

# Evaluation of the Efficacy of Education and Training on Research Integrity for Young Researchers at KMUTT, Thailand

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June 3, 2024

# Outline

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- Background and Motivation
- Research Question and Objectives
- Research Methodology
- Results and Discussion
- Conclusion And Challenges

# Background and Motivation



- KMUTT Vision: To become a leading science, technology and innovation (STI) entrepreneurial university in the region
- Most graduate students conduct research and publish findings, and possibly end up with a teaching and research career, so they must have awareness and understanding of RI, and knowledge of good practices in RCR
- But only recently, KMUTT introduced RI policy and guidelines, and implemented RCR education and training

# Chronology



## Success factors:

- RI policy development process: emphasis on awareness creation and stakeholder engagement and participation (“buy-in” to reduce resistance)
- Policy became effective when the national framework just beginning to emerge

Policy and Guideline Development

RI Policy and Promotion Program Development

RI promotion activities:  
Guideline development (Authorship, etc.)  
Education and training  
Awareness creation -Training Workshop  
Roadshow Helpdesk

**Applicable to: All faculty members and researchers**

- **Research support staff (technical and administrative)**
- **Graduate students**
- **Undergraduate students pursuing senior project**

WCRI5-2019

APRI4-2021

APRI5-2023



2019

2020

2021

2022

2023

2024

Effectiveness Assessment of promotion

Research Integrity Policy Taskforce

**KMUTT Research Integrity Policy (version 1)**

Start Date  
Jan 1, 2022

Effective Date  
Jan 1, 2023

**KMUTT Research Integrity Policy (version 2)**

## Research Question

Whether the RCR training programs provided to grad students have reached the target groups, been effective in serving the purpose, and what factors influenced the success

## Objectives

- To assess the awareness of grad students in RI issue through the RI policy statement
- To assess the depth of grad students' knowledge and comprehension after they've completed RCR training
- To evaluate the training satisfaction of RCR training programs and training modes used
- To use insights gained for future improvement of RCR training programs

This research project has been approved by the Human Research Ethics Committee of KMUTT, with the certification number KMUTT-IRB-COE-2024-114

- **Questionnaire survey:** Designed to collect information from KMUTT grad students on RCR training experience, RI awareness and RCR knowledge, and feedbacks, consisting of 32 questions, 5 parts
  - Part 1: Participants' personal information (3 questions)
  - Part 2: Understanding of the Policy Statement (2 questions)
  - Part 3: Basic RCR knowledge (12 questions)
  - Part 4: RCR training satisfaction and expectations (8 questions)
  - Part 5: Feedback for future improvements (7 questions)

- **Participants:**

- Current grad students, approximately 2,600 (2,102 master's and 510 doctoral candidates)
- Students possess varying levels of background knowledge and awareness regarding RI - some have completed the university-prescribed RCR training course through e-learning, and/or attended training workshops, while others have not received any such training before participating in the survey,

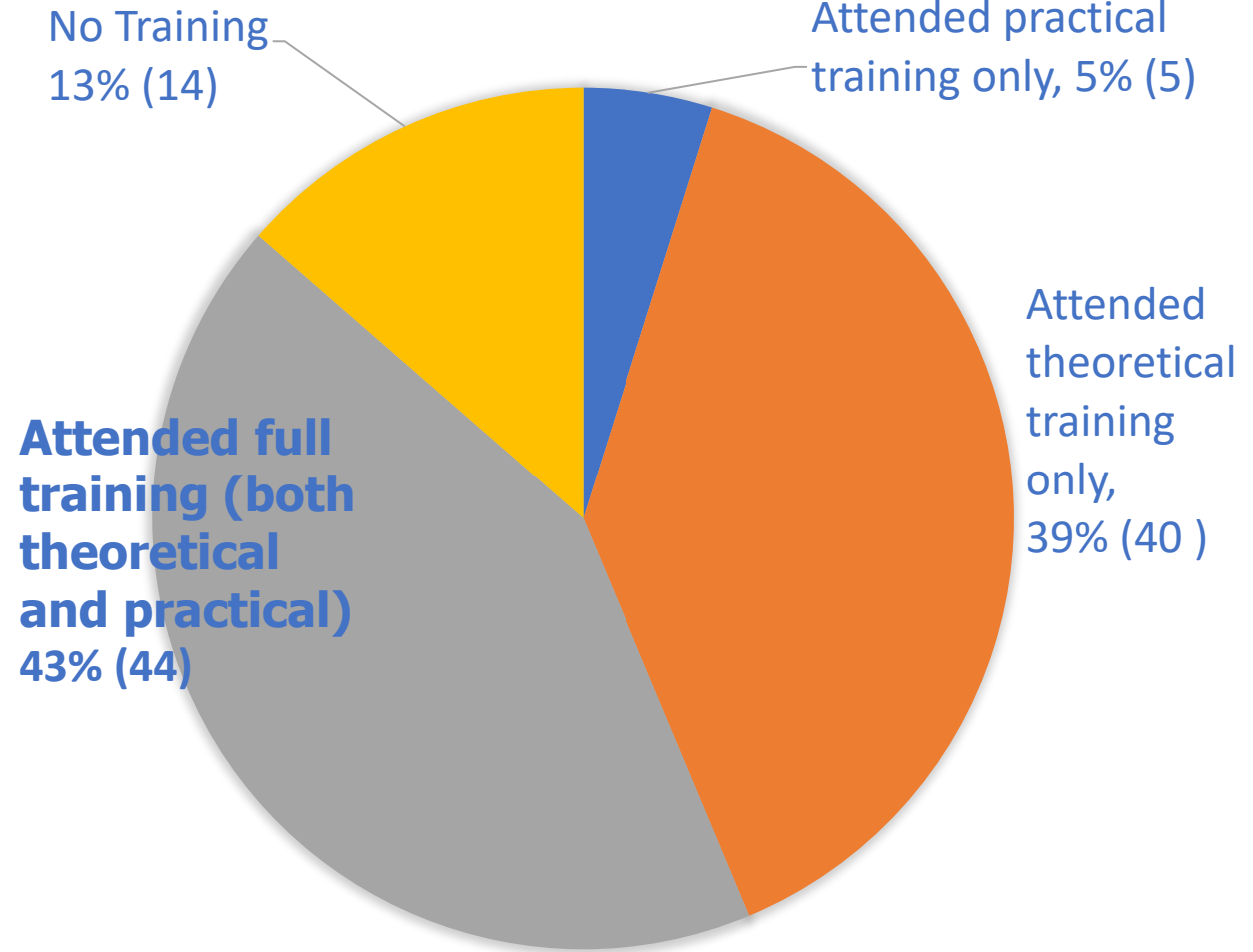
- **Aim:** To assess the efficacy of RCR training programs for grad students and their training experience

# Results and Discussion

## General Information

- Duration of the study: 6 months, but only samples collected during the first month have been analyzed
- Sample size collected (during the first month): 103 (76 Master's and 27 Doctoral) out of a total of 2,600, drawn from 9 faculties

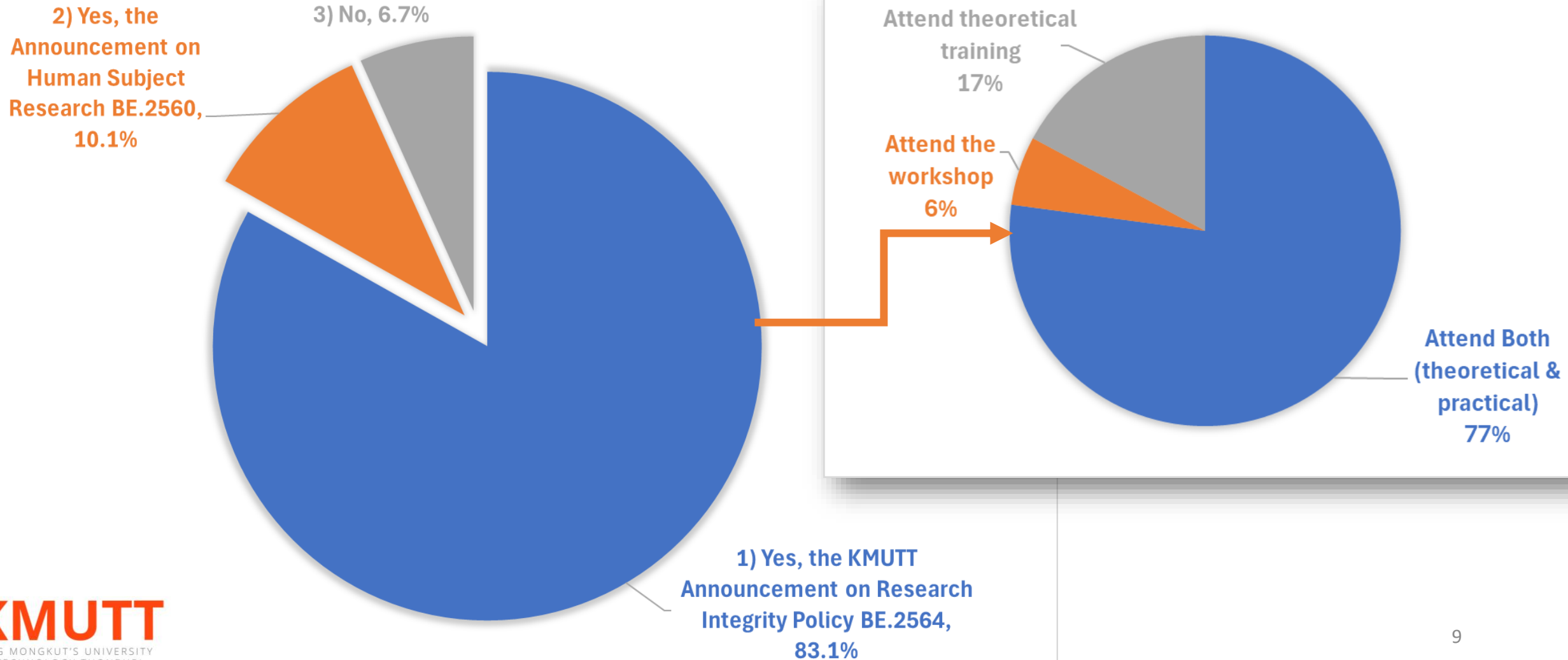
RESPONDENT BACKGROUND





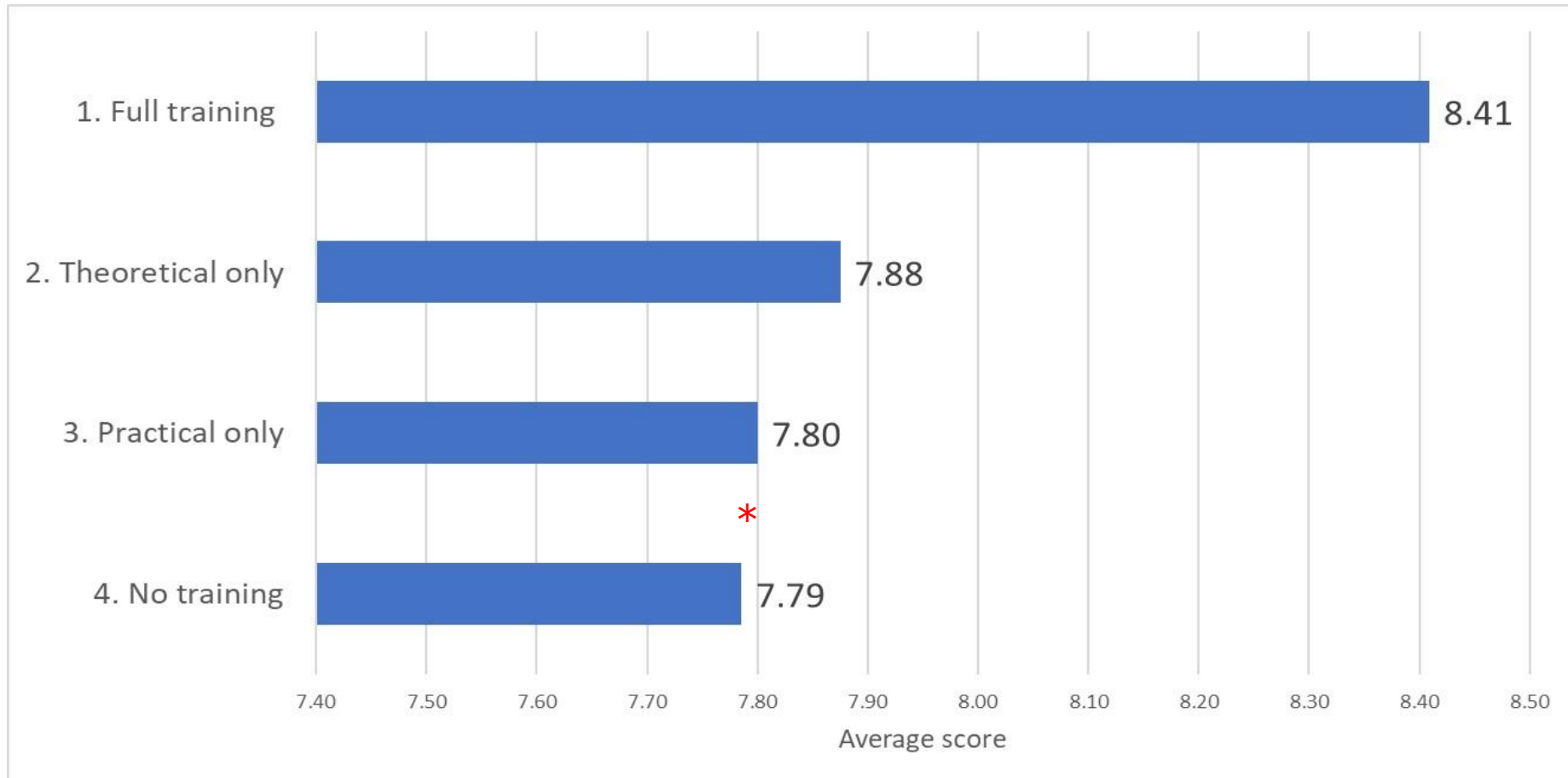
# Results and Discussion

Awareness on RI: the majority of the students (83%) are aware of RI issues through the RI policy statement because they have at least attended either RCR theoretical or practical training, or both



# Results and Discussion

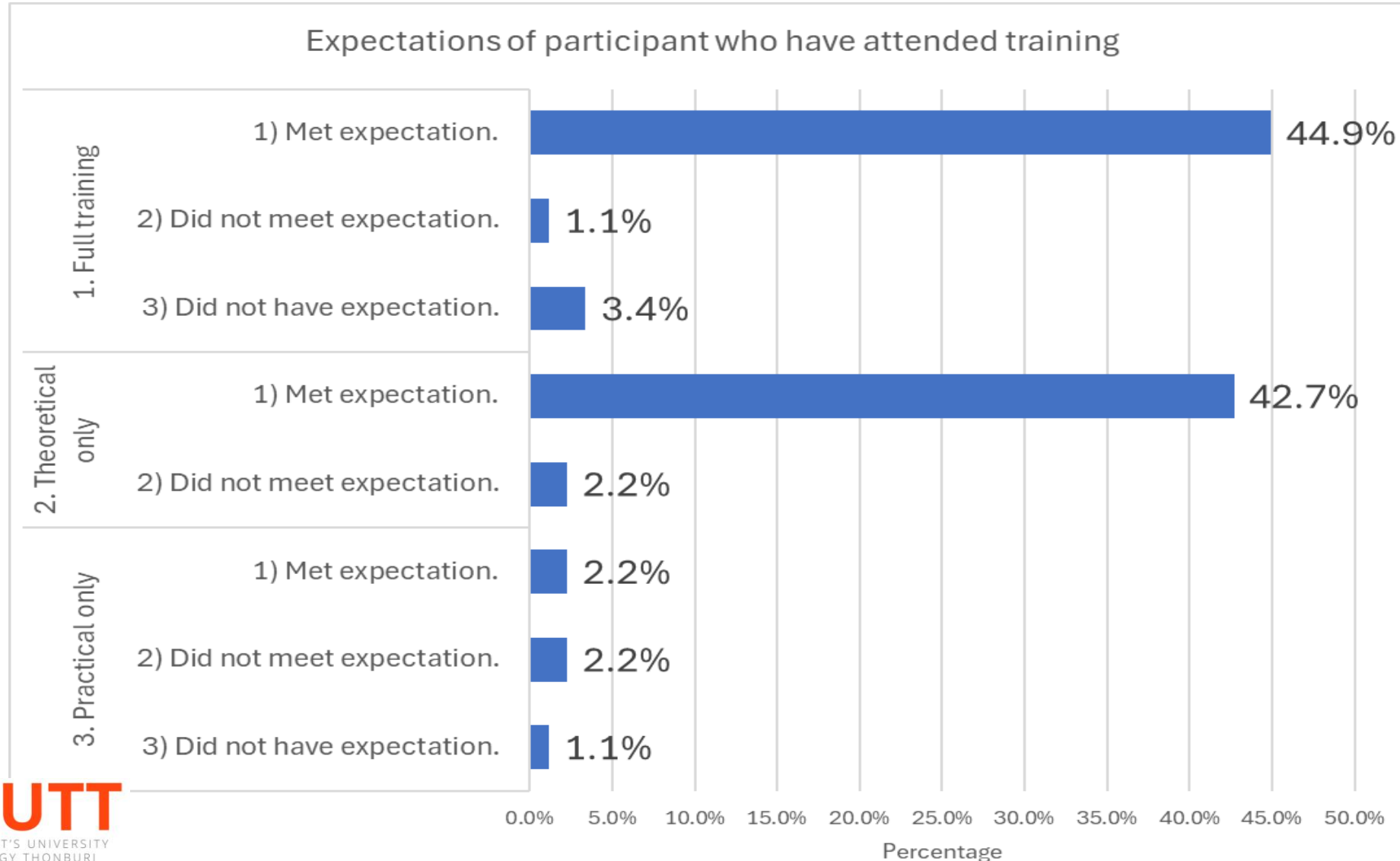
Level of knowledge and understanding on RCR: Those who attended full training clearly scored higher in answering the basic questions than those who attended either theoretical or practical training only, or no training (but studied research methodology)



\* Some of No training (57%) respondents have studied Research Methodology, which contains some aspects of RI

# Results and Discussion

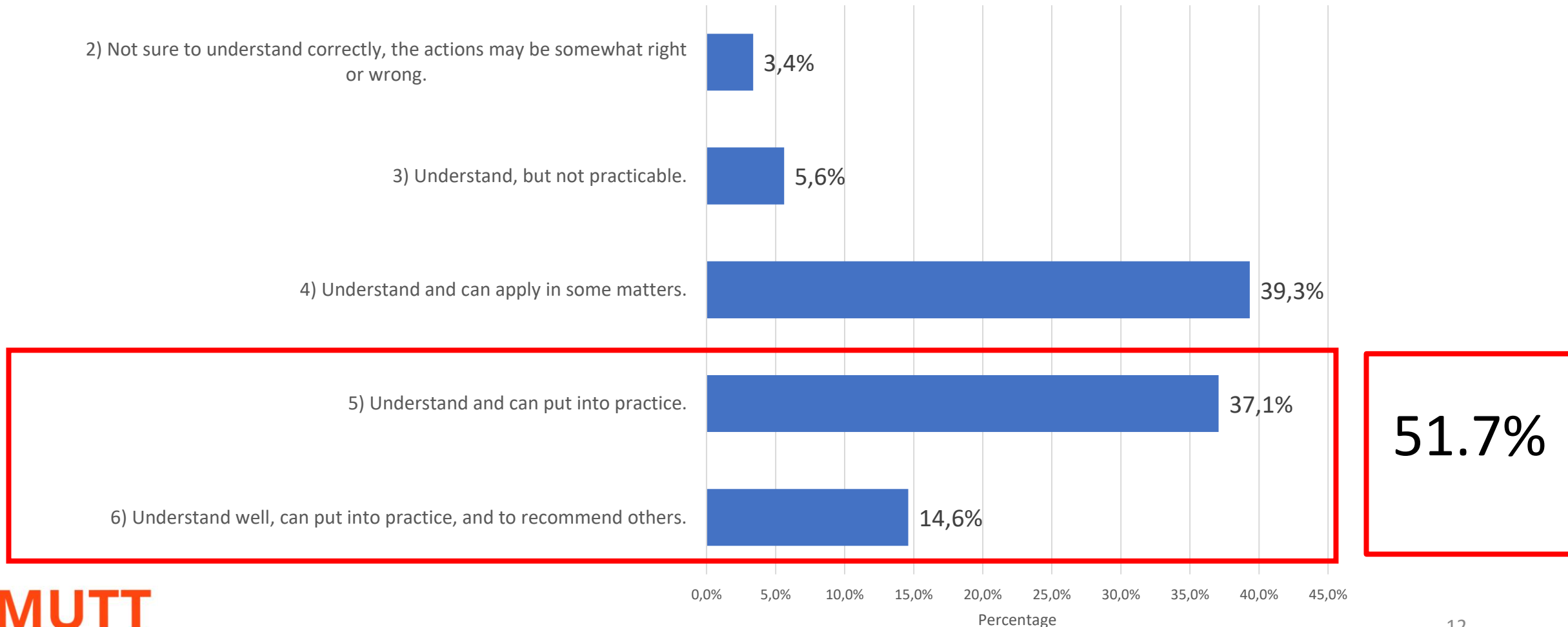
Training satisfaction and expectations: Those with at least theoretical training (87.6%) were satisfied and responded that the training met their expectations.



87.6%

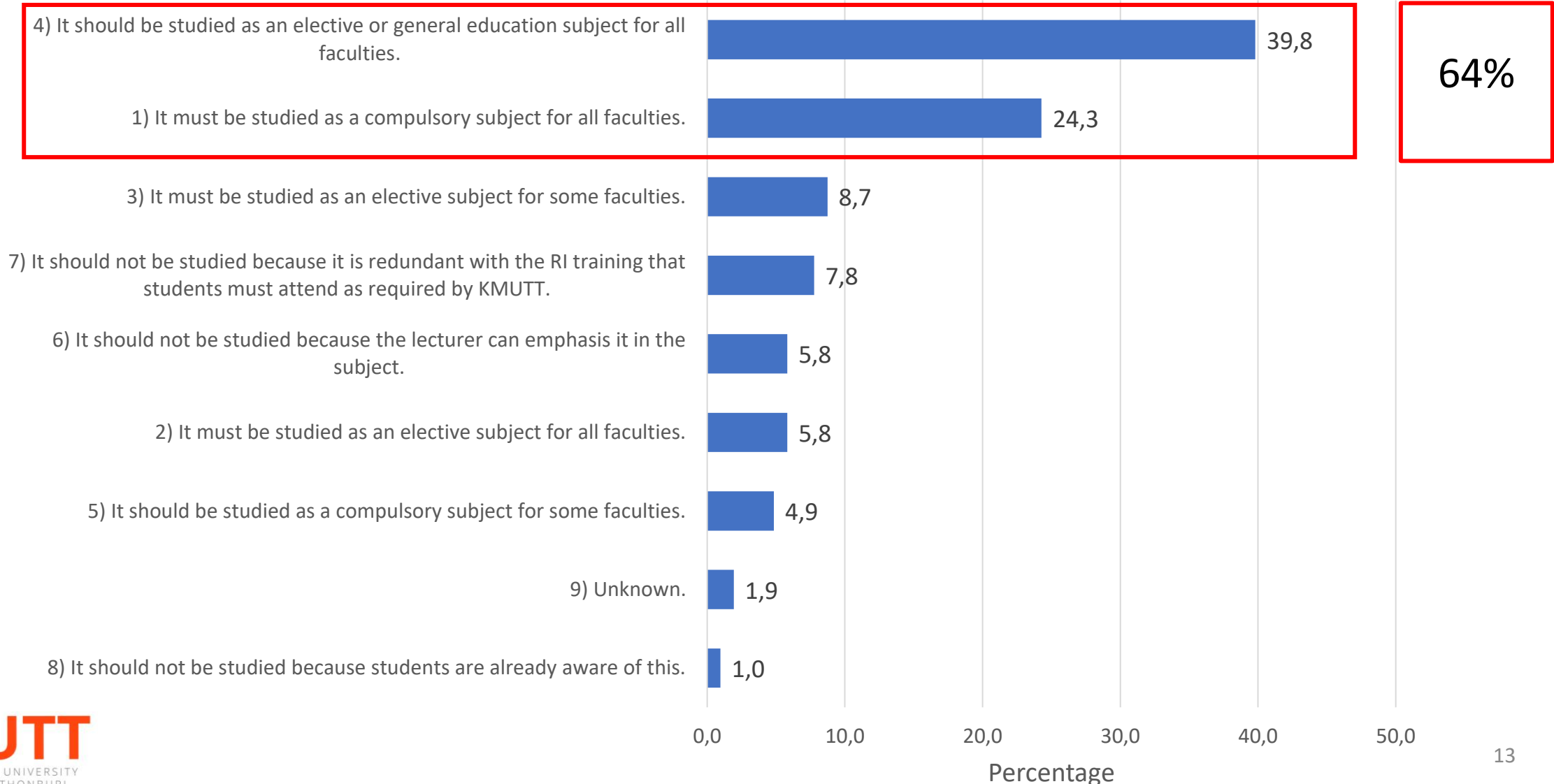
# Results and Discussion

Half of the students (51.7%) understood the RCR training and believed they could apply what they have learned in practice, while about 40 % understood the training but were not quite sure whether they could apply what they have learned.



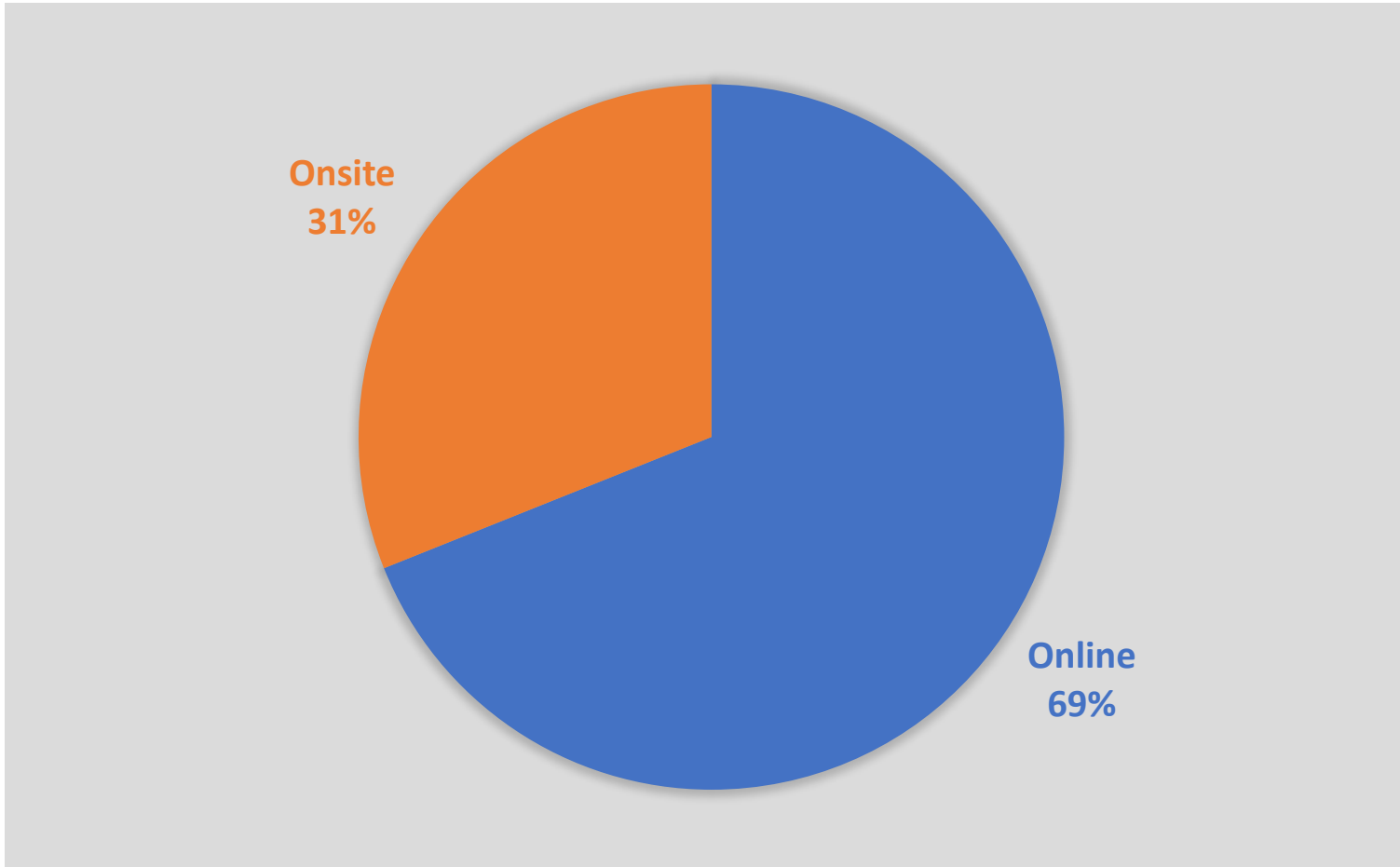
# Results and Discussion

How can the RCR training program be improved? Majority of respondents (64%) thought RCR should be offered as a subject of general education or elective subject at all faculties



# Results and Discussion

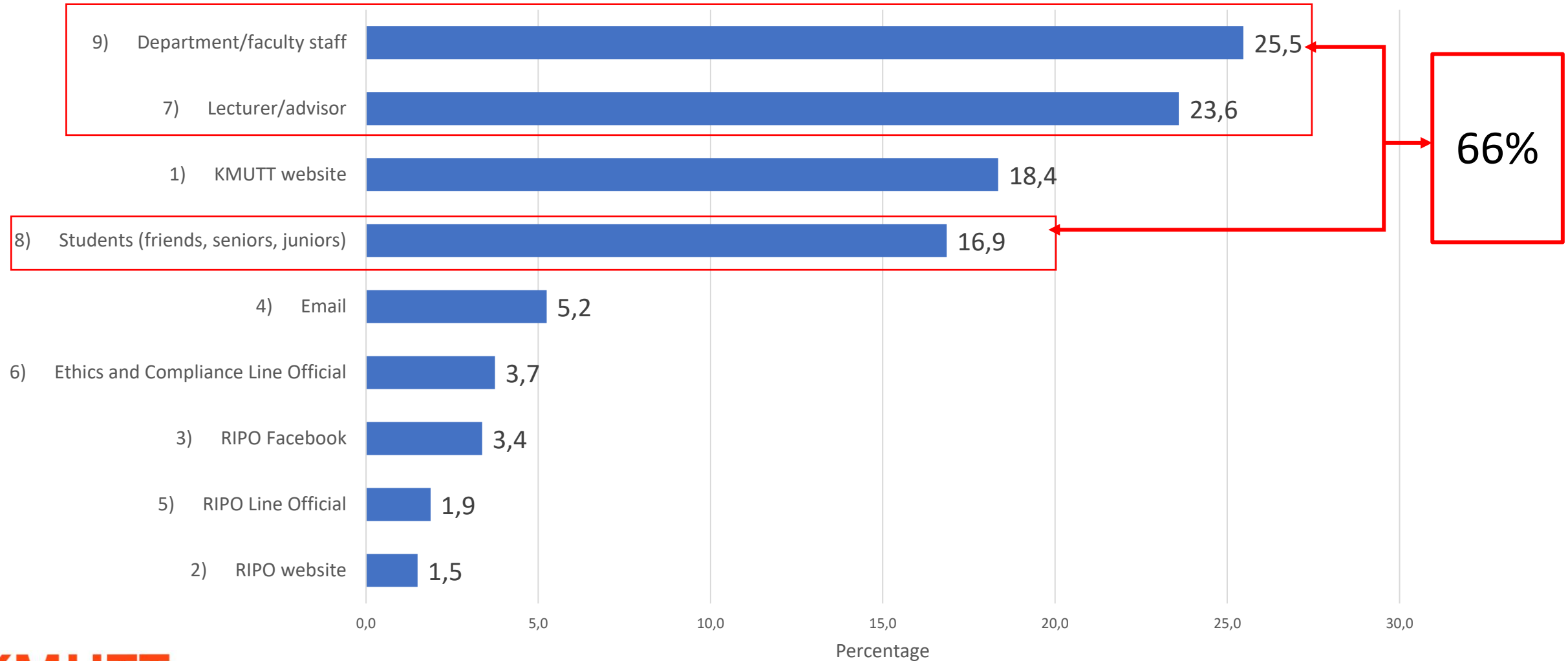
What is the preferred mode of training? Majority (70%) preferred online, probably because they are quite used to online instruction these days



# Results and Discussion

Where did students get information about RCR training?

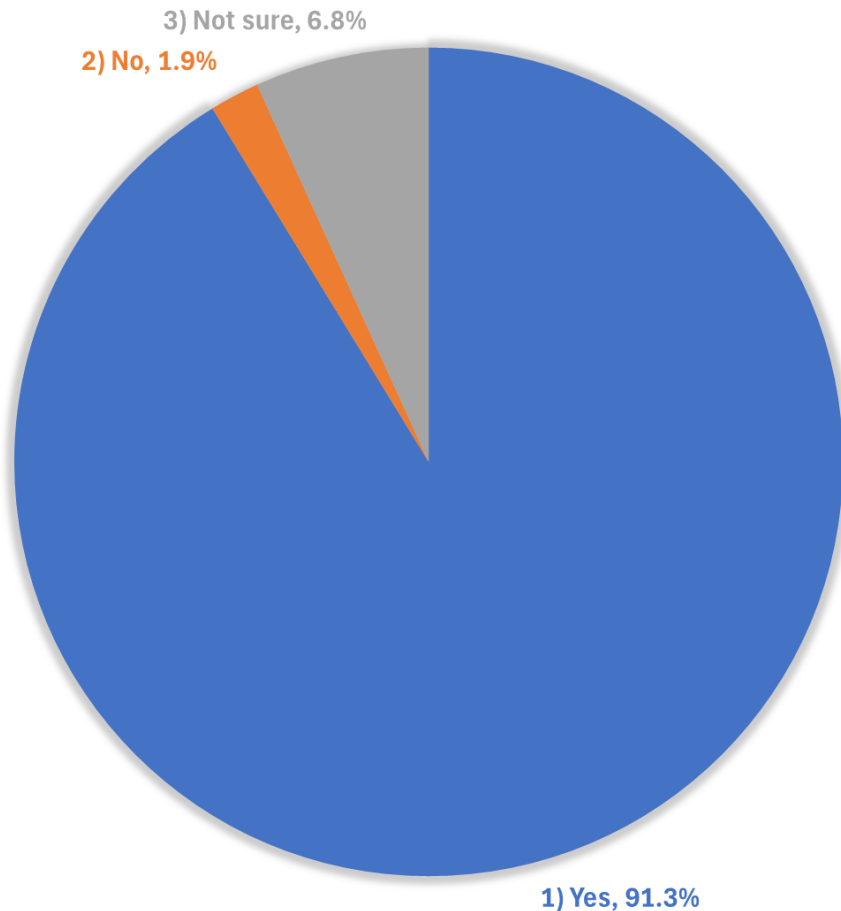
Majority (66%) got it from personal communication, such as: faculty admin. staff, advisors, and peers



# Results and Discussion

## Faith in the system:

An overwhelming majority (91.3%) thought that the knowledge provided by the current training can **create a research integrity culture**





# Conclusion And Challenges



- Based on the surveys, the KMUTT's approach in RI education and training has shown to be effective in providing basic knowledge and understanding.
- Students who had done at least the theoretical part of the RCR training had better basic understanding of RI than those who had only practical training or no training.
- But this does not imply that the practical training through workshops was not effective. It only means that the practical training should cover more topics.

# Conclusion And Challenges (cont'd)

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- At this stage, about half of the students who attended the RCR training were confident that they could apply the knowledge in practice, while quite a high proportion were still not quite sure.
- However, one question we did not ask was whether they had started to do research at the time of the survey.

# Conclusion And Challenges (cont'd)



- Students generally agreed that the subject RCR should be taught either as an elective or compulsory course in every faculty, with a suggestion that a faculty member should teach it, rather than centrally offered as it is practiced now. This is reflected by students' tendency to have received RI information from faculty Staff, advisors , or fellow students.
- An interesting observation is that the students believed that the current training could create a research integrity culture within the university
- It should be noted that the test questions used in this survey did not have enough depth in assessing the students' learning outcomes. This weakness will be addressed in future surveys.

# Conclusion And Challenges (cont'd)



- Finally, KMUTT has recently announced the Research Integrity Policy (version 2)
- This would provide researchers, thesis advisors, faculty administrative and research support staff, and grad students, more clarity and comprehensiveness concerning RCR training obligations.
- Hopefully, it would lead to a better outcome for our RI education and training.

# Acknowledgement

Research Ethics and Compliance Team

and

Research dissemination grant from KMUTT



Ms.Kasawan



Dr.Papapit



Mr.Weerayut