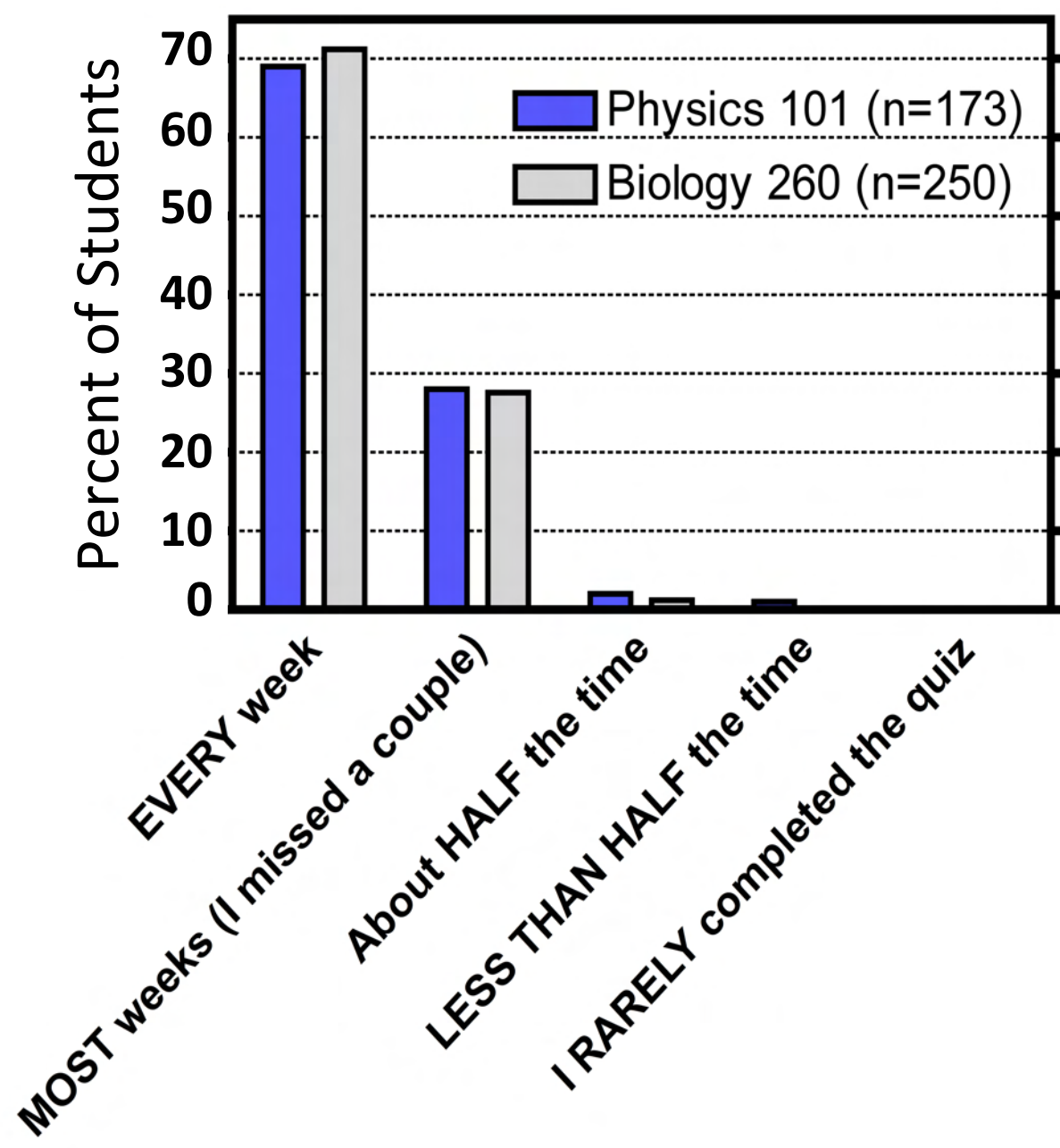


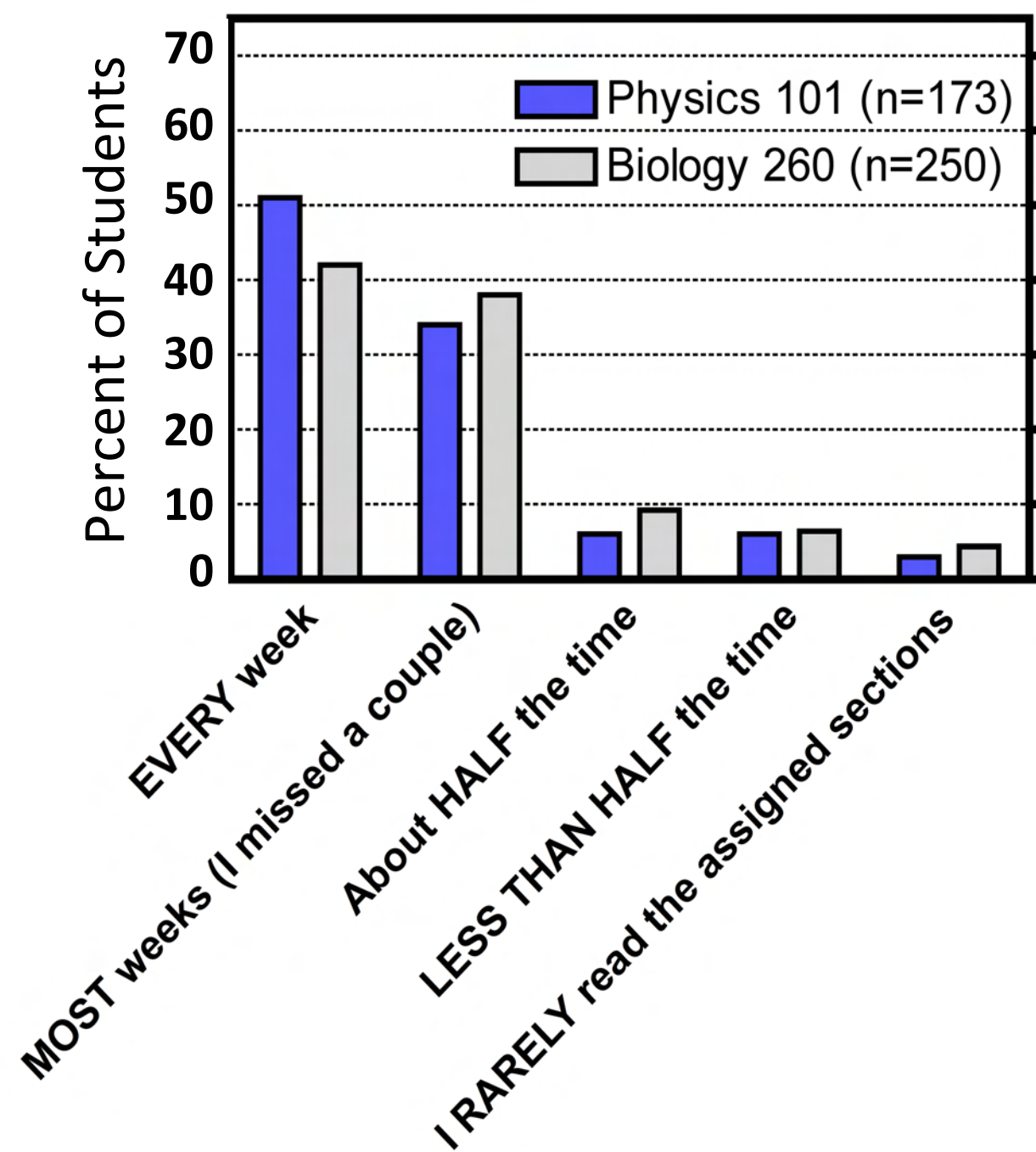
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The main purpose of a pre-reading assignment is to prepare students for learning in your next class. To encourage regular reading, we implemented a weekly pre-class assignments with two key components: (1) a very specific guided reading and (2) a follow-up online quiz with questions that explicitly refer to the textbook, that is, questions that force students to open the textbook. Here we report on students' perceptions of the textbook and its usefulness in their learning in either an introductory physics class or a second-year biology class.

I completed the pre-reading QUIZ on Vista:

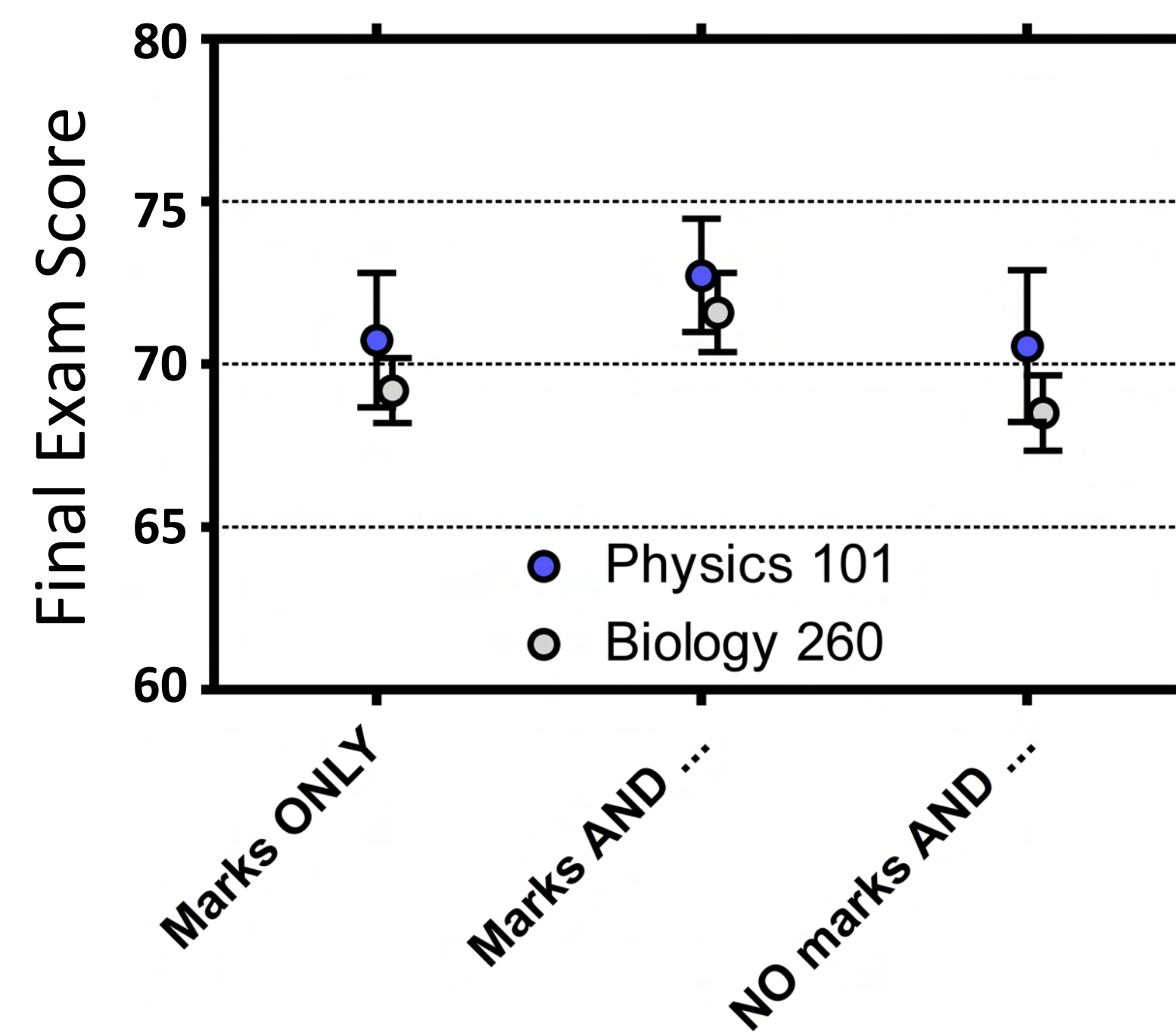


I READ the assigned pre-reading sections:



More than 95% of the students report taking the QUIZ on a regular basis.
More than 80% of the students report READING the textbook on a regular basis.

Student Motivation for Pre-reading:



Student motivation is independent of final exam score in both courses within the standard error.

Benefits

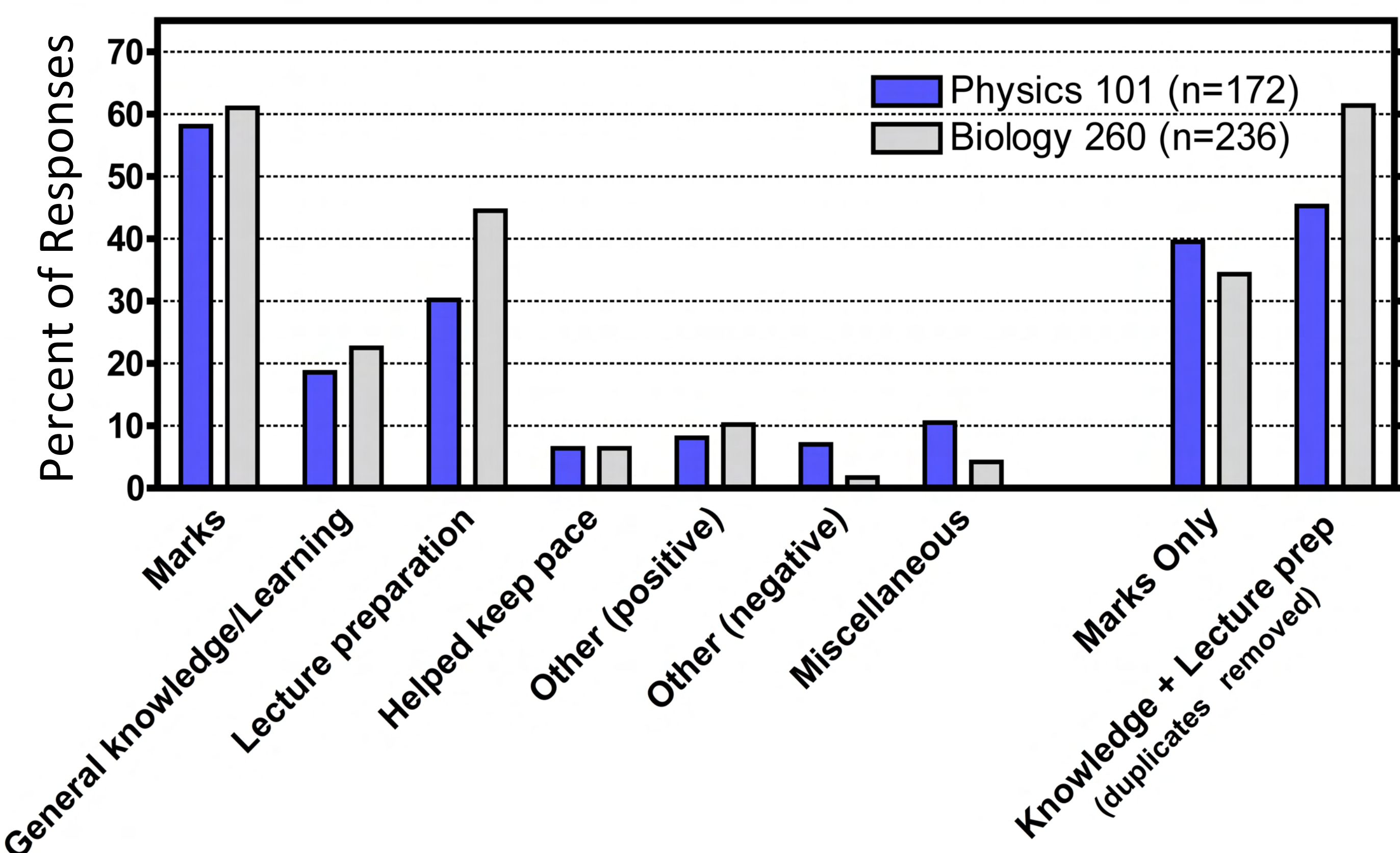
student

- first exposure at their own pace
- explicitly guided reading helps students focus
- come prepared for lecture – critical for peer instruction
- are able to follow lectures better
- assess their own knowledge

instructor

- better use of class time
- reveal possible trouble-spots
- higher level questions in class

Open-ended question: When you did the pre-reading assignments, what MOTIVATED you to do so?



Although marks were mentioned, more than half of the students in both courses explicitly said they found the pre-readings 'helpful for understanding the material', and/or appreciated 'knowing what to expect in lectures'.

STUDENT COMMENTS

"I think it is very valuable ... if there are questions on the quiz that look unfamiliar or I'm not completely comfortable with it motivates me to go back to the text."

"I know that if I complete the pre-reading I will better understand what is going on in the lecture as well as I can figure out where I need to pay the most attention and potentially ask questions."

"I think this forced me to think and was very beneficial to start off the week as I would come into class knowing what to expect and what was expected of me."

"To be honest, I did so because it was for marks. After a while, I didn't mind reading it; and the questions on the pre-reading quizzes help me understand some of the concepts."

"Doing the pre-reading assignments helped me stay on top of my homework and on track of physics because it became a part of my routine."

"The pre-readings were more useful than I thought. It was evident during the week where there was no pre-reading and I wasn't sure what the lecture was going to cover. I had much more difficulty understanding the concepts that week."

PRE-READING EXAMPLE

Students receive a weekly, targeted pre-reading assignment to complete before the next (week of) lectures. The reading is encouraged by a pre-reading quiz, which is worth marks, available online through a course management system.

- Clear tie to textbook & connection to lecture
- Expectations: students should read text, but it's OK if they are confused
- This is a *reading* quiz, not a pop quiz -- the idea is to prepare students and not to surprise them.

Targeted reading assignment:

refer to specific figures, equations, and examples; give questions to focus reading

21.4 Standing Sound Waves and Musical Acoustics. Compare Fig. 21.16 to 21.11: Only certain wavelengths fit on a string or inside a tube. Make sure you understand what the boundaries (open or closed tube) impose on the wavelengths and where equations 21.17 and 21.18 come from. Look carefully at example 21.5 and 21.6. Compare the equation for a traveling wave to that of a standing wave. Why is the amplitude $2a$? Is a standing wave moving?

Reading quiz questions:

DEFINITION

For standing waves, we will assume that ...

1. The two waves have the same amplitude
2. The two waves have the same frequency
3. The two waves have the same wavelength
4. all of the above

REFERENCE FIGURE

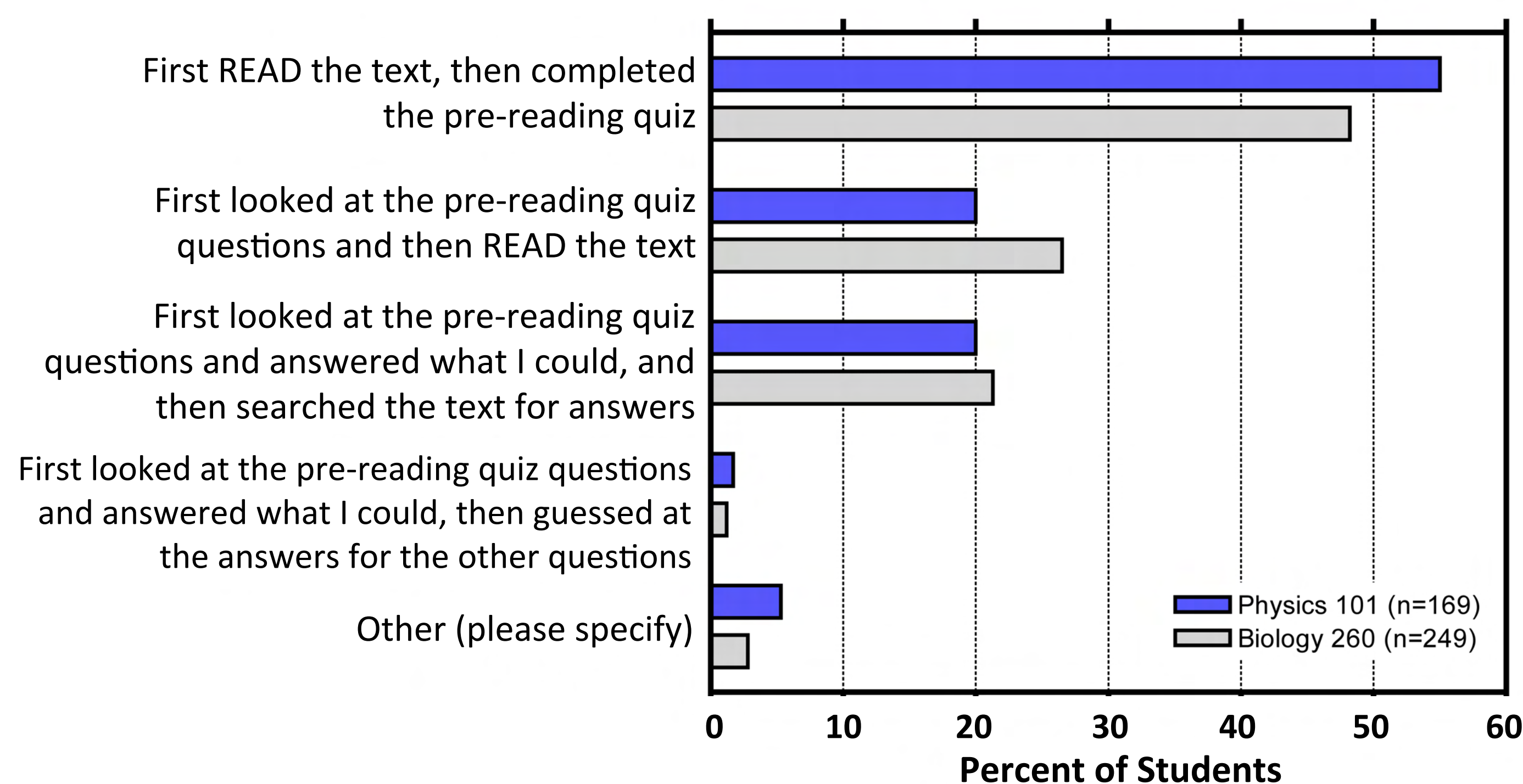
In Figure 21.4, what does the blue line represent?

1. a wave traveling to the right.
2. a wave traveling to the left.
3. a standing wave formed by the superposition of two traveling waves.
4. a standing wave on a string oscillating at its fundamental frequency

REFERENCE EQUATION

What happens to the pitch of a guitar string when you press the string down? (Assume tension remains constant.)
Helpful equations: 21.13 & 21.14.
1. The pitch goes down.
2. There is no change in pitch.
3. The pitch goes up.
4. Cannot answer this question without knowing the tension.

When I did the pre-reading assignment, I usually:



TIPS FOR BEST PRACTICE

1. **Focus** on what you plan to discuss in class.
2. **Guided reading** with explicit prompts, e.g., figure numbers or questions.
3. Be realistic: **omit** what is not necessary.
4. Give a reading **quiz for marks** (if possible).
5. The questions should be easy to answer if one read the text.
6. **Refer to** and expand on things from the pre-reading in class – but **do not re-teach**.
7. Be **explicit**: why is this **beneficial** to them and what are the **expectations**.

CONCLUSIONS

- ✓ Most students are reading the textbook
- ✓ Students are motivated to do the pre-readings as it helps them follow the lecture and learn the material
- ✓ Students motivation is independent of class standing