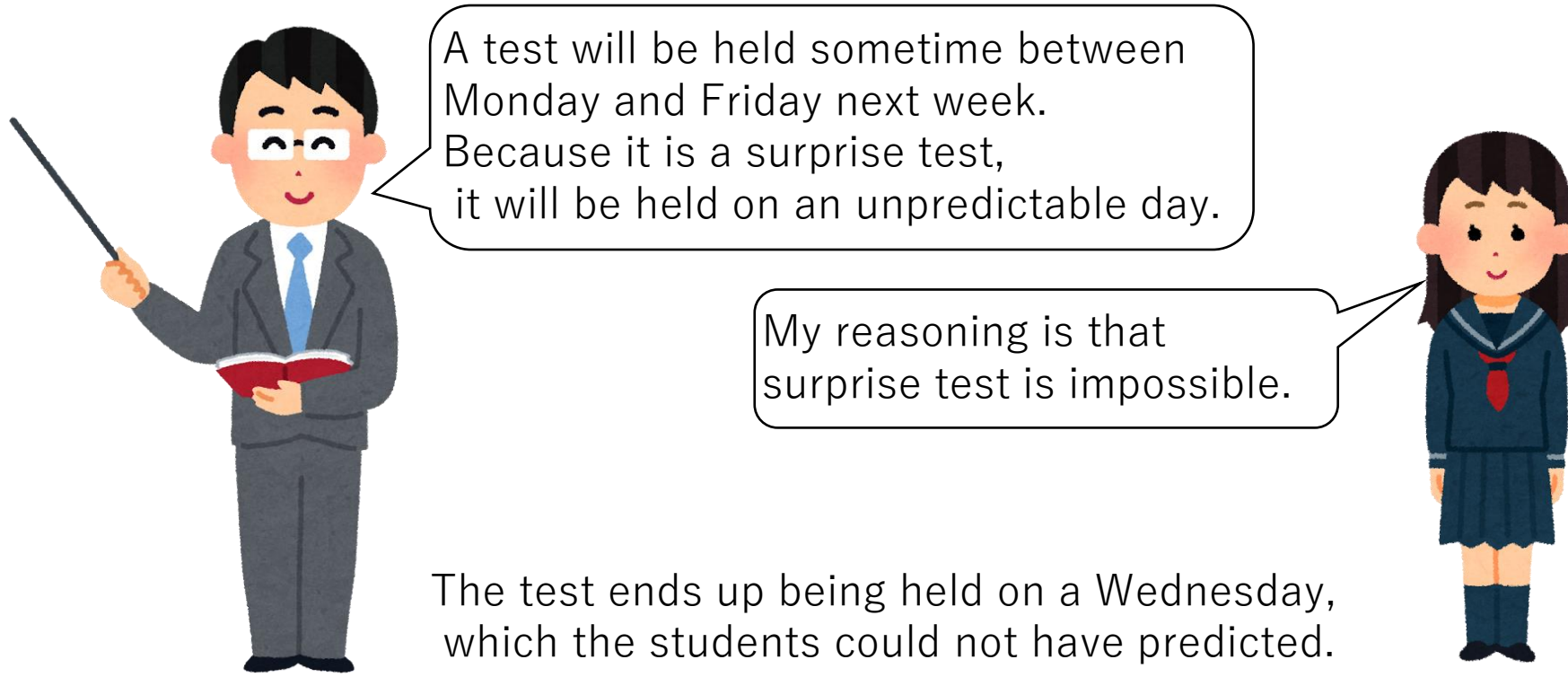# Surprise test paradox
(Unexpected hanging paradox)
Psychology of misunderstand
Complete solution

Surprise test paradox

Problem

A test will be held sometime between Monday and Friday next week.
Because it is a surprise test,
it will be held on an unpredictable day.

My reasoning is that
surprise test is impossible.

The test ends up being held on a Wednesday,
which the students could not have predicted.

The great detective completely solves the surprise test paradox (unexpected hanging paradox).
We will not only explain what is right, but also the psychology behind why things are wrong.
A teacher gives his students the following warning.
A test will be held sometime between Monday and Friday next week.
Because it is a surprise test, it will be held on an unpredictable day.
A student, using the following reasoning, comes to the conclusion that "surprise test is impossible".
However, the test ends up being held on a Wednesday, which the students could not have predicted.

Surprise test paradox

Student reasoning

If there's no test until Thursday, we can predict that it will be on Friday.
Therefore, the test can't be on Friday,
 so it will be held between Monday and Thursday.

If there's no test until Wednesday, we can predict that it will be on Thursday.
Therefore, the test can't be on Thursday,
so it will be held between Monday and Wednesday.

By similar reasoning, tests can't be on Monday, Tuesday, and Wednesday.
Therefore, surprise tests are impossible.

Common explanation

What the teacher said is invalid because it contradicts itself.

If there's no test until Thursday, we can predict that it will be on Friday.
Therefore, the test can't be on Friday, so it will be held between Monday and Thursday.
If there's no test until Wednesday, we can predict that it will be on Thursday.
Therefore, the test can't be on Thursday, so it will be held between Monday and Wednesday.
By similar reasoning, tests can't be on Monday, Tuesday, and Wednesday.
Therefore, surprise tests are impossible.
A common explanation is that what the teacher said is invalid because it contradicts itself.

Surprise test paradox

If teacher don't tell "it will be held on an unpredictable day"

One day, students can only predict a test sometime before Friday.

The teacher thought
it would be unpredictable
on any day other than Friday,
so he went on Wednesday.

	Mon.	Tue.	Wed.	Thr.	Fri.
Mon.	1/5				
Tue.	1/5	1/4			
Wed.	1/5	1/4	1/3		
Thr.	1/5	1/4	1/3	1/2	
Fri.	1/5	1/4	1/3	1/2	1/1

Before the teacher said that, there was no contradiction.
After the teacher said that, a contradiction occurred.

The teacher was talking about what happened before he said it,
but the student interpreted it as what happened after he said it.

Let's consider what would happen if the teacher didn't say, "It will be held on an unpredictable day".
On a given day, students can only predict that the test will be sometime before Friday.
On Friday, the probability is 1/1, so it can be predicted.
The teacher thought that it would be impossible to predict any day other than Friday, so he held it on Wednesday.
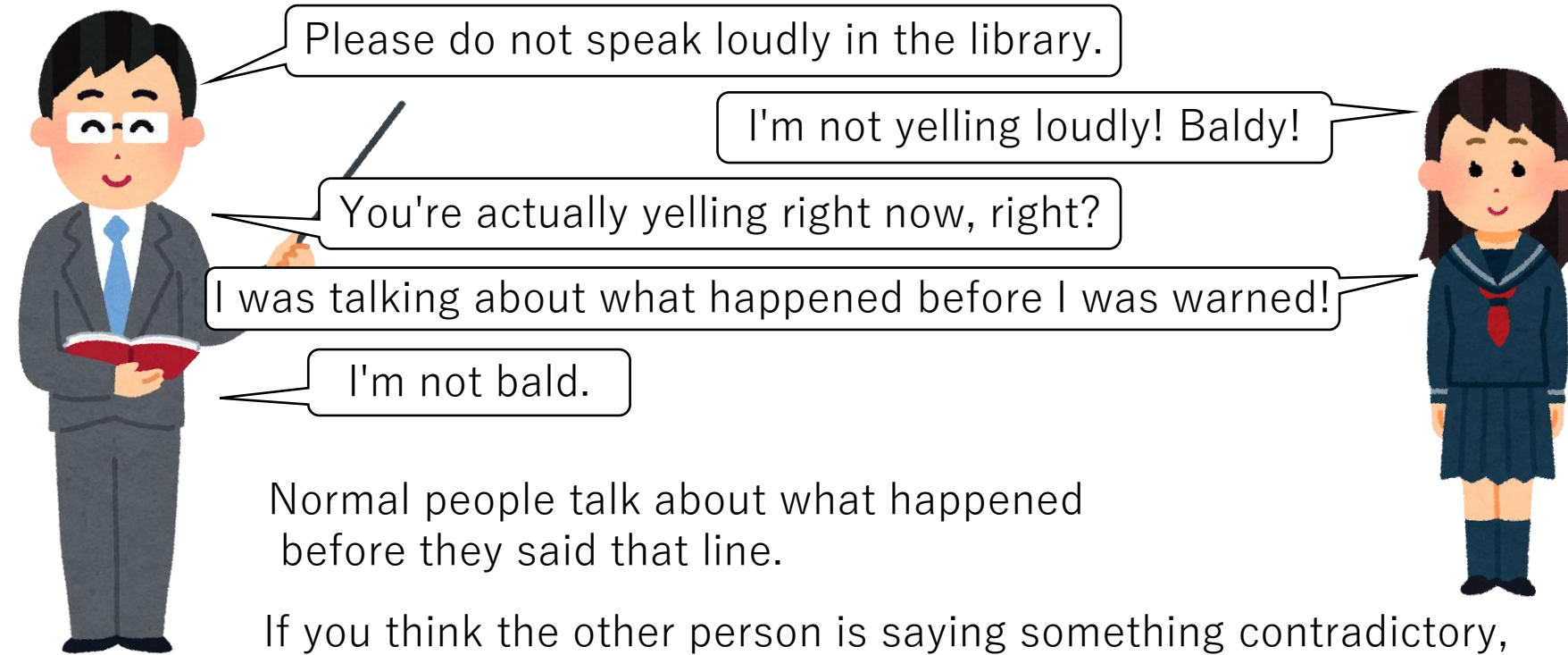Before the teacher said that, there was no contradiction.
After the teacher said that, a contradiction occurred.
The teacher talked about what happened before he said that, but the students interpreted it as what happened after he said it.

Surprise test paradox

Simplified paradox

Please do not speak loudly in the library.

I'm not yelling loudly! Baldy!

You're actually yelling right now, right?

I was talking about what happened before I was warned!

I'm not bald.

Normal people talk about what happened before they said that line.

If you think the other person is saying something contradictory, recognize that it is your own misinterpretation.

This paradox can be simplified as follows.
Please do not speak loudly in the library.
I'm not yelling loudly! Baldy!
You're actually yelling right now, right?
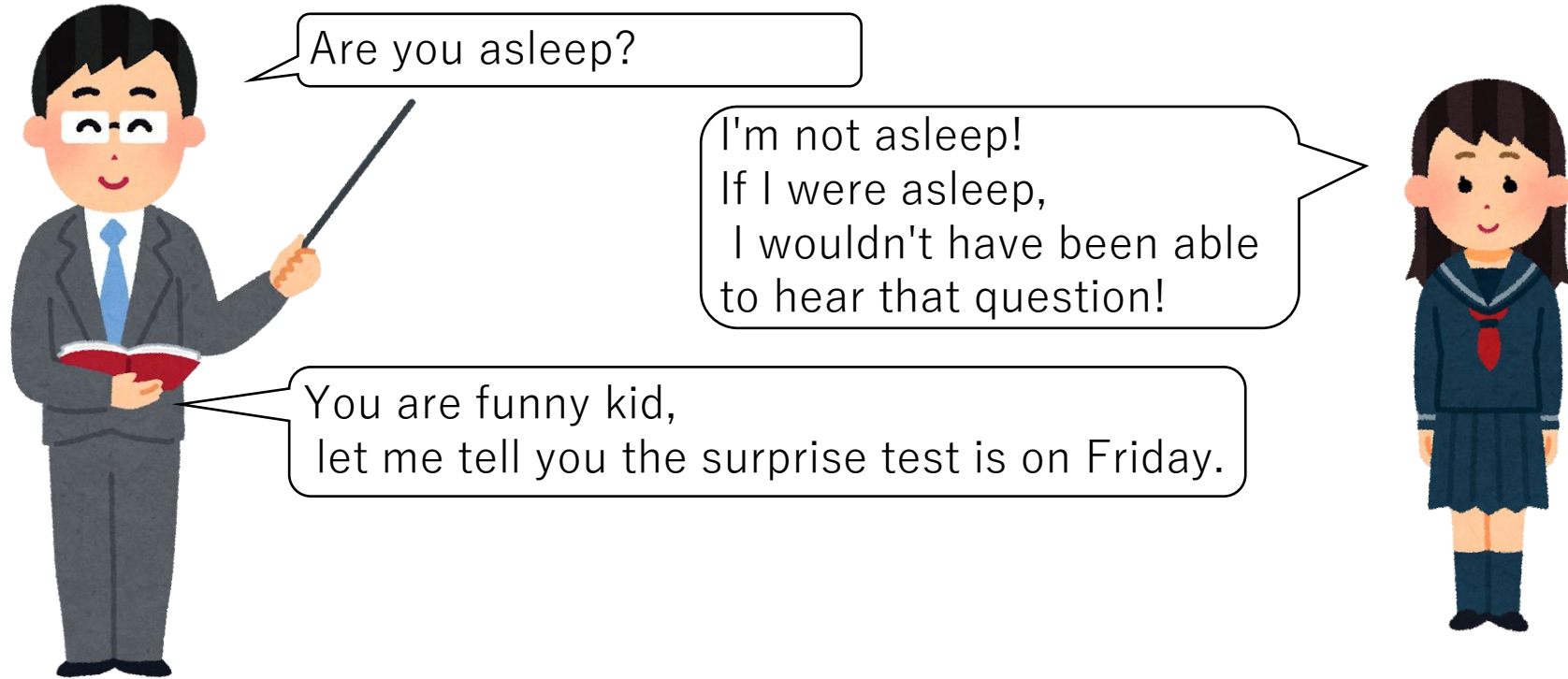I was talking about what happened before I was warned!
I'm not bald.
Normal people talk about what happened before they said that line.
If you think the other person is saying something contradictory, recognize that it is your own misinterpretation.
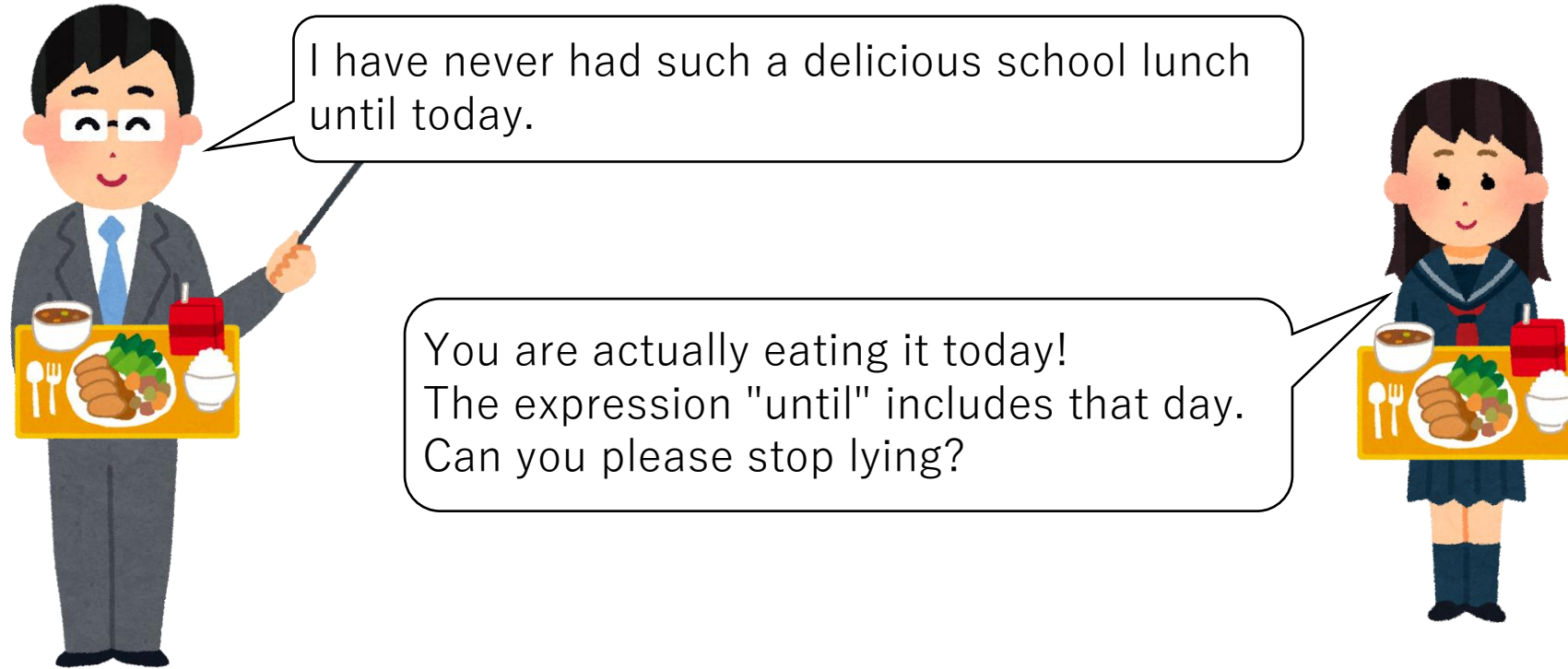
Surprise test paradox

Contradiction Tukkomi contest

Are you asleep?

I'm not asleep!
If I were asleep,
 I wouldn't have been able
to hear that question!

You are funny kid,
 let me tell you the surprise test is on Friday.

The rest of the time is a contradiction Tukkomi contest.
Are you asleep?
I'm not asleep!
If I were asleep, I wouldn't have been able to hear that question!
You are funny kid, let me tell you the surprise test is on Friday.
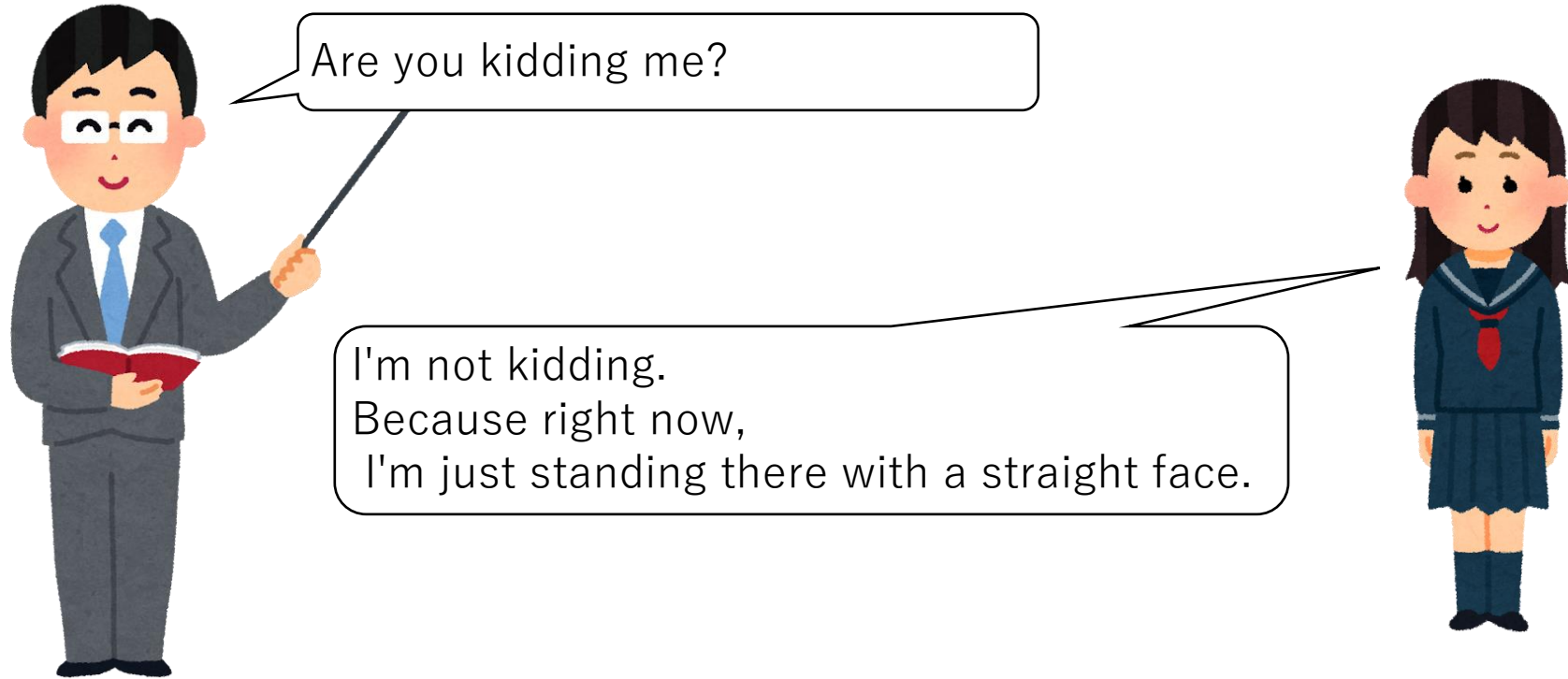
Surprise test paradox

Contradiction Tukkomi contest

I have never had such a delicious school lunch until today.

You are actually eating it today!
The expression "until" includes that day.
Can you please stop lying?

I have never had such a delicious school lunch until today.
You are actually eating it today!
The expression "until" includes that day.
Can you please stop lying?

Surprise test paradox

Contradiction Tukkomi contest

Are you kidding me?

I'm not kidding.
Because right now,
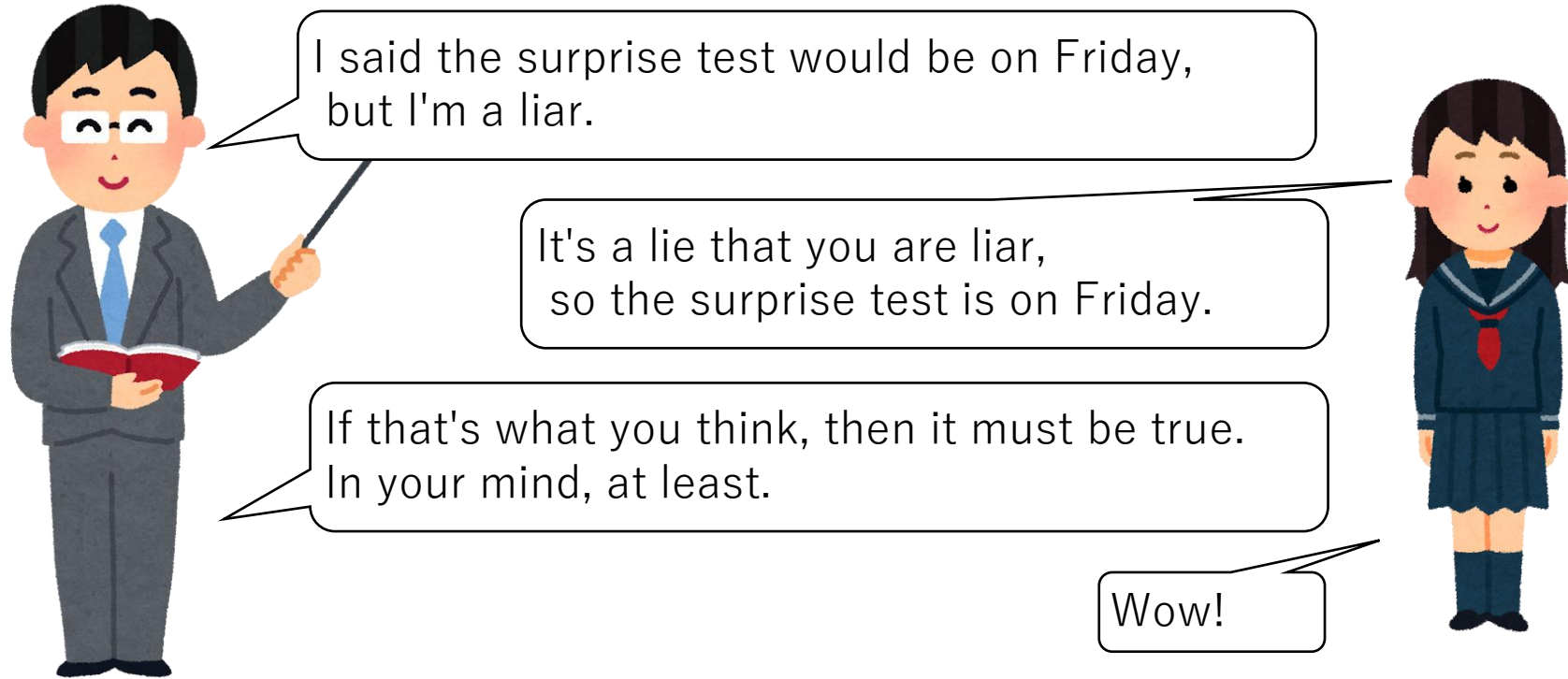I'm just standing there with a straight face.

Are you kidding me?
I'm not kidding.
Because right now, I'm just standing there with a straight face.

Surprise test paradox

Contradiction Tukkomi contest

Teacher: I said the surprise test would be on Friday, but I'm a liar.

Student: It's a lie that you are liar, so the surprise test is on Friday.

Teacher: If that's what you think, then it must be true. In your mind, at least.

Student: Wow!

I said the surprise test would be on Friday, but I'm a liar.
It's a lie that you are liar, so the surprise test is on Friday.
If that's what you think, then it must be true.
In your mind, at least.
Wow!
That's all.

Contact Information

For inquiries,

please contact us here.

https://ultagi.org/