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| **THEME 12. RESEARCH ETHICS AND RESPONSIBLE CONDUCT** |

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| Learning outcomes  This lesson offers you opportunities to:   * Gain an overview about research ethics and responsible conduct; * Learn the steps of responsible conduct in research; * Develop note-taking skills while watching speech; * Learn about key components of research ethics;   *Key-words:* *bias, code of conduct, confidentiality, informed consent, principles of conduct, research participants, sensitive information, subjectivity.* |

**Introduction to Research Ethics**

Research ethics include the principles and standards that direct researchers to do their work responsibly, ethically, and with integrity. It ensures the protection of participants, the integrity of research, and the advancement of information in a dependable manner. Research ethics are the obligation of both review boards and institutions, as well as individual researchers. Moreover, researchers are required to participate in ethical decision-making throughout the research process, beginning with the design phase and continuing through publication and post-study activities. Furthermore, researchers must continually assess their conduct and the possible ethical ramifications of their choices. This aids in recognizing possible ethical issues and preventing inadvertent wrongdoing. Researchers need to disseminate data, methodologies, and findings transparently when appropriate, to enhance reproducibility and transparency in scientific inquiry.

While institutions and publications may establish norms and standards, the daily ethical culture of research is mostly influenced by individual researchers and their surroundings. Seasoned researchers are tasked with guiding graduate students, postdoctoral fellows, and younger academics on research ethics and integrity. This includes instructing students on managing ethical challenges and ensuring they comprehend the ramifications of unethical conduct. Moreover, top researchers and faculty members often exemplify ethical conduct and help shape the ethical norms of an organization. They may promote the establishment of ethical rules of behavior, training initiatives, and seminars.

 **1. Informed Consent and Participant Rights**

Informed consent is a fundamental ethical requirement in research with human subjects. It guarantees that participants are well informed about the study's nature, its requirements, any possible dangers, and their rights before to consenting to participate. Essential elements of informed consent include:

* ***Transparent Information:*** Participants must receive comprehensive details on the study's objectives, methodologies, risks, and advantages, conveyed in accessible language.
* ***Voluntary Participation:*** Participation must be voluntary, devoid of compulsion, and participants should have the liberty to quit at any moment without repercussions.
* ***Capacity to Consent:*** Participants must possess the ability to comprehend the information provided and provide an informed choice. If participants are underage or otherwise unable to offer permission, a guardian or legal representative must provide consent.
* ***Confidentiality of Participation:*** Participants must be guaranteed that their name and involvement in the research will be kept secret unless explicitly specified otherwise.

Informed consent constitutes a continuous procedure rather than a singular document to be signed at the commencement of a research.

**2. Addressing Bias and Conflict of Interest**

Bias refers to any element that might impact the research process or its outcomes in an unfair or deceptive way. Conflicts of interest (COIs) arise when researchers have financial, personal, or professional interests that might possibly impair their neutrality in performing or reporting research.

**Addressing conflicts of interest:**

* Researchers must declare any personal, professional, or financial interests that may possibly affect their study. This includes financial sources, affiliations with sponsors, or any personal interests in the study results.
* Transparency is essential to guarantee that the study is impartial and credible.   
  Ethics rules mandate that researchers mitigate prejudice and disclose conflicts of interest to both the scientific community and the public to maintain the study's credibility.

 **3. Data Privacy and Confidentiality**

Data privacy and confidentiality are essential components in safeguarding participants' personal information during study. Researchers must guarantee that data is managed with the highest diligence to avert illegal access or exploitation.

***Essential considerations:***

* ***Data Security:*** Researchers are required to adopt suitable means to safeguard data, including encryption, password protection, and limited access.
* ***Anonymity vs Confidentiality:*** Anonymity indicates that participants' identities remain unknown to everyone, while confidentiality signifies that researchers are aware of participants' identities but safeguard this information from other parties.
* ***Data Sharing:*** Participants must be notified prior to the study whether data will be shared, and their permission must be secured. Data sharing must adhere to privacy regulations, such as the GDPR in Europe.

Researchers must guarantee that participant data remains private and is used only for the objectives specified in the informed consent procedure.

**4. Ethical Considerations in Vulnerable Populations**

Vulnerable populations are groups with less ability to safeguard their interests, rendering them more prone to exploitation or damage in research contexts. The populations include children, incarcerated people, those with impairments, and economically disadvantaged individuals.

**Special considerations include:**

* ***Enhanced Safeguards:*** At-risk persons need additional protections to ensure their rights and well-being.
* ***Assent and Consent:*** For children or those with cognitive disabilities, it is essential to get informed consent from a legal guardian and, where feasible, assent from the participant.
* ***Minimizing Risk:*** The hazards associated with research involving vulnerable groups must be mitigated, and the study should provide potential benefits that surpass the risks.
* ***Enhanced Oversight:*** Research involving vulnerable populations often need more rigorous ethical evaluations and supervision.

Research must be undertaken with specific consideration to guarantee the safety and welfare of vulnerable groups.

**5. Ethical Review Boards and Obtaining Approval**

Ethical review boards (ERBs), referred to as Institutional Review Boards (IRBs) in some areas, are panels that supervise the ethical considerations of research involving human subjects.

 **The role of the IRB/ERB includes:**

* **Reviewing Research Proposals:** Prior to the commencement of research, the IRB evaluates the study's design, methodology, informed consent procedures, and any dangers to participants to ensure adherence to ethical standards.
* **Approval Process:** Researchers must get authorization from the IRB/ERB prior to commencing their research. The board evaluates the study's compliance with ethical standards and its capacity to mitigate damage.
* **Ongoing Monitoring:** Ethical supervision persists throughout the study process. Should the study diverge from the sanctioned protocol, the IRB/ERB must be notified, and requisite modifications must be implemented to guarantee ethical adherence.

The review process ensures that research is conducted responsibly and ethically and protects the participants involved.

**6. Ethics in Research and Academic Integrity**

Academic integrity is crucial in research, guaranteeing that it is performed with honesty, transparency, and accountability. It entails a dedication to generating high-quality, accurate research and maintaining ethical standards throughout the research process.

**Key aspects of academic integrity:**

* **Honesty in Reporting Results:** Researchers are obligated to disclose their results accurately, devoid of falsification, fabrication, or distortion of data.
* **Plagiarism Prevention:** Accurate citation of sources is essential to prevent plagiarism. Researchers must acknowledge the contributions of ideas, data, or methodologies that are not their own.
* **Proper Citation Practices:** Precise citations and references are crucial for recognizing the work of other researchers and upholding intellectual property rights.
* **Responsible Conduct of Research:** Researchers must refrain from wrongdoing, such as cheating, data manipulation, and unethical collaborative procedures.

Academic integrity guarantees that research favorably impacts the academic community and promotes knowledge in a reliable way.

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| **Activity 1. Reading. Read the text and answer the following questions.** |

1. What are the key principles of research ethics, and why are they important in ensuring the integrity of research?
2. What are the key components of informed consent and why is it important?
3. What is the Data Privacy and Confidentiality in research?
4. What constitutes bias and conflict of interest in research?
5. Why is proper data management essential for responsible conduct in research?

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| **Activity 2. Watch the video about “Ethics and Responsible Conduct in Scientific Research”, make notes while watching.** |

You tube link: <https://www.youtube.com/watch?v=j5PPWSZe2Os&ab_channel=BioTechWhisperer>

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| **Activity 3. Speaking. Answer the following questions.** |

1. What constitutes ethics and responsible conduct in scientific research?
2. What is integrity, credibility, and reliability in research?
3. What strategies can researchers implement to ensure compliance with ethical guidelines and principles?
4. What does ethics in scientific research encompass?
5. The importance of obtaining informed consent from participants in research.
6. How can researchers provide proper attribution in scientific research?
7. What constitutes responsible conduct in scientific research?
8. How can scientists enhance the reliability and transparency of scientific knowledge?
9. What does responsible conduct entail?
10. What strategies can institutions implement to prioritize ethics and responsible conduct in research?

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| **Activity 4. Listening. Complete the notes below. Write ONE WORD ONLY for each answer.** |

**“What is Plagiarism in Research? Definition Types & Examples”**

Plagiarism occurs when you use someone else's work without acknowledging the original author. Plagiarism is regarded as 1\_\_\_\_\_\_\_\_\_\_\_ and often leads to serious consequences and harsh 2\_\_\_\_\_\_\_\_\_\_\_\_.

* If you commit plagiarism as a student, you will be 3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or even expelled from your university.
* If you are an academic and commit plagiarism, your career will be completely ruined. You will lose your 4\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and will never be able to publish papers in scientific journals ever again.

There are three types of plagiarism, direct or complete plagiarism, accidental plagiarism and self-plagiarism.

* Direct plagiarism occurs when you copy and paste someone else's work in its 5\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and pass it off as your own.
* Accidental plagiarism occurs when an author commits plagiarism 6\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This can happen when a paper lacks proper citations or contains incorrect citations.
* Self-plagiarism happens when you use a piece of text from your own 7\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_work in a new paper that you are writing.

Once you publish your work, the copyright for the text belongs to the publisher.

* You cannot use the unaltered text from your old paper in your new paper.
* You have to 8\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_your text if you want to use the same content in your new paper.
* If you want to reuse a figure from your old paper in your new paper exactly as it is, you have to get 9\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the publisher of your old paper.
* If the publisher does not give you permission, then you should modify it.

Another serious type of self-plagiarism is submitting exactly the same paper to multiple journals.

* If you submit the 10\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to multiple journals, then it is a violation of the ethical standards of publishing.
* You must submit your paper to a journal first and wait for the outcome if the paper gets rejected, then submit your paper to another journal.
* Keep repeating the process until you get your work published.

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| **Activity 5. Vocabulary. Match the words with an appropriate definition.** |

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|  | **Words** | **Definitions** |
| 1 | Plagiarism | 1. The verbatim copying of sections of another person’s work without quotation marks or proper citation. |
| 2 | Self-Plagiarism | 1. The act of acknowledging the original source of information, ideas, or data used in a research work, to avoid plagiarism. |
| 3 | Paraphrasing Plagiarism | 1. The act of clearly identifying and giving credit to the original author or creator of a work when using their ideas, text, or data. |
| 4 | Direct Plagiarism | 1. The act of using someone else’s work, ideas, or expressions without proper acknowledgment or permission, presenting them as one’s own. |
| 5 | Unintentional Plagiarism | 1. A form of plagiarism where small edits or changes are made to the original text, but it remains largely the same, without proper citation. |
| 6 | Citation | 1. Restating someone else’s ideas or text in your own words without giving proper credit to the original source. |
| 7 | Fabrication | 1. Accidentally failing to properly attribute a source or misunderstanding citation rules, leading to plagiarism without malicious intent. |
| 8 | Attribution | 1. Making up data, results, or information in research and presenting them as genuine, which is a form of academic dishonesty. |
| 9 | Patchwriting | 1. A widely used plagiarism detection software that checks academic work for unoriginal content by comparing it with a vast database of published material and other student papers. |
| 10 | Turnitin | 1. The reuse of one’s own previously published work, in part or whole, without proper citation or disclosure, as if it were new material. |

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