Prevention of Research Misconduct

Basic RCR Program for Graduate Students

Issued January.2020

Research Ethics and Integrity Promotion Office ,
Hiroshima University
（in cooperation with Writing Center , Hiroshima University)

HIROSHIMA UNIVERSITY

For attendees

As long as they conduct research such as undergraduate theses or master/doctoral theses, students are considered researchers (scientists), just like faculty members. Hence, students are responsible as researchers.

For attendees

What is a researcher's responsibility?

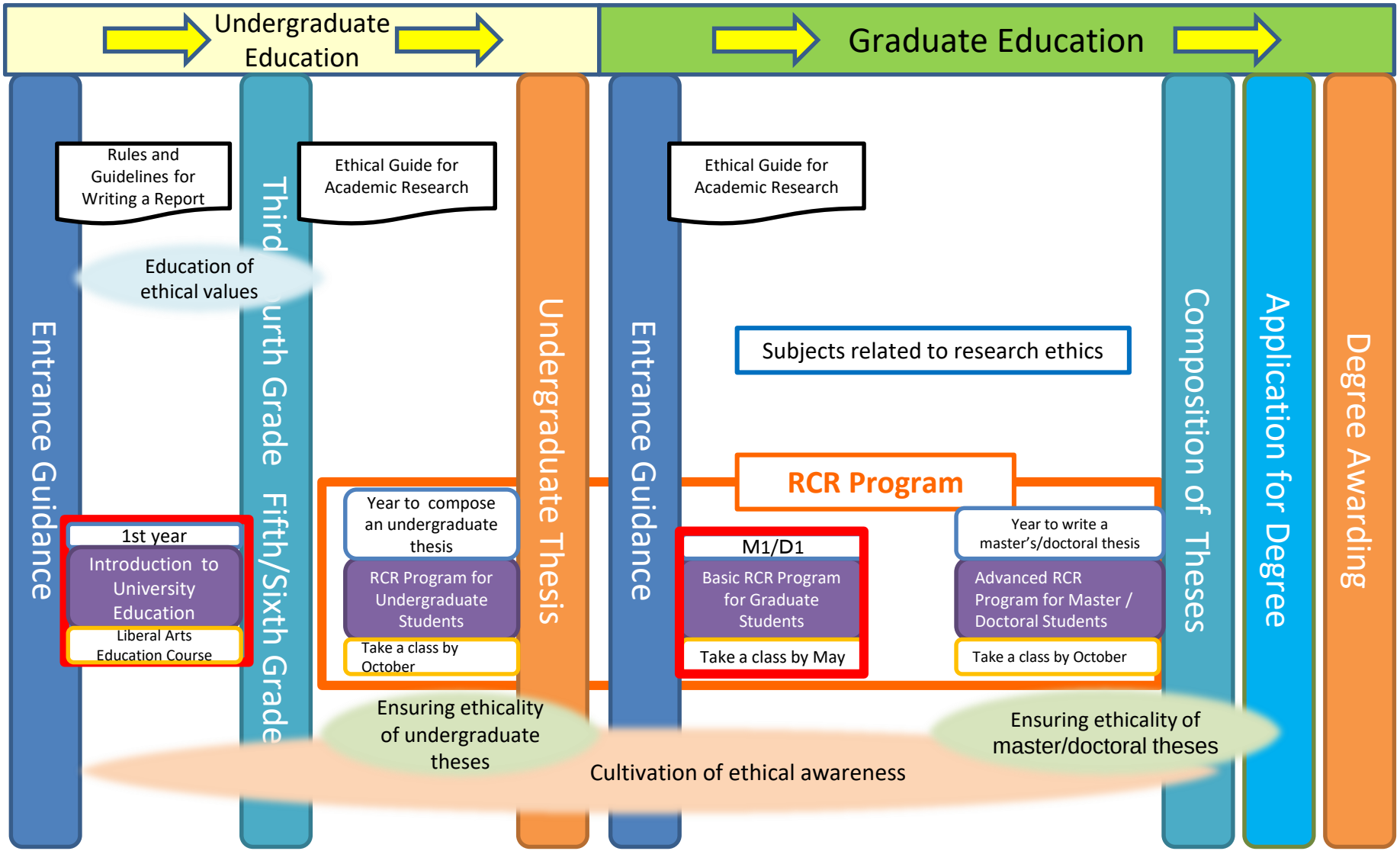
To use their intellect to make new discoveries, and to meet society's expectations in solving various social issues.

For attendees

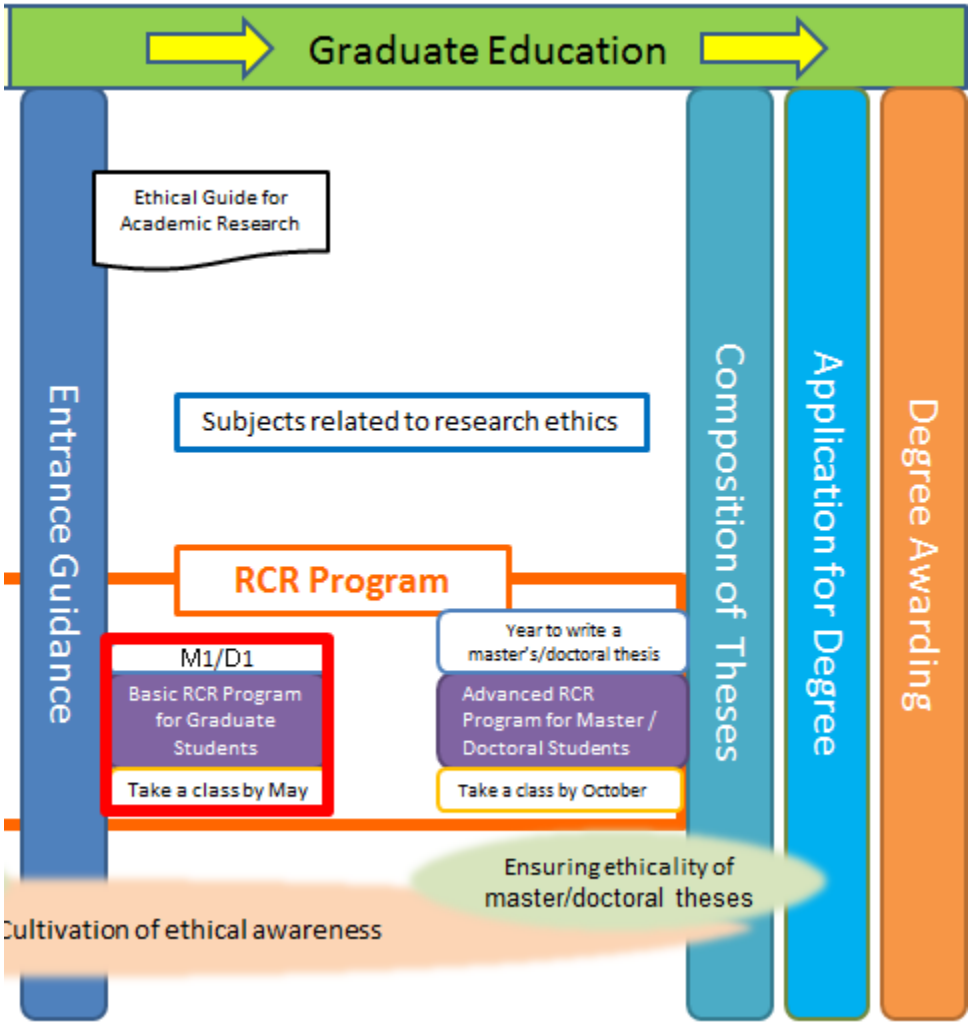
Purpose of this training session

To acquire the basics of the research ethics necessary for fulfilling the responsibilities expected of researchers, in order to implement sound research practices.

Research Ethics Education at HU (For student)



Research Ethics Education at HU (For graduate student)



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Never allowed as researcher

1. Responsible Conduct of Research

1. 1. What is a Responsible Research Activity?

For the Sound Development of Science -The Attitude of a Conscientious Scientist-
Section Ⅰ What Is a Responsible Research Activity ?

1. Responsible Conduct of Research

1. 1. What is a Responsible Research Activity?

- Apply honesty and integrity in their decision-making and behavior
- Maintain and improve their expert knowledge, abilities, and techniques
- Do whatever they can to scientifically verify the validity and accuracy of the knowledge obtained through their research.

Hereafter, quotations from “For the Sound Development of Science” available online are indicated（Green Book　Text P○）

（Green Book Text P12）

1. Responsible Conduct of Research

1. 1. What is a Responsible Research Activity?

- Fulfill the responsibilities of scientists
  (referred to on p.11)
- During this process, fulfill society's expectations and hopes regarding the proper use of public research funds

(Green Book Text P3)

1. Responsible Conduct of Research

Behaviors that are not permitted for researchers

1. 2. Misconduct in Research Activities

1. 3. Improper Use of Research Funds

1. 2. Misconduct in Research Activities

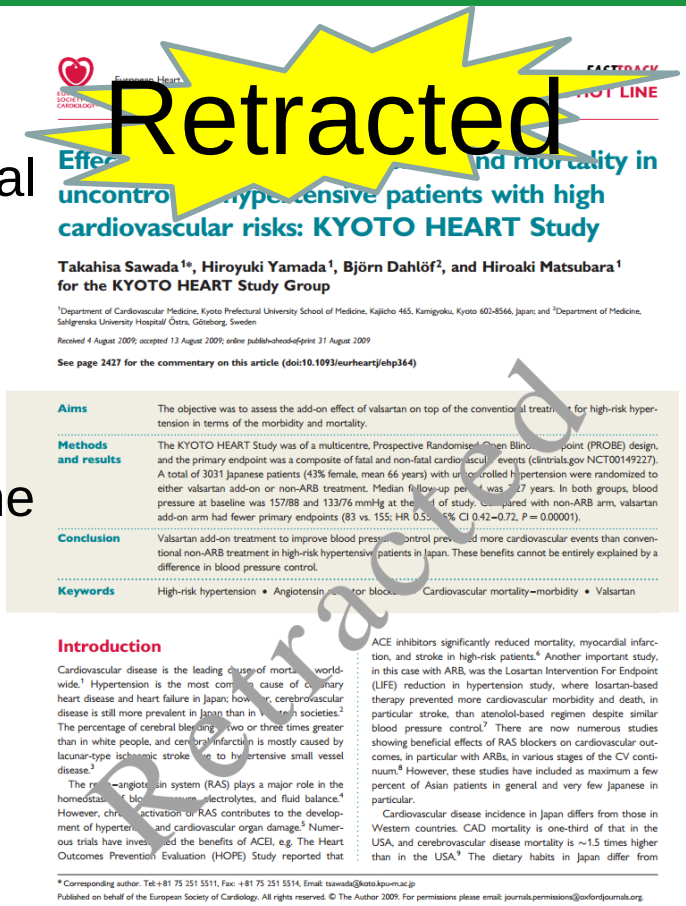
For the Sound Development of Science -The Attitude of a Conscientious Scientist-
Section Ⅰ What Is a Responsible Research Activity ?

1. Responsible Conduct of Research（Green Book Text P36）

Diovan Scandal in 2012

1．2 Misconduct in Research Activities

- Multiple university hospitals participated in clinical research on “Diovan,” a drug for treating high-blood pressure. It was alleged that, when each hospital conducted its own research, numerical data such as the subjects’ blood pressure and statistics were manipulated in such a way that the conclusion would be advantageous to a certain pharmaceutical company.
- After the misconduct was exposed and made public, their research paper was retracted.
- The former hospital employee involved in the data fabrication and falsification and an employee of the pharmaceutical company which used that invalid paper to advertise the medicine were prosecuted for exaggerated advertisement prohibited by the Pharmaceutical Affairs Law.


Retracted

European Heart Journal

FASTTRACK
HOT LINE

Effec… …nd mortality in uncontro… …ypertensive patients with high cardiovascular risks: KYOTO HEART Study

Takahisa Sawada[1]*, Hiroyuki Yamada[1], Björn Dahlöf[2], and Hiroaki Matsubara[1] for the KYOTO HEART Study Group

[1]Department of Cardiovascular Medicine, Kyoto Prefectural University School of Medicine, Kajiicho 465, Kamigyoku, Kyoto 602-8566, Japan; and [2]Department of Medicine, Sahlgrenska University Hospital/ Östra, Göteborg, Sweden

Received 4 August 2009; accepted 13 August 2009; online publish-ahead-of-print 31 August 2009

See page 2427 for the commentary on this article (doi:10.1093/eurheartj/ehp364)

Aims The objective was to assess the add-on effect of valsartan on top of the conventional treatment for high-risk hypertension in terms of the morbidity and mortality.

Methods and results The KYOTO HEART Study was of a multicentre, Prospective Randomised Open Blind… …point (PROBE) design, and the primary endpoint was a composite of fatal and non-fatal cardiovascular events (clintrials.gov NCT00149227). A total of 3031 Japanese patients (43% female, mean 66 years) with uncontrolled hypertension were randomized to either valsartan add-on or non-ARB treatment. Median follow-up period was 3.7 years. In both groups, blood pressure at baseline was 157/88 and 133/76 mmHg at the end of study. Compared with non-ARB arm, valsartan add-on arm had fewer primary endpoints (83 vs. 155; HR 0.5… …5% CI 0.42–0.72, $P = 0.00001$).

Conclusion Valsartan add-on treatment to improve blood pressure control prevented more cardiovascular events than conventional non-ARB treatment in high-risk hypertensive patients in Japan. These benefits cannot be entirely explained by a difference in blood pressure control.

Keywords High-risk hypertension • Angiotensin … receptor blocker • Cardiovascular mortality–morbidity • Valsartan

Retracted

Introduction

Cardiovascular disease is the leading cause of mortality worldwide.[1] Hypertension is the most common cause of coronary heart disease and heart failure in Japan; however, cerebrovascular disease is still more prevalent in Japan than in Western societies.[2] The percentage of cerebral bleeding is two or three times greater than in white people, and cerebral infarction is mostly caused by lacunar-type ischaemic stroke due to hypertensive small vessel disease.[3]

The renin–angiotensin system (RAS) plays a major role in the homeostasis of blood pressure, electrolytes, and fluid balance.[4] However, chronic activation of RAS contributes to the development of hypertension and cardiovascular organ damage.[5] Numerous trials have investigated the benefits of ACEI, e.g. The Heart Outcomes Prevention Evaluation (HOPE) Study reported that ACE inhibitors significantly reduced mortality, myocardial infarction, and stroke in high-risk patients.[6] Another important study, in this case with ARB, was the Losartan Intervention For Endpoint (LIFE) reduction in hypertension study, where losartan-based therapy prevented more cardiovascular morbidity and death, in particular stroke, than atenolol-based regimen despite similar blood pressure control.[7] There are now numerous studies showing beneficial effects of RAS blockers on cardiovascular outcomes, in particular with ARBs, in various stages of the CV continuum.[8] However, these studies have included as maximum a few percent of Asian patients in general and very few Japanese in particular.

Cardiovascular disease incidence in Japan differs from those in Western countries. CAD mortality is one-third of that in the USA, and cerebrovascular disease mortality is ~1.5 times higher than in the USA.[9] The dietary habits in Japan differ from

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Source: European Heart Journal Website http://eurheartj.oxfordjournals.org/content/ehj/30/20/2461.full.pdf

1. Responsible Conduct of Research

1．2 Misconduct in Research Activities

STAP Cell Scandal in 2014

- In January 2014, the RIKEN center made an announcement about the creation of STAP cells. Two articles related to the cells appeared in Nature.
- Soon after the announcement, various questions were raised, including about the data supporting the claim. RIKEN's investigative committee confirmed the fabrication of images in the first article and, for the second paper, manipulation of DNA fragment images. The two articles were withdrawn.

STAP retracted

Two retractions highlight long-standing issues of trust and sloppiness that must be addressed.

This week, *Nature* publishes retractions of two high-profile papers that claimed a major advance in the field of stem cells (see page 112). Between them, the two papers seemed to demonstrate that a physical perturbation could do what had previously been achieved only by genetic manipulation: transform adult cells into pluripotent stem cells able to differentiate into almost any other cell type. The acronym STAP (stimulus-triggered acquisition of pluripotency) became instantly famous.

Soon after the papers were published on 30 January, cracks appeared

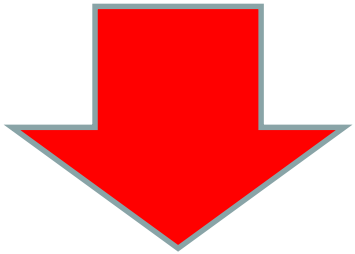
Source: Nature, 511, 3 JULY, 5 (2014)

- After that, misconduct was also found in the scientist‘s doctoral thesis, a university that awarded the degree revoked the doctorate after recognizing 11 points of misconduct, such as plagiarism, etc.

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

What the extent of the reporting of these incidents shows:



- Those media reactions show society's high expectations to science technologies and scientists.
- Scientists are responsible for responding to such expectations.

1. Responsible Conduct of Research

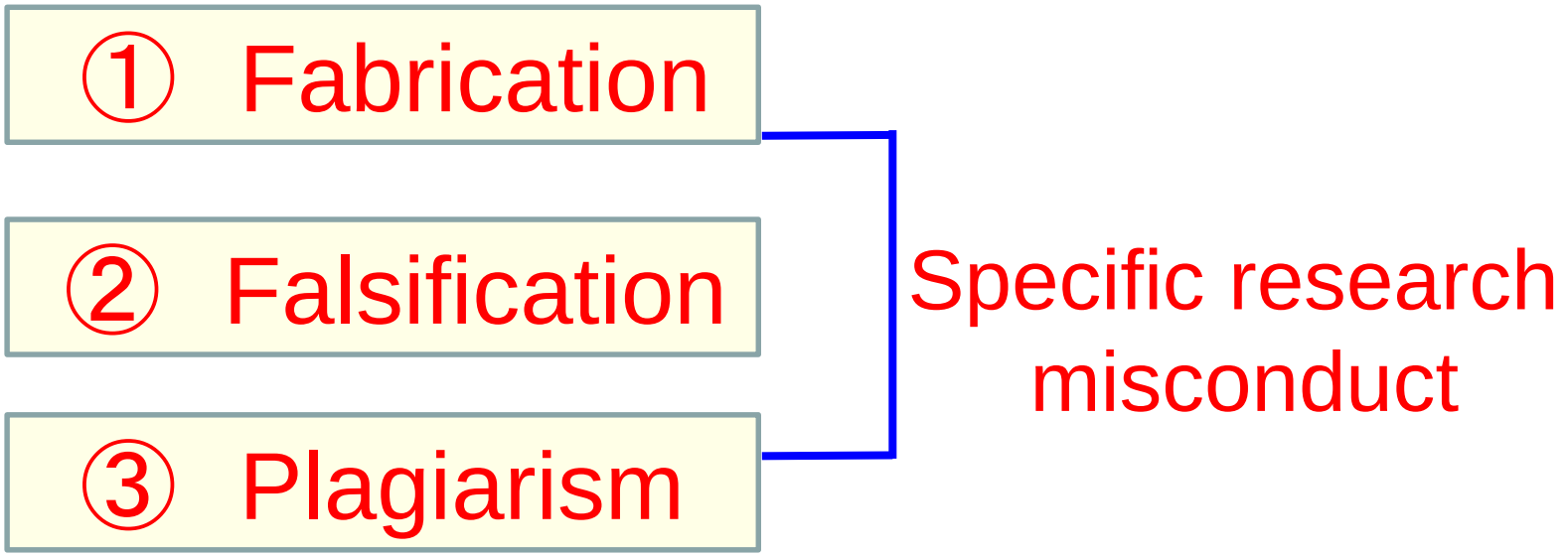
1. 2. Misconduct in Research Activities

What is Misconduct in Research Activities?

Behaviors that violate research ethics, distort the nature of research or findings of research when presented to the public, and disturb good communication among researchers.

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities



1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

Specific research misconduct

① Fabrication

– Making up data or research results, etc.

② Falsification

– Manipulating research materials, equipment, or processes to change data or results obtained from research activities.

③ Plagiarism

– Appropriating the ideas, analyses, analytical methods, data, research results, research paper(s), or words of other researchers without obtaining the permission of the researchers or giving appropriate credit.

(Green Book Text P35)

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1. 2. Misconduct in Research Activities

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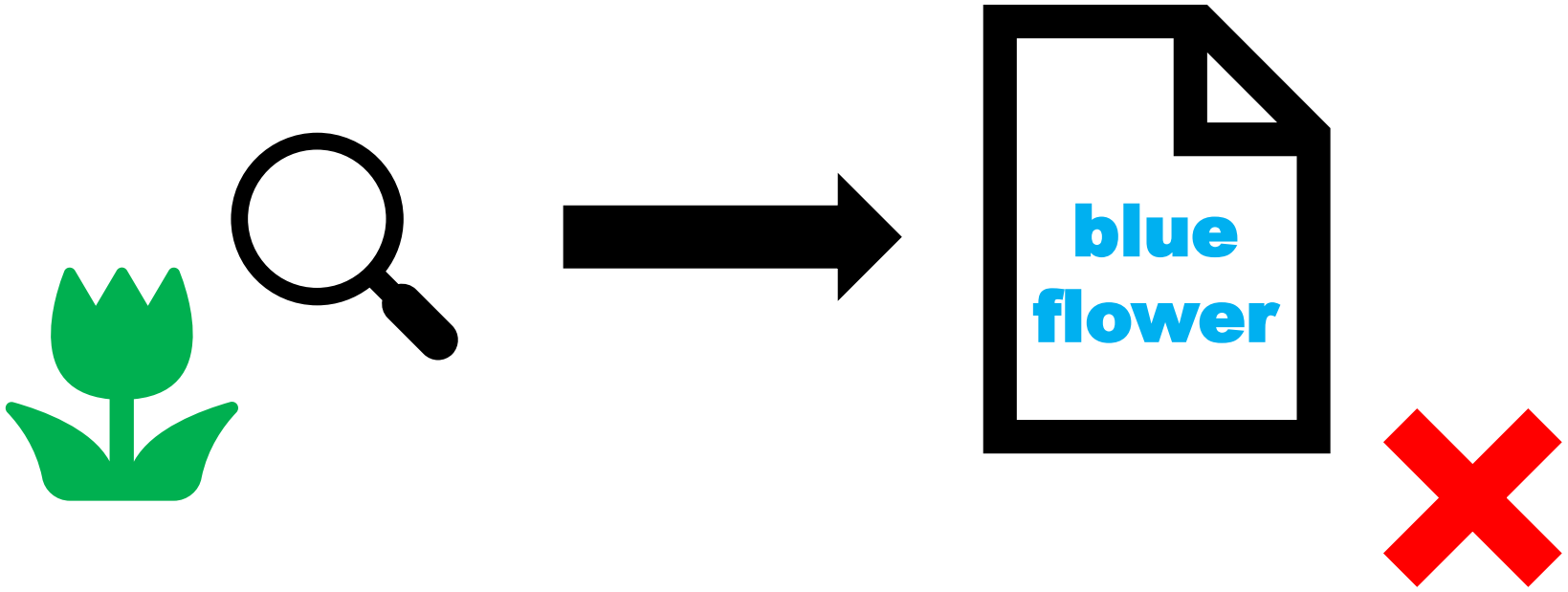

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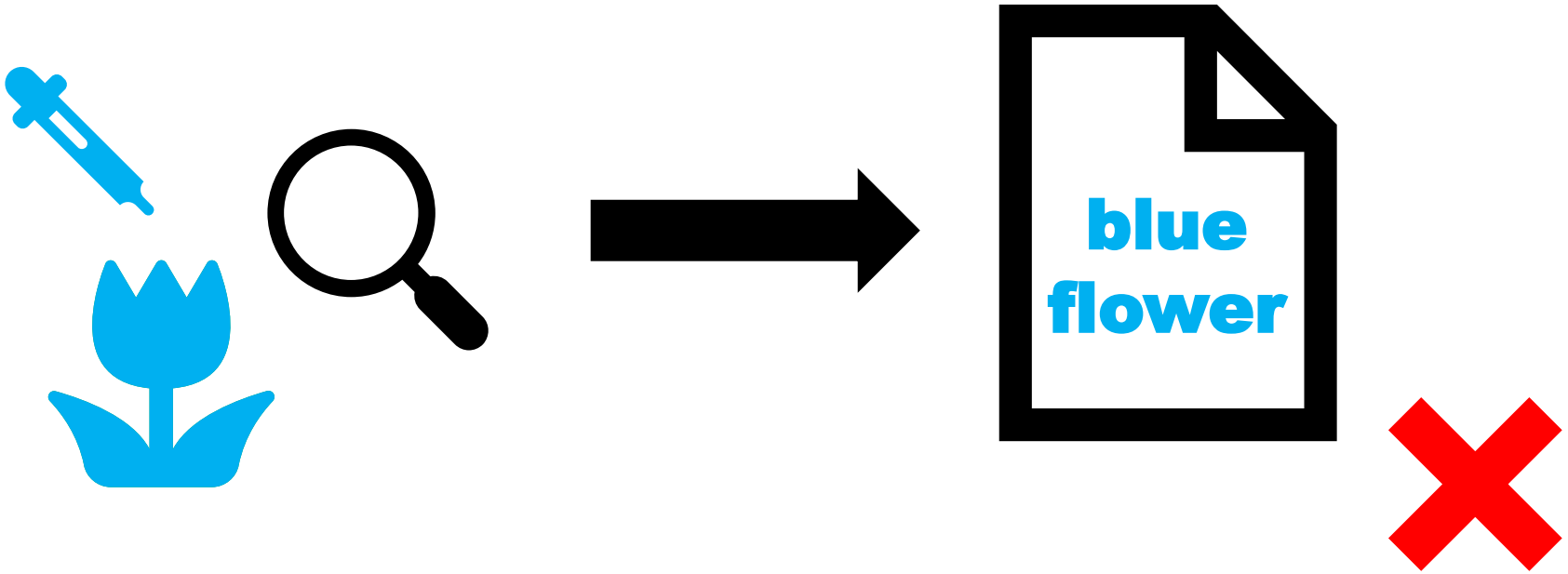

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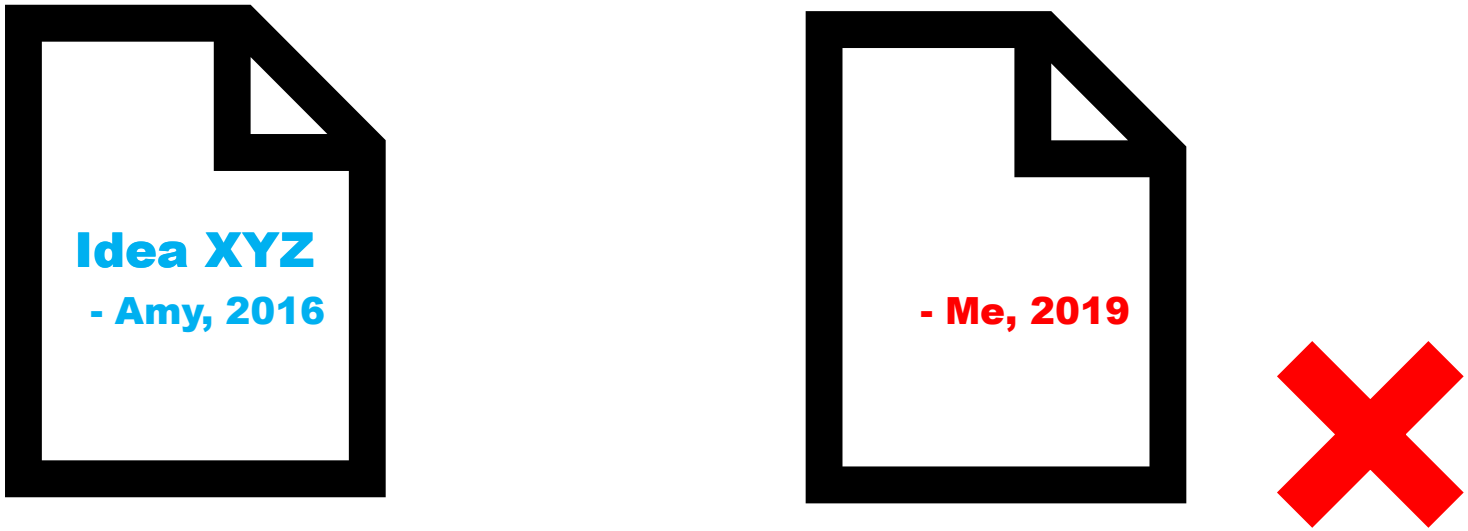


(Green Book Text P35)

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

Table 9 : Distribution by majors

Major	Fabrication	Falsification (Manipulation)	Plagiarism (Piracy)	Others	Total [aggregate]
Medicine (Medicine, dentistry and pharmacology)	15	7	6	7	30 [35]
Science and engineering	8	3	7	2	18 [20]
Humanities and Social Sciences	2	—	36	1	39 [39]
Education	1	1	5	—	6 [7]
Agriculture	1	—	—	—	1 [1]
Others (Including three unidentified cases)	—	—	4	—	4 [4]
Total	**27**	**11**	**58**	**10**	**98 [106]**
Biology and Biotechnology	21	7	6	7	36 [41]

Numbers are based on newspaper and other materials that the author has (Since Oct.1997)

In the past, Hiroshima University experienced cases such as data manipulation and plagiarism, which damaged trust of both society and the research field.

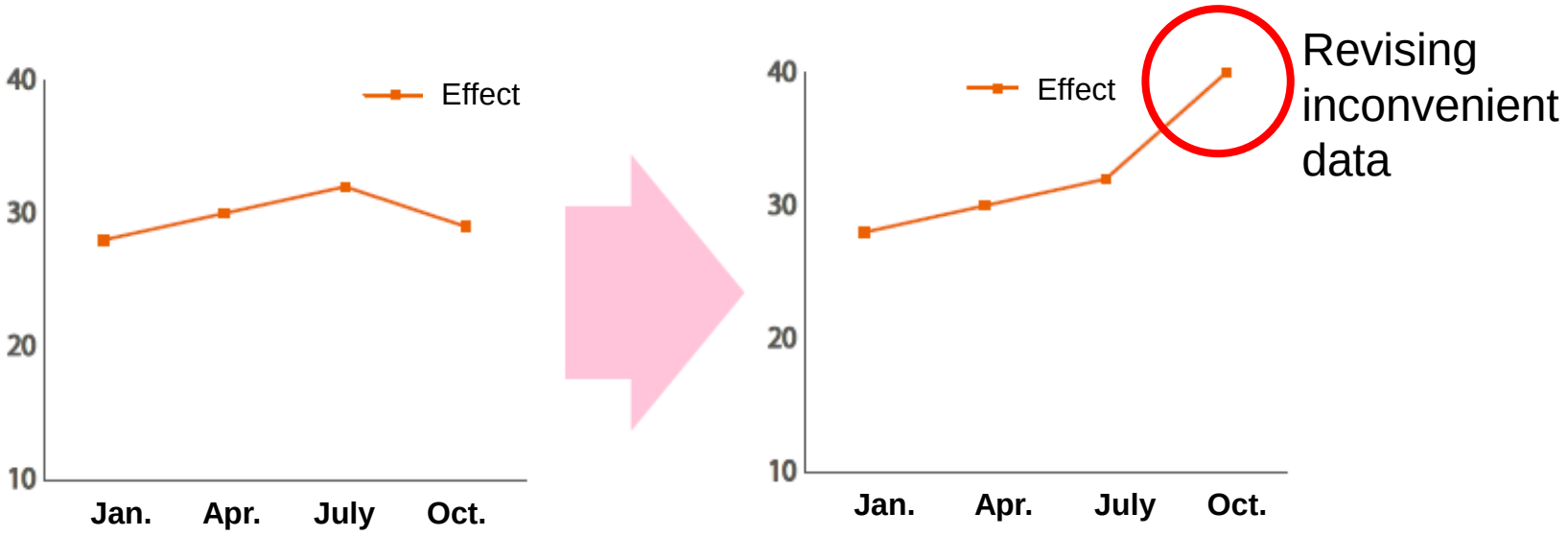
Note : There are no clear differences in the definitions of plagiarism and piracy

Reference : Kikuchi, Shigeaki.,IL SAGGIATORE, 40, 63-86 (2013)

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

① Fabrication



Data actually obtained

It was predicted that the effect would increase over time, or a consistent increase in the effect over time was identified in other researcher's experiments.

Source: Rules and Guidelines for Writing a Report

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

② Example of Falsification

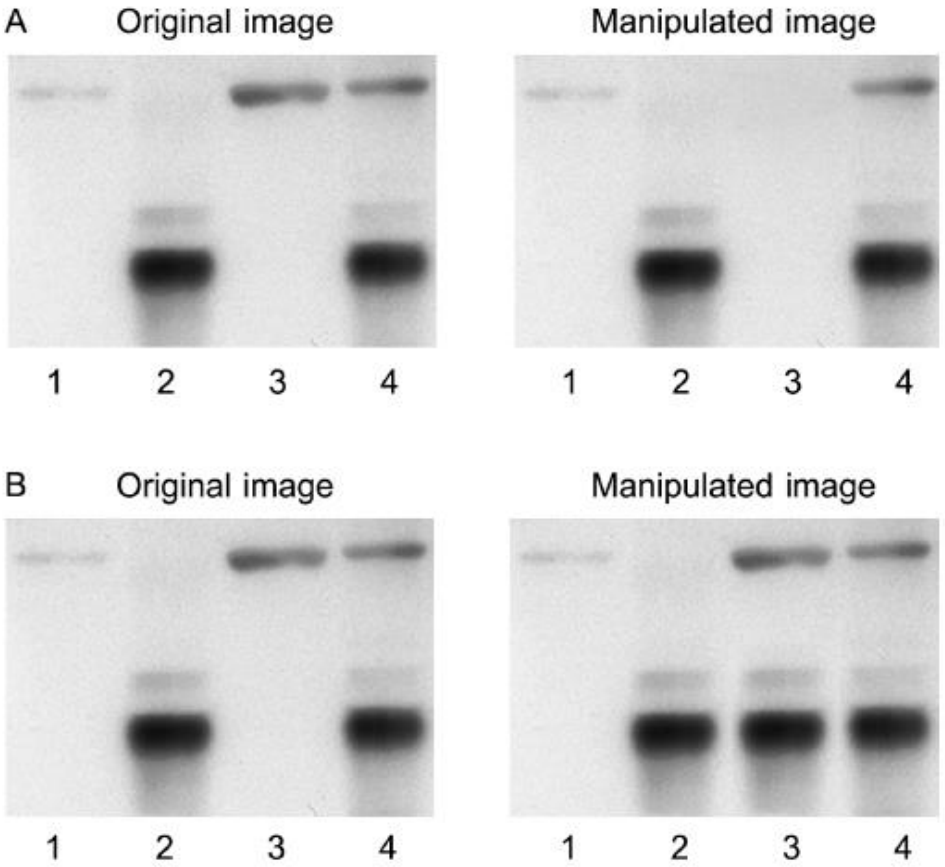


Figure 1. **Gross manipulation of blots.** (A) Example of a band deleted from the original data (lane 3). (B) Example of a band added to the original data (lane 3).

A band in line 3 is deleted

A band is added to line 3

Source: Rossner et al., J Cell Biol, 166, 11-15 (2004)

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

② Example of Falsification

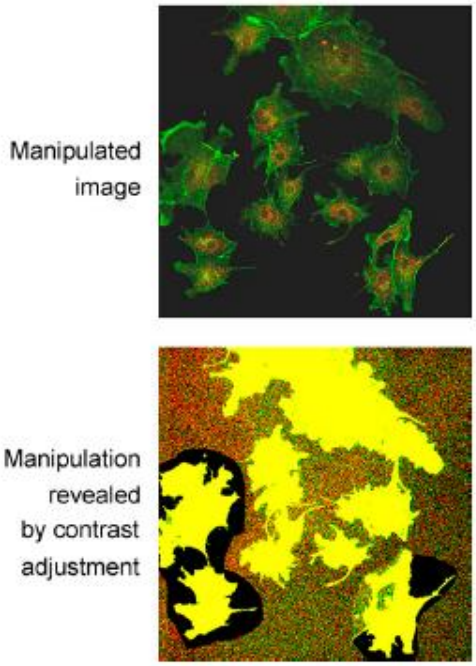


Figure 6. **Misrepresentation of image data.** Cells from various fields have been juxtaposed in a single image, giving the impression that they were present in the same microscope field. A manipulated panel is shown at the top. The same panel, with the contrast adjusted by us to reveal the manipulation, is shown at the bottom.

Two cells in the left and one in the right bottom were added after the fact.

Source: Rossner et al., J Cell Biol, 166, 11-15 (2004)

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

③ Plagiarism

- Using large parts of someone else's paper, without properly citing it, as if writing them as one's own work is obvious plagiarism.
- A university professor looking at an unpublished paper of his graduate student and publishing an idea found in the preprint as his own idea is also considered plagiarism.
- In the humanities and social sciences, while research misconduct involving fabrication and falsification has not been so common, it is becoming a significant problem.

（Green Book Text P37）

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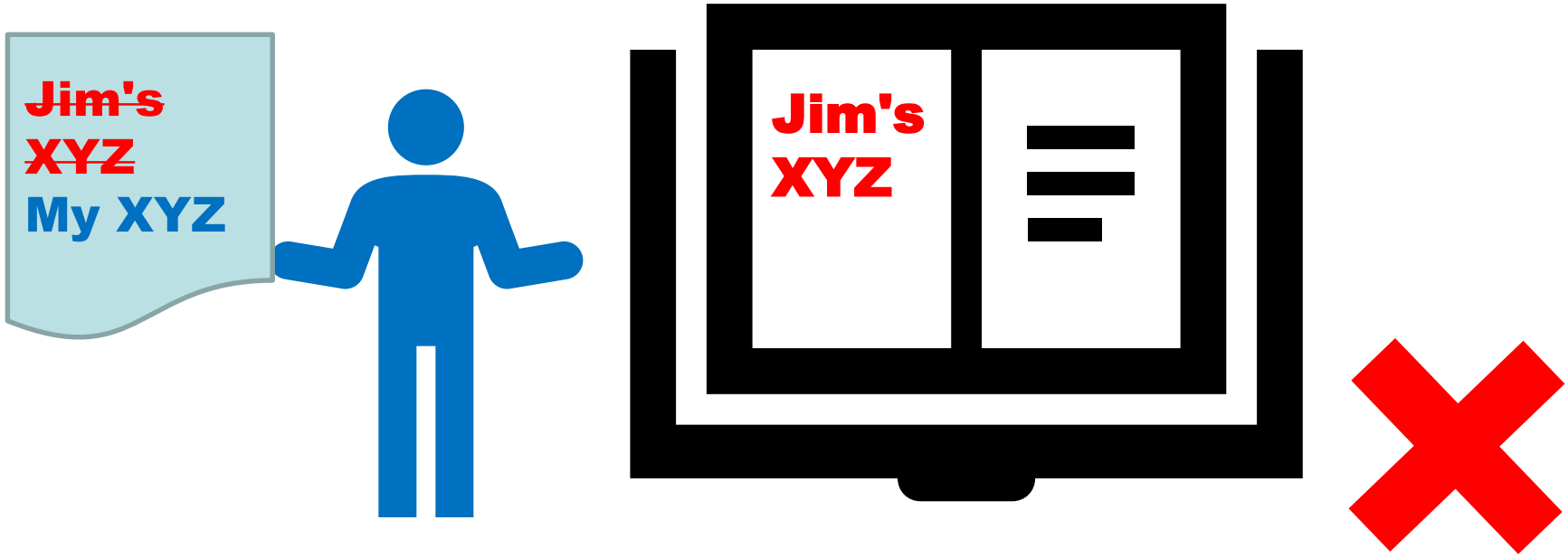

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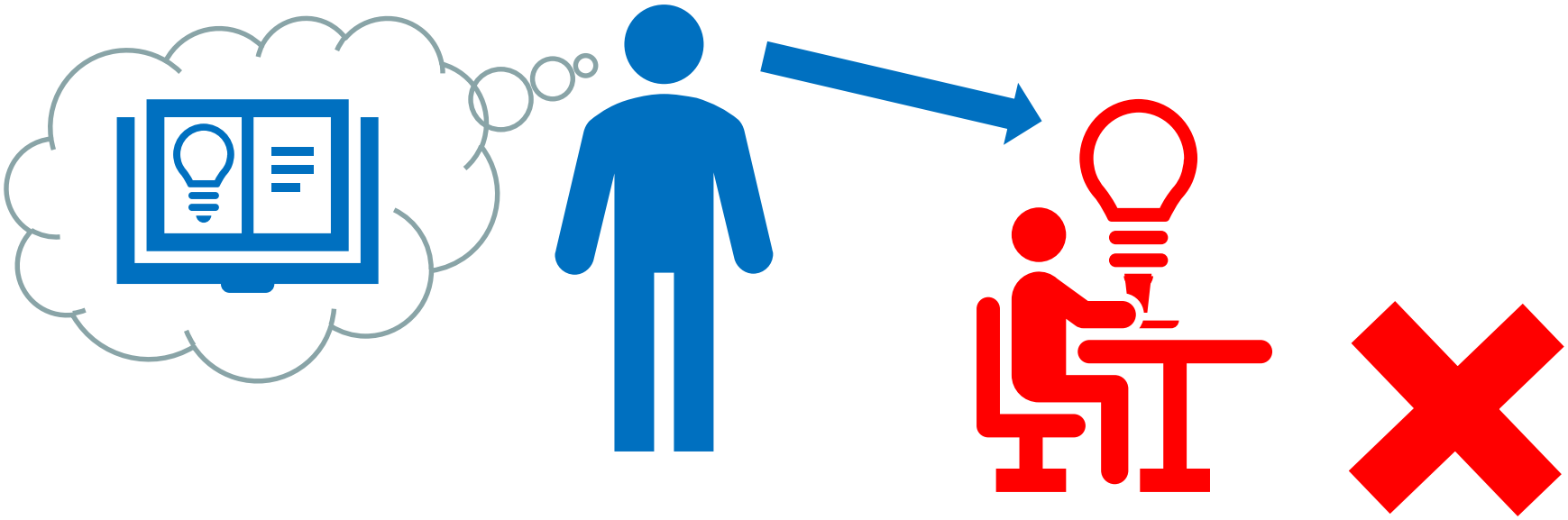

（Green Book Text P37）

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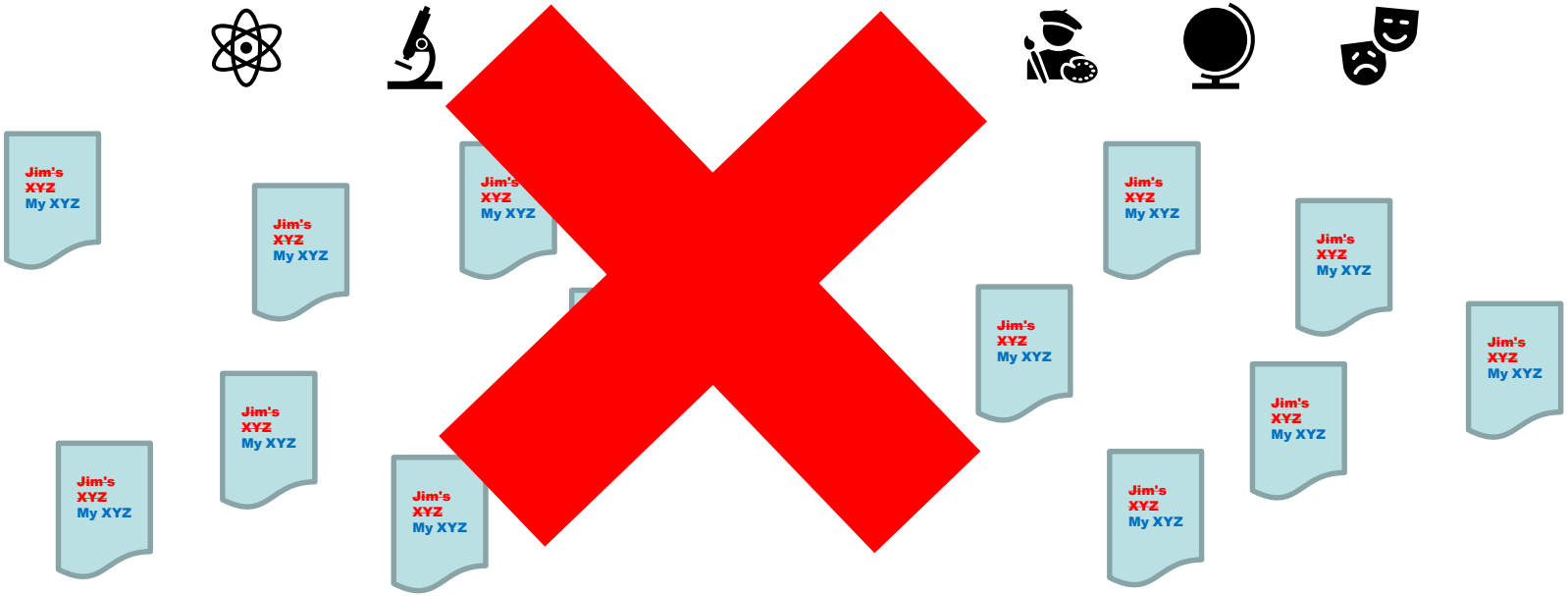
- In the humanities and social sciences, while research misconduct involving fabrication and falsification has not been so common, it is becoming a significant problem.



（Green Book Text P37）

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

③ Plagiarism

- In experimental research, a different type of problem exists: not citing sources of published papers when documenting materials and methods used in one's own experiments.
- Furthermore, original sources should be cited not only when using someone else's original description but also when adding changes and modifications to original descriptions.

（Green Book Text P37）

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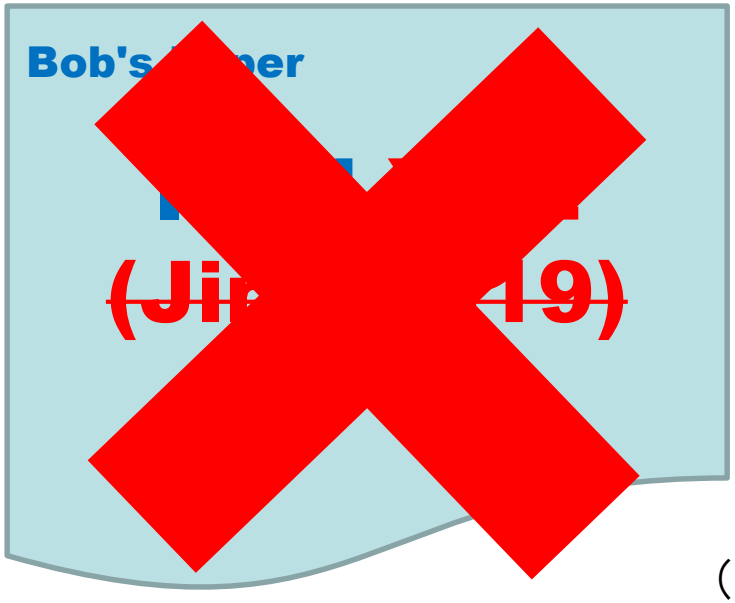

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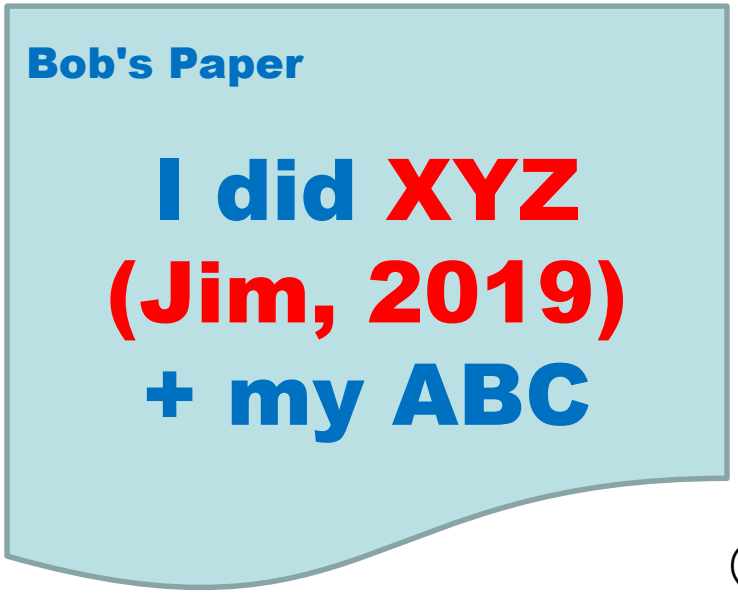


（Green Book Text P37）

1. 2. Misconduct in Research Activities

③ Examples of Plagiarism（in the humanities）

- Professor A（Department of English and Contemporary Society：An academic paper posted in the 8th issue of the department journal (March 2013) was found to be plagiarized from an academic paper written by professor Z. (16 pages out of 35 pages, including from the 14th to 54th notes out of a total of 54 notes listed in the end.)

- Associate professor B（Faculty of Commerce): The professor used sentences, graphs and charts from three master's theses(2013-14) without permission, as well as failing to cite sources. The professor posted two articles in 日本経営学会誌 (*Journal of Japan Academy of Business Administration*) and two more articles in *Waseda Bulletin of International Management.*

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

③ Examples of Plagiarism（in the humanities）

- University student C: Student's undergraduate thesis (2012) appeared in *Annual Reports of the Cultural Documents Research Institute* but was found to have plagiarized nearly 20 parts from works by a professor of Ochanomizu University and others.

- Graduate student D（Graduate School of Public Management): At least 64 parts in student's doctoral thesis were cited inappropriately and 12 parts among 64, which the student claimed as his observation, were verified as plagiarism. The student's degree was revoked. (2013)

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

③ Plagiarism

Major Academic Papers Conduct

Investigation on Plagiarism

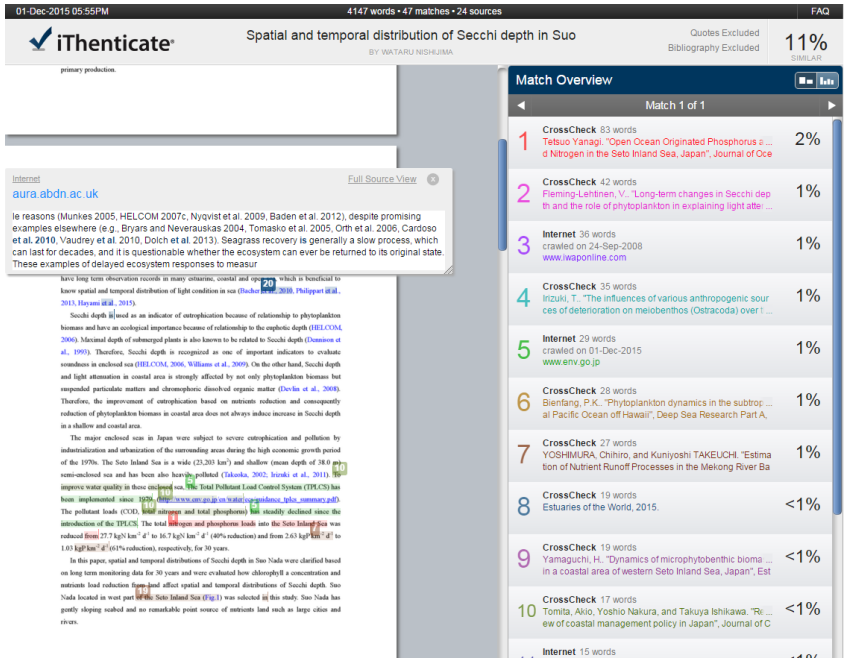
- iThenticate（Plagiarism detector）
  - Participants: More than 500 publishers including Elsevier, Nature Publishing, Springer, Taylor & Francis, etc.
  - Database: Nearly 80,000 scientific, technological and medical journals
- Six-month test was conducted in three magazines of Taylor & Francis
  Approximately 10%, 6%, 23% of articles were rejected because of plagiarism（Nature 466, 167 （2010））

1. 2. Misconduct in Research Activities

③ Plagiarism

Plagiarism Detection Software

（iThenticate）



- Students cannot use by themselves, but faculty members have access to this software at our university.
- Recently, it has become easier to detect plagiarism.

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

- Things you should never do with Photoshop:

① Copy & paste（needless to say）
←however, most of fabrication in the past was this

② Touch-up（a tool to edit and clean up images)using

③ Retouching part of images such as changing lightning or contrast

④ Manipulating the research results to look as if those are obtained from one datum, while actually the results are obtained at a different times or from different locations（for instance, if two separate gel electrophoresis lanes are brought closer to each other, a boundary line should be drawn)

Source: Nakayama, Keiichi, Tampakushitsu, Kakusan, Kouso 53(15), 2001-2006 (2008)

1. Responsible Conduct of Research

1. 2. Misconduct in Research Activities

① Fabrication

② Falsification

③ Plagiarism

Specific research misconduct

④ Duplicate posting

⑤ Inappropriate writing of authors of academic papers

⑥ Not properly citing existing papers

1. Responsible Conduct of Research

Behaviors that are not permitted for researchers

1. 2. Misconduct in Research Activities

1. 3. Inappropriate Use of Research Funds

1. Responsible Conduct of Research

1. 3.

Improper Use of Research Funds

For the Sound Development of Science -The Attitude of a Conscientious Scientist- Section Ⅵ Appropriate Use of Research Funds

1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

Research expense is a fund to be used for activities at Hiroshima University, including education and research. It's a precious financial source provided by Japanese people and companies etc.

➡ **You always have to keep in mind that research expenses etc. are not "your own money" but "money provided by people in Japan etc."**

When you incur the research expense etc., following behaviors are considered to be inappropriate use of research expense.

① Misappropriation

② False charging

③ Personal accounting

➡ **In recent years, many cases of inappropriate use of research expenses have been identified through investigations performed by "the Board of Audit of Japan" and "Taxation Bureau" etc.**

1. Responsible Conduct of Research

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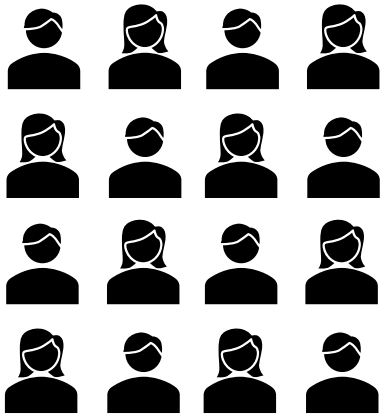

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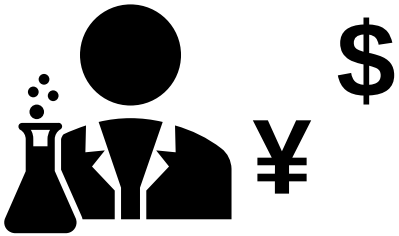


1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

① Example of Misappropriation

[Use for other than the intended purpose/embezzlement]

Accounting processes that faculty members should normally perform, such as ordering, receipt confirmation, and budget control, were left to one part-time staff member. Between 2004 and 2011, this part-time staff member, despite not having the authority to place orders, used unauthorized procedures to purchase large amounts of items such as personal computers, without receiving permission from faculty members. The staff member then sold these on to resellers and embezzled the proceeds.

[National University A]

➡ **In order to prevent resale, Hiroshima University stamps a receipt seal on goods at delivery. In addition, we attach stickers printed with reference numbers on items after installation. We then conduct regular spot checks on items.**

1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

② Example of False charging

【 Deposit in vendor 】

Several teachers were found to get involved in the so-called “deposit” practice.

Despite that there was no actual delivery of goods, they asked the vendor to prepare the false delivery slip/invoice. Then, the money (about 36 mil. yen), which had been paid by the university according to such false documents, was kept by the vendor so that they can manage it as they want. [Example of Hiroshima University]

From FY2004 to 2009, “deposit” and “intentionally change of purchase goods name recorded on the accounting book” practices were performed (by 31 faculty members/staff) for payment of about 190 mil.

In one of such cases, which was judged to be misappropriation, was malicious because the dummy goods were prepared on purpose to repeatedly change the name of purchase goods by using such goods. [National University A]

→ **Hiroshima University has adopted a receiving inspection system at the time of goods delivery to prevent inappropriate use of expense related to delivery of goods, including “deposit”.**

Your cooperation for receiving inspection work by person in charge at the goods delivery management center etc. would be appreciated.

1. 3. Improper Use of Research Funds

③ Example of Personal accounting

When a faculty member received a donation or subsidy for official education and research activities, he/she failed to go through the procedure to donate such money to the university, and handled it as personal accounting, resulting in payment of back tax.【Hiroshima Univertsity etc.】

➡ **When you receive the above type of money, don't make a decision on your own but inform a person in charge of finance at your faculty/graduate school, etc.**

1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

① Misappropriation ② False charging ③ Personal accounting

It was feigned that students had provided assistance in experiments, and students were then made to kick back the honoraria they received from the university. The faculty member then pooled the kickbacks in the research group and used it for payments to research subjects.

[Hiroshima University]

Knowing that another institution's expenses would cover travel costs, a claim was made for business trip-related travel expenses from both this university and the other institution, and duplicate travel expenses were received from the two institutions.

[Hiroshima University]

Money was wrongly pooled in the laboratory's bankbook through "a fake business trip" which made the university pay the trip expense without having the actual business trip, and a kickback paid by the part-time researchers from their salary. Part of such money was spent for private use.

[Example of National University C]

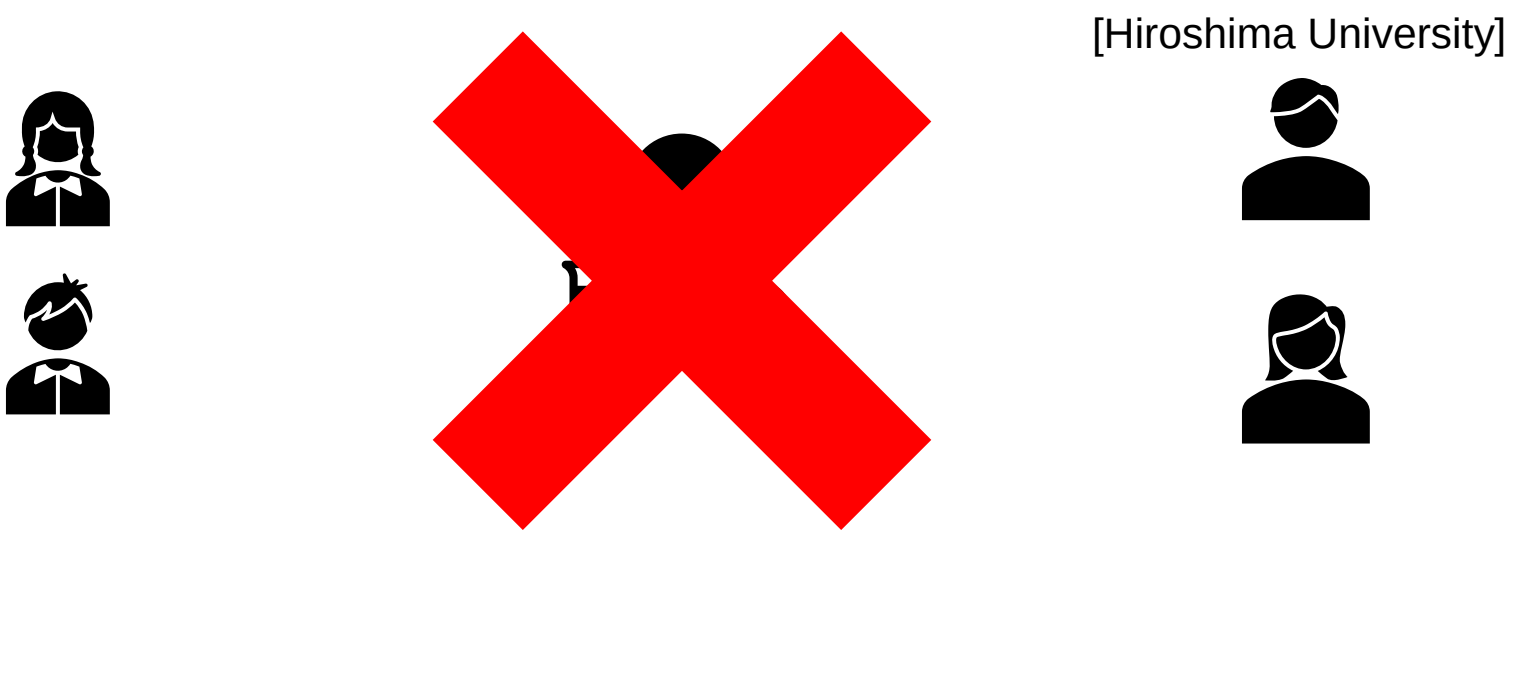
➡ **Hiroshima University implements efforts such as asking for submission of documents which objectively prove the fact of a trip and interviewing a person who receives honorarium when an internal audit is conducted.**

1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

① Misappropriation

It was feigned that students had provided assistance in experiments, and students were then made to kick back the honoraria they received from the university. The faculty member then pooled the kickbacks in the research group and used it for payments to research subjects.



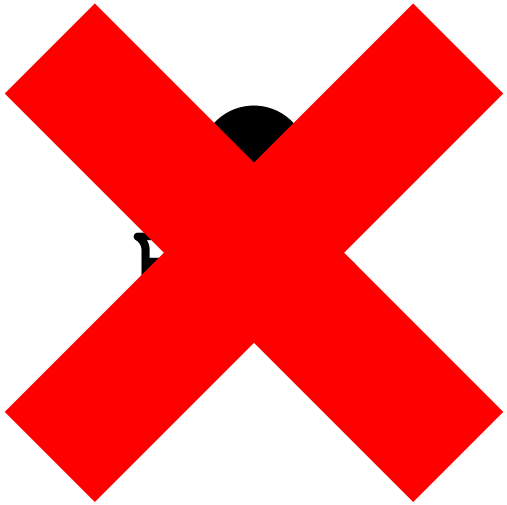
1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

② False charging

Knowing that another institution's expenses would cover travel costs, a claim was made for business trip-related travel expenses from both this university and the other institution, and duplicate travel expenses were received from the two institutions.

[Hiroshima University]



Institution A

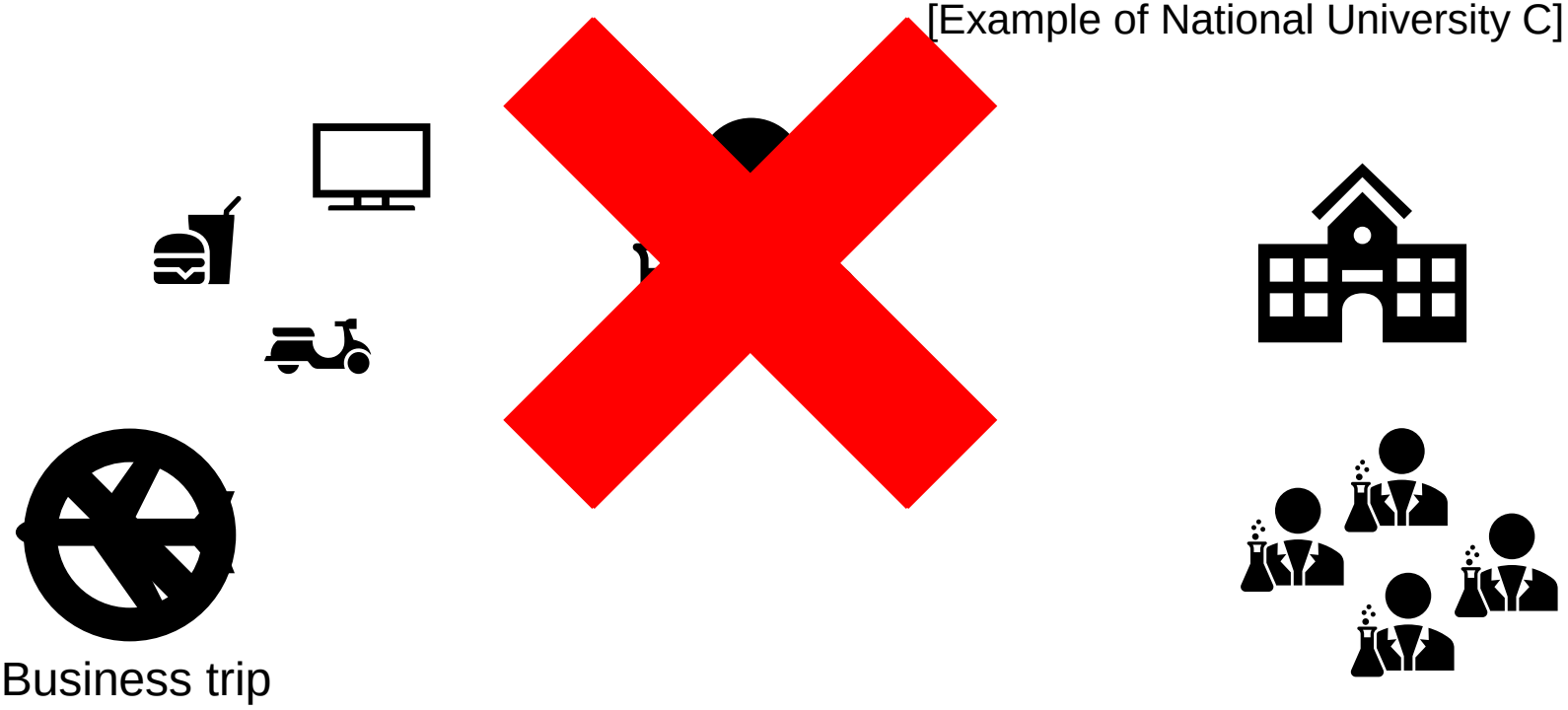
Institution B

1. 3. Improper Use of Research Funds

③ Personal accounting

Money was wrongly pooled in the laboratory's bankbook through "a fake business trip" which made the university pay the trip expense without having the actual business trip, and a kickback paid by the part-time researchers from their salary. Part of such money was spent for private use.

[Example of National University C]



1. Responsible Conduct of Research

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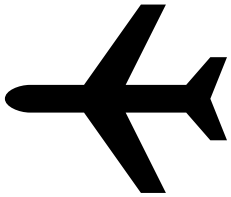


1. Responsible Conduct of Research

1. 3. Improper Use of Research Funds

【Impact to a person】

- Criminal accusation（If it's recognized as misappropriation etc.）
- Disciplinary action (If it's recognized as misappropriation, punitive dismissal is included.)
- Restriction to application for competitive research funds (for 10 years if misappropriation is recognized.)
- Reimbursement of money which was inappropriately used. (If it cannot be paid back with the research expense etc., it could be repaid by private money.)

【Impact to the university and other researchers】

- Downgrading of operation performance evaluation rating by National University Corporation Evaluation Committee by one level
- Restriction to application for competitive research funds (for 2 years at maximum if it's recognized as violation of good manager's duty of care.)
- Suspension of grants to the whole university
- Reduction of indirect expenses

➡ **As inappropriate use of expense has a significant impact to both a person and the university etc., please be sure to confirm the accounting rule first, and go through the appropriate paperwork based on the fact.**

Contents

1. 4. Data Handling

For the Sound Development of Science -The Attitude of a Conscientious Scientist-

Section Ⅱ Planning Research

Section Ⅲ Conducting Research

2. Informed Consent
3. Protecting Personal Information
4. Collecting, Managing, and Processing Data

1. Responsible Conduct of Research

1. 4. Data Handling

Previous research

Process of Research

Research planning

Research planning

Research conduct

Research conduct

Presentation of research results

Undergraduate theses・master theses・doctoral theses
Presentations at conferences・submitted papers

【Citation/credit】Credit for previous research and clear distinction between one's research and others' should be made.

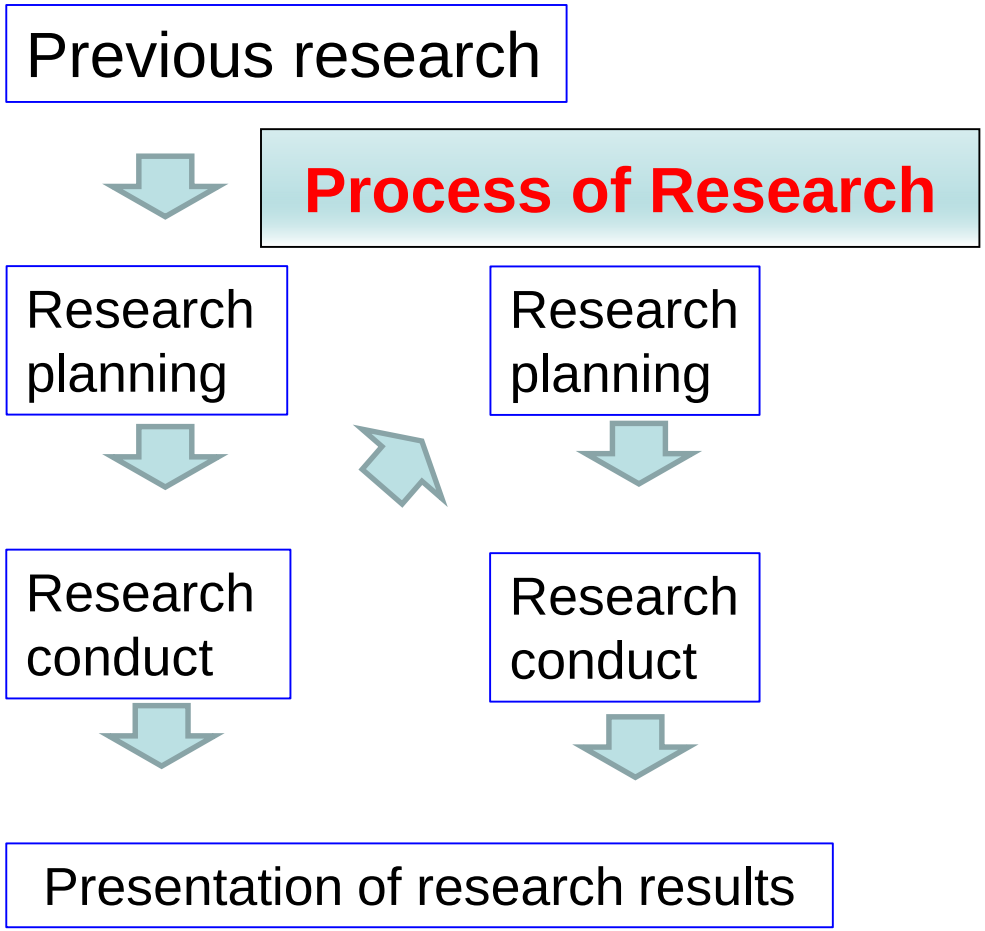
For further improvement of one's own study, storing the primary information that you obtained (raw data including the experiment conditions and advanced questionnaires) is essential.

In order to verify the research results, it is required to keep correct primary information.

In order to ensure the reliability of published research results, it is required to keep not only the published contents but also the process that proves how the result was obtained from data.

1. Responsible Conduct of Research

1. 4. Data Handling



Undergraduate theses・master theses・doctoral theses
Presentations at conferences・submitted papers

1. Responsible Conduct of Research

1. 4. Data Handling

- 【Citation/credit】Credit for previous research and clear distinction between one's research and others' should be made.

My research will…

Tom's (2015) research did…

According to Mary (2017)…

Keita (2012) demonstrated that…

1. Responsible Conduct of Research

1. 4. Data Handling

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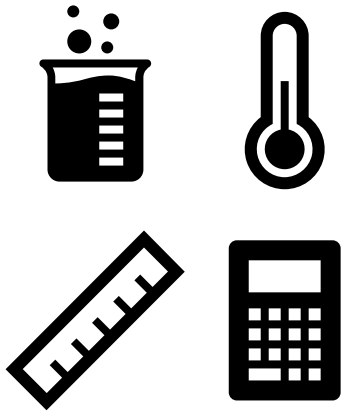

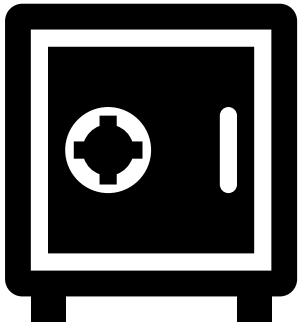

1. Responsible Conduct of Research

1. 4. Data Handling

- Research data ensures the reliability of research results not only at the time of publication but also after publication (including master's theses.)
- If there are doubts about a paper, it is necessary to prove the correctness with research data.

authors & referees > Policies > Image integrity

Image integrity and standards

Images submitted with a manuscript for review should be minimally processed (for instance, to add arrows to a micrograph). Authors should retain their unprocessed data and metadata files, as editors may request them to aid in manuscript evaluation. If unprocessed data are unavailable, manuscript evaluation may be stalled until the issue is resolved. All digitized images submitted with the final revision of the manuscript must be of high quality and have resolutions of at least 300 d.p.i. for colour, 600 d.p.i. for greyscale and 1,200 d.p.i. for line art.

http://www.nature.com/authors/policies/image.html

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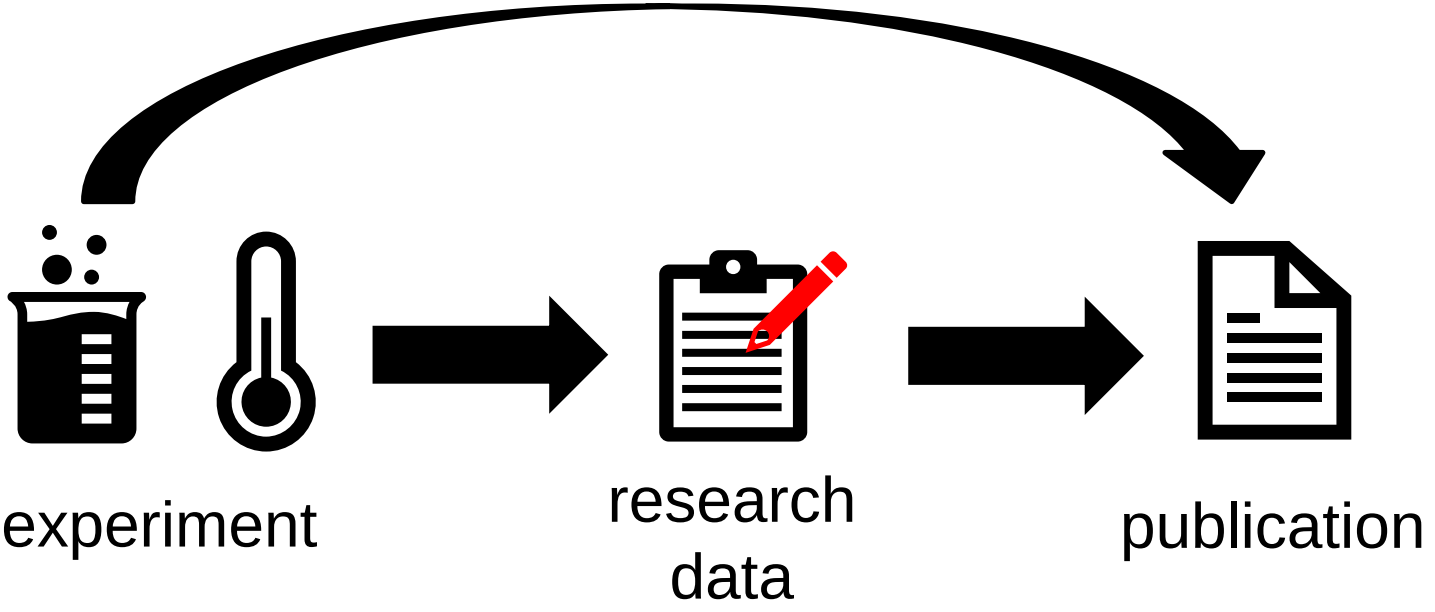

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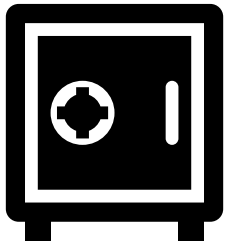

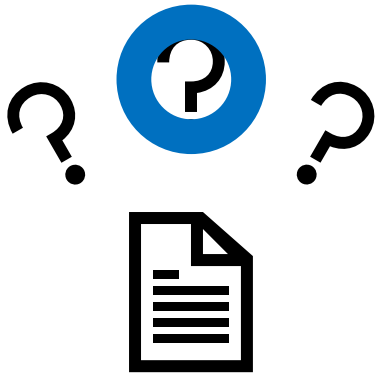

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1. 4. Data Handling

Reliability of Data

① Data are obtained based on appropriate methods.

② Data collection does not involve intentional wrong-doing or mistakes due to negligence.

③ Data obtained are properly stored and their originality is maintained.

（Green Book Text P30）

1. Responsible Conduct of Research

1．4． Data Handling in experimental research

Lab notes

① Storing unrevised raw data.

② Are the research results replicated？
The explanation of the details such as experiment material, process, conditions, experiment tools, measurement tools, etc.

③ Is the process which leads to the conclusion explained？
The detailed description of purpose, data processing, interpretation, development, etc.

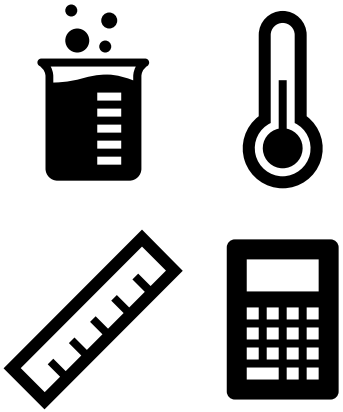
④ Originality is maintained and shared.
Along with the clear notification of experiment date, researchers (contribution, intellectual property), sharing the information with supervisors and joint researchers

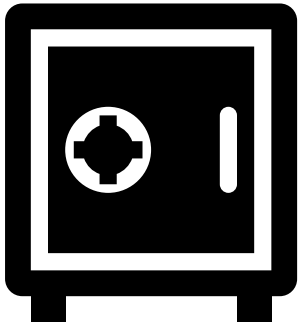
（Green Book Text P31）

1. 4. Data Handling in experimental research

Lab notes

Storing unrevised raw data.





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1．4． Data Handling in experimental research

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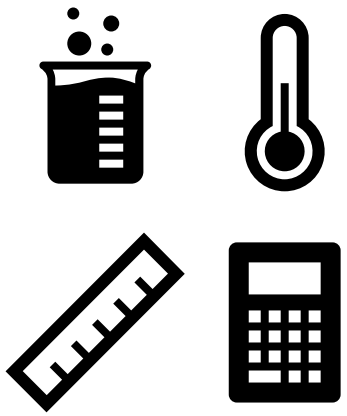

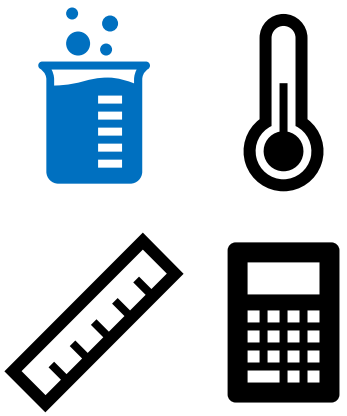

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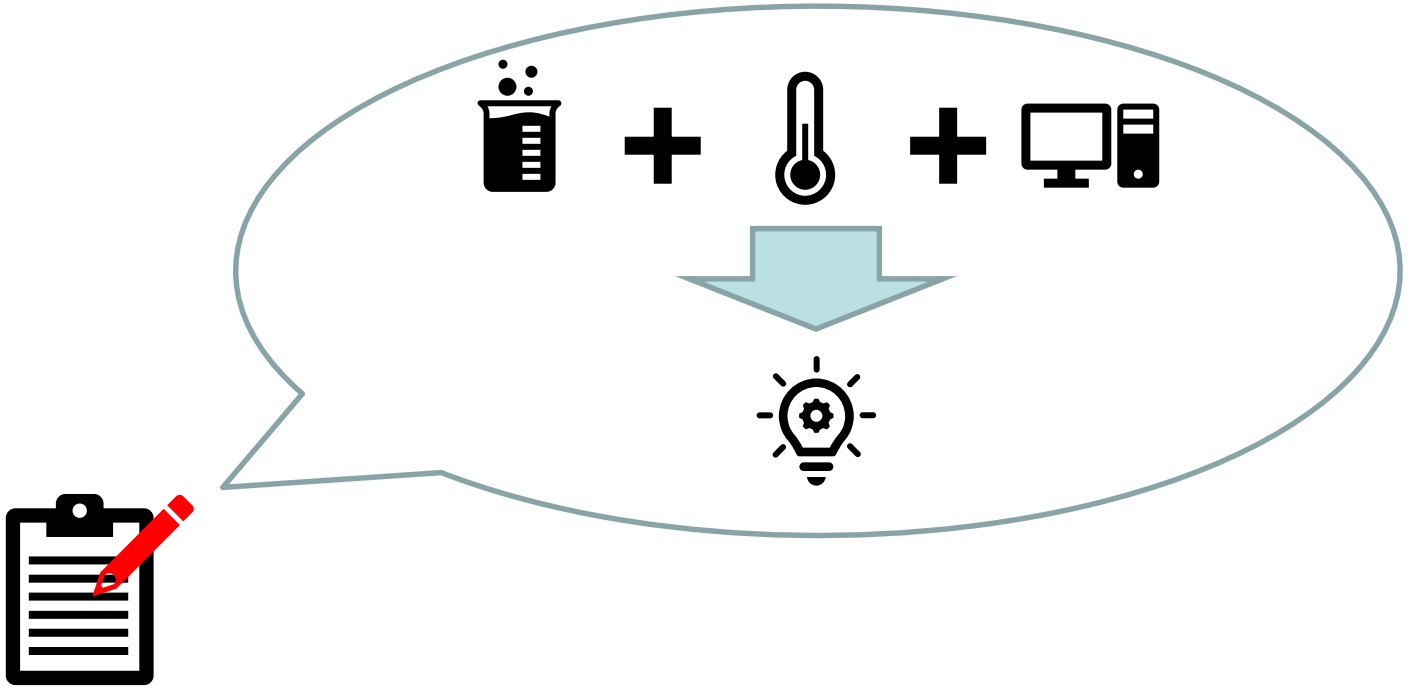

（Green Book Text P31）

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1. Responsible Conduct of Research

1. 4. Data Handling in experimental research

Managing Lab notes

① Lab notes do not belong to an individual; they belong to the institution.

Lab notes should be maintained on a group basis such as a research group.

As a general rule, Hiroshima University has a responsibility to maintain lab notes for 10 years after the academic paper was published.

② Data containing personal information.

Close attention should be given in order to avoid personal information leakage by taking measures such as setting access authorization, etc.

③ Storing data on electronic media.

Storing in ways where correction or editing are easily made should be avoided.

（Green Book Text P34）

1. Responsible Conduct of Research

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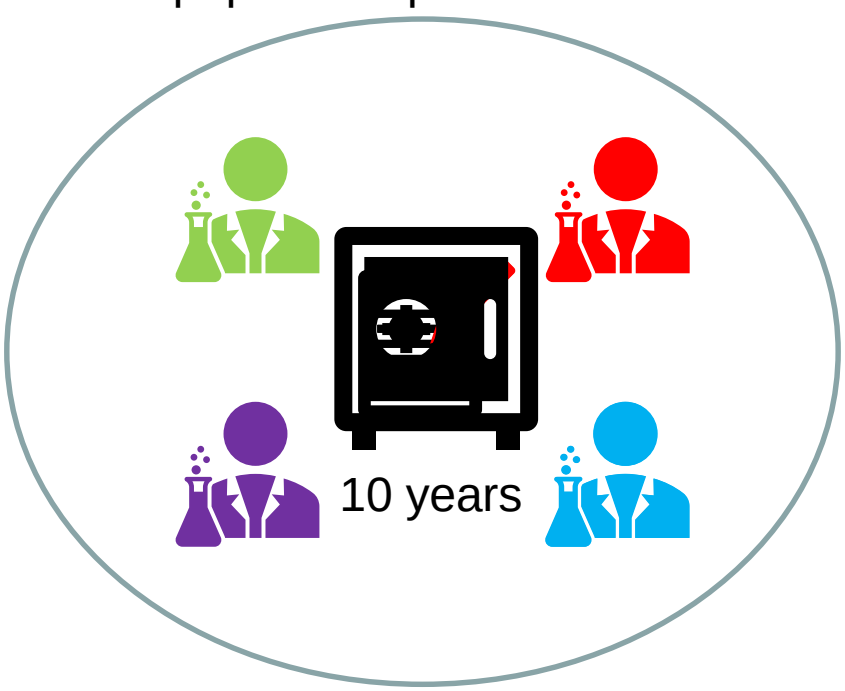

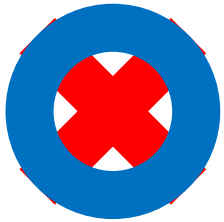

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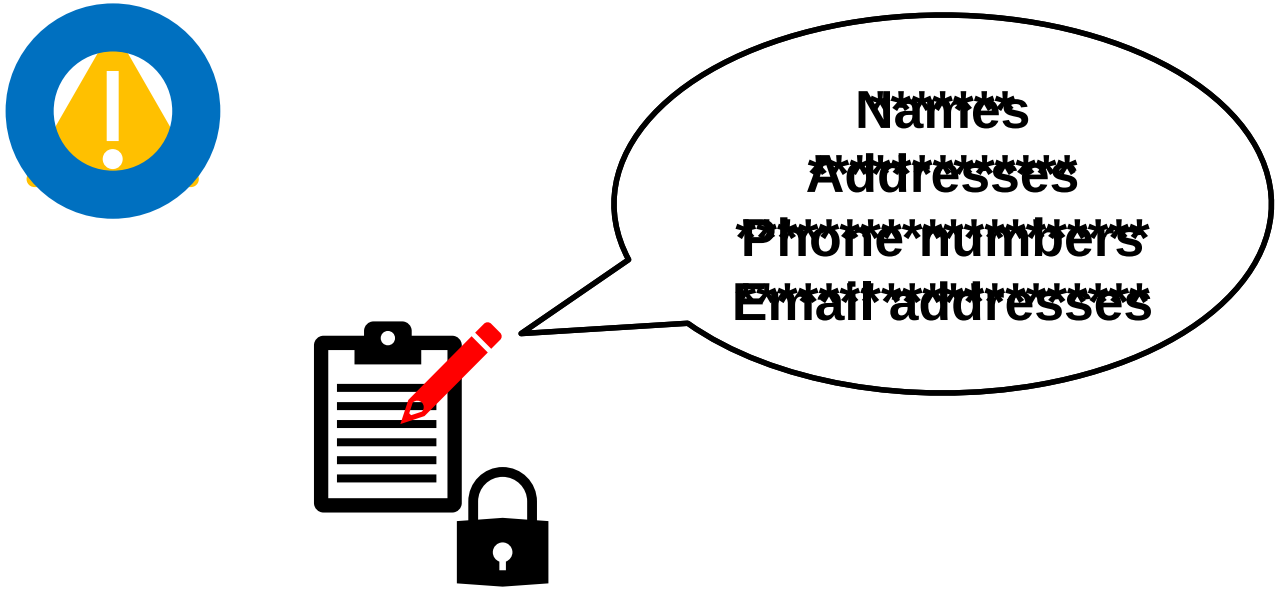

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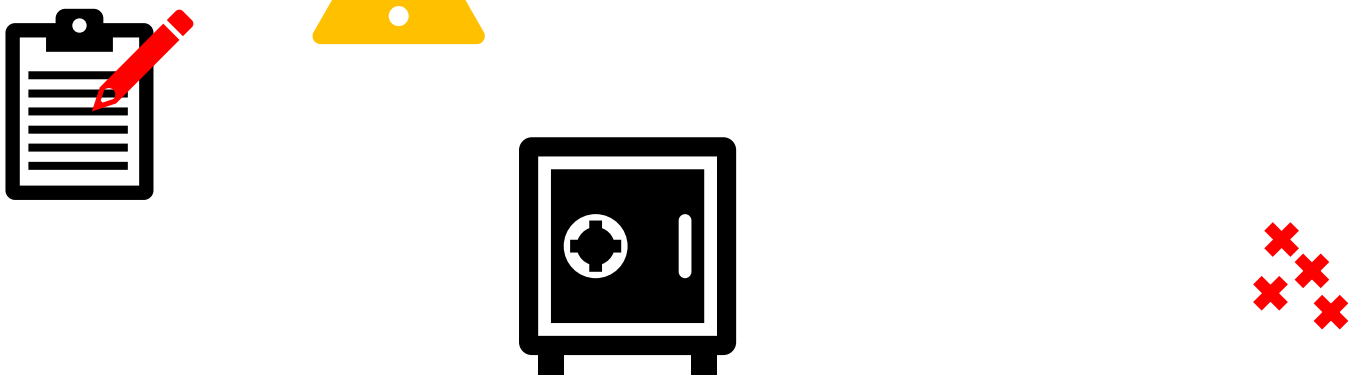
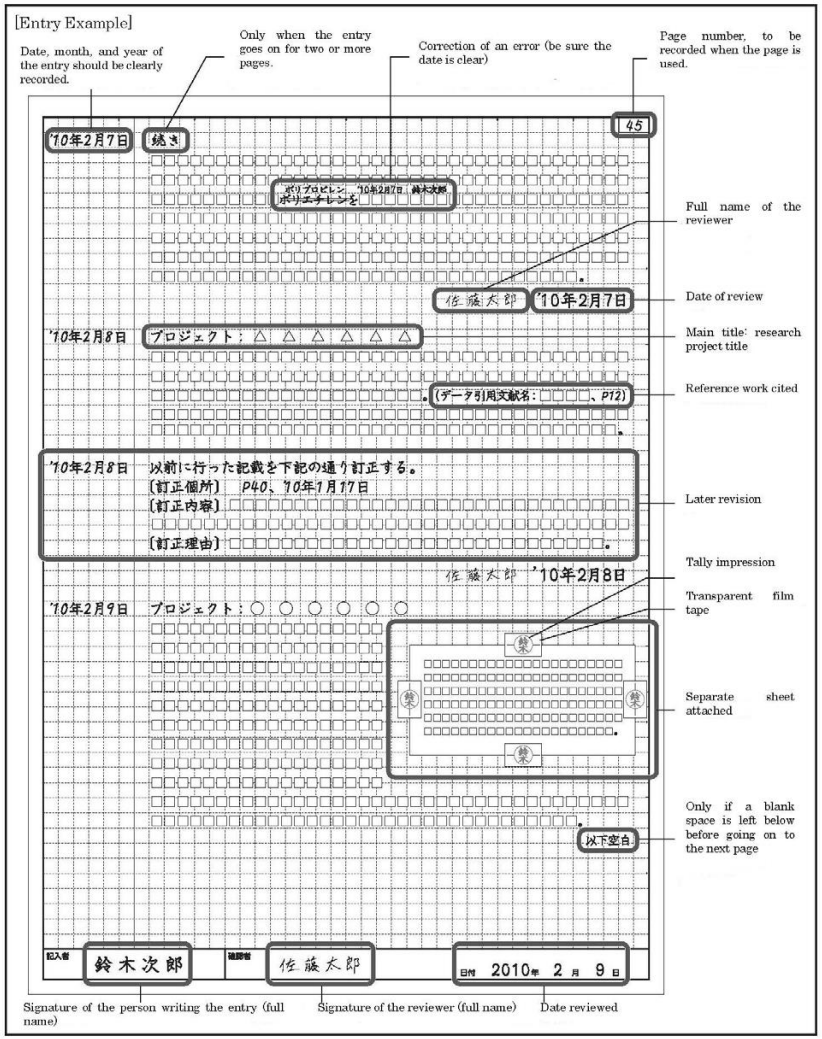


（Green Book Text P34）

1. Responsible Conduct of Research

1. 4. Data Handling in experimental research

Example of a lab note（Green Book Text P33）



Example of “Research Lab Notebook” developed jointly by Prof. Yoichiro Sada of Yamaguchi University and Kokuyo S & T Co. Ltd.,

1. 4. Data Handling

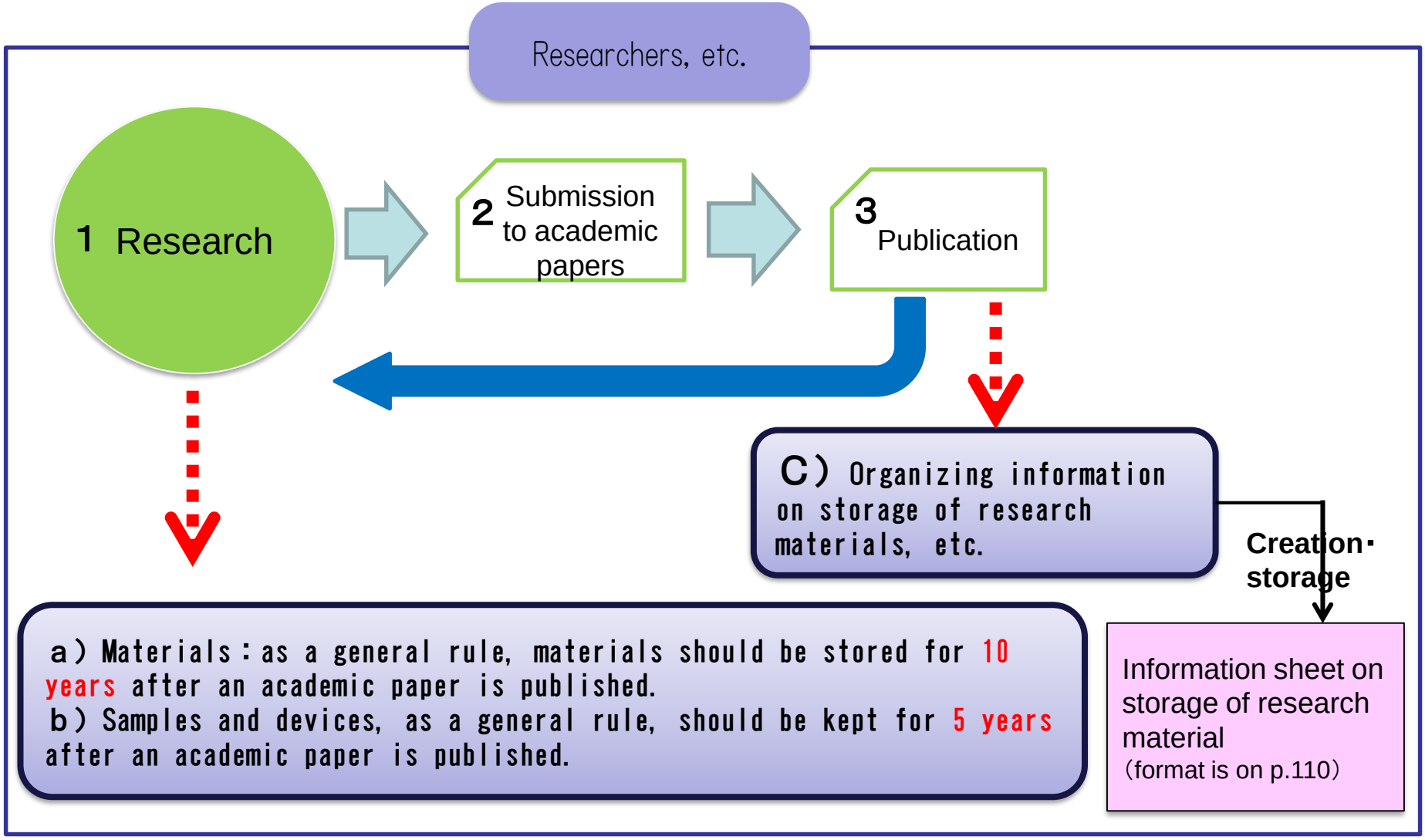
Guidelines for storage of research material, etc. at Hiroshima University

Responsibilities of researchers, etc. [Regulation Paragraph3 Article 4]
- Securing ways to verify legitimacy of research.
- Making it possible for a third party to verify the research.

『Guidelines for storage of research material, etc. at Hiroshima University』 was constituted.

1. Responsible Conduct of Research

1. 4. Data Handling



1. Responsible Conduct of Research

1. 4. Data Handling

Protection of Human Rights and Compliance with Laws and Regulations

- It is not correct to say that anything should be allowed in the name of scientific research.
- One should never forget that freedom in research is to be guaranteed only so far as the research fulfills its responsibility of protecting those things that are to be protected.

（Green Book Text P10）

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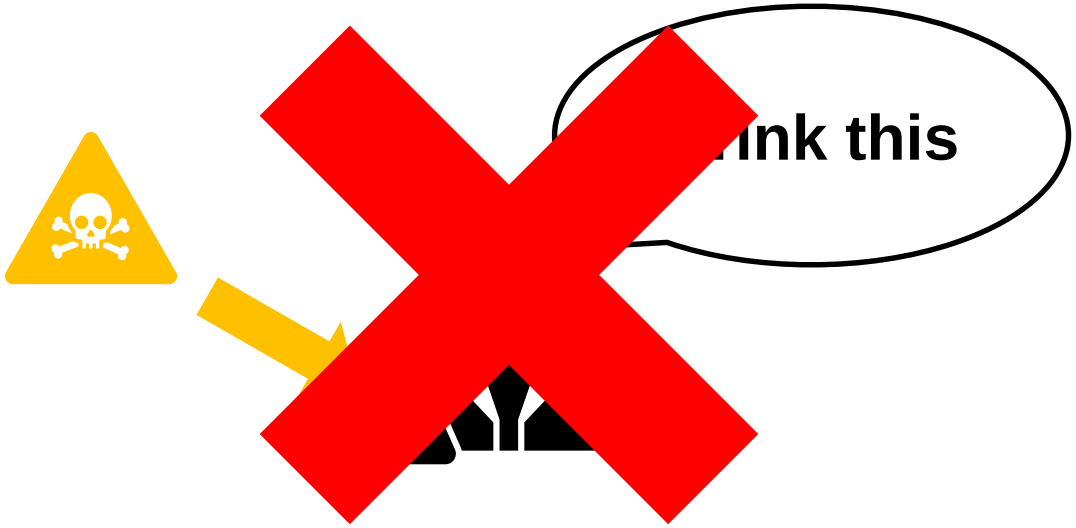

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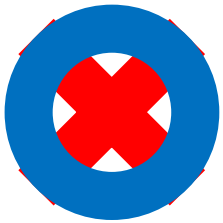


（Green Book Text P10）

1. 4. Data Handling

Protection of Human Rights and Compliance with Laws and Regulations

Compliance with Laws and Regulations

Compliance with laws and regulations related to human life ethics

Compliance with laws and regulations related to safety

Approval of an ethics review committee

（Green Book Text P10）

1. 4. Data Handling

Protection of Human Rights and Compliance with Laws and Regulations

Protection of human rights

Informed consent

Confidentiality of personal information

（Green Book Text P10）

1. Responsible Conduct of Research

1．4． Data Handling

Important points of Research involving Human Subjects

Informed consent

– means the consent that a person who is a candidate for inclusion as a subject of a clinical study, after having been fully informed of the design of the study by researchers or equivalent persons and having fully understood the significance, objective(s), method(s), etc. of the study, gives at his/her own discretion consent to participate in the study and approval of the procedures for handling the human specimens and equivalent materials.”
（Ethical Guidelines for Clinical Studies established by the Ministry of Health, Labor and Welfare）

（Green Book Text P22）

1. Responsible Conduct of Research

1. 4. Data Handling

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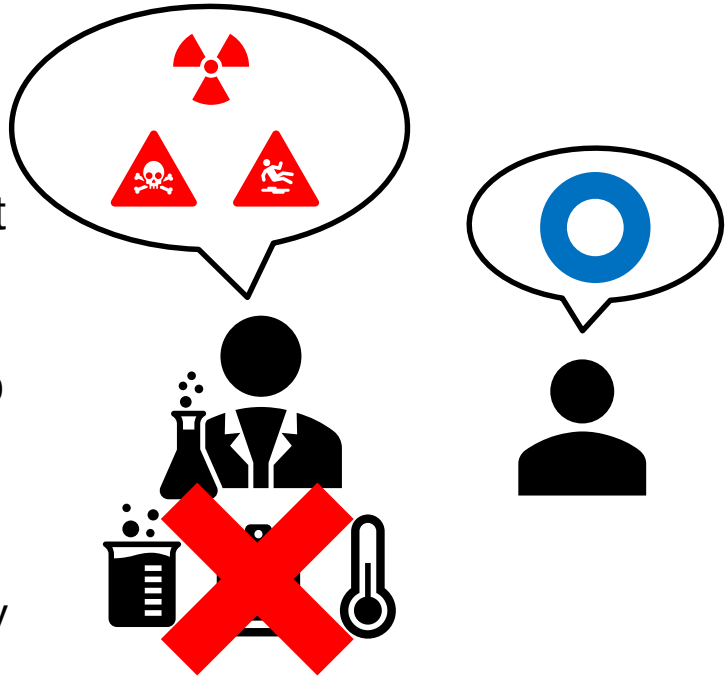

（Green Book Text P22）

1. Responsible Conduct of Research

1．4． Data Handling

Important points of Research involving Human Subjects

Informed consent

Protection of personal information

The same sort of consideration should be given in interviews and other research in the humanities and social sciences

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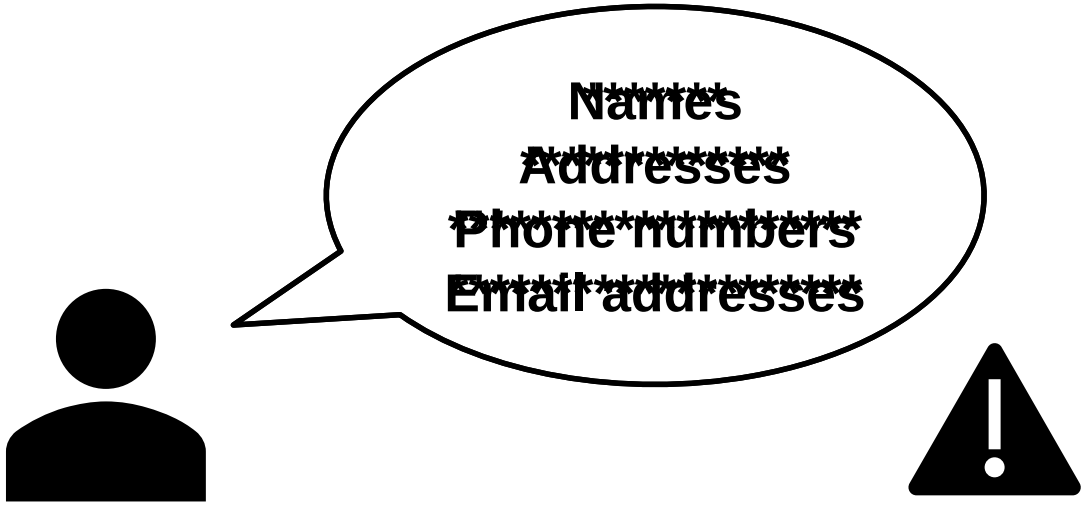

（Green Book Text P22）

1. 4. Data Handling

Personal information

- “personal information” is defined as “information on a living individual, which can identify the specific individual by name, date of birth or other description contained in such information (including information that can be compared with other information and thereby identify the specific individual.)”

(Act on the Protection of Personal Information)

（Green Book Text P28）

1. Responsible Conduct of Research

1．4. Data Handling

Personal information

- Specifically, this includes not just information such as name, gender, date of birth, and other descriptions that can identify the specific individual but also “any information expressing facts, judgment, or evaluation concerning the individual’s physical body, assets, occupation, position, or other attributes.”

（It is expected that personal information such as base sequence, which comprises of DNA, is stipulated in a cabinet order.）

（Green Book Text P41）

1. Responsible Conduct of Research

1. 4. Data Handling

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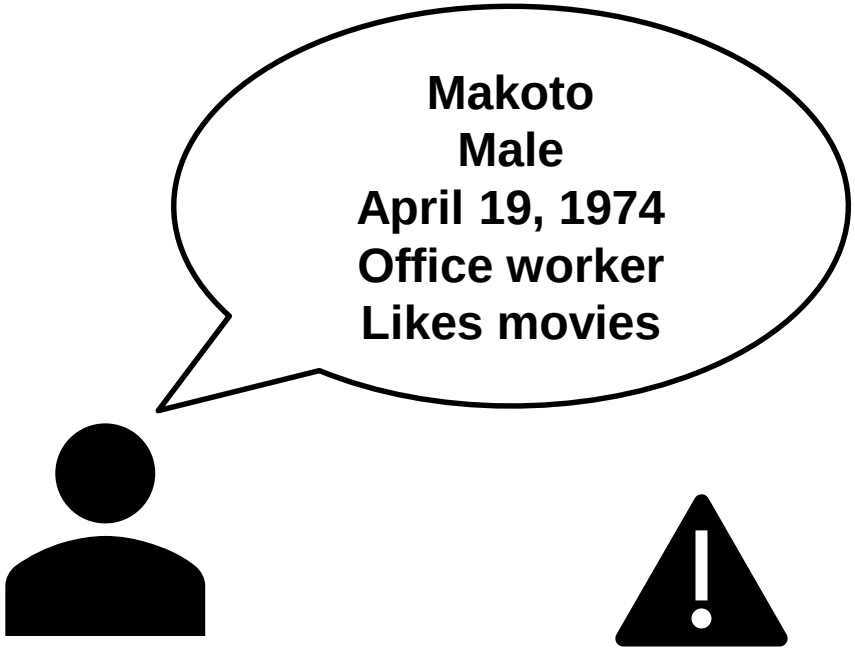

（Green Book Text P41）

1. Responsible Conduct of Research

1. 4. Data Handling

Scientists' Responsibility for Personal Information

Ethical Guidance for Medical and Health Research Involving Human Subjects
(including information about the deceased that can identify a specific individual)

① Personal information shall not be obtained using an improper methods.

② Personal information shall not be used beyond the scope necessary to accomplish the purpose of its use specifically explained to the subject when obtaining informed consent.

③ Safety management shall be implemented to ensure that personal information is not leaked, lost, or damaged.

In addition, handling of anonymized data, etc.

1. 4. Data Handling

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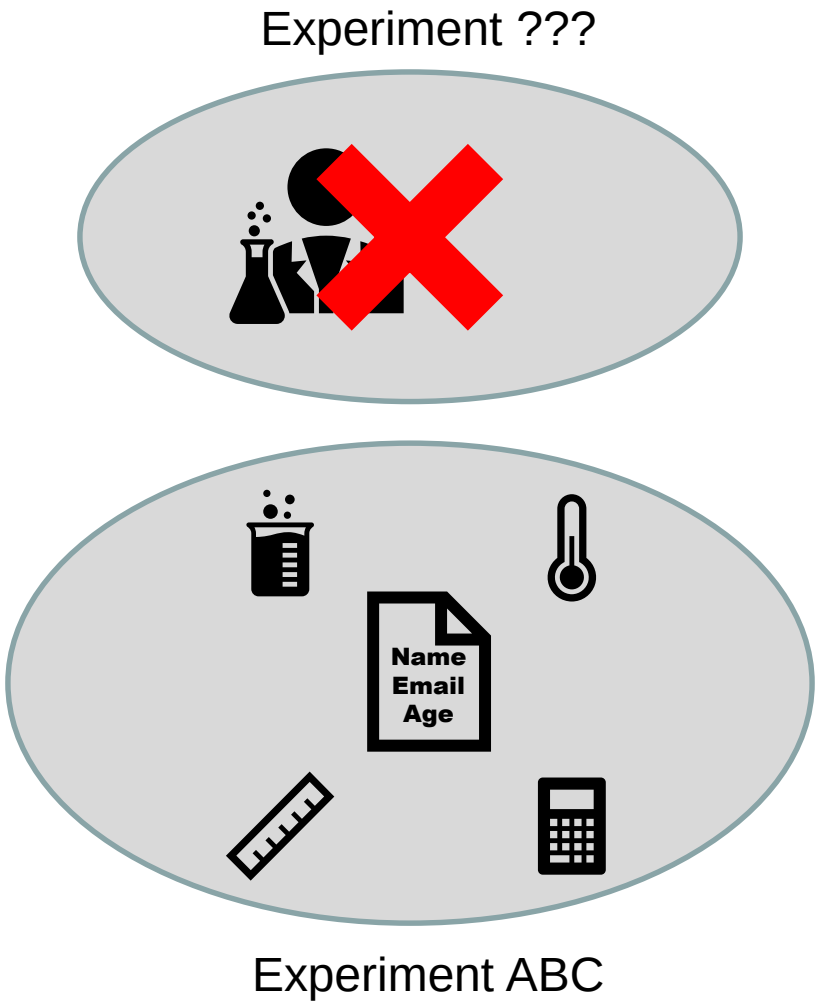

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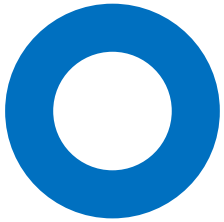

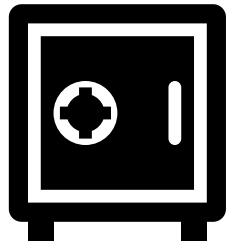

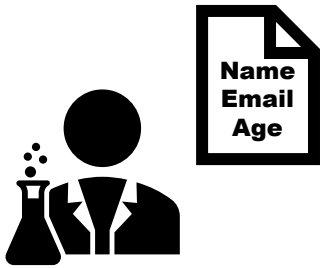

1. Responsible Conduct of Research

1. 4. Data Handling

Scientists' Responsibility for Personal Information

Enforcement rules of Clinical Trials Act

④ Identify the purpose of use to the greatest extent possible when handling personal information.

⑤ Efforts shall be made to maintain personal information accurately and currently within the scope necessary to accomplish the purpose of its use.

⑥ Stipulate conduct guidelines that lay down specific methods for ⑤, etc.

1. Responsible Conduct of Research

1. 4. Data Handling

Scientists' Responsibility for Personal Information

Humanities and social sciences

In the situation where one presents results while quoting unpublished documents or interview records

① In the original interview, to obtain consent from the interviewee concerning the objectives of the research, scope and format of disclosure, and whether or not his/her approval will be obtained before presentation.

② When quoting an interview record, to mention the interviewee's name, position and occupation, date, time, and location of the interview within the scope agreed upon by the interviewee.

（Green Book Text P29）

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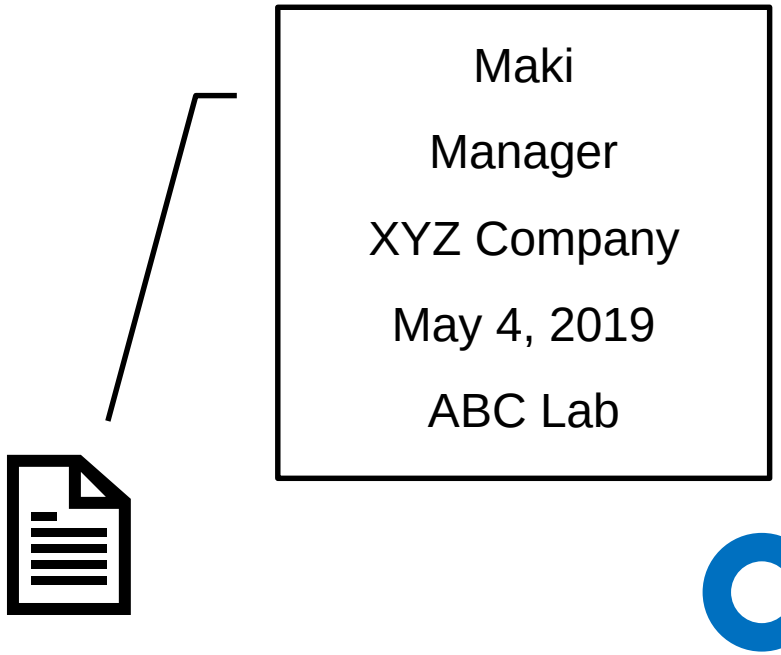

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③ When quoting a historical source or document publicly displayed in an archive or a historical library, to cite the name of the archive or library, title of the source/document, document number, and other details. When using a deposited document and the deposition agreement requires that the depositor be shown a rough draft of your presentation in advance, to be sure to comply with that requirement.

④ If you have received special permission from an individual or a corporation to browse historical sources or documents, to obtain prior agreement and clarify the disclosure conditions, including to what extent you may disclose the actual resources/documents, their existence, and items containing personal information.

（Green Book Text P29）

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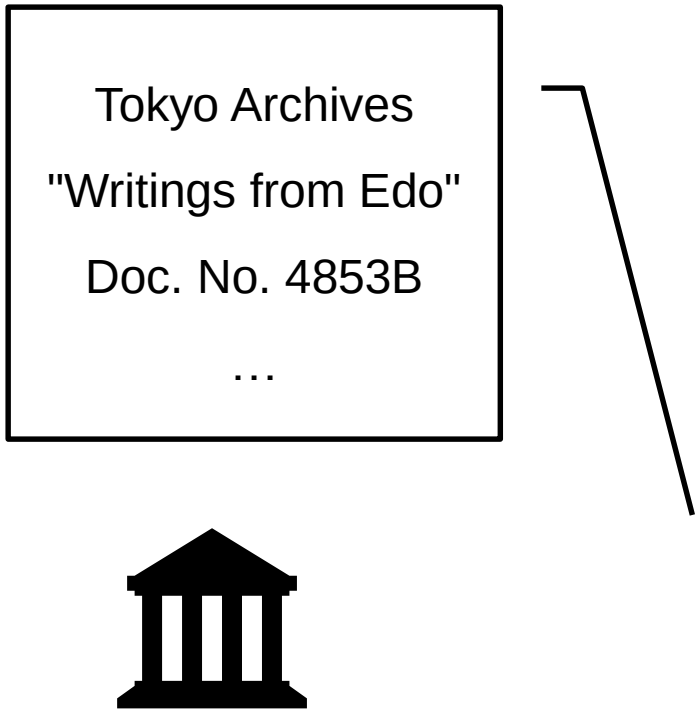

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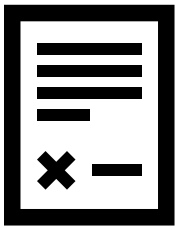

（Green Book Text P29）

1. Responsible Conduct of Research

1．4. Data Handling

Scientists' Responsibility for Personal Information

Humanities and social sciences

In the situation where one presents results while quoting unpublished documents or interview records

⑤ When quoting historical resources or documents, to pay especially close attention to information such as an individual's birth, lineage, economic status, death (including history of illnesses), and criminal history, because, while the individual may have lived in the past, such information may violate the privacy of his/her heirs or successors.

（Green Book Text P29）

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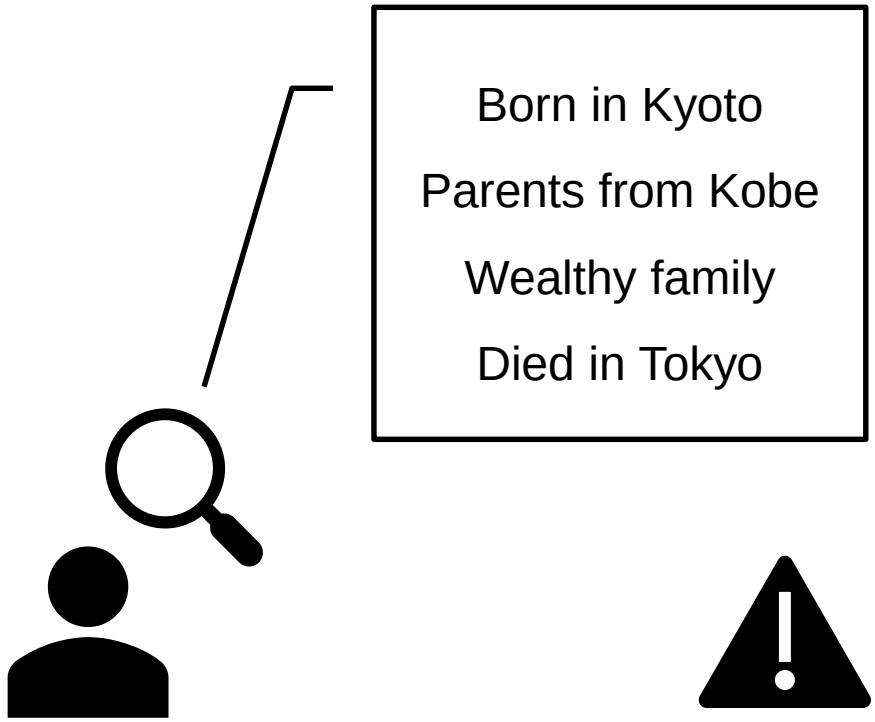

（Green Book Text P29）

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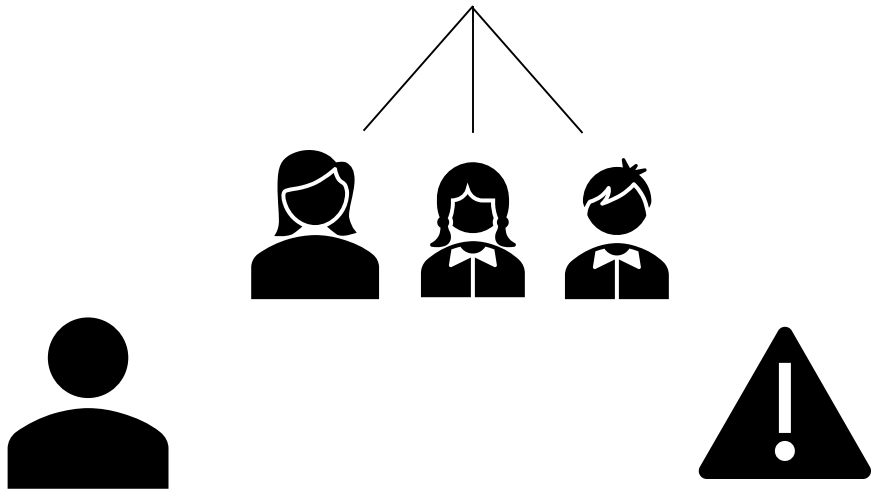

（Green Book Text P29）

Contents

1. 5.
Presenting Research Results

For the Sound Development of Science -The Attitude of a Conscientious Scientist-
Section Ⅳ Presentation of Research Results

1. Responsible Conduct of Research

1. 5. Presenting Research Results

Credit for research results

- Recognition of a scientist's contribution to research is called "credit."

  Authorship , indicating who has written a given paper

  – "Citations" of research conducted by other authors

  – Listing scientists who contribute to a research study in the "acknowledgements".

- Inappropriate listing as authors
- Not citing previous researches

Misconduct

（Green Book Text P49）

1. Responsible Conduct of Research

1. 5. Presenting Research Results

Who Should Be Listed as Authors?

Four criteria for one to be listed as a paper author

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work;
2. Drafting the work or revising it critically for important intellectual content;
3. Final approval of the version to be published;
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Source：The uniform requirements for manuscript submission by the International Committee of Medical Journal Editors (ICMJE)

（Green Book Text P50）

1. 5. Presenting Research Results

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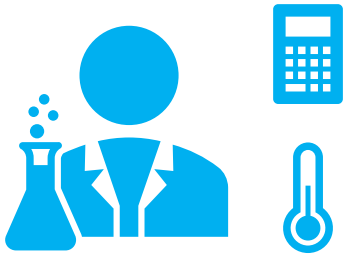

Source：The uniform requirements for manuscript submission by the International Committee of Medical Journal Editors (ICMJE)

（Green Book Text P50）

1. 5. Presenting Research Results

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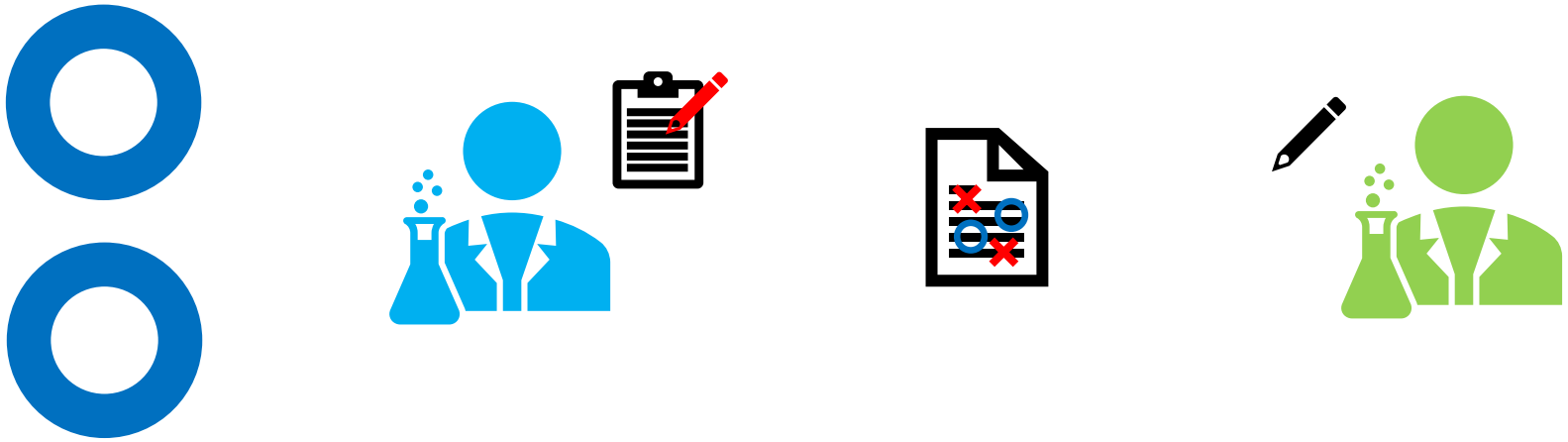

Source：The uniform requirements for manuscript submission by the International Committee of Medical Journal Editors (ICMJE)

（Green Book Text P50）

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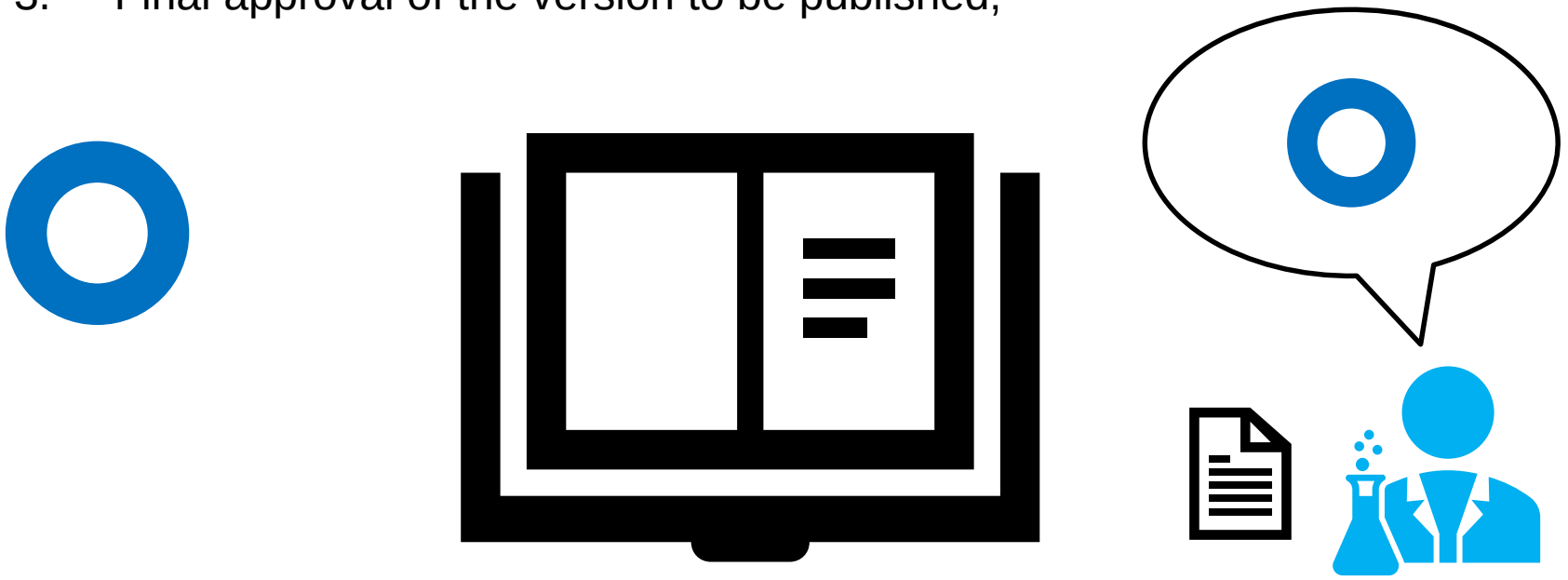
3. Final approval of the version to be published;



Source：The uniform requirements for manuscript submission by the International Committee of Medical Journal Editors (ICMJE)

（Green Book Text P50）

1. 5. Presenting Research Results

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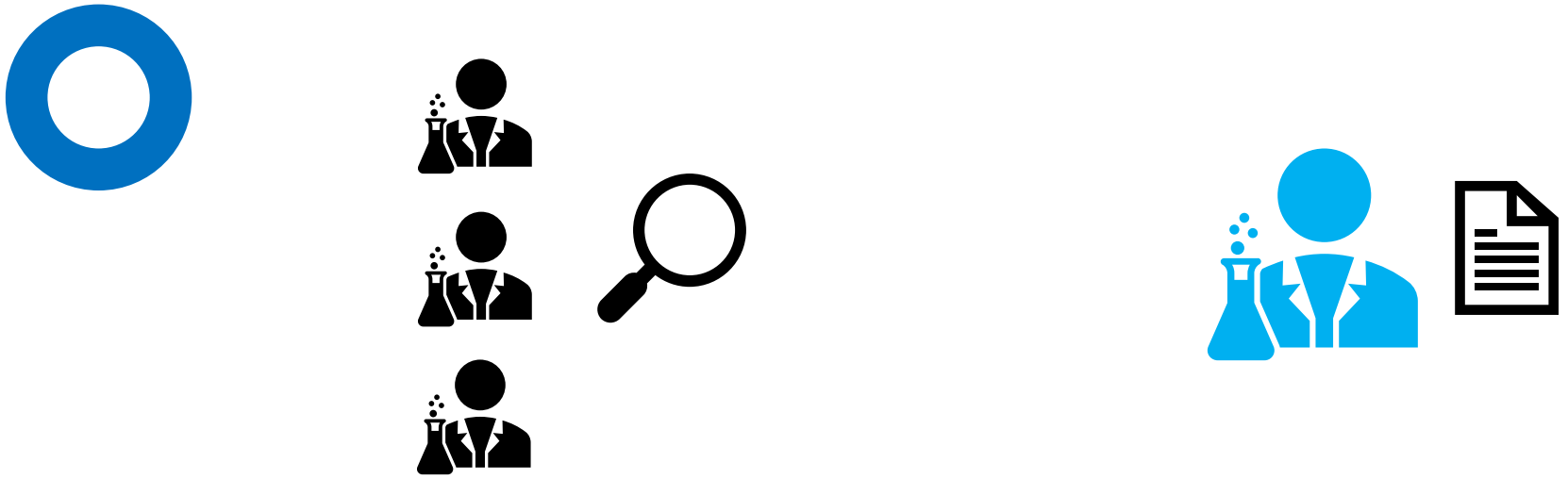

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1. Responsible Conduct of Research

1. 5. Presenting Research Results

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- These are the conditions that must be satisfied to be eligible for authorship; conversely, people who satisfy all of these conditions must be listed as authors.

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1. Responsible Conduct of Research

1. 5. Presenting Research Results

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1. ○
2. ○
3. ○
4. ○

Source：The uniform requirements for manuscript submission by the International Committee of Medical Journal Editors (ICMJE)

（Green Book Text P50）

1. 5. Presenting Research Results

Improper Authorship

- Gift Authorship
  - In a case in which a true author, out of kindness, gives authorship to someone not deserving it.
  - Other cases where persons in a more powerful position than a true author add their names as authors of a paper, taking advantage of their superior position. Conversely, there are cases where a true author adds to the list of authors someone close to him/herself or someone who can give the true author an advantage if listed as an author.

（Green Book Text P51）

1. 5. Presenting Research Results

Improper Authorship

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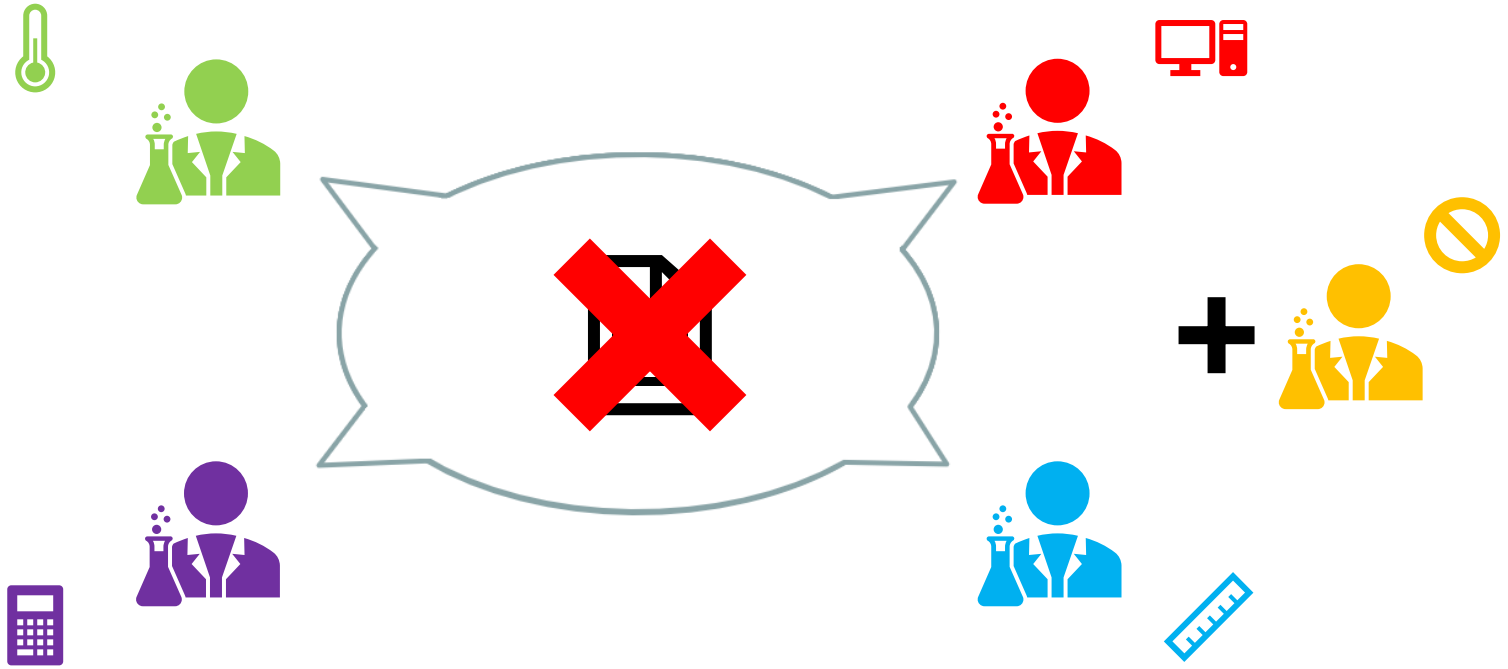
  - In a case in which a true author, out of kindness, gives authorship to someone not deserving it.



（Green Book Text P51）

1. 5. Presenting Research Results

Improper Authorship

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  - Other cases where persons in a more powerful position than a true author add their names as authors of a paper, taking advantage of their superior position. Conversely, there are cases where a true author adds to the list of authors someone close to him/herself or someone who can give the true author an advantage if listed as an author.

（Green Book Text P51）

1. 5. Presenting Research Results

Improper Authorship

- Ghost Authorship
  - A truly deserving author is not given credit as an author.
  - Even when the graduate student's experiments, data collection, and analyses were carried out under the guidance of the professor, the graduate student should be named as an author when s/he has made a substantial contribution to the research.
  - The Diovan Scandal can be one of the examples where an employee of a pharmaceutical company carrying out clinical research and analysis of data but only university-affiliated researchers are listed as authors of the paper. （See P15）

（ Green Book Text P68）

1. 5. Presenting Research Results

Improper Authorship

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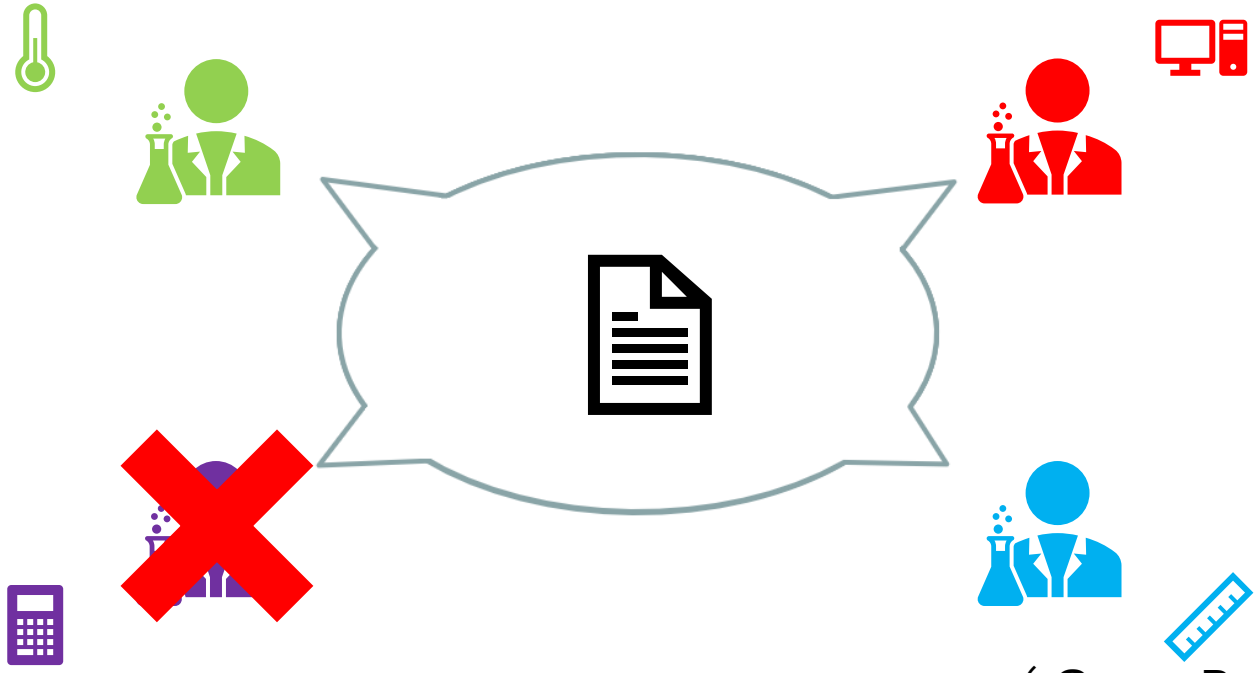
  - A truly deserving author is not given credit as an author.



（Green Book Text P68）

1. 5. Presenting Research Results

Improper Authorship

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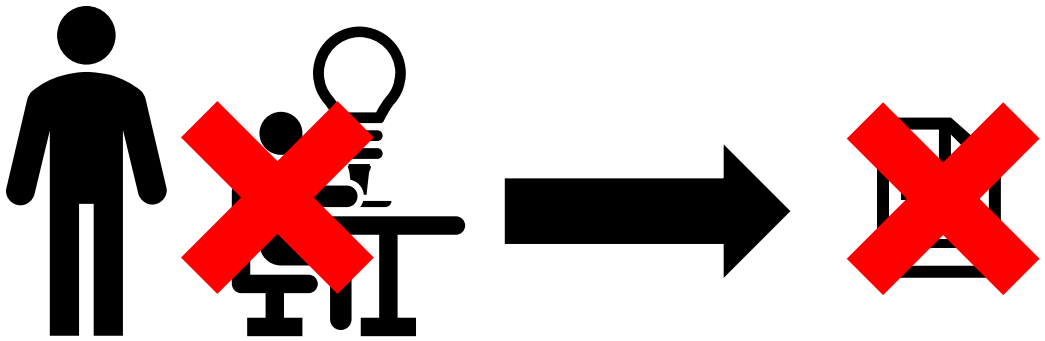
  - Even when the graduate student's experiments, data collection, and analyses were carried out under the guidance of the professor, the graduate student should be named as an author when s/he has made a substantial contribution to the research.



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1. 5. Presenting Research Results

Improper Authorship

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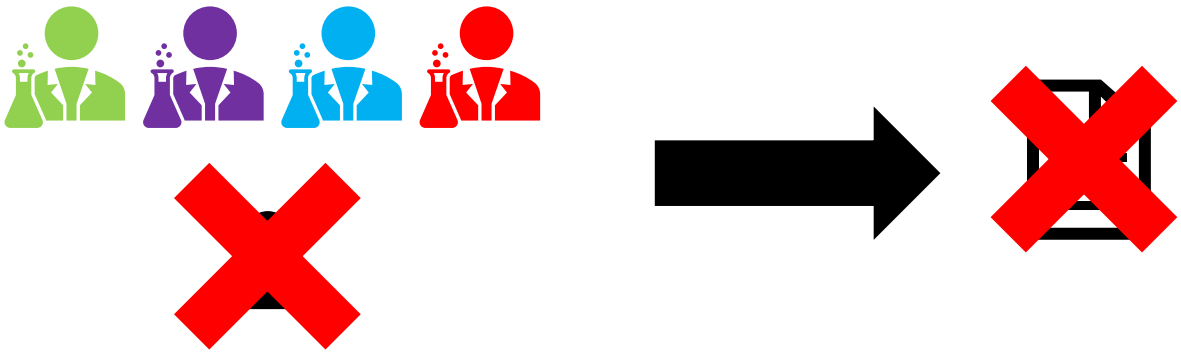
  - The Diovan Scandal can be one of the examples where an employee of a pharmaceutical company carrying out clinical research and analysis of data but only university-affiliated researchers are listed as authors of the paper. （See P15）



（Green Book Text P68）

1. Responsible Conduct of Research

1. 5. Presenting Research Results

Duplicate posting and duplicate publication

- Duplicate posting and duplicate publication are not acts of an author disclosing information already made available to the public.
- When submitting a research paper, if an important part of the paper has already been presented elsewhere, that fact needs to be made clear.

（Green Book Text P52）

1. Responsible Conduct of Research

1. 5. Presenting Research Results

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（Green Book Text P52）

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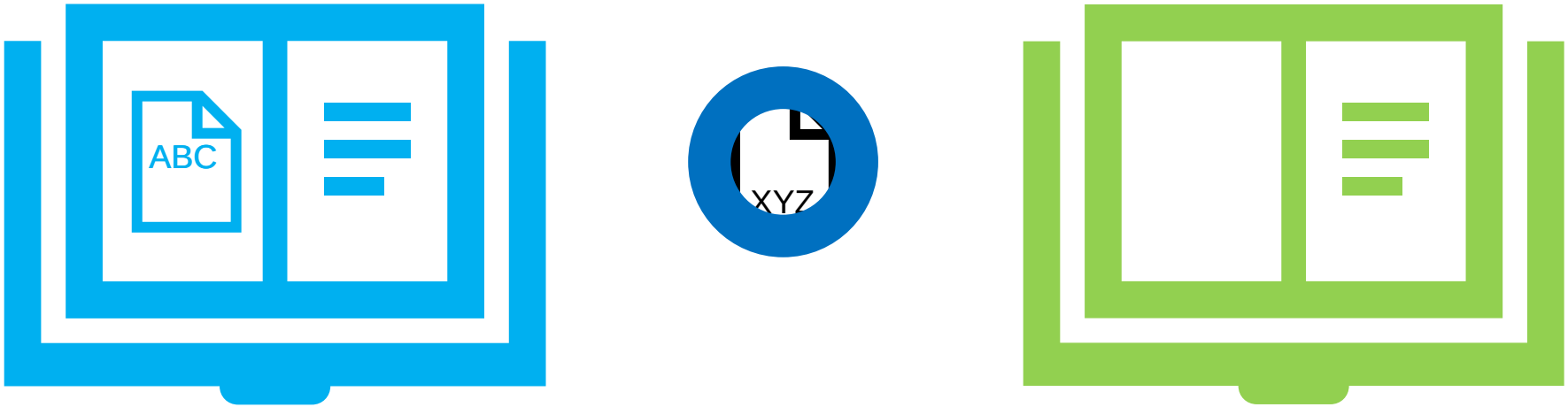

（Green Book Text P52）

1. Responsible Conduct of Research

1．5. Presenting Research Results

Duplicate posting and duplicate publication

Be careful in the case of doctoral thesis!!

- In particular, Japan's regulations on academic degrees were revised in 2013, replacing dissertations printed on paper with dissertations presented over the Internet.
- With this, it will be normal for a doctoral dissertation to appear on the Web within one year following the awarding of a degree.
- When one submits a paper based on a doctoral dissertation, this fact must be reported to the academic journal.

（Green Book Text P52）

1. Responsible Conduct of Research

1. 5. Presenting Research Results

Duplicate posting and duplicate publication(doctoral thesis)

FAQ on Research Ethics
（Excerption of parts related to dissertation）

No.	Q	A
1	I would like to publish my doctoral thesis from a publisher. Would it be considered duplicate publication?	In accordance with the revision of regulations on academic degrees made in 2013, doctoral theses are disclosed on WEB (Hiroshima University Institutional Repository). Whether this case applies to duplicate publication or not varies and depends on the practice of your major and policies of the publisher. Please consult with supervisors and the publisher.
2	（snip）The explanation was given that because of the revision of regulation on academic degrees made in 2013, it will become a regular practice that doctoral theses will be disclosed within 1 year on the web. If there are contents related to patents in a doctoral thesis, how should we deal with the new practice? Will it lead to loss of novelty because of disclosure?	In compliance with Hiroshima University Degree regulations, doctoral theses shall be disclosed with all their contents within one year from when the dissertation is accepted. However, in unavoidable circumstances where the disclosure possibly leads to the loss of novelty, the summary of the doctoral thesis would be replaced with the entire thesis after receiving approval of the president. Such special circumstances include planning for an application for patent and application and you will file a claim by submitting a Doctoral Dissertation Submission and Publication Confirmation (Application Form)” . Please contact the Student Support Office of your graduate school if your dissertation has other reasons.
3	（snip）The explanation was given that because of the revision of regulation on academic degrees made in 2013, it will become a regular practice that doctoral theses will be disclosed within 1 year on the web. How can we post our doctoral theses in books?	Please ask the publisher after taking a closer look at your contract with the publisher. In cases where your dissertation cannot be disclosed, with the president’s approval, it is possible to publish a summary of your dissertation content instead of the entire dissertation, after acknowledging the circumstance and undertaking the appropriate procedure.
4	How can a person, who already obtains a (doctoral) degree, register one’s dissertation on Repository?	A person, who acquired a degree before 2012, is needed to submit Agreement to Allow the Deposit of My Doctoral Thesis in “Hiroshima University Institutional Repository (HiR) when the person register one’s dissertation. Please contact Library Information Planning Group. For who obtained a degree after 2013, please contact Management Support Office.

1. Responsible Conduct of Research

1. 5. Presenting Research Results

"Salami Slicing" in Publishing

- The act of publishing one research as multiple smaller studies (slices cut out from the main study) is referred to as "salami publishing" or "bologna publishing."
- This practice not only artificially exaggerates one's accomplishment, but it is also problematic because it makes it difficult to grasp the overall significance of the research and unnecessarily wastes other scientists' time.

（Green Book Text P53）

1. 5. Presenting Research Results

Improper Referencing of Prior Research

- To give proper credit to research conducted in the past, it is essential to carefully investigate prior research and appropriately reference it when writing a paper.
- There are cases when a research group intentionally omits reference to prior research done by a competing research group.

（Green Book Text P53）

1. 5. Presenting Research Results

When Using Someone Else's Copyrighted Material

- When preparing and using a secondary work that copies or modifies someone else's work, generally one must first obtain permission from the owner of the copyright of that work.
- The copyright of a work published in a journal or other publications normally belongs to the publisher, so an author may need to obtain permission from the publisher to use that article even if it was written by the author him/herself.
- When a scientist's research results are reported in a newspaper or other media, s/he may want to share the report or coverage by including it on a website.

（Green Book Text P54）

1. 5. Presenting Research Results

Secondary Use When No Permission of the Copyright Owner Is Necessary

- In the following cases for example, no permission is needed unless transfer is expressly prohibited: Use of a work excluded from the protection of the Copyright Act by a national law or a local ordinance, duplication for a personal use, and use of a work whose copyright-protection period has expired.

（Green Book Text P55）

1. 5. Presenting Research Results

Secondary Use When No Permission of the Copyright Owner Is Necessary

- When "quoting" someone else's work or using part of someone's work for educational or examination purposes, no permission is necessary as long as proper procedures are observed.
  - Acts that referring to some part of someone's copyrighted material in one's own work are called "quotation".
  - According to the Copyright Act, it is permissible to quote from a work "already made public" provided that it is "compatible with fair practice" and "to the extent justified by the purpose of the quotation such as news reporting or research critiquing."

（Green Book Text P55）

1. 5. Presenting Research Results

Requirement of quotation

Direct quotation

(1) Use materials for quotation that have already been published.

(2) Quote within an “appropriate range” for criticism and study.

(3) Clearly express the master-subordinate relationship for your sentences and quotation.

(4) Use quotation marks,etc. to make the quotation clear.

(5) Demonstrate the necessity of quotation.

(6) Indicate the written sources clearly.

Indirect quotation

(1) Do not use the sentences as they are, but paraphrase in your own words.

(2) Do not modify the gist of the original sentences.

Source: Rules and Guidelines for Writing a Report

1. 5. Presenting Research Results

Requirement of quotation

Direct quotation

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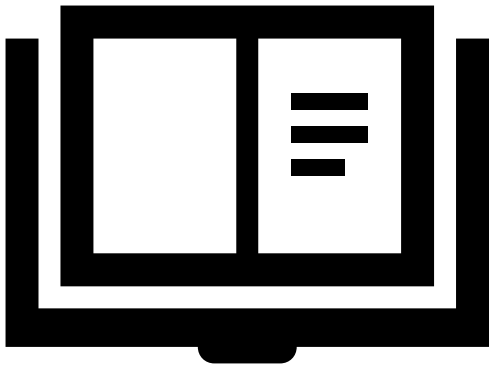

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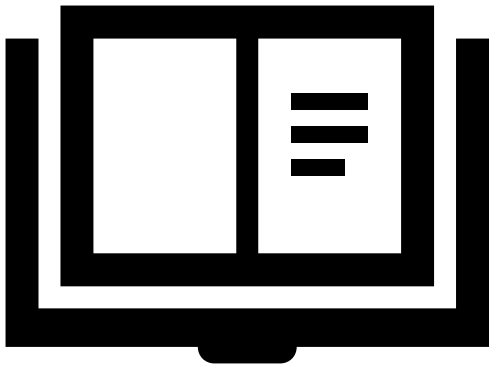

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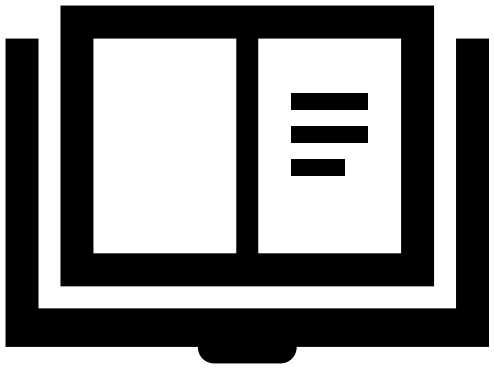


Source: Rules and Guidelines for Writing a Report

1. 5. Presenting Research Results

Requirement of quotation

Direct quotation

(4) Use quotation marks, etc. to make the quotation clear.

John Donne said, "No man is an island." This means that people need to depend on each other for help.

Source: Rules and Guidelines for Writing a Report

1. 5. Presenting Research Results

Requirement of quotation

Direct quotation

(5) Demonstrate the necessity of quotation.

John Donne said, "No man is an island." This means that people need to depend on each other for help.

Source: Rules and Guidelines for Writing a Report

1. 5. Presenting Research Results

Requirement of quotation

Direct quotation

(6) Indicate the written sources clearly.

John Donne said, "No man is an island." This means that people need to depend on each other for help.

Source: Rules and Guidelines for Writing a Report

1. Responsible Conduct of Research

1. 5. Presenting Research Results

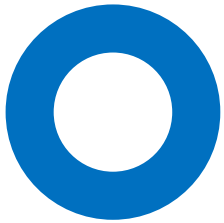
Requirement of quotation

Indirect quotation

(1) Do not use the sentences as they are, but paraphrase in your own words.

Walt Disney once said, "the nature of just something very deeply in what it was like to be a child"

- Walt Disney



Source: Rules and Guidelines for Writing a Report

1. Responsible Conduct of Research

1. 5. Presenting Research Results

Requirement of quotation

Indirect quotation

(2) Do not modify the gist of the original sentences.

Walt Disney once said, "the nature of everything in the world is a child. the world was once a child"

- Walt Disney

Source: Rules and Guidelines for Writing a Report

Contents

2. Norms and Rules of Scientists at Hiroshima University

2. Norms and Rules of Scientists at HU

A code of conduct for scientist at Hiroshima University

Hiroshima University Five Guiding Principles

①The Pursuit of Peace

②The Creation of New Forms of Knowledge

③The Nurturing of Well-Rounded Human Beings

④Collaboration with the Local, Regional, and International Community

⑤Continuous Self-Development

2. Norms and Rules of Scientists at HU

A code of conduct for scientist at Hiroshima University

Hiroshima University Five Guiding Principles

- ①The Pursuit of Peace
- ②The Creation of New Forms of Knowledge
- ③The Nurturing of Well-Rounded Human Beings
- ④Collaboration with the Local, Regional, and International Community
- ⑤Continuous Self-Development

○ Those who get involved in scientific research should make utmost efforts to contribute to world peace and to exclude acts that threaten the peace.

○ Following Hiroshima University's vision (five principles), scientists take responsibilities for contributing to human society with pride.

○ With the awareness of social responsibility, scientists conduct research appropriately and use research funds ethically.

※ Hiroshima University established a code of conduct of research and use of research funds.

2. Norms and Rules of Scientists at HU

Regulations at Hiroshima University

Regulations concerning research misconduct

Hiroshima University's regulations concerning prevention of misconduct and response to cases

- Prevention of research misconduct → Conducting research ethics training; Storing and managing research materials, etc.
- Measures against misconduct → Roles of Investigation Committee for Research Misconduct

Regulations concerning application for research

Examples: Animal experiments, Recombinant DNA experiments, Conflicts of interest

2. Norms and Rules of Scientists at HU

Hiroshima University's regulations concerning prevention of misconduct and response to cases

Definition of research misconduct

○ fabrication（making up data or research results, etc.), which is lead by gross neglect in the basic duty of care expected to be exercised by researchers.

○ falsification （manipulating research materials, equipment, or processes to change data or results obtained from research activities）.

○ plagiarism

(appropriating the ideas, analyses, analytical methods, data, research results, research paper(s), or words of other researchers without obtaining the permission of the researchers or giving appropriate credit).

○ Destruction of evidence of fabrication, falsification and plagiarism or interference of verification（including hiding, disposal and ill-management of experimental records which are required to reproduce and replicate the experiment)

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2. Norms and Rules of Scientists at HU

Regulations at Hiroshima University

Regulations concerning improper use of research funds

Hiroshima University's regulations concerning improper use of research funds

○ Prevention of improper use of research funds → Conducting compliance
Mandatory confirmation of compliance with regulations

○ Measures against improper use → Roles of organizations such as the Investigation Committee for Improper Use

3. Actual Case of Misconduct at Hiroshima University

Actual Case of Misconduct at Hiroshima University

（1） Misconduct in Research Activities

（2） Improper Use of Research Funds

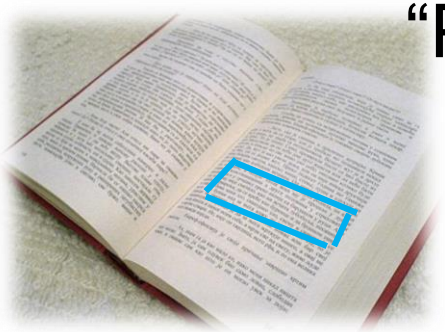
（3） Disciplinary Actions and Impacts

Actual Case of Misconduct at Hiroshima University

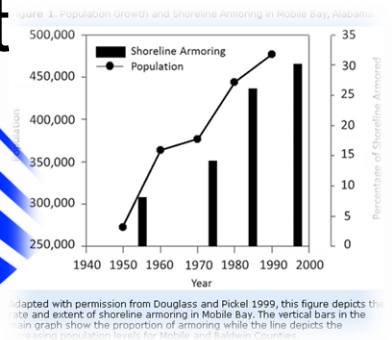
（1）Misconduct in Research Activities

Plagiarism（case 1）

(1) Misconduct in research activities



“Patchwork papers” without quotations indicated



Plagiarism（case 2）

I didn’t mean it.
I just forgot to cite the quotations...
And it was only a few places.

BUT

As a result of an investigation, several other incidences of negligence came to light, and the case was judged to be a “gross neglect in the basic duty of care expected to be exercised by researchers ,” and thus “plagiarism.”

Causes of plagiarism

There is no need to cite a quotation if I change the text a little. This is my writing.

I just submitted something that reviews and outlines existing research; it is not a thesis.

It slipped my mind.

Causes of plagiarism

There is no need to cite a quotation if I change the text a little. This is my writing.

Insufficient understanding of quotation (direct and indirect).

No respect for existing research.

I just submitted something that reviews and outlines existing research; it is not a thesis.

Anything presented as a publication naturally involves responsibility on the part of the author.

It slipped my mind.

Great care should be taken not to neglect duty of care as a researcher.

Depending on the circumstances, it can lead to serious problems.

Research misconduct is not only intentional.

Alarmingly, research misconduct can be committed accidentally as well.

For example,

"I didn't know the Research methods" is not a valid reason.

Depending on the circumstances, "carelessness" can also constitute research misconduct

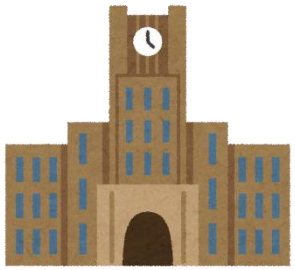
Actual Case of Misconduct at Hiroshima University

（2）Improper Use of Research Funds

Fictitious claims for honoraria

STEP 2

STEP 1



Hiroshima University

Report on payment of honoraria for fictitious work

Hiroshima University's Professor X

We'll say that you helped in the experiments, okay?

Hand the reward you're paid over to me

Okay, understood

Research group students

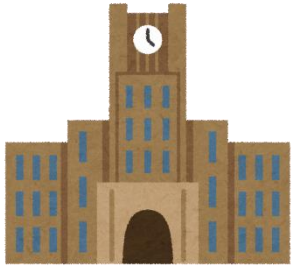
Reward paid from the university to students

Research group students

Hiroshima University's Professor X

Claim for honoraria for fictitious experimental assistance using the names of the students in the research group

Double payment of travel expenses



Hiroshima University

・Business trip report
・Hotel receipts
Railway tickets, etc.

Business trip report only
(A University does not require submission of hotel receipts, etc.)

A University

Hiroshima University travel expenses

Hiroshima University's Professor X

A University travel expenses

Claim made to both universities for travel expenses for the same trip, and double payment received

Actual Case of Misconduct at Hiroshima University

(3) Disciplinary Actions and Impacts

Penalties for research misconduct

Hiroshima University Student Disciplinary Regulations

Fabrication, falsification, plagiarism

⇒ Expulsion or suspension

Improper use of research funds

⇒ Suspension or reprimand

Previous examples of discipline for research misconduct by faculty members at Hiroshima University...

Published papers by supervised graduate students under own name without the student's consent (plagiarism) + Harassment ⇒ Resignation requested

Most of a (jointly written) paper published as the corresponding author was plagiarized from other papers ⇒ Suspended

Money paid for fictitious delivery notices/invoices was handled as "deposits" to a vendor. Discovered when the vendor was audited ⇒ Suspended

The impact of research misconduct is not resolved by disciplinary measures

Public disclosure of research misconduct
Retraction of papers
Repayment of research funds, etc.

Implementation of university-wide measures to prevent recurrence

Loss of public trust, not only for the individual in question, but also for the university

Increased burden for research activities

The impact of just one case of research misconduct on the university and other researchers is extremely severe

Never commit research misconduct!!!

If you came across research misconduct, you can consult with the resources below:

Fabrication

Falsification

Plagiarism

Chief Manager of Academic Research and Industry-Government Collaboration Support Group, Office of Academic Research and Industry-Government Collaboration, Hiroshima University

1-3-2 Kagamiyama, Higashi-Hiroshima City Hiroshima, 739-8511
(1F, Administration Bureau Building)
Direct phone number:(082)424−5679
Fax:(082)424−5890
Email:kokuhatsu@office.hiroshima-u.ac.jp

Improper Use of Research Funds

Hiroshima University Audit Office

1-3-2 Kagamiyama, Higashi-Hiroshima City Hiroshima, 739-8511
(6F, Administration Bureau Building)
Direct phone number: (082)424−6068
Fax: (082)424−4251
Email: kansa-situcho@office.hiroshima-u.ac.jp

Conclusion

Conclusion

The class on the Basic RCR Program for Graduate Students ends here.

Keep learning through the following Q&A session, as well as exploring more about the characteristics and etiquette of your specialty and field.

Materials for Research Ethics Education

Education Materials for Research Ethics
① Today's Textbook

For the Sound Development of Science -The Attitude of a Conscientious Scientist-

Section Ⅰ What Is a Responsible Research Activity ?

Section Ⅱ Planning Research

Section Ⅲ Conducting Research

Section Ⅳ Presentation of Research Results

Section Ⅴ How to Conduct Joint Research

Section Ⅵ Appropriate Use of Research Funds

Section Ⅶ Contributing to Quality Improvement in Scientific Research

Section Ⅷ For the Progress of Society

Commonly known as Green Book

Full texts are available online
http://www.mext.go.jp/a_menu/jinzai/fusei/1353972.htm

Education Materials for Research Ethics
② Booklets and Subjects

- **Distribution of Ethical Guide for Academic Research (in Japanese, English and Chinese)**

  A booklet that briefly overviews research ethics（Revised 2016.3）

  Momiji→Academic Support → Graduate Education →Ethical Guide for Academic Research

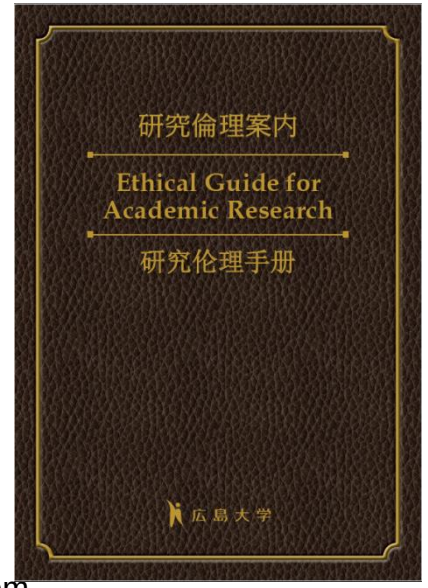
- **Distribution of "Rules and Guidelines for Writing a Report" (in Japanese, English and Chinese)**

  A booklet briefly overviews rules and guidelines (plagiarism, copyright, quotation, etc.)（Revised 2016.3）

  Momiji→Academic Support →Undergraduate Education→ Rules and Guidelines for Writing a Report

- **Research Ethics Cultivating Field (Courses to cultivate the ethics that are required in relation to the society) in the Common Subjects of Graduate School**

  In order to develop human resources that can serve as leaders in society, that can see things from comprehensive perspectives, that can express their thoughts, that have time management ability and ethical sense, and that can solve problems, a subject, Research Ethics Cultivating Field (Courses to cultivate the ethics that are required in relation to society), is included in courses that all graduate students can take as common subjects.



Education Materials for Research Ethics
③ e-learning

APRIN e-learning https://www.aprin.or.jp/e-learning

Responsible Conduct of Research: Fundamentals （Humanities）

Misconduct in Research, Plagiarism, collaborative Research, Peer Reviews, Managing Public Research Funds

Responsible Conduct of Research: Fundamentals（RCR-S）（Science & Technology）

Research Misconduct, Ethical Issues in the Management of Data in Engineering Research, Responsible Authorship, Ethical Issues in the Peer Review and Publication of Engineering Research, Collaborative Research in Engineering Fields, Whistleblowing and the Obligation to Protect the Public, Managing Public Research Funds

Responsible Conduct of Research: Fundamentals（RCR）（Medicine）

Responsible Conduct of Research, Research Misconduct, Data Handling, Rules for Collaborative Research, Conflicts of Interest, Authorship, Plagiarism, Communicating Information to the Public, Peer Review, Mentoring, Managing Public Research Funds, 〈Digest Version〉 Responsible Conduct of Research

Units other than those listed above are offered.

JSPS e-learning（eL CoRE） https://www.netlearning.co.jp/clients/jsps/top.aspx

This is animated teaching material created based on JSPS“For the Sound Development of Science -The Attitude of a Conscientious Scientist-”（Green Book）This material enables learners to learn and think. Learners undertake tests for each sections. Operation started April, 2016.

Materials for Research Ethics Education
【 Books 】

1.『科学者をめざす君たちへ:科学者の責任ある行動とは』 池内了訳, 化学同人, 1995年.
（On Being a Scientist: Responsible Conduct in Research, by the Committee on Science, Engineering, and Public Policy of the National Academy of Sciences of the United States. 1995)
2.『科学者の不正行為:捏造・偽造・盗用』 山崎茂明著, 丸善, 2002年.
3.『ORI研究倫理入門:責任ある研究者になるために』 山崎茂明訳, 丸善, 2005年. （ORI Introduction to the Responsible Conduct of Research, by Nicholas H. Steneck, Office of Research Integrity.2003.)
4.『背信の科学者たち:論文捏造、データ改ざんはなぜ繰り返されるのか』 牧野賢治訳、講談社（ブルーバックス）, 2006年. （Betrayers of the Truth: Fraud and Deceit in the Halls of Science, by William Broad and Nicholas Wade, Simon & Schulster. 1982.)
5.『パブリッシュ・オア・ペリッシュ:科学者の発表倫理』 山崎茂明著, みすず書房, 2007年.
6.『科学を志す人びとへ:不正を起こさないために』 科学者倫理検討委員会編, 化学同人,2007年.
7.『科学の健全な発展のために:誠実な科学者の心得』 日本学術振興会「科学者の健全な発展のために」編集委員会編, 丸善, 2015年. （英語版:For the Sound Development of Science: The Attitude of a Conscientious Scientist, Japan Society for Promotion of Science Editing Committee “For the Sound Development of Science)
8.『研究不正 科学者の捏造、改竄、盗用』黒木登志夫著, 中公新書, 2016年
9. Hiroshima University, *An Introduction to Research Ethics*, (2016, March)（in Japanese, English and Chinese）
10. Hiroshima University, *Rules and Guidelines for Writing a Report*, (2016, March)（in Japanese, English and Chinese）

Information sheet（1．4．Data Handling）

Organizing information on the storage of research materials, etc.

Our university's initiatives

『Guidelines for storage of research material, etc. at Hiroshima University』

Information sheet

To decide a format → In accordance with the uniqueness of each research field, the sheet can be revised.

To download ： Iroha≫Procedures≫2.Procedures and Systems concerning research≫5.Research ethics

〇Basic information：
The title of a paper, storage period and the person in charge of storage
〇Information of researchers, etc:
Author of the paper, where the paper is submitted and relevance to dissertation
〇Author information：authorship
〇Research material information：material（documents and statistical data）and samples
〇Research conduct information: LMO（Living Modified Organism）, approval for animal experiment.

※By organizing information, prevent loss of information and conduct proper information management.

研究資料保存に関する情報整理票

研究資料保存責任者		No.	

基本情報	学術研究成果の論文題名・題目									
	保存期間	学術研究成果の発表日	保存期間の満了日							
			資料 資料（文書、数値データ、画像など）は原則として発表の後10年間				試料、装置 試料（実験試料、標本）、装置などは原則として発表の後5年間			
研究者等の情報	学術研究成果の発表先等	投稿論文筆頭著者（First Author）					科研費研究者番号			
		連絡先となる代表著者（Corresponding Author）					科研費研究者番号			
		投稿した学術誌名								
	学位論文との関係	☐ 関係なし	☐ 関係あり							
			博士・修士・学士の区分							
			学生の氏名							
			学位論文名							
	剽窃ソフトによる検証の有無	☐ 検証の結果、問題なし	☐ 検証をしていない							
著作者等に関する情報	1．Authorship 投稿論文に関する著者及び責任分担	氏名 （科研費研究者番号）	a)企画・構想	b)実験遂行	c)データ解析	d)理論解釈	e)草稿作成	f)重要な箇所への意見	g)その他	
	2．Acknowledgement 投稿論文における研究遂行に寄与した者	氏名 （科研費研究者番号）	h)執筆の補佐	i)技術面の協力	j)周知の理論の教示・示唆	k)施設の提供	l)資金提供	m)その他		
	3．Acknowledgementに記載した研究資金									
研究資料の情報	資料（文書、数値データ、画像など）	資料の種類・態様	作成時期	媒体の種類	作成者	管理者	保存場所	秘密情報の有無	学術誌への投稿	その他
	試料（実験試料、標本、装置など）	資料の種類・態様	作成時期	媒体の種類	作成者	管理者	保存場所	秘密情報の有無	学術誌への投稿	その他
実験計画等	実験計画の承認	実験計画の該当	計画名（課題名）				実験責任者	承認番号	承認年月日	承認期間
		☐ 遺伝子組換え生物等使用実験計画 ☐ 動物実験計画 ☐ 放射性同位元素使用実験計画 ☐ 医の倫理に関する実験計画								
その他	その他特記事項									