

Professional Ethics in Research

Sarvottamananda

Ramakrishna Mission Vivekananda University

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Introduction



Fundamentals



Research Ethics

Thanks
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Introduction

Disclaimer

Disclaimer: None of the figures in the presentation are mine.

Sultan Ali Shaida, (November 29, 1935 - August 5, 2015)



Sultan Ali Shaida , Ex-professor of Philosophy, Dept. of Humanities and Social Sciences, IIT Kanpur.

PhD in Ethics on Naturalistic Fallacy.

An **active student leader** at the **Aligarh Muslim University**, later a **party member** of **Communist Party of India** and **taught** in the Zakir Hussain College of **Delhi University**.

UGC National Lecturer in Philosophy during 1984-85.

Major philosophical concerns in the areas of Existentialism, Aesthetics, Literature and Ethics.

Introductory Remarks

Reference Textbook



The Ethics of Scientific Research: A Guidebook for Course Development Paperback,
by Judy E. Stern (Editor, Author), Deni Elliott , 1997
Amazon URL: <https://www.amazon.in/Ethics-Scientific-Research-Guidebook-Development/dp/0874517982>

Introductory Remarks

Introductory Remarks



Figure 1: Ethics

What is ethics?

Introductory Remarks

What is Ethics?

What is ethics?

Since we are technically minded, we generally do not worry too much about the philosophical issues of ethics. Also generally ethics is almost always connected to morality, which has a religious connotation, which a few dislike.

Ethics, like Aesthetics, is a branch of philosophy.

Introductory Remarks

Applications

But it has applications in

- Philosophy
- Religion
- Political Science
- Corporate
- Sociology
- Psychology
- Medical Science, etc.

And Science.

Introductory Remarks

Issues

What is ethics about?

Is ethics real, scientific, natural, necessary or even reasonable?

Can we make an ethical judgment?

What is the basis of ethical judgment?

What are ethical issues involved in the professional research activity?

Where we fail in professional ethics?

Introductory Remarks

Wiki

Ethics and Axiology

Ethics or moral philosophy is a branch of philosophy that "involves systematizing, defending, and recommending concepts of right and wrong behavior". The field of ethics, along with aesthetics, concerns matters of value; these fields comprise the branch of philosophy called **Axiology**.

Introductory Remarks

How Ethics is created?

Ethics are created, change, and evolve due to the following factors:

- significant **historic events** that create a reckoning (atomic bomb, 1945),
 - **ethical lapses** that lead research community to create new safeguards (though JC Bose is still not credited),
 - **changes in cultural values and behavioural norms** that evolve over time (like climate change, LGBT movement, inclusivity),
 - scientific advancements that lead to **new fields of research** (like Genetics, AI).

Introductory Remarks

Major Areas

Meta-ethics—the theoretical meaning and reference of moral propositions, and how their truth values (if any) can be determined; Questions about Ethics itself;

Normative ethics—the practical means of determining a moral course of action;

Applied ethics—what a person is obligated (or permitted) to do in a specific situation or a particular domain of action; Professional ethics.

Introductory Remarks

Research Ethics!!

Research ethics is branch of *Applied Ethics*, similar to

- Relational ethics
- Bioethics/Medical ethics
- Business/Corporate ethics
- Machine/AI ethics
- Technology ethics
- Military ethics
- Political ethics
- Public sector ethics
- Publication ethics
- Animal ethics

Introductory Remarks

Research Ethics!!

Research Ethics

Research ethics is concerned with the **moral issues** that arise during or as a result of research activities, as well as the **ethical conduct of researchers**.

Introduction
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Fundamentals
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Research Ethics
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Thanks
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Fundamentals: Ethics and Morality

What is Ethics?

What is Ethics?

What is Ethics?

As we said earlier,

Ethics is the field of philosophy which makes a judgement on humans actions.

For that we must have **values** and, then, **norms**.

What is Ethics?

Ethical Judgment

Q: How to make Ethical Judgment?

A: To make an ethical judgement we need to first fix the values and norms.

What is Ethics?

Norms

Norm

'Norm' refers to attitudes and behaviors that are considered normal.

For example, "Do not curse in polite conversation" is a social norm.

What is Ethics?

Example of Norms in Research

- Do not plagiarize.
- Give credit where it is due.
- Do not fake or exaggerate.
- Tell the truth.
- Be honest.
- Research the scientist (kind of social norm too).
- Etc.

What is Ethics?

Types of Social Norms

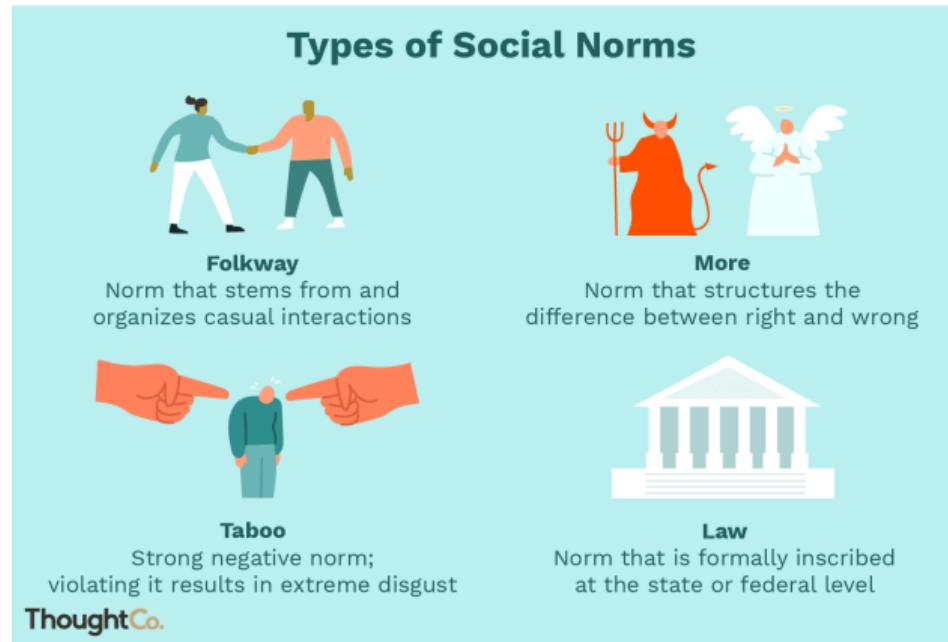


Figure 2: Courtesy: ThoughtCo.

What is Ethics?

Values

Value

Value denotes the degree of importance of some thing or action, with the aim of determining what actions are best to do or what way is best to live (normative ethics).

For example, “Happiness to all beings” is a value.

What is Ethics?

Ethics need Ethical Judgment



What is Ethics?

Ethical Judgment

Q: How to make Ethical Judgment?

A: To make an ethical judgement we need to first fix the values and norms.

Mostly it is happiness, or less misery, or economic equality, or removal of poverty, or freedom, or social equality, or knowledge, or satisfaction, or peace, or healthy life.

Not only different writers and teachers of philosophy have considered different values, different nations, cultures and societies, and also individuals, have different values, in different stations of life.

You choose your own.

What is Ethics?

Ethical Judgment

It is multi-agent problem.

Multiple agents do not share information. Each may try to optimize value which is not common.

This makes ethical judgment very difficult.

Some philosophers think that even with the problems of determining ethical action, somehow things will fall in place and we will have some ethical standards. (May not be true — Prisoner's dilemma).

What is Ethics?

Ethical Judgment

Suppose we have fixed values!

Then what? We need to fix actions then. Then we have a few choices.

What is Ethics?

What is Ethics?

It is

- Dos and Don'ts (What are dos and don'ts?)
- Right and Wrong (What is right and what is wrong?)
- Good and Evil (What is good and what is evil?)

Are the above same?

What is Ethics?

Dos and Don'ts

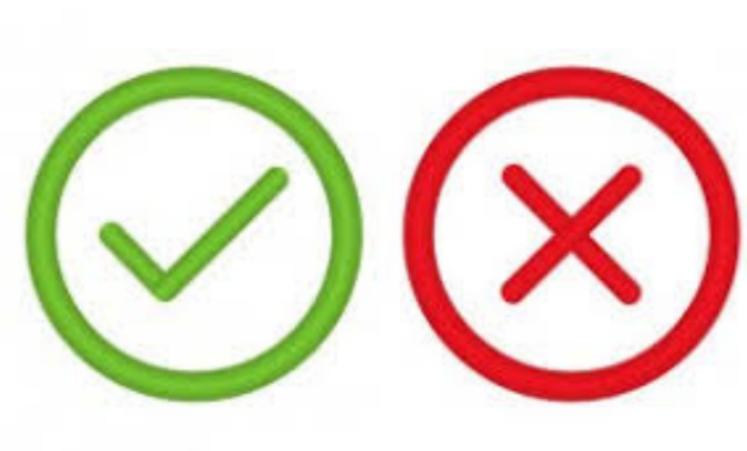


Figure 3: Dos and Don'ts

The idea that ethics is dos and don'ts presupposes that ethics is in action.

What is Ethics?

Right and Wrong



Figure 4: Right and Wrong

Right and wrong presupposes that ethics is in result of actions.

What is Ethics?

Good and Evil



Figure 5: Dos and Don'ts

Here the idea is that ethics is in intention (is in actor).

What is Ethics?

How hard is Ethical Judgment?



What is Ethics?

Ethical action

Since it **easiest to have norms**, a list of dos and don'ts is easiest to have. Most social norms are like this.

To decide an ethical action **on the basis of result is harder**. Most ethical norms tend to be like this.

Hardest of all is to incorporate intention into ethical judgment But that is what theoretically is needed to have best judgment Most idealistic norms are like this.

What is Ethics?

What about Laws?



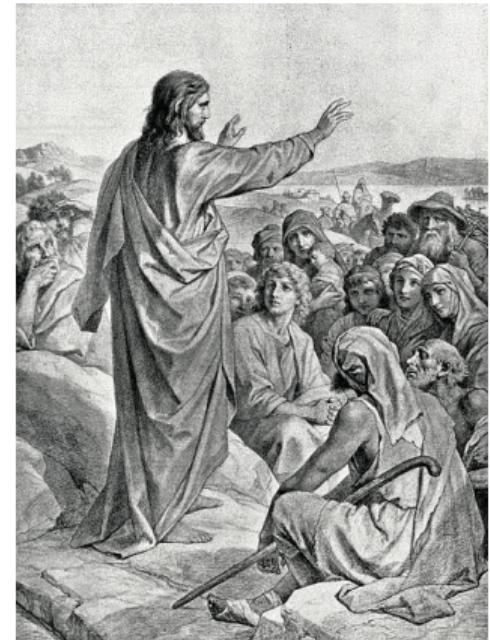
Laws (and therefore constitution) are **codified norms**.

What is Ethics?

What about Laws?

Laws—Divine, Philosophical and Social.

Buddham sharnam gachhami (divine),
Dhammam sharanam gachhami (philosophical),
Sangham sharanam gachhami (social).



Why should one be ethical?

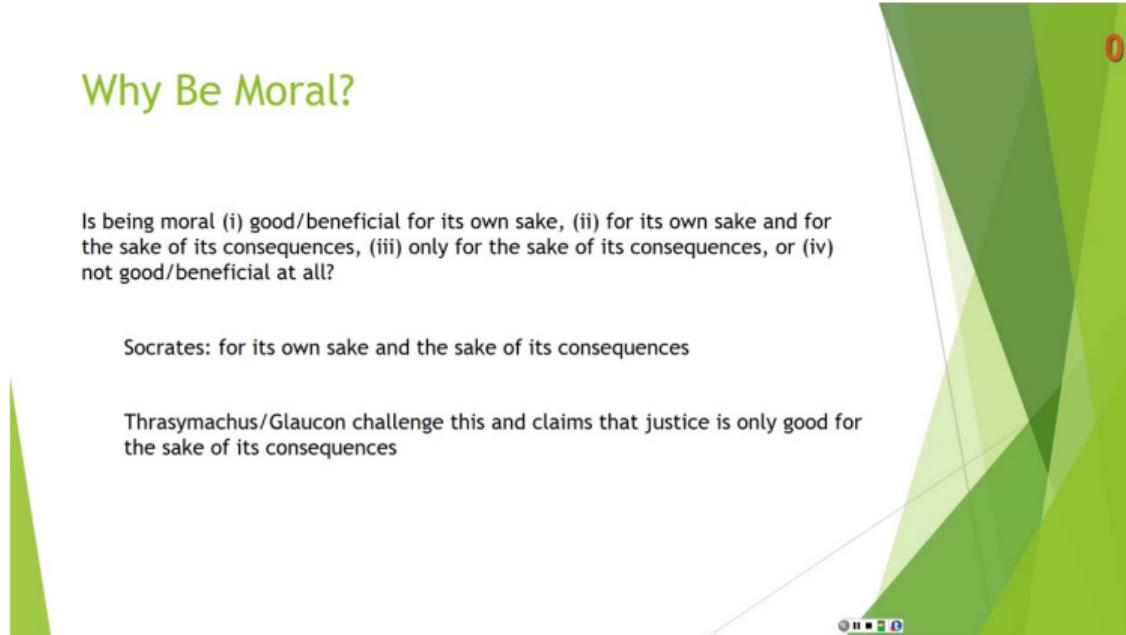
Why of Ethics?

Why Be Moral?

Is being moral (i) good/beneficial for its own sake, (ii) for its own sake and for the sake of its consequences, (iii) only for the sake of its consequences, or (iv) not good/beneficial at all?

Socrates: for its own sake and the sake of its consequences

Thrasymachus/Glaucon challenge this and claims that justice is only good for the sake of its consequences



Credits: Keith A. Hess

Why should one be ethical?

Why should one be ethical?

One should be ethical, for

- Enlightened self-interest — If everyone is unethical then it is problem for me.
- Fear of repercussion. The police makes us ethical. The ethics of a slave.
- Ethical égoïsme — it will help me to get what I want.
- Social, cultural, traditional norms — Mother told me to say no to drugs.
- Give and take. We should return to society what we have received. The ethics of a businessman.
- Noble sacrifice — because everyone else would be happier.
- Doing good for its own sake, nevertheless. The ethics of a superman.

There are different stages in ethical behavior From most selfish to most unselfish.

Ethics—Subjective or Objective

Subjective and Objective Standards of Ethics

Q: Why are people confused about Ethics?

Issue: Are ethical standards **subjective** or **objective**?

Many western philosophers, and therefore, academia, opine that we can only have subjective standards.

Side note: In fact, it is difficult to think of ethical standard, on purely selfish and capitalist grounds. The selfish/greedy one asks—**Why should one do good to others?**

In Vedanta philosophy we can have objective ethics because of unity of existence.
samvamkhalvidam brahman—(Chandogya Upanishad III.14.1)

Research Ethics



Figure 6: What is Research Ethics?

Research Ethics

Research ethics provides guidelines for the responsible conduct of research. In addition, it educates and monitors scientists conducting research to ensure a high ethical standard.

Why do we do Research



Figure 7: Courtesy: Sam Whitney, Getty Images

Why do we do Research?

Research leads to **increase in knowledge base & progress of science**.

We want **spread of knowledge** to all humanity.

We need technological and other **innovations** to ease the life everywhere.

Why should we do research ethically?

In nutshell, because only ethical research and good practices may lead to benefits.
And (also) because there are other stakeholders too.

Rules of Research Ethics



Figure 8: Courtesy: <http://publichealthnotes.com>

General Summary

Source: What is Ethics in Research & Why is it Important? U.S. National Institute of Environmental Health Sciences

The following is a general summary of some ethical principles:

- Honesty
- Objectivity
- Integrity
- Carefulness
- Respect for Intellectual Property Rights
- Confidentiality
- ... (contd.)

General Summary (contd.)

The following is a general summary of some ethical principles: (contd.)

- ...
- Responsible Publication
- Responsible Mentoring
- Respect for Colleagues
- Social Responsibility
- Non-discrimination
- Competence
- Legality
- Animal Care
- Human Subjects Protection

List of research misconducts

https://en.wikipedia.org/wiki/List_of_scientific_misconduct_incidents

I will cite some misconducts in science. (Because science researchers are proud of their integrity and what not. TIC comment.)

Misconducts in Chemistry

Leo Paquette (US), an Ohio State University professor, plagiarized sections from an unfunded NIH grant application for use in his own NIH grant application. He also plagiarized an NSF proposal for use in one of his scientific publications.

Kenichiro Itami (Japan), Nagoya University professor, falsified data in the widely publicized graphene nano-ribbon fraud. As of 2021, Itami has had three of their research publications retracted, one other paper has received an expression of concern, and one other paper has been corrected.

Misconducts in Comp. Sc. and Maths

Computer science and mathematics Ioan Mang (Romania), a computer scientist at the University of Oradea, plagiarized a paper by cryptographer Eli Biham, Dean of the Computer Science Department of Technion, Haifa, Israel. He was accused of extensive plagiarism in at least eight of his academic papers.

Dănuț Marcu (Romania), a mathematician and computer scientist, was banned from publishing in several journals due to plagiarism. He had submitted a manuscript for publication that was a word-for-word copy of a published paper written by another author.

Misconducts in Physics

Victor Ninov (US), a nuclear chemist formerly at Lawrence Berkeley National Laboratory, was dismissed from his position after falsifying his work on the discovery of elements 116 and 118.

Jan Hendrik Schön (Germany, US), a researcher in the physics of semiconductors formerly employed by Bell Labs, forged results by using the same data sets for different and unrelated experiments. Schön has had 32 of his publications retracted.

Rusi Taleyarkhan (US), a nuclear engineer at Purdue University, was found by a University committee in 2008 to have falsified his research.

Other Misconducts

In 2016 the scientific publisher Springer Nature retracted 58 papers from seven journals, authored mostly by Iran-based researchers, because the papers showed evidence of authorship manipulation, peer-review manipulation, and/or plagiarism.

Ohio University in 2006 alleged more than three dozen cases of plagiarism in master's degree theses dating back 20 years in its mechanical engineering department.

486 Chinese cancer researchers were found guilty of engaging in a fraudulent peer-review scheme by China's Ministry of Science and Technology. The investigation was initiated after the retraction of 107 papers published in Tumor Biology between 2012 and 2016. This is reported to be the most papers retracted from one journal.

Honesty

Honesty: Honestly report data, results, methods and procedures, and publication status. Do not fabricate, falsify, or misrepresent data.

Objectivity

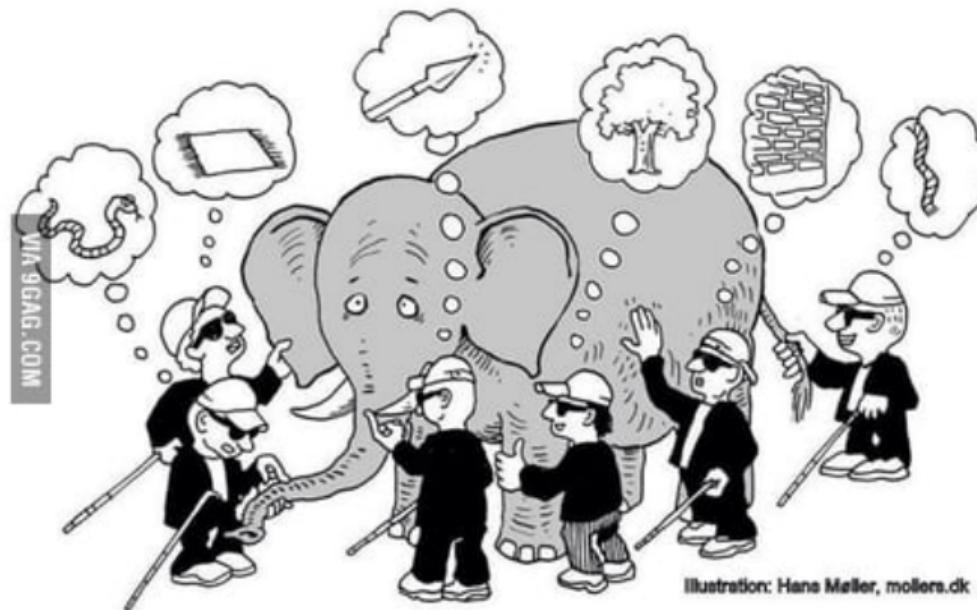


Figure 9: Courtesy: Hans Møller, <http://mollers.dk>

Objectivity

Objectivity: Strive to avoid bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research.

Integrity

Integrity: Keep your promises and agreements; act with sincerity; strive for consistency of thought and action.

Carefulness

Carefulness: Avoid careless errors and negligence; carefully and critically examine your own work and the work of your peers. Keep good records of research activities.

Openness

Openness: Share data, results, ideas, tools, resources. Be open to criticism and new ideas.

Respect for Intellectual Property

Respect for Intellectual Property: Honor patents, copyrights, and other forms of intellectual property. Do not use unpublished data, methods, or results without permission. Give credit where credit is due. Never plagiarize.

Plagiarism

WHAT IS PLAGIARISM?

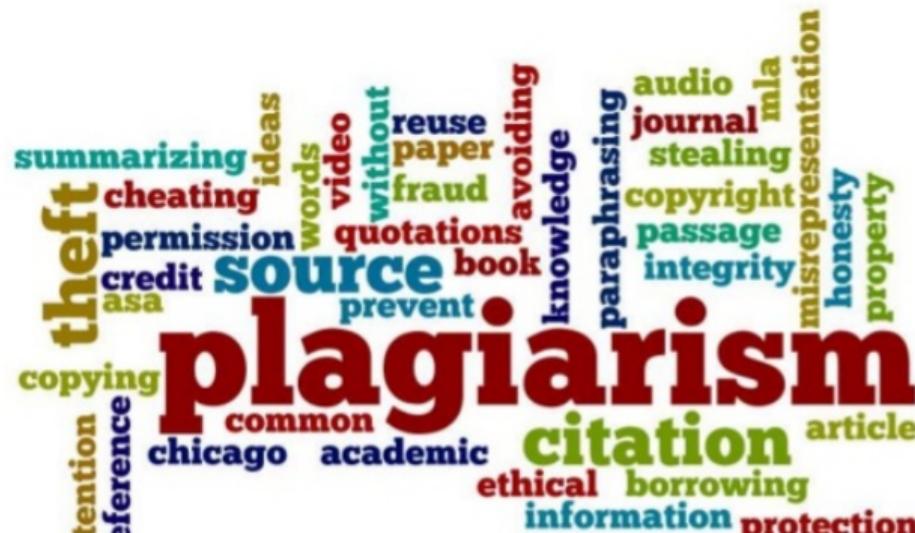


Figure 10: Courtesy: International Journal of Research

Plagiarism

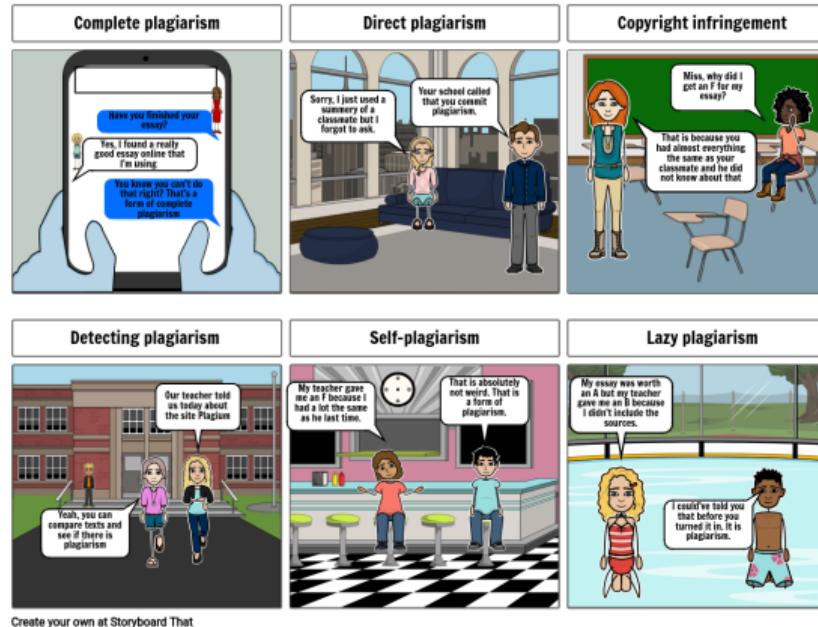


Figure 11: Courtesy: Unknown Story by ingepetrie

Confidentiality

Confidentiality: Protect confidential communications, such as papers or grants submitted for publication, personnel records, trade or military secrets, and patient records.

Responsible Publication

Responsible Publication: Publish in order to advance research and scholarship, not to advance just your own career. Avoid wasteful and duplicative publication.

Responsible Mentoring

Responsible Mentoring: Help to educate, mentor, and advise students. Promote their welfare and allow them to make their own decisions.

Respect for Colleagues

Respect for Colleagues: Respect your colleagues and treat them fairly.

Social Responsibility

Social Responsibility: Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.

Non-discrimination

Non-Discrimination: Avoid discrimination against colleagues or students on the basis of sex, race, ethnicity, or other factors that are not related to their scientific competence and integrity.

Competence

Competence: Maintain and improve your own professional competence and expertise through lifelong education and learning; take steps to promote competence in science as a whole.

Legality

Legality: Know and obey relevant laws; and institutional and governmental policies.

Animal Care

Animal Care: Show proper respect and care for animals when using them in research.
Do not conduct unnecessary or poorly designed animal experiments.

Human Subjects Protection

Human Subjects Protection: When conducting research on human subjects, minimize harms and risks and maximize benefits; respect human dignity, privacy, and autonomy.

How far we must go?

Now the real crux of the matter is: How far we must go?

The answer is, 'As much as we can.'

But at all times remain legal and follow research norms.

At least do what is acceptable to others.

In Summary, IMHO

Do unto others what you would have them do unto you.

—**Golden Rule**, https://en.wikipedia.org/wiki/Golden_Rule

Therefore all things whatsoever ye would that men should do to you, do ye even so to them: for this is the law and the prophets.

—**Jesus**, Sermon at the mount, King James Bible, Matthew 7:12

Thank You

Sarvottamananda
sarvottamananda@gmail.com
Ramakrishna Mission Vivekananda University