

Resources for HPDE Classroom Instructors

compiled by Chuck Tucker

for the Instructor Summit

February 22, 2020

chuck@instructorsummit.com

Resources About Teaching

The best (and possibly only!) written advice specifically for HPDE *classroom* instructors appears on pages 9-11 of Ross Bentley's ***HPDE Instructor Manifesto***. The book is available free at <http://hpde-instructor-tips.com/>, and every HPDE instructor, both classroom and in-car, should read it.

For more advice about classroom teaching we have to look in other places. Many colleges and universities have websites with lots of great advice about teaching, often presented in small, easily-digested chunks. Here are a few of the better ones:

Vanderbilt University's Center for Teaching has a nice set of teaching guides at <https://cft.vanderbilt.edu/teaching-guides/>. Start by reading the guides on *How People Learn*, *An Introduction to Lecturing*, and *First Day of Class*. Next, look at *Understanding by Design*, *Active Learning*, and *Making Better PowerPoint Presentations*. After that, browse anything that looks applicable and interesting—and skip over the items that don't apply to HPDE.

The **Carl Wieman Science Education Initiative (CWSEI)** provide practical advice based on what careful experiments tell us about effective teaching. The main page for instructors is http://www.cwsei.ubc.ca/resources/instructor_guidance.htm. Start with *What All Instructors Should Know*, http://www.cwsei.ubc.ca/resources/files/what_all_instructors_should_know.pdf, a handy one-page guide. For a deeper dive, explore the *Course Transformation Guide*, http://www.cwsei.ubc.ca/resources/files/CourseTransformationGuide_CWSEI_CU-SEI.pdf, which includes many of the other resources on the main page. Again, some portions (e.g., clickers) are not applicable to HPDE, but there is a wealth of practical advice here.

If you've ever wondered how to have more presence, charisma, or whatever that "thing" is that makes some teachers so compelling, watch Nancy Houfek's video, ***The Act of Teaching Part I: Theater Techniques for Classrooms and Presentations*** <https://vimeo.com/107609898>. You'll see Nancy working with a group of young Harvard professors, and you'll get some great ideas on how to improve your stage presence, connect more directly with your class, deal with stage fright, and be much more effective in your teaching.

For advice on **using questions** in your teaching, see the page from the University of Illinois Center for Innovation in Teaching and Learning (my own school) <https://citl.illinois.edu/citl-101/teaching-learning/resources/teaching-strategies/questioning-strategies> and also the page from Washington University's Teaching Center, <https://teachingcenter.wustl.edu/resources/teaching-methods/participation/asking-questions-to-improve-learning/>.

Resources About Driving

You have to know a subject very well before you can teach it, and in high-performance driving many things that “everybody knows” are not quite correct, and some of them are simply wrong. To check your own driving knowledge, and to see how some of the best people explain driving concepts, try some of these books and videos. These are also great for your interested students.

Going Faster! Mastering the Art of Race Driving by Carl Lopez was written as the textbook for the Skip Barber Racing School, and it is one of my favorites. It lays out techniques of high-performance driving with clear explanations, and the systematic presentation is worth your attention.

Ross Bentley's ***Ultimate Speed Secrets: The Complete Guide to High-Performance and Race Driving*** is the other must-read. This book covers all aspects of driving, and nobody is better than Ross at explaining how to improve the inner, mental aspects of driving. Ross's other *Speed Secrets* books are also excellent.

If you will be teaching students who want to progress toward racing, consider ***Driving On The Edge: The Art and Science of Race Driving***. Michael Krumm provides a professional race driver's view of driving and racing, and he is remarkably open about what it takes to succeed in racing.

Dion von Moltke and his colleagues at **Racers360** provide video and data coaching for a fee, but also have a wealth of free instructional videos at <https://racers360.com/racecar-driver-education/>. These are not for beginners, but they do unpack many of the finer details of going fast on the track. Additional videos and webinars are available with a subscription.

Scott Mansell of **Driver61** also provides fee-based coaching and has a lot of free videos on advanced driving technique. His official website is <https://driver61.com/>, or you can go directly to his YouTube channel, <https://www.youtube.com/channel/UCtbLA0YM6EpwUQhFUyPQU9Q>. Again, these videos are for advanced (or very advanced) drivers.

Finally, **Ross Bentley's Speed Secrets** website <https://speedsecrets.com/> has plenty of great free content (explore the menus), and will also dial you in to Ross's webinars and online courses. As always, everything here is top quality. Enjoy!