

SUCCESS AS A GRADUATE STUDENT
MEANS HAVING A QUALIFIED
RESEARCH OUTPUT



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- **SEKOLAH FARMASI**
- **PUSAT PENELITIAN NANOSAINS & NANOTEKNOLOGI**

*Disampaikan pada upacara penerimaan mahasiswa baru pasca sarjana ITB
SABUGA ITB - 14 Agustus 2023*

Berdasarkan *Perpres Nomor 8 Tahun 2012* telah diatur bahwa Kualifikasi Lulusan S1 (KKNI Level 6), Lulusan S2 (KKNI Level 8), dan Lulusan S3 (KKNI Level 9) adalah sebagai berikut:

S1 (Sarjana)

1. Mampu mengaplikasikan bidang keahliannya dan memanfaatkan IPTEKS pada bidangnya dalam **penyelesaian masalah** serta mampu beradaptasi terhadap situasi yang dihadapi.
2. **Menguasai konsep teoritis** bidang pengetahuan tertentu secara umum dan konsep teoritis bagian khusus dalam bidang pengetahuan tersebut secara mendalam, serta mampu memformulasikan penyelesaian masalah prosedural.
3. Mampu mengambil keputusan yang tepat berdasarkan analisis informasi dan data, dan mampu memberikan petunjuk dalam memilih berbagai alternatif solusi secara **mandiri** dan **kelompok**.
4. Bertanggung jawab pada pekerjaan sendiri dan dapat diberi tanggung jawab atas pencapaian hasil kerja organisasi.

S2 (Magister)

1. Mampu mengembangkan pengetahuan, teknologi, dan atau seni di dalam bidang keilmuannya atau praktek profesionalnya melalui riset, hingga menghasilkan karya inovatif dan teruji.
2. Mampu memecahkan permasalahan sains, teknologi, dan atau seni di dalam bidang keilmuannya melalui pendekatan inter atau multidisipliner
3. Mampu mengelola riset dan pengembangan yang bermanfaat bagi masyarakat dan keilmuan, serta mampu mendapat pengakuan nasional maupun internasional.

S3 (Doktor)

1. Mampu **mengembangkan** pengetahuan, teknologi, dan atau seni **baru** di dalam bidang keilmuannya atau praktek profesionalnya melalui **riset**, hingga menghasilkan karya **kreatif, original, dan teruji**.
2. Mampu memecahkan permasalahan sains, teknologi, dan atau seni di dalam bidang keilmuannya melalui pendekatan **inter, multi** atau **transdisipliner**.
3. Mampu mengelola, memimpin, dan mengembangkan **riset** dan pengembangan yang **bermanfaat bagi ilmu pengetahuan** dan kemaslahatan **umat manusia**, serta mampu mendapat **pengakuan nasional** maupun **internasional**.

Graduate School (GS)

- Different than undergraduate. How? Personnel characteristics expectation
- Maturity
- Responsible
- Independence
- Motivation

Top Tips to Boost Students Motivation

- Focus on the big picture
- Set achievable shortterm goals
- Recognise what you've already achieved
- Reward your accomplishments
- Build better habits
- Prioritise self-care
- Define success differently
- Avoid comparisons to other PhD students



Elements of Success in GS

- Understand requirements and expectations
- Degree requirements.
- Load requirements.
- Graduation requirements.
- Develop you degree plan early on first semester
- Who can help
- (Graduate Advisor, chairman, faculty members, senior colleagues, university web)

Elements of Success in GS

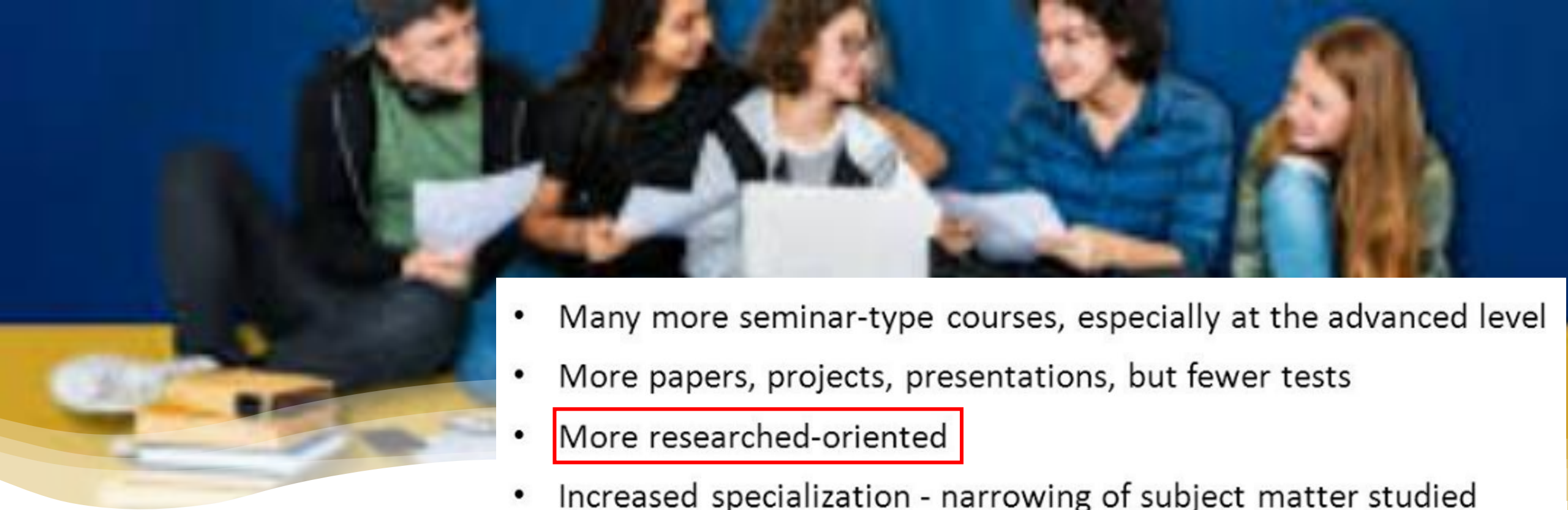
- Be Visible
- Department seminar .
- Department activities.
- Be available at and after working hours in the department .
- Hard work
- Nothing replace this quality.
- Read more
- Know more
- Do assignment on time
- Excite your professors (Below expectation, as expected, more than expected).

Elements of Success in GS

- Be Tolerant
- Be a good team player by tolerating colleagues .
- Do not be sensitive to faculty behavior.
- Tolerate additional assignment by the department.
- Living and office conditions.
- Attend seminars and conferences
- Departmental and related departments.
- Local, regional and international conferences.

Elements of Success in GS

- Be proactive
- Identify your area of interest
- Seek a professor early as a mentor or advisor .
- Seek additional work as a research assistant on projects
- Start preparing for your thesis early (Use summers).
- Offer your help to the chairman.
- Present your work



- Many more seminar-type courses, especially at the advanced level
- More papers, projects, presentations, but fewer tests
- More researched-oriented
- Increased specialization - narrowing of subject matter studied
- Much more independent work - self-discipline a necessity
- Less short-term feedback about how you're doing academically
- Increased pressure to maintain high grades - generally B or higher
- Increased competition from talented students


GRADUATE & POSTGRADUATE



- Penelitian adalah suatu perjalanan untuk mendapatkan informasi melalui pencarian melalui kegiatan pemeriksaan atau eksperimen yang dilakukan untuk pengungkapan dan penjelasan fenomena baru" (WHO, 2001).
- Pengungkapan data baru atau penggunaan data yang ada diperoleh dengan cara baru dan membutuhkan pembuktian



Research Needs.

- Interest
 - Motivation
 - Academic support
 - Administrative Support
 - Financial Support
 - Subordinates support
 - Family level support
 - Health, Age,
- 

LEBIH KHUSUS, PENELITIAN MELIBATKAN

- Ketrampilan terlatih sesuai tuntutan kebutuhan
- Strategi untuk disain eksperimen dan menghasilkan teori-teori
- Metode yang valid untuk memuktikan hipotesis
- Langkah sistematis untuk mendefinisikan dan menjawab research questions



-
- **Self Management:** The ability to manage stress and time are among the many needed to help you achieve balance in life and effectiveness in educational and work environments



Why academic research is important?

- Academic research facilitates learning
- Research highlights the issues
- Research helps in the growth of a business
- Academic research leads to personal growth of students

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- Research is nothing but:
- **Exploring the unexplored**, searching for the new things – curiosity is the driving force
- Definition:(Oxford dictionary)
- *“the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions”*

Personal Benefits of Research and Writing (Erickson, 2001)

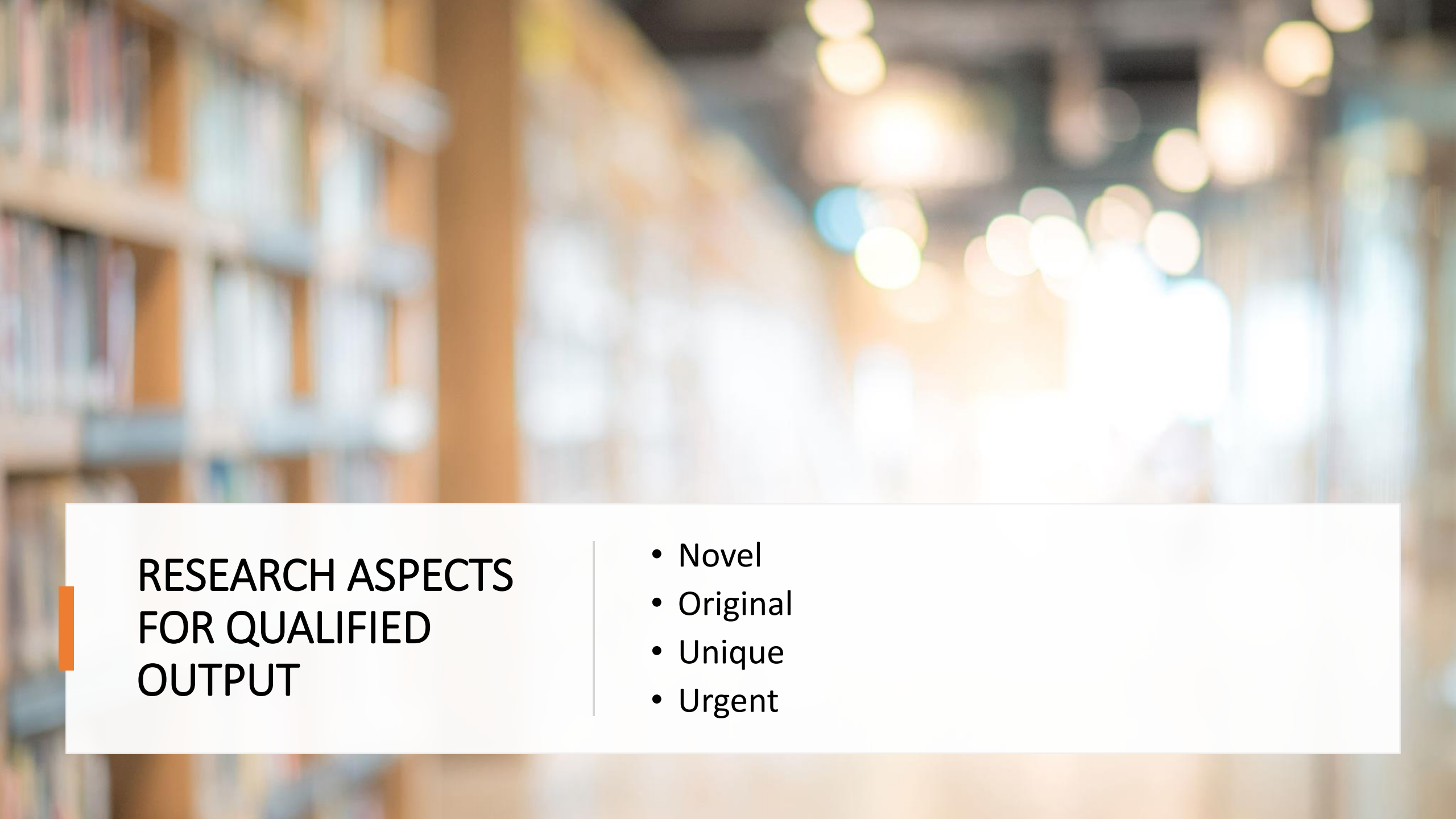
- Career Connections
- Depth of Content Knowledge
- Personal Motivation
- Financial Reward
- Academic Credit
- Relationships with Faculty

Outcome of Academic research

- 1. **Award of degrees** like MS, M Phil, PhD or D Sc.
- 2. **Research publications** in conferences and journals
- 3. **Patents** which may be of
immediate use by industry Or
may be used only after years



ONLY WHEN THE RESEARCH IS SUCCESSFUL WITH GOOD QUALITY



**RESEARCH ASPECTS
FOR QUALIFIED
OUTPUT**

- Novel
- Original
- Unique
- Urgent

How to Find Novelty in Research

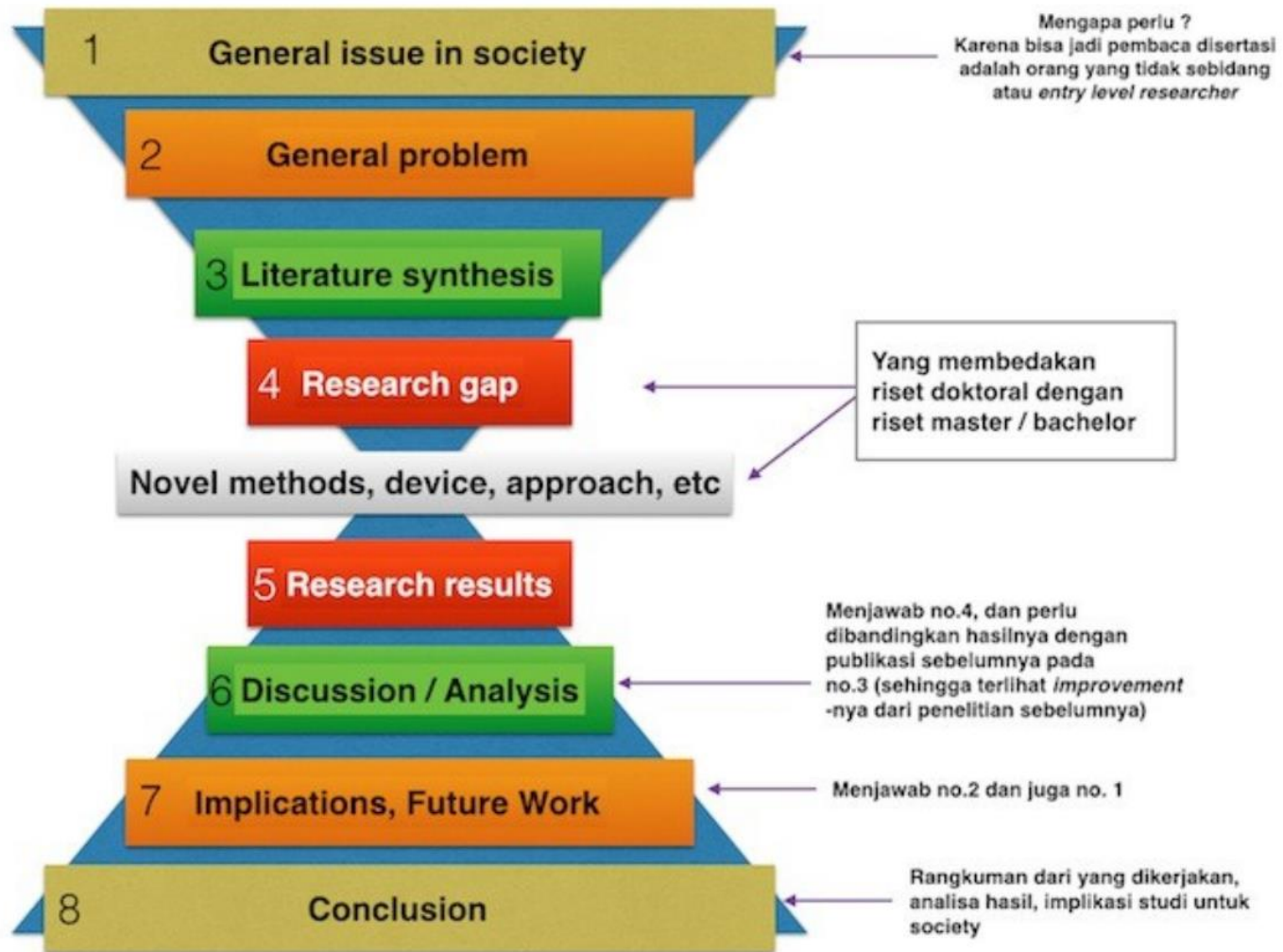
- **Read the research literature**
- **Finding Research Gap Problems**
- **Find Variables That Have Never Been Researched**
- **Apply Different Theory from Previous Research**

2. ORIGINAL

Originality

Originality concerns the innovative character of the research publication. Research publications that demonstrate originality may:

- engage with new and/or complex problems;
- develop innovative research methods, methodologies and analytical techniques;
- provide new empirical material;
- and/or advance theory or the analysis of doctrine, policy or practice



→ Creativity is a key for Novelty



STARTING FOR RESEARCH



Success in Research

- Selection of the advisor
- Expertise
- Chemistry
- Interest
- Selection of the thesis/dissertation topic
- Clear objectives
- Realistic objectives Answerable questions.

Success in Research

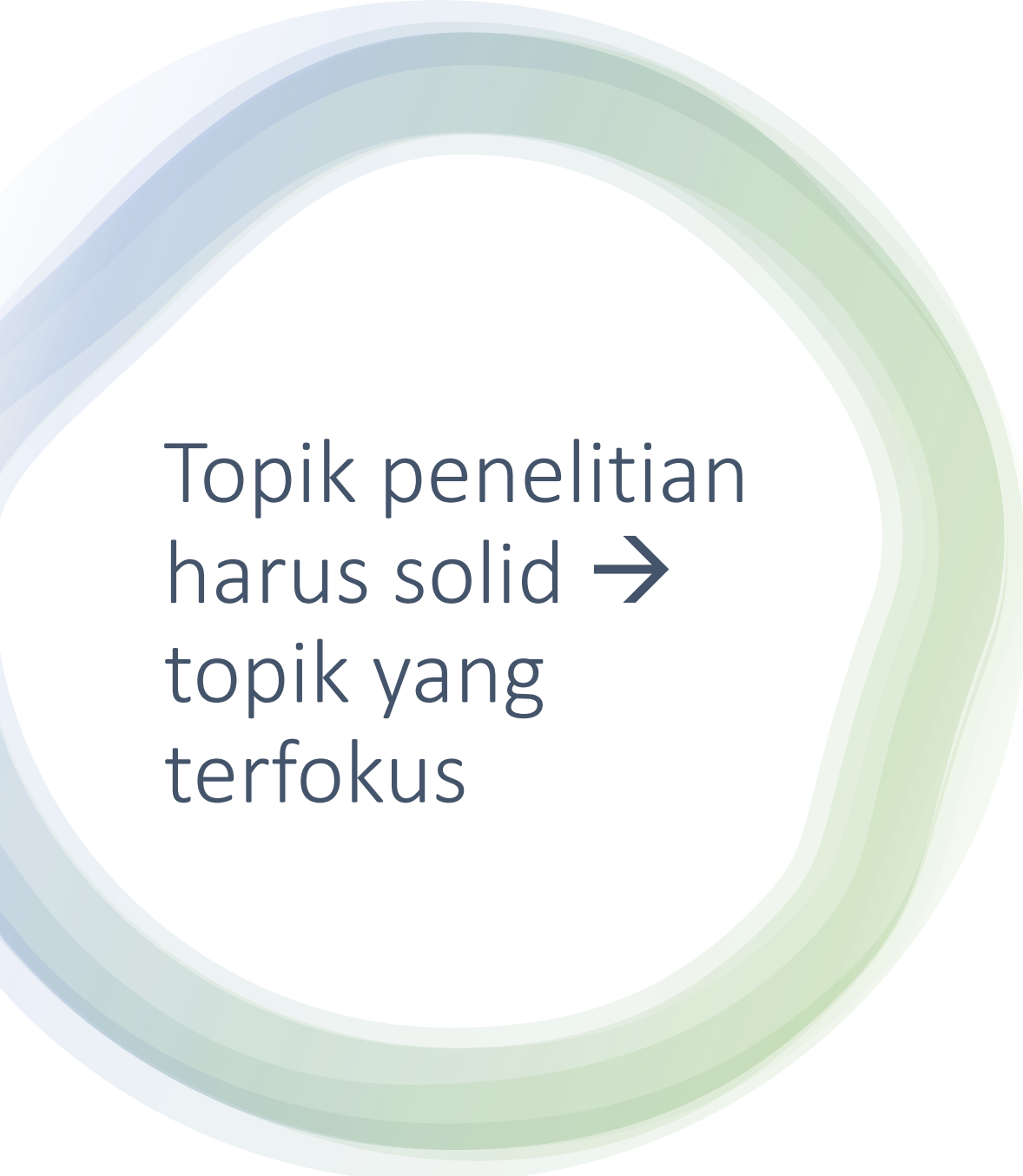
- Join a research team group or project
- Networking One of the most important skills you should be learning in graduate school is how to network." Breaking into the research community requires attending conferences, meeting established researchers, and making yourself known.



→ **RESEARCH TOPIC IS VERY IMPORTANT**

HOW TO CHOOSE RESEARCH TOPIC

- Titipan institusi
- Pemberian pembimbing
- Pilihan sendiri



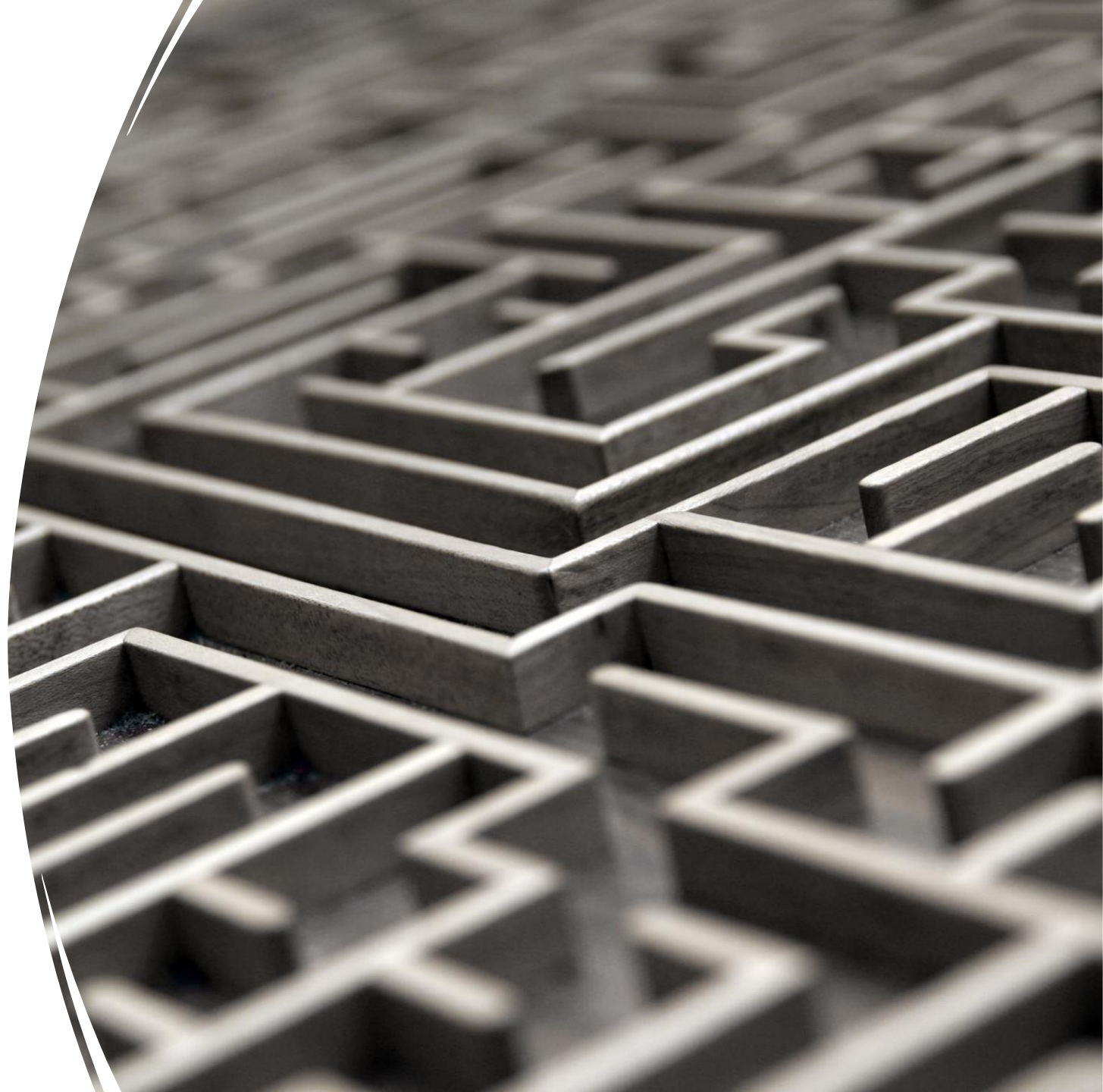
Topik penelitian
harus solid →
topik yang
terfokus

1. Harus memiliki masalah yang jelas dan spesifik dan menentukan apakah ruang lingkup penelitian sesuai
2. Dapat dieksplorasi dan membuat peningkatan yang signifikan pada pengetahuan dalam disiplin penelitian
3. Pastikan ada dukungan keuangan dan peralatan yang diperlukan untuk melakukan penelitian
4. Pastikan bahwa topik penelitian dapat dipublikasikan, karena akan membuang waktu dan uang untuk melakukan penelitian dan kemudian gagal mempublikasikan temuan

IMPORTANT THINGS TO CONSIDERED WHEN CHOOSING RESEARCH TOPICS

- Choose something that interests you
- Choose an researchable and achievable topic

There are numerous great topics to study, but some topics are more doable compared to others.





ASK YOURSELF THE FOLLOWINGS



- Do you have the required budget needed to do the research?
- Do you have the knowledge required to conduct the study?
- Do you have the needed equipment and resources like laboratory facilities to conduct this research topic?

Funds for Research

-
- Do you have the required budget needed to do the research?

- Institutional
- Local level bodies
- State Government level bodies
- Central government bodies
- International Bodies
- Company based RD
- NGOs

- Do you have the needed equipment and resources like laboratory facilities to conduct this research topic?

Checking availability of Facilities

- **Equipment for experimental work**
- **Simulation tools or packages**
- **If not available**

Is it possible to **procure them**?

Are **funds available** for procurement

Are these **available in nearby institutions**?

Can you **get permission to use** them ?

If not initiate steps early to get funding & buy



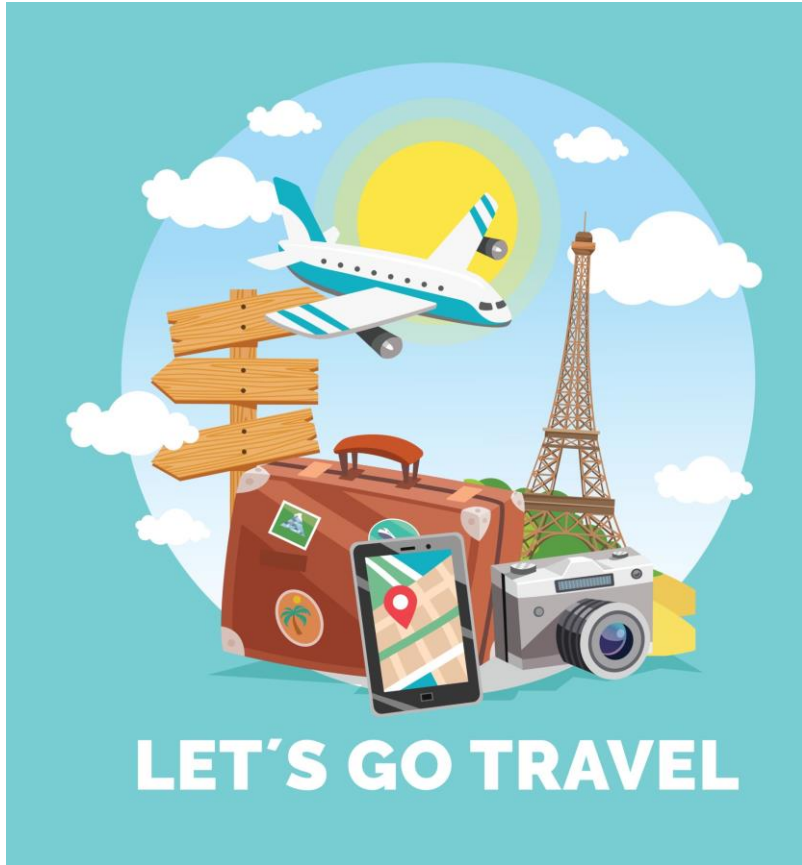
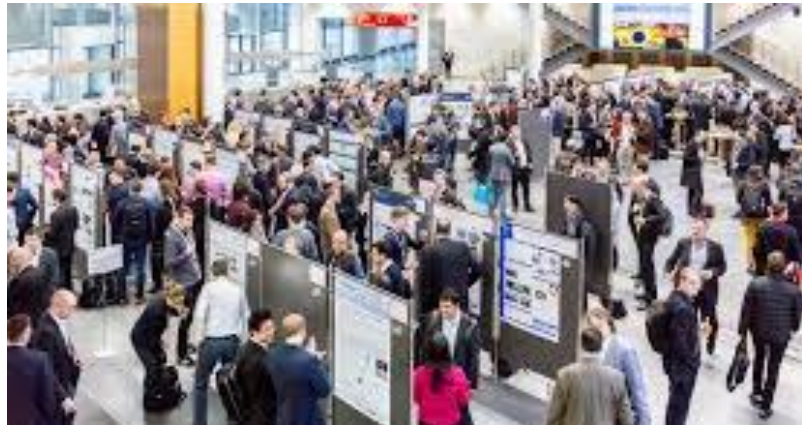
Characteristics of a Research Process

1. **Rigorous** – berhati-hati dalam memastikan bahwa prosedur yang diikuti untuk menemukan jawaban atas pertanyaan relevan, sesuai, dan dapat dibenarkan.
2. **Systematic** – prosedur yang diadopsi untuk melakukan penelitian mengikuti urutan logis tertentu.
3. **Valid and verifiable** – apa pun yang disimpulkan berdasarkan temuan adalah benar dan dapat diverifikasi oleh diri sendiri dan orang lain.
4. **Empirical** – setiap kesimpulan yang diambil didasarkan pada bukti kuat yang dikumpulkan dari informasi dari pengalaman atau pengamatan nyata
5. **Critical** – Proses investigasi harus sangat mudah dan bebas dari segala kekurangan. Proses yang diadopsi dan prosedur yang digunakan harus mampu menyanggah kritikan



Procedural Steps in Research Process









1. Identifying a Research Problem
2. Choosing a Research Design
3. Selecting Appropriate Instruments
4. Selecting a Sample
5. Collecting Data
6. Analysing Data
7. Hypothesis-testing and Interpretation



THINGS MAKE YOUR STUDY PERIOD IS IMPRESSIVE & UNFORGETTABLE



7 KUNCI SUKSES MENJADI MAHASISWA PASCA SARJANA

1.  Be proactive – take responsibility for your own grad school experience
 2.  Establish a positive relationship with your advisor/supervisor and the members of your supervisory committee
 3.  Embrace your academic community
 4.  Know your program requirements and timelines
 5.  Create and follow an annual plan
 6.  Bring a professional approach to your work and interactions
 7.  Seek balance and support in your life
- 

We are successful graduations

How about you?



Khoiruddin,
Doktor Tercepat
dengan 36
Publikasi Scopus :
Mahasiswa ITB
Kembangkan
Membran
Penyimpan Energi



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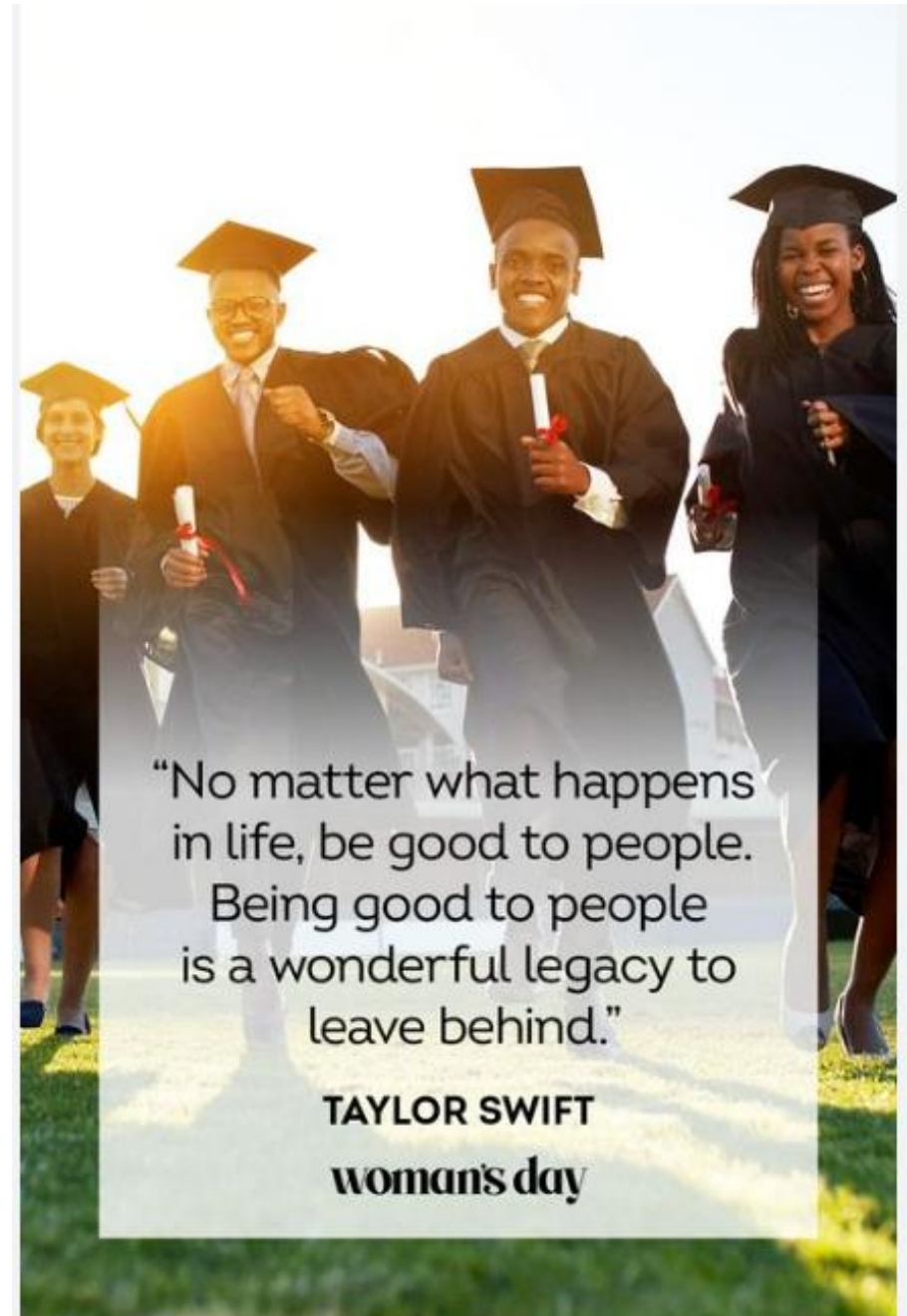


William Jadi
Lulusan Terbaik,
Termuda,
Tercepat Magister
Teknik
Telekomunikasi



Fitri Aulia, Wisudawan
Program Doktor ITB
dengan Publikasi 21
Jurnal Bereputasi

Thank you



“No matter what happens
in life, be good to people.
Being good to people
is a wonderful legacy to
leave behind.”

TAYLOR SWIFT
woman's day