

Physics for Pre-health – *Fostering Student Motivation*

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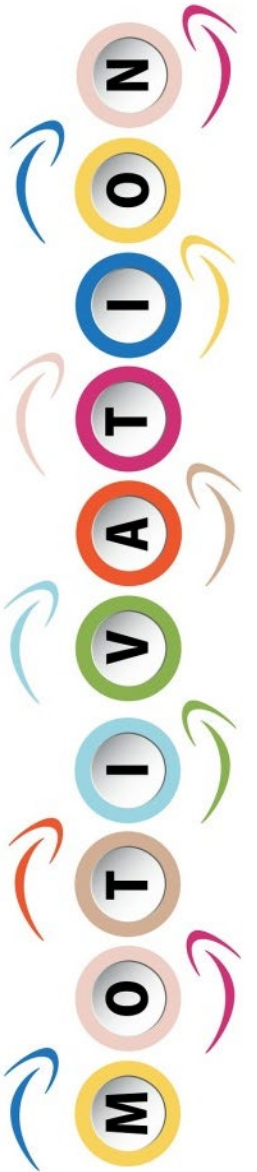
Why Motivate?

Desire to learn and achieve

Valuable educational goal



Commitment to life-long learning



How to Motivate?

Clear goals and expectations



Constructive criticism
and feedback

Know your
students

Be enthusiastic

ENGAGING STUDENTS FOR SUCCESS



Give
them
control

Interactive/
collaborative
activities

Sense of belonging

Define
characteristics
that impact
motivation

Four Factors
of Learning
Motivation -
Inclusion, attitude,
meaning, and
competence

Learning
Options and
Environments -
Formal, informal, and
social learning;
action learning,
performance
support

Engaging the
Adult Learner -
Making the
connection, methods
that support in all
environments

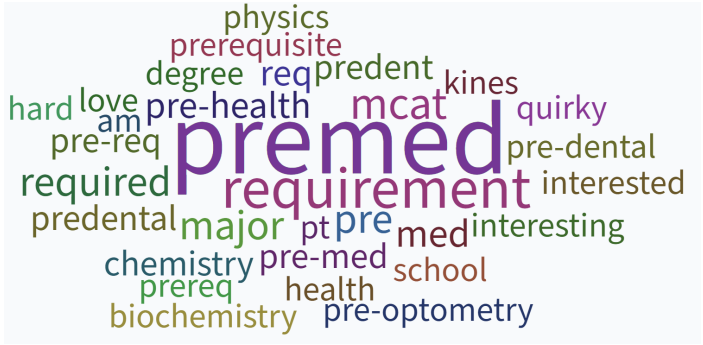
My courses – Fall 2023



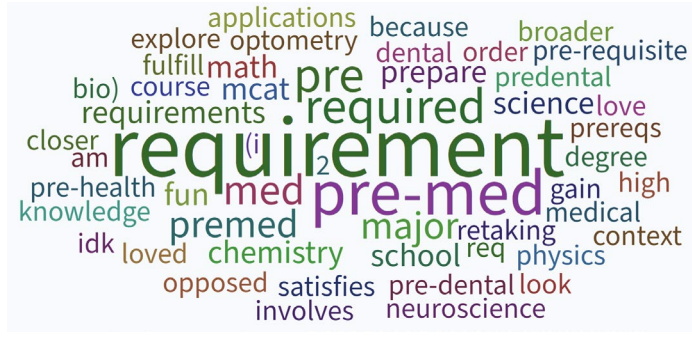
- Active learning format
- 3 sections of 99 students each
- 11 tables of 9 students each
- Work in groups of three

4 Teaching Assistants (1 GTA and 3 UTAs)

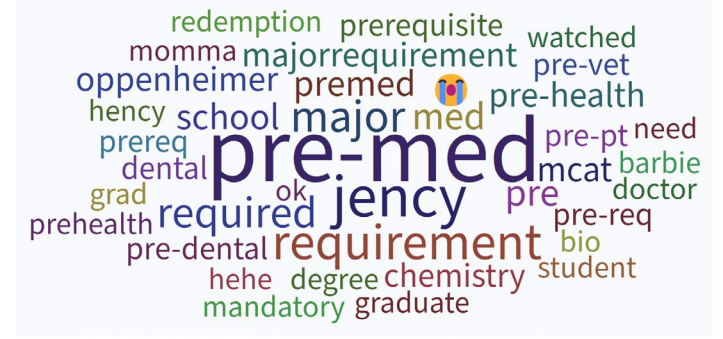
Section 1



Section 2



Section 3



What is your motivation to take this class?

(1st day of class)

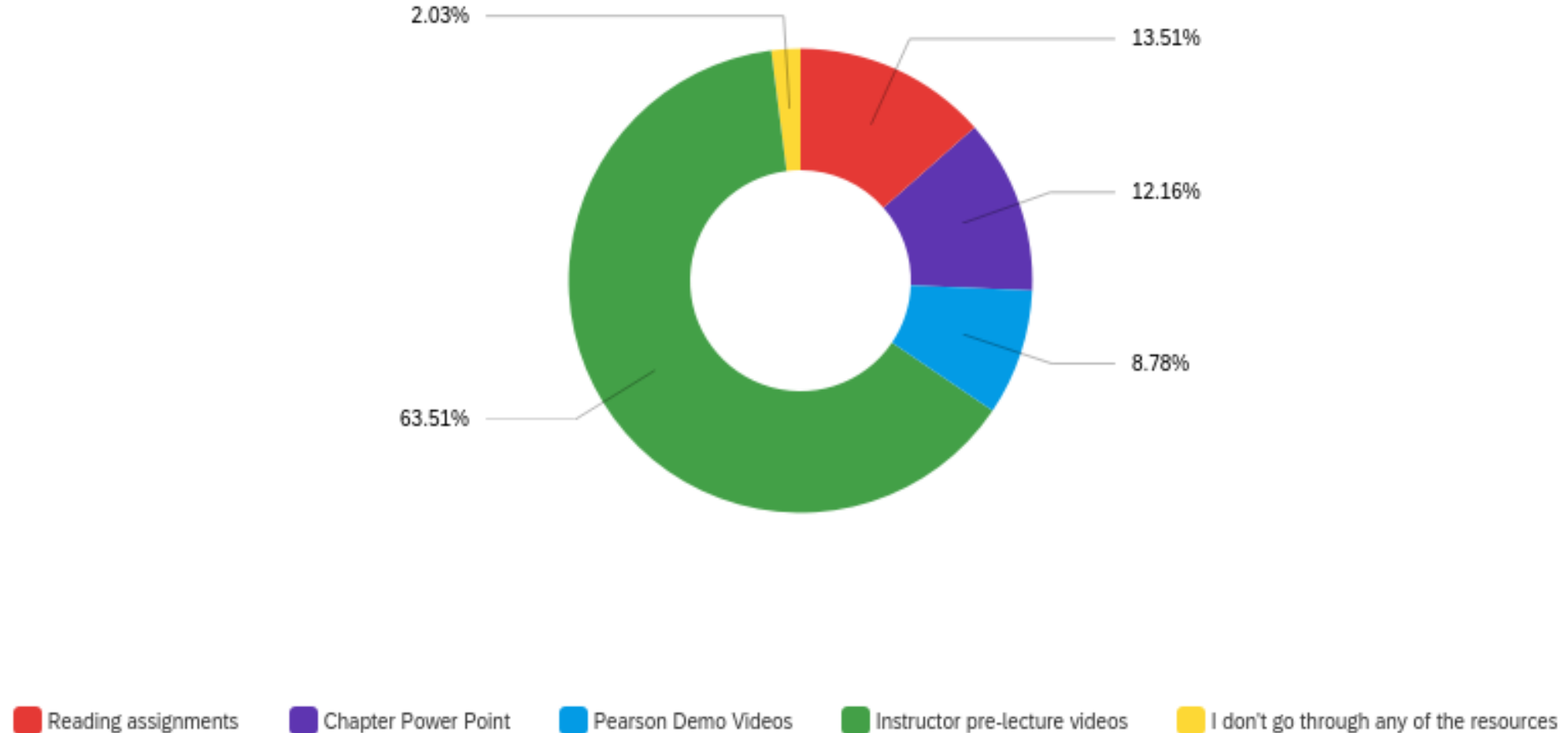
Class Format

Pre-lecture:

1. Reading Assignments
2. Chapter Power Point
3. Textbook Demo videos
4. Instructor Pre-lecture video

You are required to [read each week's course content](#) before coming to lecture.
Which of the following resources do you go through?

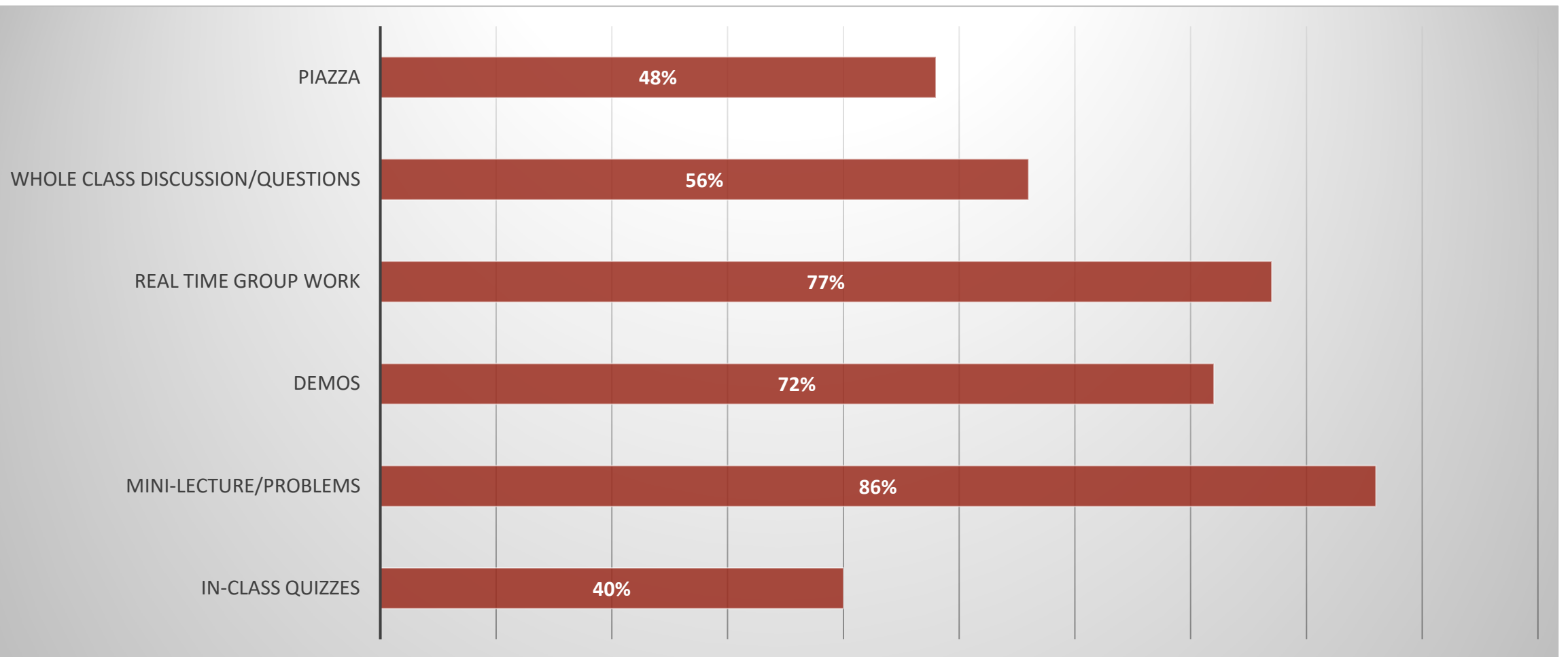
Mid-semester survey: ~150 students



Class Format

In-class activities:

1. Poll everywhere quizzes
2. Demos – student participation
3. Questions and discussion
4. Mini-lecture/Problem solving
5. Group work



Which activity/resource do you think is most beneficial in learning/understanding the material?

Class Format

Post lecture:

1. Weekly report
2. Weekly homework (8 multi-section problems)
3. Weekly Quiz (multiple choice)

Comments on Assignments

I like all the assignments except the End Of Lecture quizzes because the 50-minute class time does not provide enough time to answer the questions needed for the EOLs.

While the workload in this course is intensive, it keeps students studying and ensures proper understanding of each concept.

I think all the assignments are beneficial to my understanding of the content.

Sometimes it's just a lot of work to do and can be time consuming even though it is helpful. The equations part of the weekly summary report is the one I find the least beneficial when comparing the time it takes.

One factor that helps you stay motivated in this course.

Desire to survive
Course Structure/materials
Pre-med
Working in Groups
Pre-lecture videos
Spreadsheet
MCAT
Class Environment
Help from TAs/Instructor
Good Grade
Homework assignments

Comments – What keeps you motivated?

I really like the group work structure of the class because we get to **learn from each other** and put our brains to work understanding and solving the problems.

Definitely the **homework assignments** keep me constantly learning.

I like that the **course structure** keeps things moving and I really like the support I get from working with my peers and from the TAs as well. The **class environment** is positive which makes me feel better about things

Structured learning objectives and material that is due routinely through week

Enthusiasm of the professor and **help** from TAs

I **love the worksheets** and structure of the course. It helps me **structure my learning** in a way that allows me to easily review concepts and put them into practice.

Working in groups helps me stay motivated and when I get confused it is always nice to be able to ask one of my group members for help.

While the workload is a lot, it definitely is helpful to spend some part of **every day working on physics** because when it is time to take the exam I have consistently worked with the material which makes me feel more motivated and confident.

My group, actually! We all really want to do well in this class and it gives me the encouragement to also work just as hard.

Summary – Fostering student motivation

Creating a **classroom environment**, a safe space for the students to participate without hesitation and judgement, as they share knowledge in a democratic setting where each one of them senses a responsibility to contribute to learning.

Student collaboration is the key factor in my classroom, as they become active participants and engage in extensive discussions, leading to a better understanding of the subject matter and a dynamic learning experience.

Course structure and materials that emphasizes on the importance of learning a concept by providing examples of direct applications in their respective field.

Energy and passion of the Instructor/TAs motivates the students to get excited to learn and helps them to stay curious.

As a teacher, it is important for me to teach in a way that **respects and cares for the souls of my students.**

