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## Fundamental Pedagogical View

I do believe in student centered-teaching, but even more in teacher-controlled presentations for understanding. Frequent formative assessment might be helpful to promote learning autonomy and deeper understanding.

Powerpoint lectures, which per se are teacher-controlled, must not be overloaded with distracting details not allowing to explore the fundamentals in depth and to make stronger links. Galloping through such presentations is at the expense of deep learning. I prefer writing on the chalkboard to decelerate and to focus on fundamentals and on students. Real experiments in physics classes conducted in front of students are also much preferred over computer simulations, YouTube-movies or static Powerpoint slides.

But technology in teaching has also great potential to enhance learning. Electronic communication tools, such as blogs, wikis, and moodle or Blackboard, allow the students to be actively engaged with the course material outside class. Electronic communication derives its advantages over traditional communication because it is independent of time and place.

### Learning by doing

Learning involves constructing knowledge from experience. Learning literally means to grasp something, especially within the natural sciences and even within engineering. Thus, practical assignments in the laboratory, as well as demonstration experiments and also exercise solving assignments should play an essential role in my teaching.

### Learning by teaching

Students should teach each other students on a well-defined topics in order to accept responsibility for learning, to obtain an even deeper understanding of the topic, and to develop skills of communicating information. The teacher's task is to give effective formative assessment to guide learning, helping students to assess their own learning and to develop metacognitive thinking.

## Teaching Experience

2019	Vacuum and Interface Technology, Electrodynamical Systems, Analytical Mechanics
2018	Waves, Vacuum and Interface Technology, Electrodynamical Systems
2017	Waves, Surface Technology, Electrodynamical Systems
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2014	Waves, Surface Technology, Electrodynamical Systems
2013	Waves, Surface Technology, Electrodynamical Systems
2012	Optical Systems, Surface Technology, Waves, Electromagnetic Systems
2011	Optical Systems, Surface Technology, Waves, Electromagnetic Systems
2010	Optical Systems, Surface Technology, Waves, Electromagnetic Systems
2009	Surface Technology, Electromagnetic Systems
2008	Physics 2, Dynamic Problem Solving, Electrotechnics
2007	Electromagnetism, analog signal processing, and nanotechnology

## Pedagogical Training

Habilitation in Experimental Physics, Humboldt University Berlin 2009.