GF01: How Do We Motivate Students to Study the Text?

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Digital Text: *Physics for Scientists and Engineers*

- Project: Digital text (E-text) for calculus-based physics.
  - Interactive
  - Annotable
  - Searchable
  - Accessed online
- In collaboration with John Wiley & Sons.

WILEY

- Physics editors: Stuart Johnson, Jessica Fiorillo.
Our Tried and True Friend: The Print Physics Text

- Organizer of content and storehouse of problems.
- Students often do not study text as instructor intends.
- Student passively receives information.

References

Technology and Physics Pedagogy

- Multimedia Learning Modules for pre-lecture content. (Smart Physics)
- Guided discovery with simulations. (Physlets and PhETs)
- Adaptive learning software.

References

Digital Textbook Project: Enhanced Engagement

- Two Key Aspects: **Visualization** and **Meaningful Interaction**.

- **Visualization**: Mathematica modules that demonstrate/model physical principles; videos of real-world phenomena; multimedia presentations of content.

- **Meaningful Interaction**: Frequent questions requiring input from students; immediate outcome feedback. (Formative Assessment)

- **Redistribution** of study time.

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