Communication in Computer Science

That is the question (at the end of your talk)

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Handling questions at the end of a talk

- Most PhD students rush to answer,

  as if they were passing an exam.

- But you are not passing an exam.

Questions at an exam

- The questions are standard.
- The answers are standard too.

Questions at the end of a research talk

- The questions are open.
- The answers are open too.

An imperative

You must show

that you understand the question

before you even start answering it.

An imperative

You must show

that you understand the question

before you even start answering it.

Do not even try to bluff your way through.

The problem with questions

- They are rarely clear.
- Not everybody in the room hears them.
  (The bigger the room, the more so.)

The problem with questions

- They are rarely clear.
  So how can their answer be clear?
- Not everybody in the room hears them.
  (The bigger the room, the more so.)

The problem with questions

- They are rarely clear.
  So how can their answer be clear?
- Not everybody in the room hears them.
  (The bigger the room, the more so.)
  So how can their answer be useful to all?

The real problem about questions (1/2)

It is harder to ask a sensible question

than to supply a sensible answer.

(Persian proverb)

The real problem about questions (2/2)

“If I had an hour to solve a problem
and my life depended on the solution,
I would spend the first 55 minutes
determining the proper question to ask.

– Albert Einstein (allegedly)

Concrete example:
Tim Powers's acknowledgments
in "On Stranger Tides"

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To [...]

for clear answers to unclear questions.

How to handle a question

The goal is to communicate.

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How to handle a question

The goal is to communicate.

- Show that you understand the question.
- Are you able to repeat the question?
- You may even need to restate it.
- Only answer it once you both agree about it.

Then you will be able to truly communicate.

Elementary reminder

A communication involves:

- a sender,
- a receiver (or several receivers), and
- the transmitted information.

Elementary reminder

A communication involves:

- a sender,
- a receiver (or several receivers), and
- the transmitted information.

Whether you are the sender or a receiver,

your goal is to maximize the throughput.

Transcribing questions

Questions are the salt of your research talk.

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So give them your complete attention.

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By force, you will forget the previous question to concentrate on the current one.

Transcribing questions

Questions are the salt of your research talk.

So give them your complete attention.

By force, you will forget the previous question to concentrate on the current one.

So have someone else transcribe them (as well as your answers).

NB. Two transcribers are better than one.

Transcribed questions and answers

Identify who asks each question.

Afterward, revisit the transcripts,
and don't hesitate to get back
to the person who asked a question.

Handling questions

The golden rule still applies:

ALWAYS repeat the question.

It gives you time to identify its nature.

- Technical question: give a technical answer.
- Friendly question:

  use it to make your point even better.
- Challenging question: be upfront.

Here is what can happen

- best-case scenario:

  mind-opening questions
- second best-case scenario:

  clarifications are sought
- your contribution is challenged
- your assumptions are challenged
- you are personally challenged

Mind-opening questions

- be thankful
- repeat the question

  (possibly summarizing it or rephrasing it)
- do science!

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These are ammunitions for your next paper.

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- do science!

These are ammunitions for your next paper.

Isn’t it nice that someone is taking notes?

Clarifications are sought

- be thankful
- repeat the question

  (possibly summarizing it or rephrasing it)
- clarify

Clarifications are sought

- be thankful
- repeat the question

  (possibly summarizing it or rephrasing it)
- clarify

These are ammunitions for revising your paper.

Isn't it nice that someone is taking notes?

Your contribution is challenged

- originality / novelty,
- effectiveness,
- accuracy,
- correctness,
- potential to scale up,
- underlying methodology,
- or whatever.

Response

1. repeat the question

   (possibly summarizing it or rephrasing it)

2. check that you are in agreement

   about the point of the question

3. answer using the arguments deployed

   in the body of your paper

   (there is no need to invent)

Remember

- you are not alone
- your paper was peer-reviewed
- your PhD advisor is here to back you up

Do not take these questions personally.

Your assumptions are challenged

The whole approach is claimed

- to be solved already,
- to be misguided,
- to be flawed,
- to come too late,
- to come too early,
- or whatever.

Response

1. repeat the question

   (possibly summarizing it or rephrasing it)

2. check that you are in agreement

   about the point of the question

3. answer using the arguments deployed

   in the introduction of your paper

   (there is no need to invent)

Remember

- you are not alone
- your paper was peer-reviewed
- your PhD advisor is here to back you up

Do not take these questions personally.

Your standpoint is challenged

The whole approach is claimed

- to be not new,
- to be not original,
- to be done already,
- to be sub optimal,
- to be already superseded,
- or whatever.

Response

1. repeat the question

   (possibly summarizing it or rephrasing it)

2. check that you are in agreement

   about the point of the question

3. answer using the arguments deployed

   in the related work of your paper

   (there is no need to invent)

Remember

- you are not alone
- your paper was peer-reviewed
- your PhD advisor is here to back you up

Do not take these questions personally.

Message vs. messenger

You are personally challenged:

- bad taste,
- short sightedness,
- incompetence,
- dishonesty,
- or whatever (e.g., smelly feet).

Response

1. repeat the question, and make sure that
   its outrageousness comes across clearly
2. check that you are in agreement
   about the point of the question;
   most of the time,
   the questioner will then back down
3. the rest of the time,
   answer using only objective arguments

Remember

- Convey that you are here to do science,

  not to brawl.

- You are not alone:

  the session chair is watching over you

  and maintaining scientific standards.

Do not take these questions personally.

A sample of questions and answers

The next slides contain questions

and possible answers.

Example question #1.1

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 1:

Example question #1.1

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 1: The question is: "Wouldn't it

have been simpler to use co-induction?"

Example question #1.1

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 1: The question is: "Wouldn't it have been simpler to use co-induction?"

That's a very good point.

Example question #1.1

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 1: The question is: "Wouldn't it have been simpler to use co-induction?"

That's a very good point. No.

I tried, and induction is actually simpler.

Example question #1.2

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 2:

Example question #1.2

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 2: The question is: "Wouldn't it have been simpler to use co-induction?"

Example question #1.2

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 2: The question is: "Wouldn't it have been simpler to use co-induction?"

That's a very good point.

Example question #1.2

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 2: The question is: "Wouldn't it have been simpler to use co-induction?"

That's a very good point. Perhaps.

That's worth looking into.

Example question #1.3

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 3:

Example question #1.3

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 3: The question is: "Wouldn't it

have been simpler to use . . . "

I am sorry. Co-inducwhat?

Example question #1.3

Q. Wouldn't it have been simpler

to use co-induction?

A, Version 3: The question is: "Wouldn't it

have been simpler to use . . ."

I am sorry. Co-inducwhat?

Naah. Be prepared. Talk to your advisor.

Example question #2

Q. Wasn’t this known already?

A.

Example question #2

Q. Wasn't this known already?

A. The question is:

"Wasn't this known already?"

Example question #2

Q. Wasn't this known already?

A. The question is:

"Wasn't this known already?"

To the best of my knowledge, no,

it wasn't, witness our related work.

[Bringing your paper to the rescue.]

Example question #2

Q. Wasn't this known already?

A. The question is:

"Wasn't this known already?"

To the best of my knowledge, no,

it wasn't, witness our related work.

What do you have in mind?

Example question #3

Q. Isn't your main theorem a corollary of Erdös's theorem?

A.

Example question #3

Q. Isn't your main theorem a corollary of Erdös's theorem?

A. The question is: "Isn't my main theorem a corollary of Erdös's theorem?"

Example question #3

Q. Isn't your main theorem a corollary of Erdös's theorem?

A. The question is: "Isn't my main theorem a corollary of Erdös's theorem?"

Good question.

Which theorem do you have in mind?

[There are so many of them...]

Example question #4

Q. Blah blah blah.

A.

Example question #4

Q. Blah blah blah. Blah blah.

A.

Example question #4

Q. Blah blah blah. Blah blah. Blah blah blah blah blah.

A.

Example question #4

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah?

A.

Example question #4

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah blah blah?

[There is a short question in there. Where?]

A.

Example question #4

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah blah blah?

A. The question, I believe, is “Blah blah?”

[The audience might applaud here.]

Example question #4

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah?

A. The question, I believe, is “Blah blah?”

...(and then provide an appropriate answer)...

Example question #5 (Tony Hey)

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah blah blah. Blah blah blah.

A.

Example question #5 (Tony Hey)

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah blah blah. Blah blah blah.

[Note: there are no question marks in sight.]

A.

Example question #5 (Tony Hey)

Q. Blah blah blah. Blah blah. Blah blah blah blah blah. Blah blah blah blah blah blah blah blah blah blah blah blah blah blah. Blah blah blah.

[Note: only if you are very senior!]

A. Could you crystallize what you said into a question?

Example question #6

Q. I don’t like your approach at all.

(Blah blah (blah blah) ((blah blah blah) blah ((blah) in Lisp (blah))) (blah))

A.

Example question #6

Q. I don’t like your approach at all.

(Blah blah (blah blah) ((blah blah blah) blah

((blah) in Lisp (blah))) (blah))

A. I like Lisp too,

Example question #6

Q. I don't like your approach at all.

(Blah blah (blah blah) ((blah blah blah) blah

((blah) in Lisp (blah))) (blah))

A. I like Lisp too,

[Here's looking for the common ground.]

Example question #6

Q. I don’t like your approach at all.

(Blah blah (blah blah) ((blah blah blah) blah

((blah) in Lisp (blah))) (blah))

A. I like Lisp too, but I am sorry:

what was your question?

Example question #6, contd

Q. It wasn't a question, it was a criticism.

I really don't like your approach at all.

A.

Example question #6, contd

Q. It wasn't a question, it was a criticism.

I really don't like your approach at all.

A. You don't like our approach at all.

Example question #6, contd

Q. It wasn't a question, it was a criticism.

I really don't like your approach at all.

A. You don't like our approach at all.

[Still looking for the common ground.]

Example question #6, contd

Q. It wasn't a question, it was a criticism.

I really don't like your approach at all.

A. You don't like our approach at all.

Great.

[However, there are no problems.]

Example question #6, contd

Q. It wasn't a question, it was a criticism.

I really don't like your approach at all.

A. You don't like our approach at all.

Great. Let's talk at the break.

[There are opportunities.]

Example question #6, contd

Q. It wasn't a question, it was a criticism.

I really don't like your approach at all.

A. You don't like our approach at all.

Great. Let's talk at the break.

Anyone else has a question? [Moving on!]

Example question #7

Q. More than a question,

I want to make a comment.

Blah blah blah.

A.

Example question #7

Q. More than a question,

I want to make a comment.

Blah blah blah.

A. Thank you very much.

[Be kind. Let him unwind.]

Example question #7

Q. More than a question,

I want to make a comment.

Blah blah blah.

A. Thank you very much.

[Be kind. Let him unwind.]

[Plus, he is offering you perspective.]

Example question #8a

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A.

Example question #8a

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A. The question is: as a young researcher,

how difficult was it to start on this problem,

and keep going. [Blah, blah, blah, blah.]

Example question #8a (NB!)

Q. As a young woman, ← slanted question

how difficult was it to start on this problem,

and keep going?

A. The question is: as a young researcher,

how difficult was it to start on this problem,

and keep going. ← straightened question

Example question #8b

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A.

Example question #8b

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A. The question is not about gender.

Example question #8b

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A. The question is not about gender.

This problem is hard:

it required hard work all the way through.

Example question #8b

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

[A lame question calls for a lame answer.]

A. The question is not about gender.

This problem is hard:

it required hard work all the way through.

Example question #8c

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A.

Example question #8c

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A. The question is about my gender.

Example question #8c

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A. The question is about my gender.

Do you have a technical question?

Example question #8c (NB!)

Q. As a young woman,

how difficult was it to start on this problem,

and keep going?

A. The question is about my gender.

Do you have a technical question?

Danger, Will Robinson!

Stay objective

Your talk is about your message,

not about the messenger.

Don’t let irrelevant questions derail your talk.

Stay objective

Your talk is about your message,

not about the messenger.

Don’t let irrelevant questions derail your talk.

(If needed, though, ask “Is this relevant?”)

Example question #9

Q. You don’t seem to understand

blah blah blah blah etc.

A.

Example question #9

Q. You don't seem to understand

blah blah blah blah etc.

A. You are saying that we don't understand

the blah method. ⟨brief dramatic pause⟩

Example question #9

Q. You don't seem to understand

blah blah blah blah etc.

A. You are saying that we don't understand

the blah method. ⟨brief dramatic pause⟩

[NB: "we", not "I". Don't make it personal.]

Example question #9

Q. You don't seem to understand

blah blah blah blah etc.

A. You are saying that we don't understand

the blah method.

I think we do. Let's talk about it at the break.

Example question #10

Q. You don’t seem to know

blah blah blah blah etc.

A.

Example question #10

Q. You don't seem to know

blah blah blah blah etc.

A. You are saying that in the paper,

the related work is incomplete.

Example question #10

Q. You don't seem to know

blah blah blah blah etc.

A. You are saying that in the paper,

the related work is incomplete.

[Note how the personal attack is deflected.]

Example question #10

Q. You don't seem to know

blah blah blah blah etc.

A. You are saying that in the paper,

the related work is incomplete.

I am a bit surprised: we were pretty thorough

and the reviewers told us so.

Example question #10

Q. You don't seem to know

blah blah blah blah etc.

A. You are saying that in the paper,

the related work is incomplete.

I am a bit surprised: we were pretty thorough

and the reviewers told us so.

[Note the authority argument.]

Example question #10

Q. You don't seem to know

blah blah blah blah etc.

A. You are saying that in the paper,

the related work is incomplete.

I am a bit surprised: we were pretty thorough

and the reviewers told us so.

But thanks: can you tell me more at the break?

A beginner's mistake

Answering a question

by (essentially) repeating the talk.

No question is that general.

And if there are no questions?

- Say “thank you” again, and pack up.

And if there are no questions?

- Say “thank you” again, and pack up.
- If you have a computer demo,

  now is a good time to remind the audience.

And if there are no questions?

- Say “thank you” again, and pack up.
- If you have a computer demo,

  now is a good time to remind the audience.
- (seen at TLCA’01)

  “Good! Then

  let me show you a couple more slides.”

Secret weapon

You don’t understand the question,

or it would take too long to answer:

“Let’s take this offline.”

The plus:

The minus:

Secret weapon

You don’t understand the question,

or it would take too long to answer:

“Let’s take this offline.”

The plus: you stay in control.

The minus:

Secret weapon

You don’t understand the question,

or it would take too long to answer:

“Let’s take this offline.”

The plus: you stay in control.

The minus: not at your PhD defense...

Do

Make sure that
all the terms of the question are defined.

Do

Make sure that
all the terms of the question are defined.

When you speak, be careful with idioms
when you are not a native speaker.

Don’t

Don’t use slang,
especially if you are not a native speaker.
Slang terms mean something else
than what you think it means.
(cf. “Inconceivable!” in The Princess Bride)

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Don’t use slang,
especially if you are not a native speaker.
Slang terms mean something else
than what you think it means.
(cf. “Inconceivable!” in The Princess Bride)

If the question is “What is X?”,
don’t say: “X, it’s when ...”
It reveals muddled thinking.

Don’t

Don’t use slang,
especially if you are not a native speaker.
Slang terms mean something else
than what you think it means.
(cf. “Inconceivable!” in The Princess Bride)

If the question is “What is X?”,
don’t say: “X, it’s when ...”
It reveals muddled thinking.

At an oral exam, don’t say
“I knew you would ask this question.”

Avoid clashes (1/2)

Setting: a compiler optimization is presented.

It is actually unsound,

for an interesting technical reason.

Attendees hope for an interesting discussion,

but here is what happens at the end of the talk:

Avoid clashes (2/2)

An attendee (jumping at the speaker's jugular):

"Your optimization is WRONG.

So if I write a program for your compiler, ..."

Avoid clashes (2/2)

An attendee (jumping at the speaker's jugular):

"Your optimization is WRONG.

So if I write a program for your compiler, ..."

The speaker (interrupting just as rudely);

"Well I don't care about you."

Avoid clashes (2/2)

An attendee (jumping at the speaker's jugular):

"Your optimization is WRONG.

So if I write a program for your compiler, ..."

The speaker (interrupting just as rudely);

"Well I don't care about you."

And there is no technical discussion...

Avoid burns (1/2)

After an academic talk about V8 (in Chrome):

Question (sort of): you could have done this and you could have done that and why didn’t you do this and why didn’t you rather do that etc.

Avoid burns (1/2)

After an academic talk about V8 (in Chrome):

Question (sort of): you could have done this and you could have done that and why didn't you do this and why didn't you rather do that etc.

Lars Bak (after a technically patient while):
You really have nice points and nice ideas.
But V8 is open source – where are your entries and your contributions?

Avoid burns (2/2)

You are PhD students and here to do science.

Don’t feed enmity if you can:

- offer questions about the message,
  don’t assault the messenger; and
- offer answers about the question,
  don’t slam the questioner.

Avoid burns (2/2)

You are PhD students and here to do science.

Don’t feed enmity if you can:

- offer questions about the message,
  don’t assault the messenger; and
- offer answers about the question,
  don’t slam the questioner.

And if you can’t, control yourself, like Lars.

Summary

- questions are the salt of your research talk
- have someone transcribe the Q/A session
- repeat each question and identify its nature
- check there is a common understanding
- answer in a commensurate way
- stay objective: your message matters, the messenger, less so
- live to fight another day

Exercise

Prepare answers on one the following topics:

- you presented a new research concept
- you implemented a software artifact
- you pass a university oral exam
- you presented your thesis work

  in a job interview