

How to Communicate

Tao LIN

September 7, 2023



- 1 A General Guide
 - Why Communication Matters?
 - The 7 **C**'s of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 How to Communicate With Your Collaborator?
 - How to Work With Your Advisor Effectively
 - How to Share Progress With Your Mentors/Collaborators?
 - How to Work With a Busy Advisor?
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

Course schedule

Week	Date	Topics
1	2023. Sep. 01	Introduction to CS & AI
2 (this week)	2023. Sep. 08	How to communicate
3	2023. Sep. 15	How to do presentation
4	2023. Sep. 22	How to do research I
5	2023. Oct. 07	How to do research II
6	2023. Oct. 13	Academic paper writing
7	2023. Oct. 20	Sharing the experience of writing excellent academic papers and rebuttal
8	2023. Oct. 27	Practice course

Acknowledgement

- [The 7 Cs of Communication](#), World of Work Project
- [How To Ask Questions The Smart Way](#), Eric Steven Raymond
- [Awesome Tips](#), JiaBin Huang

Table of Contents

- 1 **A General Guide**
 - Why Communication Matters?
 - The 7 **C**'s of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
- 3 How to Communicate With Your Collaborator?
- 4 How to Do Presentation

Table of Contents

1 A General Guide

- Why Communication Matters?
- The 7 C's of Communication

2 How to Ask Questions The Smart Way (From CS Perspective)?

- Before You Ask
- When You Ask

3 How to Communicate With Your Collaborator?

- How to Work With Your Advisor Effectively
- How to Share Progress With Your Mentors/Collaborators?
- How to Work With a Busy Advisor?
- How to Work With Your Senior Advisor(s)?

4 How to Do Presentation

Communication is the key to your career success!

Table of Contents

1 A General Guide

- Why Communication Matters?
- The 7 **C**'s of Communication

2 How to Ask Questions The Smart Way (From CS Perspective)?

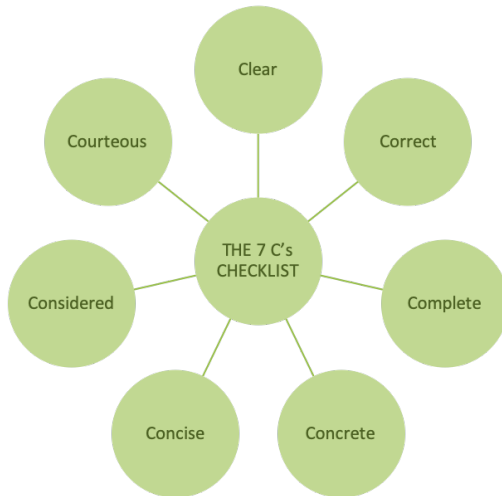
- Before You Ask
- When You Ask

3 How to Communicate With Your Collaborator?

- How to Work With Your Advisor Effectively
- How to Share Progress With Your Mentors/Collaborators?
- How to Work With a Busy Advisor?
- How to Work With Your Senior Advisor(s)?

4 How to Do Presentation

The 7 C's of communication



7 C: Clear

- **Be clear about the purpose.**

The recipient should be made aware of

- why they are receiving the message
- what you're trying to achieve by delivering it

If there are multiple goals, each should be laid out separately.

- **The content of the communication itself.**

Avoid jargon

- use simple language
- use simple structures
- focus on the core points of your message
- summary and deduction (if possible)

7 C: Correct

- It is essential that
→ both the factual information and the language/grammar you use are correct.
- If your audience spots errors in either
→ they will be distracted and your credibility will be greatly reduced.



Some communications simply must be correct, clear and concise.

7 C: Complete

Completeness

is one of the most important of the 7 Cs of communication.

7 C: Complete

When creating a message, it is important to

- give the recipient all of the information they need to follow your line of reasoning
- and to reach the same conclusions you have.

7 C: Complete

When creating a message, it is important to

- give the recipient all of the information they need to follow your line of reasoning
- and to reach the same conclusions you have.

Tips:

- The level of message detail is determined by the situation. Adjust it accordingly!
- Make things as easy as possible for the recipient. For example,
 - If you are issuing a “call to action”, provide explicit guidance on that action.
 - Increasingly it is common to include e.g., i) hyperlinks in written communications, or ii) to attach FAQs.

Both of which help audiences

- access a complete set of information, while also
- ensuring that core communications focus on core messages.

7 C: Concrete

When shaping your communication, you must ensure that

- you are specific
 - the logic and messages you're using fit together, build on each other and support each other
- your arguments should be based on solid facts and opinions from credible sources
- you should share irrefutable data to support your argument.

7 C: Concise



con·cise

/kən'sīs/

adjective

giving a lot of information clearly and in a few words; brief but comprehensive.

"a concise account of the country's history"

Similar:

succinct

short

brief

to the point

pithy

incisive

short and sweet



Tips:

- stick to the point and keep your messages short and simple
- don't use 10 words if you can use five
- don't repeat your messages

The more you say, the more risk of confusion \Rightarrow focuses solely on the key points you need to deliver.

7 C: Courteous



People are not always courteous. E.g.,

- When you get reviews from ICML/NeurIPS/ICLR :)



adjective

polite, respectful, or considerate in manner.
"she was courteous and obliging to all"

Similar:

polite

well mannered

civil

respectful

deferential

well behaved



Tips:

- 1 Increasing the effectiveness by
 - being polite
 - showing your audience that you respect them
- 2 Your messages should be friendly, professional, considerate, respectful, open, and honest.
- 3 Please always consider your messages from the point of view of the audience!

7 C: Considered & Coherent

If your communications are not coherent and considered, they will not be effective.

Tips to help make sure your communications are considered and coherent:

- you should have a logical flow
- your style, tone and language should be consistent throughout

Besides,

- Each communication you issue is coherent within itself
- You should also ensure consistency of message when delivering multiple communications.

Table of Contents

- 1 A General Guide
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 How to Communicate With Your Collaborator?
- 4 How to Do Presentation

Table of Contents

- 1 A General Guide
 - Why Communication Matters?
 - The 7 C's of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 How to Communicate With Your Collaborator?
 - How to Work With Your Advisor Effectively
 - How to Share Progress With Your Mentors/Collaborators?
 - How to Work With a Busy Advisor?
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

Before asking a technical question, do the following:

- Try to find an answer by searching the archives of the forum or mailing list you plan to post to.
- Try to find an answer by searching the Web.
- Try to find an answer by reading the manual.
- Try to find an answer by reading a FAQ.
- Try to find an answer by inspection or experimentation.
- Try to find an answer by asking a skilled friend.
- If you're a programmer, try to find an answer by reading the source code.

Establish that you're not being a lazy sponge and wasting people's time.

Table of Contents

- 1 A General Guide
 - Why Communication Matters?
 - The 7 C's of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 How to Communicate With Your Collaborator?
 - How to Work With Your Advisor Effectively
 - How to Share Progress With Your Mentors/Collaborators?
 - How to Work With a Busy Advisor?
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

Choose your forum carefully

Your questions are likely to be ignored, if you:

- post your question to a forum where it is off-topic
- post a very elementary question to an advanced forum, or vice-versa
- cross-post to too many different newsgroups
- post a personal e-mail to somebody who is neither an acquaintance of yours nor personally responsible for solving your problem

Search, and then ask on

Sites to ask questions

- StackOverflow
- MathOverflow
- Zhihu
- Reddit
- Zhihu
- Quora
- Mailing list
- forums
- etc

Use meaningful, specific subject headers

You need to attract the reader's attention in around 50 characters or fewer!

Example 1

- **Stupid:**
HELP! Video doesn't work properly on my laptop!
- **Smart:**
X.org 6.8.1 misshapen mouse cursor, Fooware MV1005 vid. chipset
- **Smarter:**
X.org 6.8.1 mouse cursor on Fooware MV1005 vid. chipset - is misshapen

One good convention for subject headers:

used by many tech support organizations, is “object - deviation”.

- *object*: it specifies what thing or group of things is having a problem
- *deviation*: it describes the deviation from expected behavior.

Write in clear, grammatical, correctly-spelled language

If you can't be bothered to do that, we can't be bothered to pay attention!

Please express your question clearly and well is important.

Tips:

- Spell, punctuate, and capitalize correctly
 - Don't confuse "its" with "it's", "loose" with "lose", or "discrete" with "discreet".
 - Don't TYPE IN ALL CAPS; this is read as shouting and considered rude.
 - Don't use instant messaging shortcuts.

Be precise and informative about your problem

- Describe the symptoms of your problem or bug carefully and clearly.
- Describe the environment in which it occurs (machine, OS, application, whatever). Provide your vendor's distribution and release level.
- Describe the research you did to try and understand the problem before you asked the question.
- Describe the diagnostic steps you took to try and pin down the problem yourself before you asked the question.
- Describe any possibly relevant recent changes in your computer or software configuration.
- If at all possible, provide a way to reproduce the problem in a controlled environment.

Describe the problem's symptoms, not your guesses

Example 2

- **Stupid:**

I'm getting back-to-back SIG11 errors on kernel compiles, and suspect a hairline crack on one of the motherboard traces. What's the best way to check for those?

- **Smart:**

My home-built K6/233 on an FIC-PA2007 motherboard (VIA Apollo VP2 chipset) with 256MB Corsair PC133 SDRAM starts getting frequent SIG11 errors about 20 minutes after power-on during the course of kernel compiles, but never in the first 20 minutes. Rebooting doesn't restart the clock, but powering down overnight does. Swapping out all RAM didn't help. The relevant part of a typical compile session log follows.

The raw symptoms of what goes wrong
indeed are better than your interpretations and theories!

Table of Contents

- 1 A General Guide
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
- 3 **How to Communicate With Your Collaborator?**
 - How to Work With Your Advisor Effectively
 - How to Share Progress With Your Mentors/Collaborators?
 - How to Work With a Busy Advisor?
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

Why do we need efficient & effective communication? (An advisor case study!)

Why do we need efficient & effective communication? (An advisor case study!)

The role/fact of your advisor (Tao LIN's version):

Why do we need efficient & effective communication? (An advisor case study!)

The role/fact of your advisor (Tao LIN's version):

- very busy (1:1 meeting could only last 30min-1h)

Why do we need efficient & effective communication? (An advisor case study!)

The role/fact of your advisor (Tao LIN's version):

- very busy (1:1 meeting could only last 30min-1h)
- unwilling to waste time caused by ineffective communication

Why do we need efficient & effective communication? (An advisor case study!)

The role/fact of your advisor (Tao LIN's version):

- very busy (1:1 meeting could only last 30min-1h)
- unwilling to waste time caused by ineffective communication
- would be unhappy for a not-well-prepared meeting

Why do we need efficient & effective communication? (An advisor case study!)

The role/fact of your advisor (Tao LIN's version):

- very busy (1:1 meeting could only last 30min-1h)
- unwilling to waste time caused by ineffective communication
- would be unhappy for a not-well-prepared meeting
- has limited knowledge

Why do we need efficient & effective communication? (An advisor case study!)

The role/fact of your advisor (Tao LIN's version):

- very busy (1:1 meeting could only last 30min-1h)
- unwilling to waste time caused by ineffective communication
- would be unhappy for a not-well-prepared meeting
- has limited knowledge
- but should always try to help YOUR research (unless disappointed)!

Table of Contents

- 1 A General Guide
 - Why Communication Matters?
 - The 7 **C**'s of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 **How to Communicate With Your Collaborator?**
 - **How to Work With Your Advisor Effectively**
 - How to Share Progress With Your Mentors/Collaborators?
 - How to Work With a Busy Advisor?
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

How to work with your advisor effectively: know the role of your advisor

Your advisor is an INPUT-OUTPUT MACHINE.

- ✗ In-only: You do everything and report final results.
- ✗ Out-only: You do everything they told you to do.
- ✓ In & Out: You get frequent and valuable guidance.



How to work with your advisor effectively: show your work

How do you get the best guidance from your advisor?

- ✗ Show your success only!
- ✓ Show your work!

Describe

- the detailed process you went through,
- the reasoning you had,
- the methodology you adopted,
- and the interpretations of the results you got.

How to work with your advisor effectively: Don't try figuring everything out yourself

- **(precondition)** Please first try to be independent!!!

How to work with your advisor effectively: Don't try figuring everything out yourself

- **(precondition)** Please first try to be independent!!!
- BUT, If you spend 15 mins googling and still don't know where to start,

How to work with your advisor effectively: Don't try figuring everything out yourself

- **(precondition)** Please first try to be independent!!!
- BUT, If you spend 15 mins googling and still don't know where to start,
- please reach out to your peers/mentors.

How to work with your advisor effectively: Don't try figuring everything out yourself

- **(precondition)** Please first try to be independent!!!
- BUT, If you spend 15 mins googling and still don't know where to start,
- please reach out to your peers/mentors.
- Asking for help is not a sign of weakness.

How to work with your advisor effectively: Frequent update

- Setting up a weekly meeting with your mentors is great.

How to work with your advisor effectively: Frequent update

- Setting up a weekly meeting with your mentors is great.
- But, do NOT stay silent during the week.

How to work with your advisor effectively: Frequent update

- Setting up a weekly meeting with your mentors is great.
- But, do NOT stay silent during the week.
- Nothing is more frustrating to learn that
 - > The student got stuck 20 mins after the meeting last week in a meeting.

How to work with your advisor effectively: Frequent update

- Setting up a weekly meeting with your mentors is great.
- But, do NOT stay silent during the week.
- Nothing is more frustrating to learn that
 - > The student got stuck 20 mins after the meeting last week in a meeting.
- Send frequent and concise updates along the way.

How to work with your advisor effectively: Manage meetings

- **Before** (at least x min): send results and agenda whenever they are available.

How to work with your advisor effectively: Manage meetings

- **Before** (at least x min): send results and agenda whenever they are available.
 - Give your mentors time to digest them.

How to work with your advisor effectively: Manage meetings

- **Before** (at least x min): send results and agenda whenever they are available.
 - Give your mentors time to digest them.
 - Manage the meeting to ensure you cover all the topics you want to discuss.

How to work with your advisor effectively: Manage meetings

- **Before** (at least x min): send results and agenda whenever they are available.
 - Give your mentors time to digest them.
 - Manage the meeting to ensure you cover all the topics you want to discuss.
- **In the meeting**: progress update. Reserve the last x minutes to discuss the next steps.

How to work with your advisor effectively: Manage meetings

- **Before** (at least x min): send results and agenda whenever they are available.
 - Give your mentors time to digest them.
 - Manage the meeting to ensure you cover all the topics you want to discuss.
- **In the meeting**: progress update. Reserve the last x minutes to discuss the next steps.
- **After**: Send a summary and an actionable plan to keep everyone on the same page.

How to work with your advisor effectively: Do not avoid meetings

When you make less progress or get stuck somewhere, it feels right to cancel the meeting as you have nothing to report.

How to work with your advisor effectively: Do not avoid meetings

~~When you make less progress or get stuck somewhere, it feels right to cancel the meeting as you have nothing to report.~~

- NO!

How to work with your advisor effectively: Do not avoid meetings

~~When you make less progress or get stuck somewhere, it feels right to cancel the meeting as you have nothing to report.~~

- NO!
- That's a TERRIBLE idea!

How to work with your advisor effectively: Do not avoid meetings

~~When you make less progress or get stuck somewhere, it feels right to cancel the meeting as you have nothing to report.~~

- NO!
- That's a TERRIBLE idea!
- Discuss the problems with your mentors/collaborators.

How to work with your advisor effectively: Do not avoid meetings

~~When you make less progress or get stuck somewhere, it feels right to cancel the meeting as you have nothing to report.~~

- NO!
- That's a TERRIBLE idea!
- Discuss the problems with your mentors/collaborators.
- Help them help you get unstuck.

How to work with your advisor effectively: One single slide deck

- Put ALL the progress/results/figures/discussions in one single slide deck.

How to work with your advisor effectively: One single slide deck

- Put ALL the progress/results/figures/discussions in one single slide deck.
- This saves **5 mins** in the meeting locating files and trying to retrieve results two weeks ago when someone asks for it.

How to work with your advisor: Communicate at the right level of abstraction

Facts:

- Your mentors are not going to know all the latest and greatest papers/tools/tricks nor the low-level details.

How to work with your advisor: Communicate at the right level of abstraction

Facts:

- Your mentors are not going to know all the latest and greatest papers/tools/tricks nor the low-level details.
- Your advisor will forget everything you discuss the moment you step out the door.

How to work with your advisor: Communicate at the right level of abstraction

Facts:

- Your mentors are not going to know all the latest and greatest papers/tools/tricks nor the low-level details.
- Your advisor will forget everything you discuss the moment you step out the door.

Suggestions:

- Treat your advisor as a goldfish. Always provide high-level contexts/summary first.

How to work with your advisor: Communicate at the right level of abstraction

Facts:

- Your mentors are not going to know all the latest and greatest papers/tools/tricks nor the low-level details.
- Your advisor will forget everything you discuss the moment you step out the door.

Suggestions:

- Treat your advisor as a goldfish. Always provide high-level contexts/summary first.
- Just like talking to your grandparents, distill your work to its essence so that they can easily understand.

How to work with your advisor: Communicate at the right level of abstraction

Facts:

- Your mentors are not going to know all the latest and greatest papers/tools/tricks nor the low-level details.
- Your advisor will forget everything you discuss the moment you step out the door.

Suggestions:

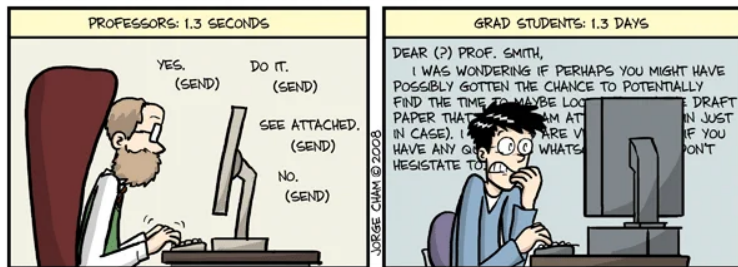
- Treat your advisor as a goldfish. Always provide high-level contexts/summary first.
- Just like talking to your grandparents, distill your work to its essence so that they can easily understand.
- Maintain meeting minutes that everyone agrees upon so you have consistent guidance.

How to work with your advisor: leverage async discussions

- ✗ Wait for a weekly meeting to present everything.
- ✓ Send frequent and concise updates along the way.

Keep your advisor engaged and excited about your research.

AVERAGE TIME SPENT COMPOSING ONE E-MAIL



WWW.PHDCOMICS.COM

How to work with your advisor: Asynchronous communication I

- One topic at a time

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.
- Inline response

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.
- Inline response
 - ✗ Writing replies from scratch (top posting)

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.
- Inline response
 - ✗ Writing replies from scratch (top posting)
 - ✓ Writing replies below each topic (inline reply)

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.
- Inline response
 - ✗ Writing replies from scratch (top posting)
 - ✓ Writing replies below each topic (inline reply)
- Inline content

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.
- Inline response
 - ✗ Writing replies from scratch (top posting)
 - ✓ Writing replies below each topic (inline reply)
- Inline content
 - ✗ I made an overview figure here and wrote down the math derivation here.

How to work with your advisor: Asynchronous communication I

- One topic at a time
 - ✗ Here are the results of the experiments we discussed. BTW, can you approve my conference travel expense?
 - ✓ Conference travel expense - Approval required by April 20.
- Formatting
 - ✗ Writing loooong free-form paragraphs.
 - ✓ Writing structured, concise, clear texts. Formatting tools (bold, underscore, italic, itemize, enumerate, paragraph, line breaks) are your friends.
- Inline response
 - ✗ Writing replies from scratch (top posting)
 - ✓ Writing replies below each topic (inline reply)
- Inline content
 - ✗ I made an overview figure here and wrote down the math derivation here.
 - ✓ Embed the content inline.

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.
- Give others control when setting up meetings

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.
- Give others control when setting up meetings
 - ✗ When will you be available next week?

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.
- Give others control when setting up meetings
 - ✗ When will you be available next week?
 - ✓ I am available in the following time slots. When will work best for you? Use calendar tools (calendly, google calendar) to avoid back-and-forth discussions.

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.
- Give others control when setting up meetings
 - ✗ When will you be available next week?
 - ✓ I am available in the following time slots. When will work best for you? Use calendar tools (calendly, google calendar) to avoid back-and-forth discussions.
- Agenda, agenda, agenda

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.
- Give others control when setting up meetings
 - ✗ When will you be available next week?
 - ✓ I am available in the following time slots. When will work best for you? Use calendar tools (calendly, google calendar) to avoid back-and-forth discussions.
- Agenda, agenda, agenda
 - ✗ Let's hop on a call and chat next week.

How to work with your advisor: Asynchronous communication II

- Async sharing before sync meeting
 - ✗ Describe your work and show results during the meeting.
 - ✓ Summarize your work/results and send them for early feedback before the meeting. Make the best use of your favorite collaborative document platforms (GitHub in our case).
- Actionable next steps after a sync meeting
 - ✗ Just talked. Brainstormed multiple ideas. Created a bunch of tasks.
 - ✓ Decide WHO to do WHAT by WHEN.
- Give others control when setting up meetings
 - ✗ When will you be available next week?
 - ✓ I am available in the following time slots. When will work best for you? Use calendar tools (calendly, google calendar) to avoid back-and-forth discussions.
- Agenda, agenda, agenda
 - ✗ Let's hop on a call and chat next week.
 - ✓ Send a clear meeting agenda with allocated time.

Table of Contents

- 1 A General Guide
 - Why Communication Matters?
 - The 7 **C**'s of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 **How to Communicate With Your Collaborator?**
 - How to Work With Your Advisor Effectively
 - **How to Share Progress With Your Mentors/Collaborators?**
 - How to Work With a Busy Advisor?
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

Throughout your research project, 99% of the time your approach DOESN'T WORK (yet)

How could we share these “failed results”
and have productive conversations with your mentors/collaborators?

How to share progress (Design: Why do we want do this experiment?)

- Plz treat your mentors as goldfishes.

How to share progress (Design: Why do we want do this experiment?)

- Plz treat your mentors as goldfishes.
- Remind them WHY you did a particular experiment or implement a particular thing.

How to share progress (Design: Why do we want do this experiment?)

- Plz treat your mentors as goldfishes.
- Remind them WHY you did a particular experiment or implement a particular thing.
- This will provide the context for them to help interpret the results and steer the direction of your research.

How to share progress (Hypothesis: What do we expect to see?)

- Before showing your results,

How to share progress (Hypothesis: What do we expect to see?)

- Before showing your results,
- comment on what should have happened (if everything is correct)?

How to share progress (Observation: What did we see?)

- Show the (failed) results.

How to share progress (Observation: What did we see?)

- Show the (failed) results.
- Don't just say "It doesn't work."

How to share progress (Observation: What did we see?)

- Show the (failed) results.
- Don't just say "It doesn't work."
- Describe HOW it fails (with details and ideally in a self-contained manner).

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .
 - I’ve ruled out W and Z as the cause.
- or

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .
 - I’ve ruled out W and Z as the cause.
- or
 - Here is HOW it fails.

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .
 - I’ve ruled out W and Z as the cause.
- or
 - Here is HOW it fails.
 - I feed X but somehow did not get Y .

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .
 - I’ve ruled out W and Z as the cause.
- or
 - Here is HOW it fails.
 - I feed X but somehow did not get Y .
 - I believe the core issues lie in steps Z and W .

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .
 - I’ve ruled out W and Z as the cause.
- or
 - Here is HOW it fails.
 - I feed X but somehow did not get Y .
 - I believe the core issues lie in steps Z and W .
 - I have ruled out W as the cause.

How to share progress (Interpretation: Is this expected/working? please no “It doesn’t work.”)

After showing your results, comment on how the results align with or deviate from your expectations.

- Describe the detailed process you went through, the reasoning you, the methodology you adopt, and the interpretations of the results you got.
- Say something like
 - I’ve narrowed down the problem to step B .
 - Until step A , you can see that it works, because you put in X and you get Y out, as we expect.
 - You can see how it fails here at B .
 - I’ve ruled out W and Z as the cause.
- or
 - Here is HOW it fails.
 - I feed X but somehow did not get Y .
 - I believe the core issues lie in steps Z and W .
 - I have ruled out W as the cause.
 - Next, I will design experiments to isolate the step Z .

How to share progress (Visualization: Any better ways to see the results?)

Seeing the results with a good visualization helps

- deepen our understanding

How to share progress (Visualization: Any better ways to see the results?)

Seeing the results with a good visualization helps

- deepen our understanding
- spot the issues

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But
 - DON't: "Any feedback on the next steps?"

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But
 - DON't: "Any feedback on the next steps?"
 - DO: "I plan to do X and then Y because of Z."

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But
 - DON't: "Any feedback on the next steps?"
 - DO: "I plan to do X and then Y because of Z."
- Remember that you are the main DRIVER of the project. Don't just wait for instructions.

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But
 - DON't: "Any feedback on the next steps?"
 - DO: "I plan to do X and then Y because of Z."
- Remember that you are the main DRIVER of the project. Don't just wait for instructions.
- This is a MUCH better way to solicit feedback b/c

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But
 - DON't: "Any feedback on the next steps?"
 - DO: "I plan to do X and then Y because of Z."
- Remember that you are the main DRIVER of the project. Don't just wait for instructions.
- This is a MUCH better way to solicit feedback b/c
 - your mentor will have sth. concrete to work on and

How to share progress (Actionable next steps: What steps would you do?)

- Remember to proactively propose the next steps so that we can make progress on the project.
- But
 - DON't: "Any feedback on the next steps?"
 - DO: "I plan to do X and then Y because of Z."
- Remember that you are the main DRIVER of the project. Don't just wait for instructions.
- This is a MUCH better way to solicit feedback b/c
 - your mentor will have sth. concrete to work on and
 - you get to understand why specific feedback was given.

How to share progress (Actionable next steps: Stick with the plan)

- Once you have an actionable plan that everyone agrees with, please stick with the plan.

How to share progress (Actionable next steps: Stick with the plan)

- Once you have an actionable plan that everyone agrees with, please stick with the plan.
- Quite often junior students may go ahead and work on some other tasks instead.

How to share progress (Actionable next steps: Stick with the plan)

- Once you have an actionable plan that everyone agrees with, please stick with the plan.
- Quite often junior students may go ahead and work on some other tasks instead.
- If you think the plan should be revised, TALK to your mentors and CONVINCE them.

Table of Contents

- 1 A General Guide
 - Why Communication Matters?
 - The 7 **C**'s of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 **How to Communicate With Your Collaborator?**
 - How to Work With Your Advisor Effectively
 - How to Share Progress With Your Mentors/Collaborators?
 - **How to Work With a Busy Advisor?**
 - How to Work With Your Senior Advisor(s)?
- 4 How to Do Presentation

Your advisor constantly needs to juggle many tasks (family/teaching/research/service).

So what should we do?

- Collaborate with your peers or senior students
 - Feel free to reach out to other students in your lab (especially if you share similar interests).
 - Having someone to discuss with helps tremendously! They can provide valuable insights and guidance.
- Do an internship and continue the collaboration?
 - Find summer internship opportunities!
 - When you find good mentors, DO NOT LET GO!
 - Ask your advisor if you can continue collaboration with them.
- Try ad hoc meetings
 - Try to find a few minutes to meet with your advisor after their class or during office hours
 - Be prepared, concise, and respectful of their time.

- Make them excited about your work
 - Share frequent updates on your progress or exciting findings.
 - Show enthusiasm and make them excited!
- Communicate effectively with your advisor ← **communication is the key**
 - Be open to feedback. Ask for clarification whenever needed.
 - Strong communication builds a solid working relationship.
- Explore different advisors or co-advisors?
 - If working with your current advisor is consistently challenging, consider exploring other advisors who align better with your research interests.

Table of Contents

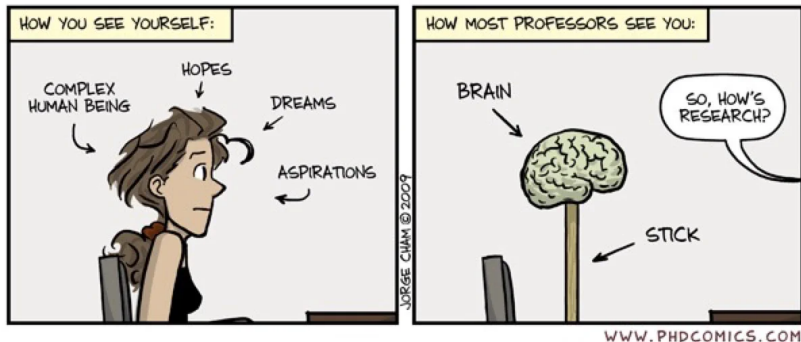
- 1 A General Guide
 - Why Communication Matters?
 - The 7 **C**'s of Communication
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
 - Before You Ask
 - When You Ask
- 3 **How to Communicate With Your Collaborator?**
 - How to Work With Your Advisor Effectively
 - How to Share Progress With Your Mentors/Collaborators?
 - How to Work With a Busy Advisor?
 - **How to Work With Your Senior Advisor(s)?**
- 4 How to Do Presentation

Many students find it **challenging** to navigate grad school
when working with senior professors
as they are often extremely busy and hands-off in research.

Check out below for some similar tips.

Pre-process your input

- Your advisor is an INPUT-OUTPUT machine.
- Senior professors won't keep track of all the latest papers. But they sure know the fundamentals.
- Pre-process/abstract/simplify your work so that they can give you great feedback.



Post-process their output

- Senior professors may have deep insights to your research problem. But, they don't have the modern toolboxes you are familiar with.
- Instead of taking their suggestions as is (e.g., implement some heuristics), map them into modern frameworks.

Find hands-on collaborators

When you are just getting started on your first project, make sure to find hands-on collaborators (other assistant prof, post-doc, or senior students in the lab).

You will learn valuable skills from them!

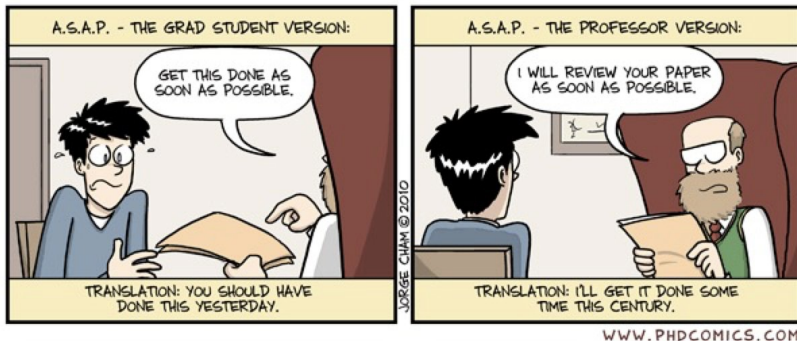
Be transparent

- Senior professors are busy. Sometimes you may not get to interact with them for months!
- Nevertheless, keep them posted with your plan regularly
 - what have you done?
 - what you will do?
 - when you will be on vacation?

Be specific

Follow up with your professor's "I will review your paper soon." and ask for a specific date.

- ✓ Helps your advisor include this task in their to-do.
- ✓ You get to know when to follow up again.



Share progress early and frequently

- Many students feel intimidated about sharing results that are “not ready”.
- It often leads to a vicious cycle of “not ready” -> “no feedback” -> “build up more stress”.
- Break that cycle and keep engaging with your advisor.

Emphasize it again!

Explore common interests

Senior professors don't have tenure pressure and may be open to various explorations.

Work closely with your advisor to find common interests
⇒ so that they can provide their best support.

THE EVOLUTION OF INTELLECTUAL FREEDOM

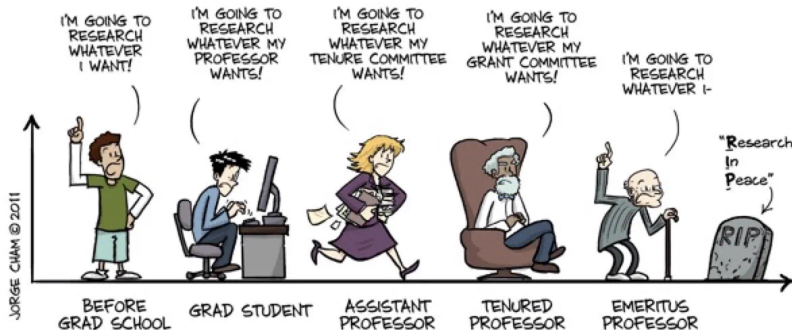


Table of Contents

- 1 A General Guide
- 2 How to Ask Questions The Smart Way (From CS Perspective)?
- 3 How to Communicate With Your Collaborator?
- 4 **How to Do Presentation**

Presentation skills for computer science! (next week)

Thanks & Question Time!