectures, or meetings. It just means you can't publish the text someplace else or sell the text to someone else for profit. This includes taking passages of text from the article and publishing it again in another article. It also means you must appropriately cite your article just as you would that of any other author. And remember, anything found on the internet by default is copyrighted so be careful about posting unpublished data or text on public internet sites.
11	Scholarly publications must be original. Plagiarism is often detected by readers and peer reviewers who are familiar with the literature in their field and the author of the plagiarized work. For example, a reader wrote to the journal to inform them that this article appeared to have plagiarized text from a review article. The journal reviewed the concern and found several pages that contained passages from other publications, as noted by the highlighted sections on the graphic here. Each color represents the original source of the article. Based upon the amount of highlighted text, does this article look like a new and original contribution? Even if it was self-plagiarized, that is, the text was taken from the authors own prior publications, does the new article look original? Or is it one that has recycled old content into a new format? If you had been a reviewer of this manuscript, would you be pleased to learn that that the time you spent reading the manuscript and providing a review for the editors was for an

	unoriginal manuscript? You would consider it to be a waste of time, right? No one wants the same content to be presented over and over again. With cases like these, where the article is derived from other publications, the article is retracted as the journal published the work with the understanding that it would be a new contribution to the field. In addition, the authors' institutions may be informed as journals cannot know whether the plagiarism is a one-time incident or is common practice from that lab group.
12	Like other sections, the Methods section should be original text. However, it is one part of the manuscript where you will likely find plagiarized content. Because it is technical and specific, authors can only describe techniques accurately in so many ways. That being said, it is good practice to write the methods in your own words. The passages end up being very similar but you still should do it.
13	Moreover, by copying others' methods, the techniques may not be correct as written. It is likely you improved upon the technique in some way and those details should be noted. Also, the reagents listed in the methods may not be accurate because companies close and catalog numbers change. It is important to report the reagents that were used, not ones used five years ago. Likewise, regulations change over time. Animal protocols are often flagged by reviewers because authors report using sedatives, pain relievers, or techniques that are no longer allowed. When authors are asked to explain, the answer is that they failed to update the protocol. If you have concerns about whether the reuse of text in your Methods Section is appropriate, check the journal guidelines for more information.
14	What happens if a publisher does determine that a published article contains plagiarized content? What will happen to the authors and the article? • Depending on the amount of plagiarism, the journal may publish a **corrigendum** that is a correction to the article that notes the small section of the article that has been plagiarized. • Or the journal may publish a retraction of the entire article, noting that the content reported was derived from other published sources without proper disclosure (that is plagiarized). • The journal publisher may also ask the authors to formally apologize to the authors of the plagiarized content or prohibit the authors from submitting new manuscripts to the journal. • They may also report the plagiarism to the authors' institutions. This could lead to serious consequences.

15	Plagiarism is defined by funding agencies and academic institutions as research misconduct. For example, the National Institutes of Health federal policy states that (c) Plagiarism is the appropriation of another person's ideas, processes, results, or words, without giving appropriate credit.
16	Plagiarism is considered academic theft. Those found guilty of plagiarism by their academic institution or funding agencies, may lose their position or funding. You can imagine that funding agencies are not pleased when a grant application contains plagiarized text or an academic department learns that an article contains plagiarized work. Now, this is the worst case scenario. These types of sanctions are reserved for offenders who appear to have intentionally used others' words to help themselves. However, those with poor writing practices, including plagiarism, could also face sanctions. You do not want to be in either situation!
17	Now, listen to a National Public Radio report that describes how Ohio University uncovered plagiarism in the master's theses of nearly three-dozen graduate students. As you listen to the audio, consider who was affected by the plagiarism. Who was harmed? Were the students responsible? The professors? The department? At this time, pause the presentation and listen to the NPR Broadcast. In this case, a master's student in the engineering department raised concerns that the professors encouraged a cheating culture.
18	The incident at Ohio University may not be unique to just that institution. In fact, a large study of undergrads and graduate students revealed that approximately 37% of undergraduates and 24% of graduate students admitted to plagiarizing content from the web or print sources. Moreover, approximately 56% of undergraduates and 68% of graduate students knew that it was wrong. These numbers are shocking. However, just because people do it, does not mean that it is acceptable.
19	To avoid such situations, it is up to you to utilize good practices for preparing text for publication. Take a few minutes to jot down how you prepare a manuscript or scholarly paper. That is, what are your text preparation techniques? How do you take information from the

	scholarly articles and incorporate it into your text? How do you perform a literature search? How do you reference literature? Do you take notes? Do you write an outline? Do you copy-paste information and then rewrite it? At this time, pause the presentation to complete the activity. Now we are going to review some good practices for preparing text. Be sure to take notes so you can add YOUR notes to your Activity D: Publication Ethics Checklist. This is the list that YOU will use in the future to prepare text and the principles that YOU will want to share with YOUR students.
20	Writing a scholarly article should involve some type of preparation before you sit down at the computer to write. Most writers start with taking notes while reading published articles that are relevant to their work. You may want to highlight certain facts in the introduction or note methods that have already been reported. As you take down the notes, it is good practice to write the main points in your own words. That way, when you go to include the facts, and references, in your manuscript, you will not have to worry that the note is a copy-paste of the author's own words. It is very dangerous to copy-paste text from one source and place it in your notes or in your manuscript. You may forget that the words were taken from another source and it may read so well that you determine that it does not need editing which will lead to plagiarism. In all cases, as you take notes, ALWAYS cite the source so that you know where the facts came from and you can easily reference the facts in your manuscript. If paraphrasing the fact is not ideal, be sure to add quotation marks to text that you wish to use verbatim, that is use it as it is written in the original document.
21	The American Physiological Society Education Office recommends keeping your notes in two-columns. In the left column, cut and paste from an original source and be sure to put the citation info at the top of the page. In the RIGHT column, write YOUR notes, interpretations, and paraphrased summaries. When you work on your manuscript, ONLY use text from the RIGHT column unless you are quoting the original text.
22	Miguel Roig proposes 4 good practices for ethical writing.
23	#1: Text that is taken directly from another source, without alteration, must be placed in quotes. If text is copied directly from the source and not written in your own words, place it in quotes AND cite the source including page number (if applicable). However, remember

	that inclusion of verbatim text is not common in scholarly articles. If citing a personal communication, be sure to check the journal policy. Some journals limit or prohibit personal communication citations.
24	When and how often is it reasonable to quote sources or paraphrase facts? It depends on the scholarly community but, in general, too many quotations or statements such as "Watson reported…" and "Crick identified…." can suggest that the author of the work is not able to interpret and synthesize previous findings. Instead, look for opportunities to summarize and synthesize key points. Such statements add value to the document by providing context to the findings.
25	#2: When paraphrasing others' work, substantial modifications must be made to the text. Paraphrasing shares the same information as included in the original text but it is written in your own words and context. Most commonly, the original paper includes the authors' report of original findings. In your paper, the findings may be reported to note precedent to your study, or to define that a model system or technique is important. Your paper should not just restate what the other author wrote.
26	#3: When summarizing others' work, condense the information using your own words. Summarizing other's work is a good practice to learn and reduces the chances that your text would be considered plagiarized. If specific facts are important to your work, note the reasons why in your own words.
27	#4: Using technical words and phrases is not considered plagiarism as long as the guidelines for ethical writing are followed. Technical words, that is, words that have a particular meaning in a particular context, do not have to be replaced when using the information in another article. For example, the word "significant" has a specific meaning in the context of statistics.
28	In summary, citations translate into credit for the author in terms of tenure and promotion as well as scientific reputation. They also benefit the journal in terms of impact factors and other journal metrics. You want to be sure that you give credit to the researchers who deserve it just as you want to receive credit for your work. Toward that end, it is good practice to cite articles and materials that YOU have read and can guarantee that the information included is what you wish to highlight in your manuscript. Just because another author cites a particular paper as the source does not mean that the source is accurate. You do not know how other authors selected their citations or whether they summarized the findings of another study correctly.

	Likewise, review articles should not be cited when you want to highlight a particular finding in the research field. Review articles can be cited if you are highlighting the history of a topic or want readers to refer to a work that gives a background on a particular field but they should not be used in place of the primary literature.
29	Now, let's return to the "What exactly is Plagiarism" exercise to review your answers. The answers are: #1 is yes, this is plagiarism #2 is also yes. #3 is no, this is not plagiarism #4 is also no. #5 is yes #6 is yes And #7 is no
30	Now that you have a handle on principles for text preparation, let's talk about situations that can arise during collaborations with other researchers.
31	Co-authors may have a writing style that is different from yours. You know how you wrote your portion of the text. However, you may not know how your co-authors or collaborators prepared their portion of the text. This is something to consider because your co-authors may have writing practices that are not as rigorous as yours.
32	Ideally, you want to have a conversation early in the manuscript preparation about how your collaborators prepare their text. However, here are some additional questions for you to consider when reviewing contributions from collaborators: • Are sentences that include factual statements referenced? • Are references current, that is, are some from the past couple of years or are all from years ago? • Have all portions of the manuscript been edited and revised? If so, there is a higher chance that any plagiarized text has been rewritten. In addition, there are also software programs that assess plagiarism in scholarly articles. If you do use a program, you will be able to determine whether any text appears problematic and should be re-written. If you do find evidence that one of your coauthors plagiarized their portion of the work, let your advisor know. The co-author may need to learn good writing practices. Or the plagiarism could have been intentional. Either way, your advisor should help determine how best to address the matter, particularly if the person has written a number of articles in the same manner. There could be more to correct than just one article.

33	Plagiarism affects more than just the offender: • It affects the co-authors who could be held equally responsible for the plagiarism by the journal or the institution. • Co-authors could be required to retract the article due to plagiarism. This affects all of their institutions as well as the funding agency that supported the study. • It affects readers and other scholars who assume that the work is original. • It affects the victim, that is, the person whose work was plagiarized. Their hard work was taken and used by someone else for their personal gain. • And it affects the field of study by adding work to the knowledge base that does not meet the rigorous standards of science. Avoid any practices that could result in unintentional plagiarism.
34	One of the toughest issues regarding plagiarism is the plagiarism of IDEAS. These issues often arise between graduate students and their advisors. In this scenario, Upset Postdoc is concerned that her PhD advisor stole her ideas and published a paper on the topic without including her as an author. Here is what she wrote: Dear Journal Editor, I recently read the newly published article from the Smith Lab and am really shocked because I am part of that study but was not included as an author. He plagiarized my ideas. Please fix the problem. Sincerely, Upset Postdoc What do you think a journal should do in this situation?
35	Pause for a moment and read the conversation between the journal and the Upset Postdoc. The journal may ask for more information from Upset Postdoc. What do you think the journal is going to do? What do you think the postdoc should do?
36	While the journal can delay final publication of a manuscript until the issue is resolved, they are not able to mediate authorship/intellectual property disputes. Instead, they will ask the authors and their institutions to settle the matter. The same goes for grant applications and patents. One must have a lot of evidence (documents) to address concerns about plagiarism of ideas. Usually discussions over coffee are not going to give someone the right to an idea. However, documentation of

	your communications, that show your role in the project, will provide support for your claims. It is always a good idea to send colleagues a "follow-up email" documenting a conversation or agreement that was made verbally.
37	Now, work in small groups, or individually, to go through some of these topics more thoroughly by completing the rest of the activities. These activities will help you APPLY what you have learned so far to common scenarios BE SURE to add notes from this presentation to your "My Checklist" document.
38	Thank you for listening to this presentation. To access more information about APS Professional Skills Training Courses visit www.the-aps.org/pst.

References and Resources

1. Anderson, L.W., Krathwohl, D.R., Bloom, B.S. (2001) A taxonomy for learning, teaching, and assessing: a revision of Bloom's taxonomy of educational objectives. New York: Longman.

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3. ICMJE International Committee of Medical Journal Editors. (Updated December 2016) Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals. Retrieved from: http://www.icmje.org/icmje-recommendations.pdf.

4. International Center for Academic Integrity. Welcome to ICAI! Retrieved from: http://www.academicintegrity.org/icai/home.php

5. iThenticate. White Papers: The Ethics of Self-plagiarism. Retrieved from: http://www.ithenticate.com/resources/papers/ethics-of-self-plagiarism.

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7. Roig, Miguel. Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing. Retrieved from: http://ori.hhs.gov/avoiding-plagiarism-self-plagiarism-and-other-questionable-writing-practices-guide-ethical-writing.

8. U.S. Government Publishing Office. Electronic Code of Federal Regulations, Part 93-Public Health Service Policies On Research Misconduct. Retrieved from: http://www.ecfr.gov/cgi-bin/text-idx?SID=7f65b4d867157e55e8b2491a9004a2df&mc=true&tpl=/ecfrbrowse/Title42/42cfr93_main_02.tpl.

Course Resources

Each of the **Professional Skills Training Courses on Best Practices for Publishing Your Research** has multiple resources to accompany the Instructor Guide. All of the following resources are available at www.the-aps.org/pst/ethics.

1. PowerPoint (.ppt) files for the Interactive Lecture. These slides are editable.
2. Instructor and Student Guides are available as editable .doc files.
3. Request form for assessment tools (quizzes and key).
4. Links to video versions of the Interactive Lecture on YouTube.
5. Links to online, on demand version of the module.

Publication Ethics Community
In addition, APS hosts a Publication Ethics Community on the Life Science Teaching Resource Community. The community posts ethics cases for comment by participants and experts. See www.lifescitrc.org and click on My Community.

Ethics CORE (Collaborative Online Resource Environment)
This website is coordinated by the National Center for Professional and Research Ethics. The site provides resources for Responsible Conduct of Research courses and seeks to create communities of responsible research and professional practice. It is an excellent source of case studies, simulations, role-play scenarios, videos, and lectures. See https://nationalethicscenter.org.

We welcome your questions and feedback on these materials.
Email us at education@the-aps.org.

Preparing Text and Avoiding Plagiarism Module

Student Handouts

These activities will help you:

1. Define plagiarism and self-plagiarism and correctly identify examples of each.
2. Identify who the stakeholders are in the publication process and predict how each stakeholder type would be affected by plagiarized content (readers, journals, the original author(s) and institution(s), each of the co-author(s) and their institution(s), and other collaborators).
3. Develop a best practices checklist for preparing text, including how to cite sources properly, in order to avoid plagiarism and self-plagiarism.
4. Apply text preparation best practices checklist to develop appropriate and constructive feedback to give to co-authors during the preparation and revision of a manuscript concerning plagiarism and self-plagiarism.
5. Develop a best practices checklist of the steps to take if an incident of plagiarism is suspected. Justify how these steps might differ depending on the stakeholder's role. Apply these best practices to common scenarios.
6. Identify text preparation resources at your institution and online.

This module is part of the series, *"Professional Integrity: Best Practices for Publishing Your Research"* developed by:
American Physiological Society www.the-aps.org
Biomedical Engineering Society www.bmes.org
Society for Biological Engineering www.aiche.org/sbe

For information on the other modules or to take an online, interactive version of one or more modules, go to www.the-aps.org/pst.

About Your Publication Ethics Checklists

In these modules, you will be encouraged to create your OWN checklists for preparing manuscripts using ethical and professional standards of practice for researchers.

WRITE

Why do I need a checklist?

As your training progresses, your research and writing skills develop along with your knowledge of the field, your professional network, and your independence as a professional. This also means that understanding and following best practices for professional behavior, including research and publication ethics, increasingly rests on your shoulders. YOU become the person who is setting the standards for your laboratory group. YOU are the person who must establish protocols for assuring ethical behavior. And YOU are the person who has to teach standards and protocols to every trainee in your lab and, sometimes, to those with whom you collaborate. You cannot assume that they come with an understanding of best practice…you must inform, guide, and monitor their adherence to best practices.

What should I include in the checklist?

You are investing time and effort to learn best practice for publication ethics through this module (and possibly the other modules in this series). **This activity is the big "take away" from this module**. It is YOUR checklist of things to remember about publication ethics. In each module in this series, you will add a checklist of the things you want to remember from that module. You also will add notes on how you would teach this to your students in the future. For most modules, we encourage you to add three sections to your checklist:

1. **Definitions to Remember Table:** Consider adding the terms and definitions from the lecture. Also add the links for professional standards you want to access later (e.g., ICMJE criteria for authorship). Remember to add the source of your definition or text if you are copying it.
2. **My Best Practices Checklist:** What are the things you want to check as you develop or revise your manuscripts?
3. **PASS IT ON:** How will you teach this to YOUR trainees in the future? How will you share this with those with whom you collaborate?

When you are done with these modules, we encourage you to make a copy of your checklists and keep them handy for use as you develop manuscripts in the future.

Activity A
What Exactly is Plagiarism?

Purpose This activity will help you learn to detect writing practices that could be considered to be plagiarism.

Procedure Taking someone else's words or ideas and presenting them as your own work is known as plagiarism. But how much do you need to change something before it becomes a legitimate reworking?

The paragraph below is taken from Pharmacology (4th edition, 1999) by Rang, Dale and Ritter. Study the essay extracts in the table and decide whether or not you consider the author of the work to be guilty of plagiarism – some may be more obvious than others!

ORIGINAL TEXT: ***During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced.***

Essay Extract	Plagiarism? Y or N	Why?
1. During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced.		
2. During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced. (Rang et al., 1999)		
3. "During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced."(Rang et al., 1999)		

4. In the 4th edition of their textbook Pharmacology (1999), Rang, Dale and Ritter state that: "During the last 60 years the development of effective and safe drugs to deal with bacterial infections has revolutionised medical treatment, and the morbidity and mortality from microbial disease have been dramatically reduced." Such a bold assertion understates the ongoing threat posed by microbial infection. It is estimated, for example, that worldwide there were over 8 million cases of tuberculosis in 1998 (WHO, 2000).		
5. The development of safe and effective drugs to deal with bacterial infections has dramatically reduced the death rate arising from microbial diseases.		
6. During the post-war years, the development of effective and safe drugs to deal with bacterial infections has transformed medical treatment, and death and illness resulting from microbial disease has been dramatically reduced.		
7. The availability of antimicrobial compounds has transformed healthcare in the period since the second world war. People are far less likely to die or even be seriously ill than they had been prior to the introduction of these drugs.		

Activity B
Truth or Consequences

Purpose This activity helps you to consider the consequences of plagiarism. After completing this activity, you will be able to recognize how others perceive plagiarism and the implications the act of plagiarism can have on one's career.

Procedure You will be using an activity from the Purdue Online Writing Lab (Purdue Owl) Teacher and Tutor Resources section. This site is an excellent resource for students and instructors at all levels of higher education.

READ

Open the student worksheet:
https://owl.english.purdue.edu/owl/resource/929/05/

Your instructor will provide additional directions. In general, each student should read one of the five articles, complete the Owl worksheet and share answers with the rest of the group. Be prepared to discuss how others perceive plagiarism and the implications the act of plagiarism can have on one's career.

Used with permission: Elder, Cristyn, Pflugfelder, Ehren, & Angeli, Elizabeth (2012), Truth or Consequences. West Lafayette, IN: Purdue Online Writing Lab. https://owl.english.purdue.edu/owl/resource/929/04/ (Accessed 8-29-16).

Activity C
Two-Minute Challenges

Purpose These case studies provide examples of common scenarios that you may encounter regarding plagiarism. After completing this activity, you will be able to identify and address concerns regarding plagiarism including best practices for text preparation, identifying stakeholders affected by plagiarism, and strategies for working with co-authors.

Procedure Plagiarism happens. At some time in your career, you probably will have to deal with plagiarism as a course instructor, collaborator, and/or mentor. Will you recognize it? How will you deal with it?

READ

Working through the common scenarios in this activity can help you think about who the stakeholders are in a plagiarism incident (that is, who would be affected), and how you could respond in dealing with the plagiarism. But it should also help you think about how YOU, as the head of your lab group in the future, can prevent such incidences.

DISCUSS

Read each of the scenarios, write down your answers to the questions, and then discuss with your group. Try to apply what you have learned about best practices for publication ethics.

Challenge 1: They're MY Words

Margo (postdoc): I just received a letter from Journal X regarding my first-authored manuscript that we submitted a month ago. It says that a reviewer raised concerns about plagiarism and the journal will not continue with the review until I explain why I used previously published text. They provided a plagiarism report and it looks like the first two paragraphs of the introduction are similar to our labs earlier publications. Jason, didn't you revise my introduction?

Jason (Principal Investigator): I did revise it and I'm sure I made it better than what you originally wrote. I inserted some sentences from our earlier manuscripts because they describe the scientific background perfectly. I used my words, not someone else's. It is not plagiarism. I will just tell the journal that they are wrong.

1. **Who are the stakeholders in this scenario and how could this impact them?**

2. **Is Jason correct?**

3. **How should Margo respond?**

4. **How can Margo prevent this in the future?**

5. **PASS IT ON: How would you assure that your trainees and collaborators understand that self-plagiarism is not accepted by journals? How would you teach this?**

WRITE

REMEMBER: **Note ideas that you want to add to your My Text Preparation and Collaborations Checklist.**

Challenge 2: Fast Draft

Tim (3rd year grad student): I finished the first draft of my biomaterials article.

Lara (5th year grad student): That was pretty fast. Didn't you start working on it about two weeks ago?

Tim (3rd year grad student): I did. I just took the final draft of the biomaterials paper that you published last year and replaced the data with my findings. I updated the introduction a bit and wrote the discussion. I figured that if the reviewers liked your paper, they will have to like mine.

1. **Who are the stakeholders in this scenario and how could this writing style impact them?**

2. **Would Tim's process be considered plagiarism?**

3. **How should Lara respond to Tim?**

4. **How can Lara prevent this in the future?**

5. **PASS IT ON: How would you assure that your trainees and collaborators understand that plagiarism is not accepted by journals? How would you teach this?**

WRITE

REMEMBER: Note ideas that you want to add to your My Text Preparation and Collaborations Checklist.

Challenge 3: Ready to Sign?

Lara (5th year grad student): I just got the acceptance letter from Journal Y for the cardiovascular collaborative project. The journal requested that I sign the copyright release form. I only contributed to a small part of the project but they considered it to be significant enough for authorship (5th author out of 8). I don't think I even read the final version of the article before it was submitted.

1. **Should Lara sign the form?**

2. **What problems could Lara encounter as a co-author of article that she had little input on?**

3. **How can Lara prevent this in the future?**

4. **PASS IT ON: How would you assure that your trainees and collaborators understand that all authors must participate in all aspects of the publishing process, including preparing the data, writing the drafts, submitting the work, and responding to reviewers? How would you teach this?**

WRITE

REMEMBER: **Note ideas that you want to add to your My Text Preparation and Collaborations Checklist.**

Challenge 4: Copy and Paste

Pat (Visiting Scientist): I just received a letter from Journal X regarding my first-authored review article that was just accepted. It says that they identified plagiarized text as they were preparing the article for publication. They won't publish the paper until I explain why so many paragraphs appear to be from the work of other authors.

Sarah (Principal Investigator): Your review article was so well written, I know you worked really hard on it. How did you prepare the manuscript, exactly?

Pat: I read a lot of background articles and took notes. I wrote the manuscript from my notes, not from the articles themselves just to avoid the possibility of using previously published text. Of course, I have been collecting my facts for a couple of years, it is possible that I copied and pasted text from the articles into my notes with the intention of writing it in my own words later.

1. **How should Pat respond to the journal?**

2. **Should Pat inform anyone else about the problem?**

3. **What could Pat have done during the preparation of his manuscript to be sure that the work was written in his own words?**

4. **PASS IT ON: How would you assure that your trainees and collaborators understand that good writing and citation practices are essential to avoiding plagiarism? How would you teach this?**

WRITE

REMEMBER: **Note ideas that you want to add to your My Text Preparation and Collaborations Checklist.**

Activity D
My Text Preparation and Collaborations Checklist

Purpose You will develop a checklist that you can use now and in the future to guide ethical text preparation in terms of plagiarism, copyright, and acknowledgement of sources. You should use materials from the activities, readings, and Interactive Lecture. After completing the activity, you should have a checklist for text preparation and collaboration considerations AND a plan for teaching these best practices to your students.

Procedure Using what you have learned in this unit, develop a checklist of questions for yourself, your trainees, and your collaborators to use in manuscript preparation. This checklist can be added to other checklists you generate through the modules on publication ethics best practices.

WRITE

Here are some suggestions on definitions and information you may want to include but MAKE THE LIST YOUR OWN. We recommend you recreate these tables in your word processing program so you can modify it later.

Definitions to Remember	
Plagiarism	
Self-plagiarism	
Copyright	

My Best Practices Checklist	
I. Avoiding Plagiarism and Self-Plagiarism	
A. Note-taking	
B. Acknowledging Sources (Quote & Paraphrase)	
C. Writing Methods	
D. PASS IT ON	My ideas for teaching best practices for avoiding plagiarism and self-plagiarism to my students:
E. Other notes	
II. Preparing Text with Collaborators	
A. Work proactively	
B. Coauthors' text	
C. Troubleshooting	
D. PASS IT ON	My ideas for teaching best practices for preparing text with collaborators to my students:
E. Other Notes	

Activity E
Best Practices for Ethical Writing and Two-Column Note-Taking

Purpose In this activity, you will read some examples of good note-taking that demonstrate four good ethical writing practices. You also will see how a two-column approach to note-taking can help you prevent plagiarism, inaccurate quotes or citations, and missing citations.

Procedure Read each best practice principle and the example that follows.

Write down any notes or questions you have about this principle and how it should be applied.

NOTE: A blank copy of the Two-Column Note format is included at the end of the activity. You can recreate this form in your word processing program or download one in MS Word from http://www.lifescitrc.org/resource.cfm?submissionID=11046.

Best Practice Principle #1

Text that is taken directly from another source, without alteration, must be placed in quotes.
If text is copied directly from the source and not written in your own words, place it in quotes AND cite the source including page number (if applicable). However, remember that inclusion of verbatim text is not common in scholarly articles. Consider summarizing or paraphrasing facts or information from published sources.

See the example below:

Citation/ Full reference	Randall JC, Winkler TW, Kutalik Z, Berndt SI, Jackson AU, et al. (2013) Sex-stratified Genome-wide Association Studies Including 270,000 Individuals Show Sexual Dimorphism in Genetic Loci for Anthropometric Traits. PLoS Genet 9(6): e1003500. doi: 10.1371/journal.pgen.1003500
URL (if applicable)	http://journals.plos.org/plosgenetics/article?id=10.1371%2Fjournal.pgen.1003500

ORIGINAL TEXT ("cut and paste")	**MY WRITING** (Notes, paraphrasing, summary, etc.)
"Our investigation underscores the importance of considering sex-differences when interrogating the genetic architecture of anthropometric traits. For those traits with strong a priori evidence for sex differences, the routine analysis of sex-specific genome-wide analyses may allow for numerous options for meta-analysis including a sex-combined scan optimally powered to detect the general association as well as sex-specific scans when searching for sexually dimorphic signals."	As best explained by Randall and colleagues, their study "…underscores the importance of considering sex-differences when interrogating the genetic architecture of anthropometric traits. For those traits with strong a priori evidence for sex differences, the routine analysis of sex-specific genome-wide analyses may allow for numerous options for meta-analysis including a sex-combined scan optimally powered to detect the general association as well as sex-specific scans when searching for sexually dimorphic signals" (p. 12).

My notes and questions:

Best Practice Principle #2

When paraphrasing others' work, substantial modifications must be made to the text.
Paraphrasing shares the same information as included in the original text but it is written in your own words and own context. Most commonly, the original paper includes the authors' report of original findings. In your paper, the findings may be reported to note precedent to your study, or to define that a model system or technique is important. Your paper should not just restate what the other author wrote.

See the example below:

Citation/ Full reference	Randall JC, Winkler TW, Kutalik Z, Berndt SI, Jackson AU, et al. (2013) Sex-stratified Genome-wide Association Studies Including 270,000 Individuals Show Sexual Dimorphism in Genetic Loci for Anthropometric Traits. PLoS Genet 9(6): e1003500. doi: 10.1371/journal.pgen.1003500
URL (if applicable)	http://journals.plos.org/plosgenetics/article?id=10.1371%2Fjournal.pgen.1003500

ORIGINAL TEXT ("cut and paste")	**MY WRITING** (Notes, paraphrasing, summary, etc.)
"Our investigation underscores the importance of considering sex-differences when interrogating the genetic architecture of anthropometric traits. For those traits with strong a priori evidence for sex differences, the routine analysis of sex-specific genome-wide analyses may allow for numerous options for meta-analysis including a sex-combined scan optimally powered to detect the general association as well as sex-specific scans when searching for sexually dimorphic signals."	Randall et al reported that sex-specific genome-wide analyses provide more options for meta-analysis of both general association and sex specific differences. Studies that utilize these analyses will be important for interpreting whether sex differences influence the genetic architecture of anthropometric traits, particularly for traits with known differences between males and females.

My notes and questions:

Best Practice Principle #3

When summarizing others' work, condense the information using your own words.
Summarizing other's work is a writing best practice and can reduce the chance that your text would be considered plagiarism. If specific facts are important to your work, note the reasons why in your words.

See the example below:

Citation/ Full reference	Randall JC, Winkler TW, Kutalik Z, Berndt SI, Jackson AU, et al. (2013) Sex-stratified Genome-wide Association Studies Including 270,000 Individuals Show Sexual Dimorphism in Genetic Loci for Anthropometric Traits. PLoS Genet 9(6): e1003500. doi: 10.1371/journal.pgen.1003500
URL (if applicable)	http://journals.plos.org/plosgenetics/article?id=10.1371%2Fjournal.pgen.1003500

ORIGINAL TEXT ("cut and paste")	**MY WRITING** (Notes, paraphrasing, summary, etc.)
"Our investigation underscores the importance of considering sex-differences when interrogating the genetic architecture of anthropometric traits. For those traits with strong a priori evidence for sex differences, the routine analysis of sex-specific genome-wide analyses may allow for numerous options for meta-analysis including a sex-combined scan optimally powered to detect the general association as well as sex-specific scans when searching for sexually dimorphic signals."	A study found that sex-specific genome-wide analyses are particularly important to assess whether sex differences play a role in the genetic architecture of anthropometric traits.

My notes and questions:

Best Practice Principle #4

Using technical words and phrases is not considered plagiarism as long as the guidelines for ethical writing are followed.

Technical words (words that have a particular meaning in a particular context) do not have to be replaced when using the information in another article. For example, the word "significant" has a specific meaning in the context of statistics. In the example below, "sex-specific genome-wide analyses" cannot be written accurately using different words.

See the example below:

Citation/ Full reference	Randall JC, Winkler TW, Kutalik Z, Berndt SI, Jackson AU, et al. (2013) Sex-stratified Genome-wide Association Studies Including 270,000 Individuals Show Sexual Dimorphism in Genetic Loci for Anthropometric Traits. PLoS Genet 9(6): e1003500. doi: 10.1371/journal.pgen.1003500
URL (if applicable)	http://journals.plos.org/plosgenetics/article?id=10.1371%2Fjournal.pgen.1003500

ORIGINAL TEXT ("cut and paste")	**MY WRITING** (Notes, paraphrasing, summary, etc.)
"Our investigation underscores the importance of considering sex-differences when interrogating the genetic architecture of anthropometric traits. For those traits with strong a priori evidence for sex differences, the routine analysis of sex-specific genome-wide analyses may allow for numerous options for meta-analysis including a sex-combined scan optimally powered to detect the general association as well as sex-specific scans when searching for sexually dimorphic signals."	A study found that **sex-specific genome-wide analyses** are particularly important to assess whether sex differences play a role in the **genetic architecture** of **anthropometric traits,** particularly for **traits** with known differences between males and females.

My notes and questions:

Two-Column Note Format	
Citation/ **Full reference**	
URL (if applicable)	

ORIGINAL TEXT ("cut and paste")	**MY WRITING** (Notes, paraphrasing, summary, etc.)

Available as MS Word document: http://www.lifescitrc.org/resource.cfm?submissionID=11046.

Activity F
Methodology Analysis

Purpose In this activity, you will learn the components of a good methods section and then provide feedback to a fellow student/classmate on his or her draft methods section. After completing this activity, you will be able to critique a methods section for its completeness and understandability using a list of key components for a methods section. This list also can be used in writing your own methods sections.

Procedure You were asked before class to bring a copy of a draft methods section you developed for an article or study.

WRITE

Exchange draft methods sections with another student. Using the information in the Methods Section Primer, complete the Methodology Analysis Form to provide feedback to the other student on his/her draft methods section.

Methods Section Primer

REMEMBER: The purpose of the Methods Section is to describe your study methods with adequate detail so that the reader has the information needed to replicate your experiments.

A. The Methods Section **SHOULD**:	• Include three components
	  o Experimental design
	  o Experiments completed
	  o Statistics used to analyze results
	• Adhere to journal space limitations and content requirements
	• Cite previously published methods
	• Describe modifications of published methods
	• Provide additional detail if the method is new or novel

B. The Methods Section should **NOT** include:	• Step-by-step protocols • Details on common statistical procedures • Results
C. The **experimental design** should include:	• Treatments, experimental groups, controls • Data collection protocols • Variables measured • Reagents and materials • Replicate experiments • Statistical analyses

D. The description of **experimental samples or subjects** should include (as applicable):	• Cell line (source and strain)
	• Animals (age, size, sex, source, handling [diet, housing, lighting, etc.])
	• Humans (Age, size, sex, pre-existing conditions)
	• Protocol/Procedure Review
	  o Institutional Animal Care and Use Committee (IACUC) approval
	  o Institutional Review Board (IRB) approval

E. **Sources of reagents and materials** should include (as applicable):	• Drugs and chemicals (supplier, stock number, lot number)
	• Antibodies or biological reagents
	  o Describe development process
	  o Be prepared to share

Bottom line: Can others repeat my work based on the detail provided in this description?	

Adapted with permission from: Matyas, M. L., Lowy, M., & Byse, M. (2015). APS Professional Skills Training Course: Writing and Reviewing for Scientific Journals Course Materials. Bethesda, MD: American Physiological Society. http://www.lifescitrc.org/resource.cfm?submissionID=2465.

Methodology Analysis Form

Use the form below and the Methods Section Primer to analyze your fellow student's Methods Section.

Methods Components	Is this included in the methods? Yes, No or N/A*	Is there enough info to replicate the study? Yes, No or N/A*	Comment
Major components: Experimental design, rationale, and experiments completed			
Citation of previously published methods			
Description of modifications of published methods			
Additional detail if the method is new or novel			
For the experimental design:			
Treatments, experimental groups, controls			
Data collection protocols			
Variables measured			
Reagents and materials			
Replicate experiments			
Statistical analyses (power analysis, data analysis)			
For the experimental samples or subjects:			
Cell line – source and strain			
Animals – Age, size, sex, source, handling			
Humans – Age, size, sex, pre-existing conditions			
Protocol/Procedure Review (IACUC, IRB)			

Sources of reagents and materials:			
Drugs and chemicals – supplier, stock number, lot number			
Antibodies or biological reagents – development process			
Components to avoid			
Step-by-step protocols			
Details on common statistical procedures			
Results			

* Not applicable

Activity G
Institutional Writing Resources

Purpose In this activity, you will identify the writing resources (websites, offices, courses, etc.) at your home institution as well as other print and online resources. After completing this activity, you will be able to describe the writing resources your institution offers and how to access them.

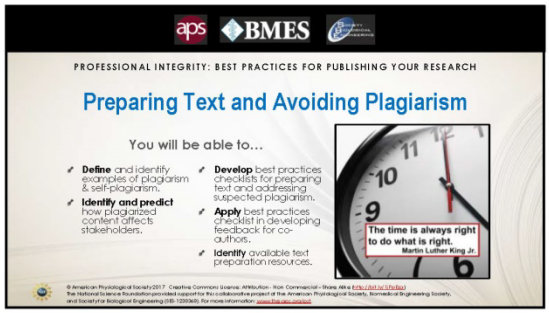
Procedure Use the form below (or a similar table you create) to gather information on writing resources (websites, offices, courses, etc.) at your home institution.

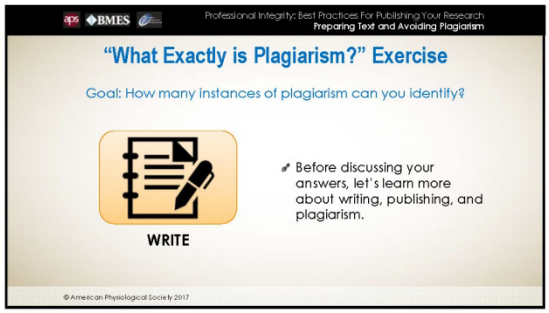
Then examine one or more of the online resources and make notes on their usefulness for you. If you know of other online or print writing resources, add them to the list. You will share your findings with other students.

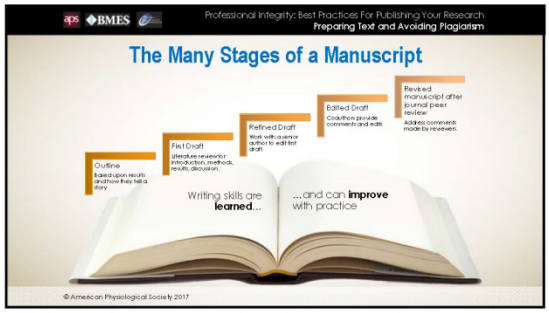
What writing and editing resources do you have at your institution?				
In my department…	**Description**	**Where to find it**	**Who has access?**	**Is there a cost?**
At my institution…	**Description**	**Where to find it**	**Who has access?**	**Is there a cost?**

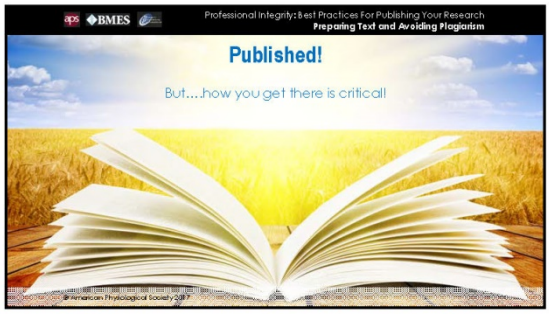
Online Writing Resources		
Resource	**Useful (Y/N)**	**Why/Why not?**

Student Slide Handout








Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
Published!
But....how you get there is critical!
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Preparing Text and Avoiding Plagiarism
Help Is on the Way!
Goal: Well-prepared text that clearly tells your research story and contains NO plagiarized materials.
DISCUSS
What resources are available...
At your institution?
Online?
In print?
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Plagiarism
What is your definition of plagiarism?
What is your definition of self-plagiarism?
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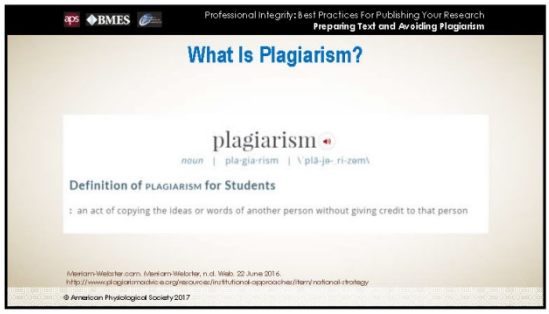

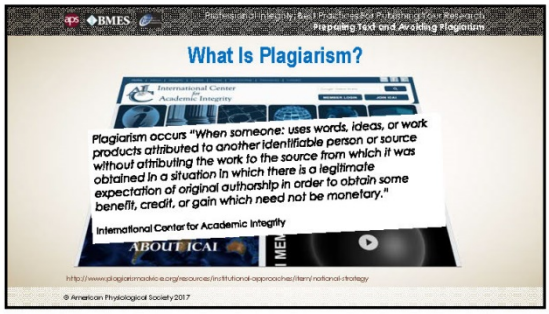

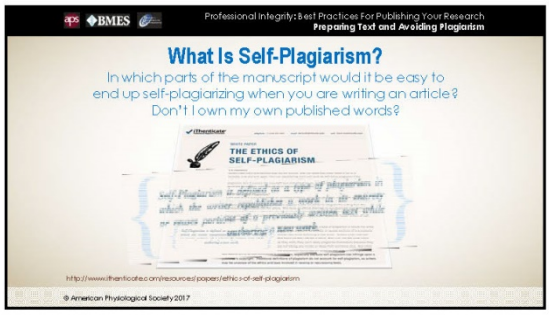


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Self-Plagiarism and Copyright Protection
Copyright is a "form of legal protection given to content creators through the assignment of specific rights to works that qualify for protection." Authors who sign a publisher's copyright agreement transfer ownership of the scholarly works to the publisher.
Can't publish the article again without permission from journal
Can't sell the work to someone else for profit
Can't reuse the text or figures unless permission is granted
Must cite your work
If it is on the Internet...it is copyrighted by default
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Scholarly Publications Must Be Original
Areas highlighted represent text taken from other publications. Each color represents a different publication.
New and original?
Waste of reviewers' time?
Retraction probable
Institution notification possible
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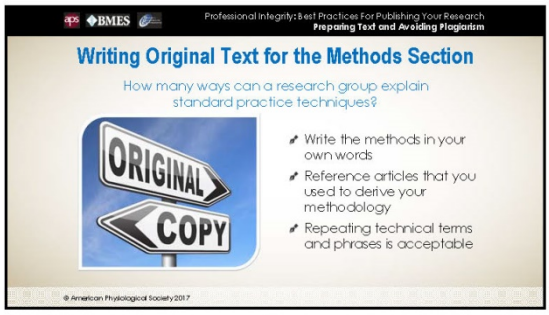
Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
Writing Original Text for the Methods Section
How many ways can a research group explain standard practice techniques?
ORIGINAL
COPY
Write the methods in your own words
Reference articles that you used to derive your methodology
Repeating technical terms and phrases is acceptable
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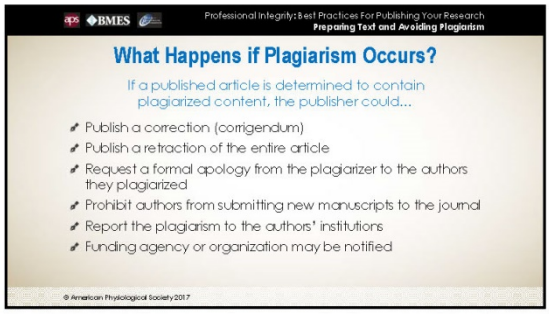


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Plagiarism Is Defined as Research Misconduct
Code of Federal Regulations Title 42 - Public Health
§ 93.103 Research misconduct.
Plagiarism...considered
Academic Theft
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Plagiarism at Ohio University
Goal: As you listen to the National Public Radio broadcast at http://n.pr/2mWpP7b, consider the following
Who was affected by the plagiarism?
Should the students be held solely responsible?
Should the advisors be held responsible?
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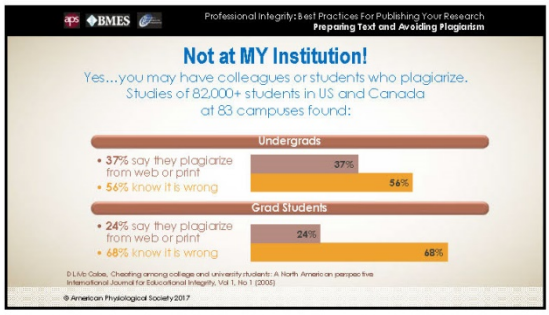
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Not at MY Institution!
Yes...you may have colleagues or students who plagiarize.
Studies of 82,000+ students in US and Canada
at 83 campuses found:
Undergrads
37% say they plagiarize from web or print
56% know it is wrong
37%
56%
Grad Students
24% say they plagiarize from web or print
68% know it is wrong
24%
68%
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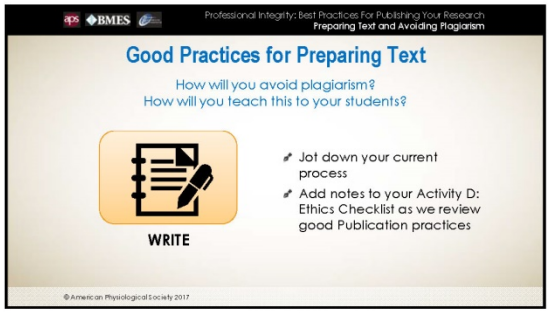

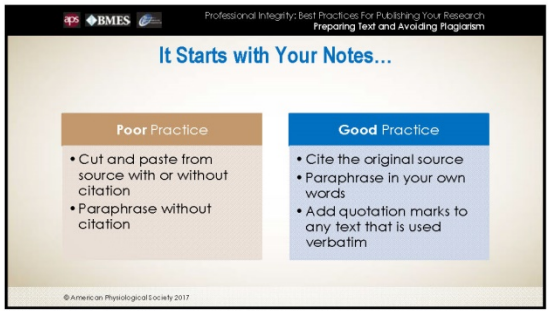

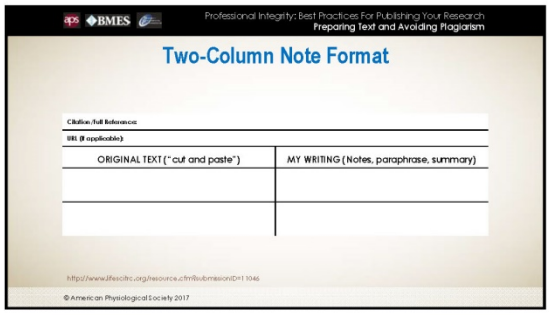


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Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
Miguel Roig, Ph.D
"Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing."
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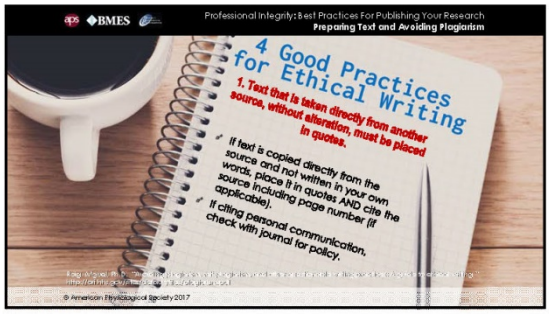
Professional Integrity: Best Practices For Publishing Your Research
Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
1. Text that is taken directly from another source, without alteration, must be placed in quotes.
If text is copied directly from the source and not written in your own words, place it in quotes AND cite the source including page number (if applicable).
If citing personal communication, check with journal for policy.
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4 Good Practices for Ethical Writing
To Quote or Paraphrase?
Too many quotations or paraphrases suggest you lack confidence in the topic.
Look for opportunities to summarize key points across multiple studies.
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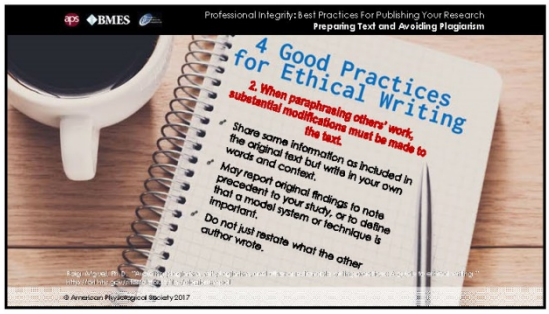

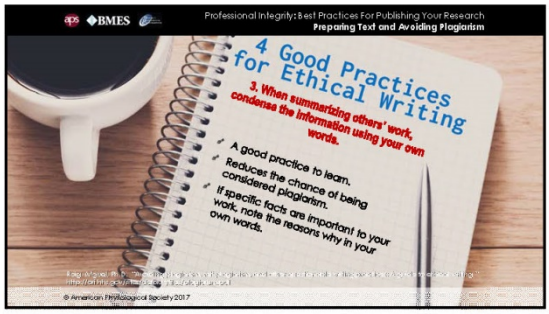

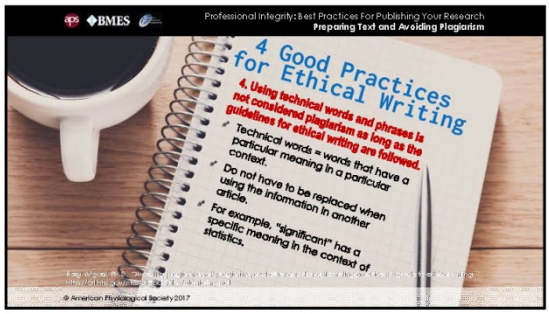

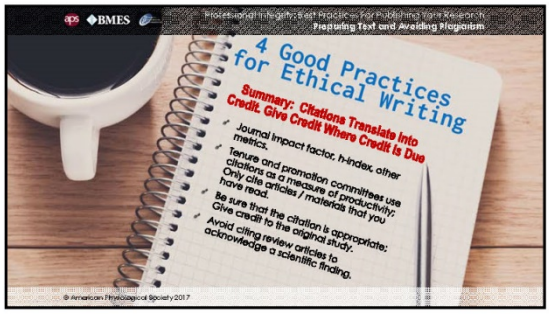
BMES
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Preparing Text and Avoiding Plagiarism
4 Good Practices for Ethical Writing
Summary: Citations Translate into Credit. Give Credit Where Credit Is Due
Journal impact factor, h-index, other metrics.
Tenure and promotion committees use citations as a measure of productivity; Only cite articles / materials that you have read.
Be sure that the citation is appropriate; Give credit to the original study.
Avoid citing review articles to acknowledge a scientific finding.
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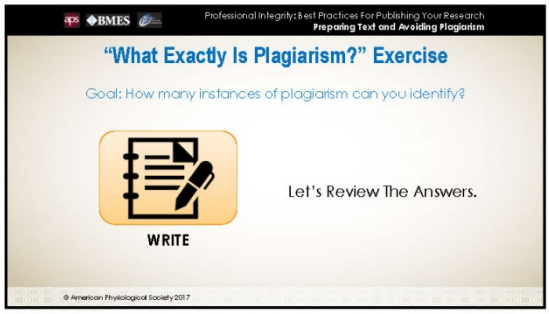
BMES
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"What Exactly Is Plagiarism?" Exercise
Goal: How many instances of plagiarism can you identify?
WRITE
Let's Review The Answers.
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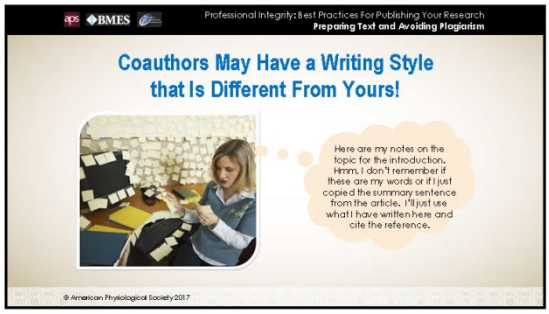
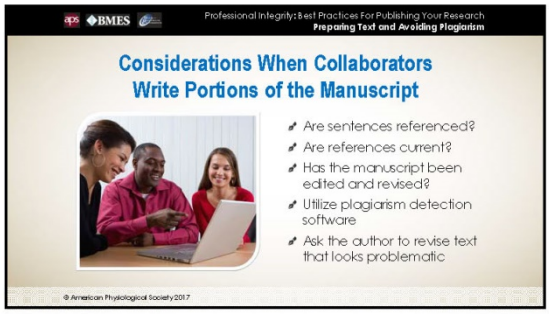
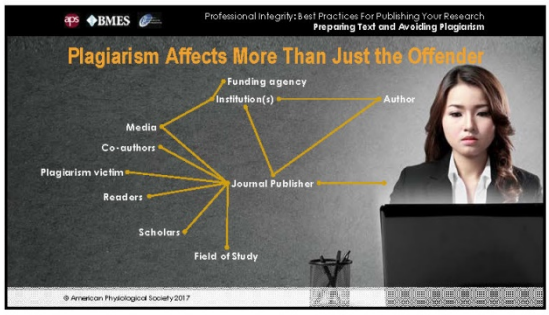
Preparing Text and Avoiding Plagiarism
Collaborations and Text Preparation





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Plagiarism of Ideas
Dear Journal Editor,
I recently read the newly published article from the Smith Lab and am really shocked because I am part of that study but was not included as an author. He plagiarized my ideas. Please fix the problem.
Sincerely,
Upset Postdoc
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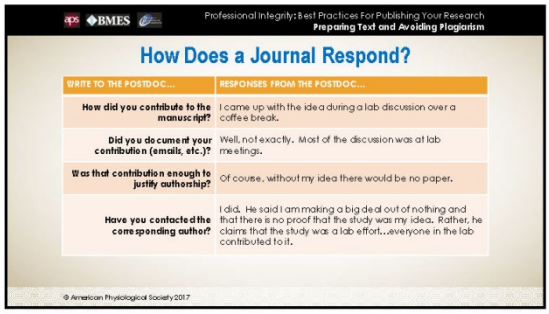
BMES
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How Does a Journal Respond?
WRITE TO THE POSTDOC...
RESPONSES FROM THE POSTDOC...
How did you contribute to the manuscript?
I came up with the idea during a lab discussion over a coffee break.
Did you document your contribution (emails, etc.)?
Well, not exactly. Most of the discussion was at lab meetings.
Was that contribution enough to justify authorship?
Of course, without my idea there would be no paper.
Have you contacted the corresponding author?
I did. He said I am making a big deal out of nothing and that there is no proof that the study was my idea. Rather, he claims that the study was a lab effort...everyone in the lab contributed to it.
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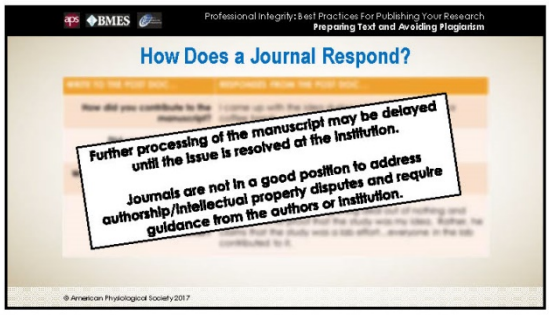
BMES
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Preparing Text and Avoiding Plagiarism
How Does a Journal Respond?
Further processing of the manuscript may be delayed until the issue is resolved at the institution.
Journals are not in a good position to address authorship/intellectual property disputes and require guidance from the authors or institution.
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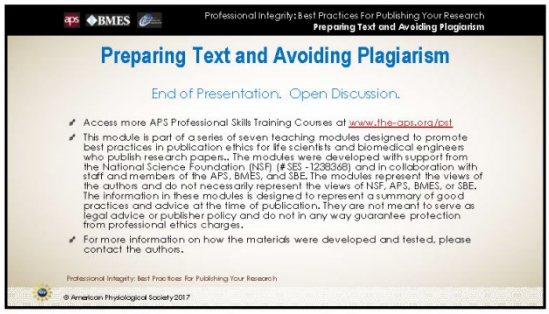

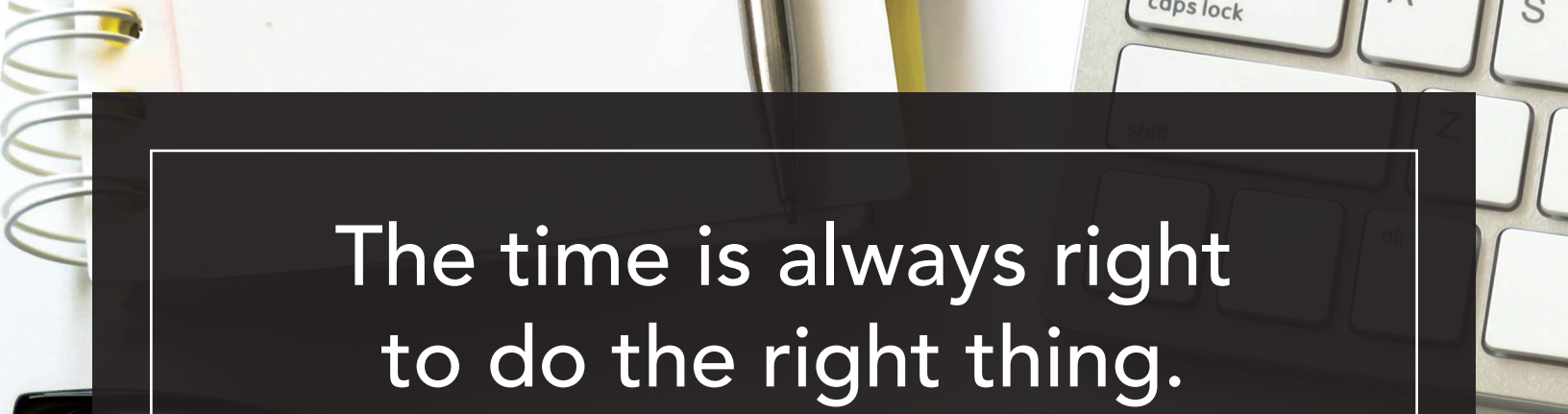

The time is always right to do the right thing.

—Martin Luther King Jr.

TEXT PREPARATION AND AVOIDING PLAGIARISM is one of seven teaching modules designed to promote best practices in publication ethics for life scientists and biomedical engineers who publish research papers. Each module provides information on and principles of the most common publication ethics issues as well as the tools needed to integrate and apply professional standards of practice to real life situations. After finishing each module, students will have a personal checklist to use in the preparation of future manuscripts AND a plan for teaching module principles to their future trainees and collaborators.

Modules are designed to be used by higher education institutions, laboratory groups, individuals, and professional societies. The teaching paradigms used in the modules support various types of learners and were designed to integrate into current Responsible Conduct of Research (RCR) training courses/programs.

Modules were developed with support from the National Science Foundation (NSF) (#SES -1238368) and in collaboration with staff and members of the American Physiological Society, Biomedical Engineering Society, and the Society for Biological Engineers.

Handouts for instructor and students, audio and video resources, and online course links are available at www.the-aps.org/pst for all seven modules:

- Authorship
- Conflicts of Interest
- Considerations for Animal and Human Studies
- Data Fabrication and Falsification
- Data Management and Integrity
- Overlapping Publications
- Text Preparation and Avoiding Plagiarism