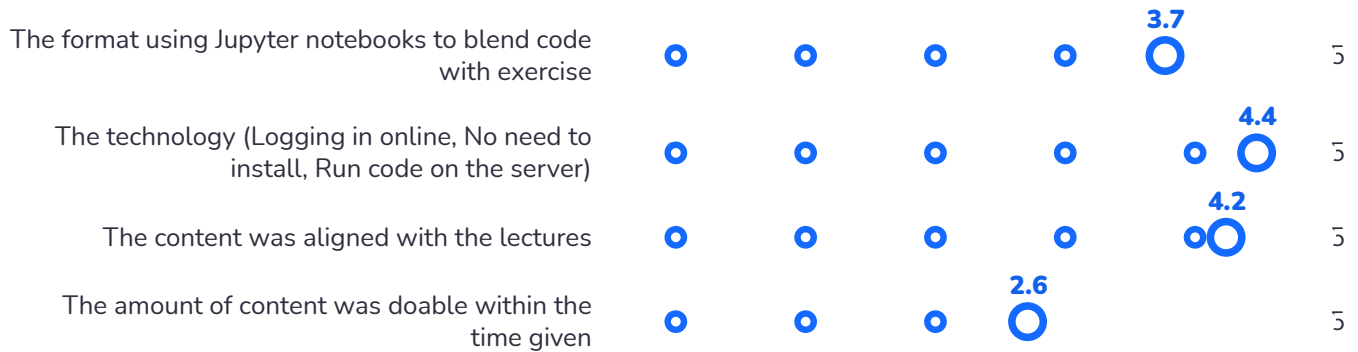


VIB : Vibrations problems

Number of participants: 20

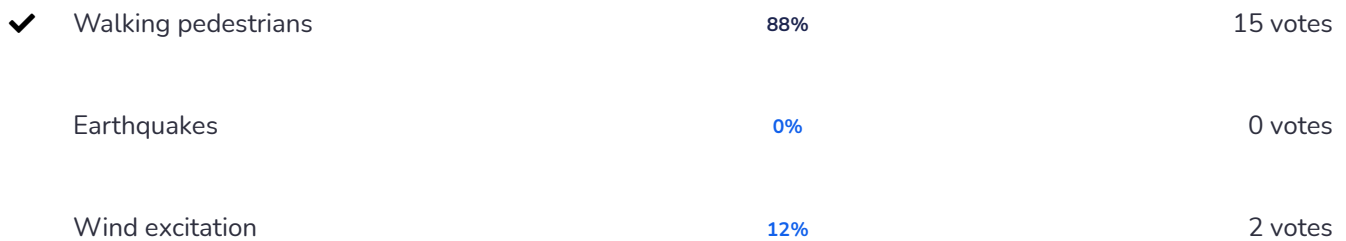
1. What did you think about the exercise sessions?

17 respondents



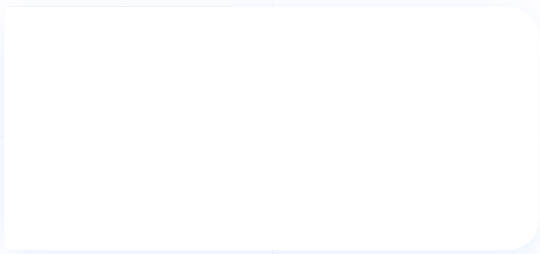
2. For pedestrian bridges, excessive vibrations are usually caused by

15 correct answers
out of 17 respondents

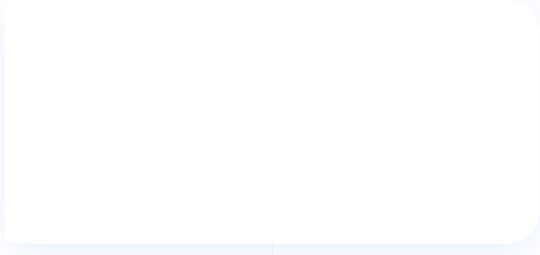


3. **These measurements are from the 'Smart Circular bridge' project, that equipped a composite bridge with fiber optical strain gauges (and accelerometers) to monitor the structure.**

19 respondents



1 **8 correct answers** **A** Running



2 **8 correct answers** **B** Walking

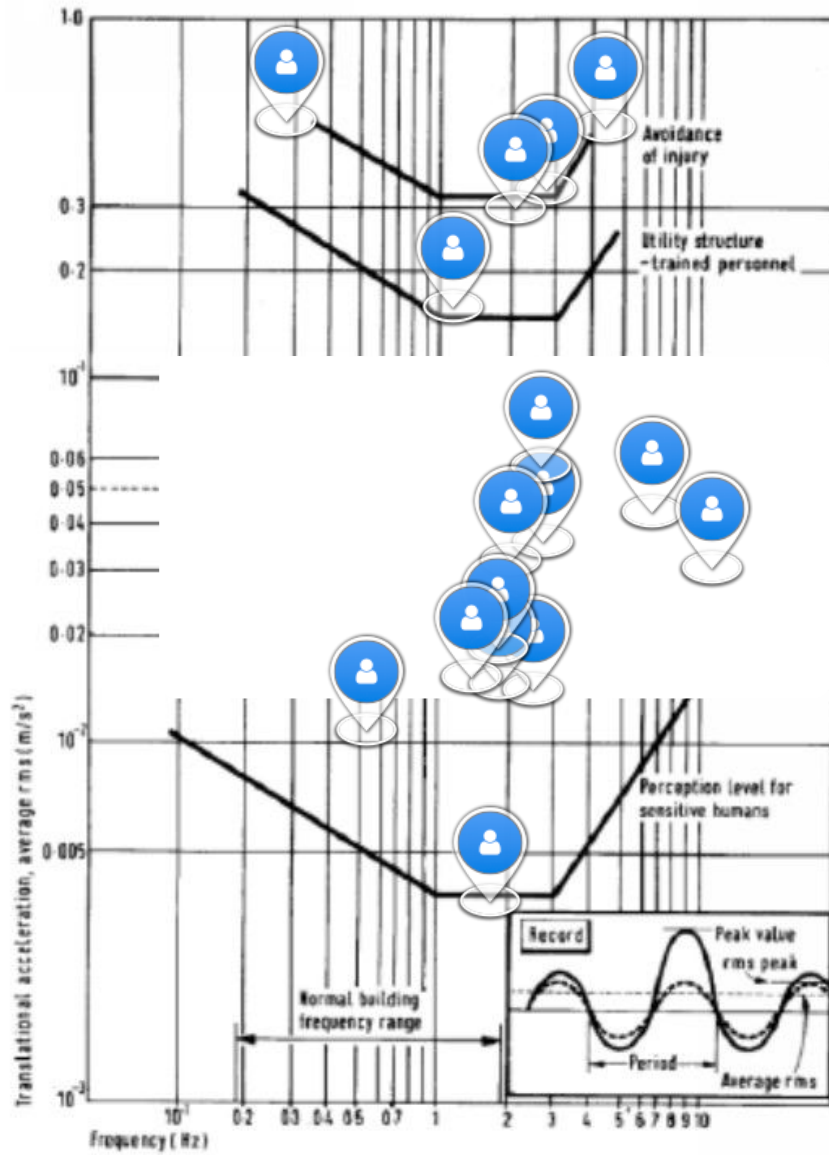
4. **In high-rise buildings, excessive vibrations are usually caused by**

7 correct answers
out of 17 respondents

| | | | |
|---|------------------------|-----|----------|
| | People in the building | 0% | 0 votes |
| ✓ | Wind | 88% | 15 votes |
| ✓ | Earthquakes | 53% | 9 votes |

5. What is excessive? Which vibration limits would you consider for designing a high rise building?

16 respondents



6. Cite a few examples of machine induced vibrations

21 respondents

Engine

Washing machine Car

chassis vibrations from engines

Engine

Piston engines

Laundry machine, trimmer, car engine,

Gas turbin

Engine Drill press Washing machine

Electric motors

Fridge

Vibrator

Washing machine

Laundry machine

Washing machine

Cars

Wood shredder

Piston engines

Washing machine

Planes

Washing machine

Motors

7. Cite a few examples of precision equipment which should be protected from vibrations

18 respondents

Passenger in car

Turbomachine

Turbomachine

Engine insulation,

Electric wires

Microscope

Cars

Insulation

Chip assembly

Tattooing

Dentist drill

Measurements

Microscope

Tv

Telescope

Computers

Houses

Microscope

8. YouTube (Vibration Testing of NASA's James Webb Space Telescope)

0 respondent

Vibration Testing of NASA's James Webb Space Telescope



9. Help! My steering wheel is shaking, what could it be?!

0 correct answer
out of 17 respondents



Correct answer

Unbalanced wheel

10. The most common problem with lighting poles and chimneys is

9 correct answers
out of 15 respondents

| | | | |
|---|---------------------------|-----|---------|
| | turbulent wind excitation | 33% | 5 votes |
| ✓ | vortex induced vibrations | 60% | 9 votes |
| | galloping instabilities | 7% | 1 vote |

11. A common problem encountered with power lines is

12 correct answers
out of 14 respondents

| | | | |
|---|---------------------------|-----|----------|
| | vortex induced vibrations | 7% | 1 vote |
| ✓ | galloping | 86% | 12 votes |
| | divergence | 7% | 1 vote |

12. What is the most dangerous problem related to vibrations for aircrafts ?

6 correct answers
out of 13 respondents

Flutter

Unbalanced blades

High vibrations at the jet engine

Engine faillure

Flutter

Breaking

Flutter

Engine failure

Flating

flap flutter

Flutter

Flutter

Flutter

Correct answer

flutter

13. YouTube (Airbus A380 Flutter Test)

0 respondent

Airbus A380 Flutter Test



14. What is the main difference between VIV and instabilities like galloping and flutter ?

11 respondents

Forced damping

Coupling

Amplitude

Damping

Damping

Negative poles

The driving force

Dynamic instability

Direction

axis

Same