How to prepare your PhD qualifying exam— do's and don'ts

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Why do we need a qualifying exam?

- In a Ph.D. program, the purpose of the QE is to evaluate whether a graduate student has the essential skills and other necessities to obtain the Ph.D. degree.

2013-2018

TIGP-MCB 1st time passing rate : 60%-80%

2nd time passing rate: ~ 50%

2018-2022

1st time passing rate: 80%; 2nd time passing rate: 100%

"Five Golden Rules" of qualifying exam preparation

Golden Rule #1: Understand the qualifying exam.

- What is the format of the exam?

- How is your performance assessed?

- How much time does the exam usually take?

Dr. Louis Grivetti, U.C. Davis

Golden Rule #2: Prepare early and systematically.

- First, review the basics of your field.

- Next, review the specifics of your field.

- Now, prepare and practice your dissertation research proposal.

- Prepare for anticipated questions.

- Review recent scientific journals.

- Set up a practice qualifying exam.

Golden Rule #3: Know your examiners.

Golden Rule #4: Reduce your stress.

- If you have prepared systematically, you are in great shape and should be confident that you are well prepared to succeed in your qualifying examination.

- Tip 1: Think about how you will respond to off-the-wall questions?

- Tip 2: Think about how you will respond to questions that you do not know?

- Golden Rule #5: Have an exam day plan

- Dress appropriately.
- Ensure that you have reliable transportation to come to the exam location.
- Eat a small meal, even if you are not hungry.
- Get to the exam room early. Make sure you have enough time.

The proposal

Structure of a Ph.D (non) thesis proposal

- Topic/ Thesis or outside?

- Abstract (write it last)

- Background and significance

- Research Design and Methods-
The Three Aims (not strictly formatted)

- Discussion

- References

The Do's

- ***Before writing*** (~1 month)

    - read *guide lines* carefully

    - read reviews and chose *suitable* topics
      (1~3)

    - discuss with your senior lab members (or
      mentor's input)

    - chose your topic and read *representative*
      papers in depth

The Do's

- ***During writing*** (1~2 months)

    - arrange your time and outline the structure first

      (Intros, significance, aims, methods and

        alternative approaches, etc)

    - hypothesis driven or curiosity driven

    - constant discussions with lab mates/colleagues

    - uses reference tools (i.e. endnote)

    - have the first draft ASAP

The Dos

- **After writing** (~ 2~3 weeks)

    - revised the 1st draft and correct all grammar

      errors and avoid jargons or trivial details

      (sloppy writing reflects non-stringent scientific

      character)

    - send to colleagues (1~2 reliable friends) to read.

    - check update reference, any new published

      study during your writing

The Dos

- **_Before the final oral presentation_** (1~2 weeks)

   - make a good and easy-to-understand ppt files
     (control your time to be less than ~1hr)

   - practice your presentation N times (your committee
     will interrupt to ask during your presentation)

   - write down all of the questions/feedbacks from the
     audience & think about how to address these
     questions.

   - relax and have a good sleep before the judgment
     day

The Dos

- **During your oral presentation**

  - Have a deep breath and relax
  - Be prepared to be asked by all kinds of questions.
    No one is able to address properly for all of them!
    Don't get scared and then gets upset/frustrated
  - If you don't understand the question, ask the committee to repeat nicely. Don't answer promptly if you don't even understand the question
  - Control your time (your presentation should be ~ 45 minutes)

The Dos

- ***After your oral presentation***
  - Write down the comments from the committee and address them seriously
  - Take harsh comments as constructive learning motivation
  - Don't be discouraged if you don't pass the first time
  - Show your improvement for your 2nd examination (committee will particularly look upon for those comments they raised last time)

After you pass your exam, celebrate with family and friends. However, its not the end of your PhD, its just the beginning.

Don't stretch your celebration for days and weeks.

The Donts

- ***Before writing***

    - ignore guide lines

    - read too many reviews and change mind once a week. Topics are either too ambitious or have been studied for many years.

The Donts

- ***During writing***
  - sporadic writing with random schedule
  - no clear structure & incoherent writing
    (lacking significance and logic structure)
  - inconsistent reference style or missing ref
  - take too long to finish for the writing

The Donts

- **Before the final oral presentation**

    - no practice at all

    - too nervous (practice makes perfect!)

    - procrastination and work at the last minute

    and no sleep at all

The Donts

- **During oral presentation**
    - Speak too fast
    - Gets upset or goes blank with questions
    - Answer questions without thinking or too defensive
    - show off too much (too many slides!) and run overtime

The Donts

- **After oral presentation ….if you didn't pass**
    - Ignore committee's comments
    - Too depressed to discuss with your mentor and with the committee. Every committee member is here to help. Don't take their comments as a negative factor
    - Start a complete different non-thesis proposal (some modification based on comments from the committee sounds about right)

Common mistakes

- No alternative approach and additional experiments if the hypothesis does not work
- Aims highly dependent on the positive results of previous aims
- Plagiarism (copy & paste without any change)
- Introduction is not adherent to the study
- Not citing reference for proposal and in presentation
- Non thesis proposal: figures with error bar and axis value, some even put P value?
- Give proposal to the committee the last minute. Almost every student who gave the proposal to the committee late failed the first time.
- Not take committee' comments seriously and gave up easily for 2nd time.
- Thesis proposal: lack any preliminary data and not enough knowledge in your own topic.

Happy preparing your QE ☺

Qualifying Exam Tips

About me

- Xin Le Yap (Eunice)
- Master of Science in Medical Science, School of Science, Monash University Malaysia
- TIGP-MCB 3rd year student
- Project: Investigation of the Roles of miR-23~27~24 Clusters in the Regulation of Aging
- Thesis advisor: Dr. Jun-An Chen

Thesis vs Non-thesis proposal

- Thesis Proposal
  - Requires preliminary data
  - Committee's advice will be more helpful for your future experiments and directions
  - But at the same time they might be more strict as it's your own project
- Non-thesis Proposal
  - Requires mostly logical thinking and flow
  - Needs to read a lot in order to have better background knowledge

When preparing for your proposal

- Narrow down your research topic, be more specific
  - Make sure project can be completed within 5 years
- Acquaint yourself with knowledge of your subject matter, as that's what you'll be tested on the most.
- Write down all possible questions that you might be asked during the exam
  - Try and predict questions that your committee will ask. You'll likely be asked a question that you prepared for.
- Get your preliminary results and write your proposal
  - Some people do it at the same time, some collect all results before writing.

A week before

- Go through questions and answers previously prepared
  - Make sure you can answer to the questions logically (important criteria to pass QE)
- Practice the slides and ensure the flow is smooth
  - No more major editings to the slides
- Practice with lab members and friends
  - Friends can give you insights from another field, more like what it is during QE

One day before

- Get enough sleep, need to be 100% alert
- Go through the slides for the last time

…and finally

- **Be okay with what you know, and okay with what you don't know.**
  - It is impossible to know everything as you are still learning as a student.
  - Accept your own limitations, and be humble throughout the process.
- **Believe in yourself and good luck!**

Virtual QE by Experience Share

Thesis and non thesis?

How long did it take for you to prepare the QE?

The most frustration thing during the preparement?

Did you discuss with your superviosr or colleagus often?

Did you practice your talk in the lab or with you classmates?

Any tip you wish to share?

Good luck