Powen Yao
University of Southern California

Teaching Statement

Powen Yao’s Teaching Statement

Technologies, tools, and our understanding of the world are constantly changing and evolving. Despite our best efforts, the material we use and the knowledge we teach may stagnate or become outdated by the time the students graduate. Thus, I believe the most important thing an educator can teach, and for the students to master, is learning how to learn. This can be best achieved through participatory hands-on experience.

Teaching Experience

My Ph.D. career at USC had me serve as a teaching assistant for a wide variety of project-based game classes. I assisted in everything from introductory courses aimed at general computer science students, such as Mobile Games, to the capstone classes for computer science games majors, such as Advanced Game Projects, to specialized courses, such as Networked Games, Networked Artificial Intelligence, and AR/VR/MR classes.

Over time, my role as a TA has also shifted from an assistant to more of a co-instructor. Aside from having experience in the typical TA responsibilities of grading students and answering questions, I also have ample experience in the instructor's responsibilities, including designing syllabi, delivering lectures, inviting guest speakers, and creating additional reference materials for students who struggle with some concepts.

I also have experience related to the administrative duties an instructor may have. Some examples include advising game dev clubs, coordinating small events such as game jams, being part of the coordinating team while representing Computer Science Games for large events such as USC Games Demo Day, purchasing software and hardware for labs, etc.

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Teaching Philosophy

To Truly Learn, One Must Do.

The ancient Chinese philosopher Yangming stressed “知行合一”[1] or the unity of inner knowledge and action. This is the stance I strive to adopt and, coincidentally, it is very similar to the philosophy at the University of Southern California (USC), where I spent most of my academic career. At USC, the school emphasizes and practices iterative-design and iterative game development [2]. I believe the best way to build games is through an iterative approach and through project-based classes. The same for other knowledge and skills one wish to master.

Mastering Resources, Not Requirements

We should allow resources and tools that we use in professional settings in the classroom whenever possible. Where appropriate, we should introduce, provide, and welcome the use of resources such as open-source code repositories, tools such as ChatGPT, and even professionally designed lectures from other academic or enterprise institutions. As mentioned in my Ph.D. thesis advisor Michael Zyda’s talk “Do We Need Universities Anymore?”[3], we should embrace existing resources and avoid reinventing the wheel. This is corroborated by my experience learning and being a teaching assistant at USC. I believe that we should design our curriculum with these resources and the use of tools in mind. In doing so, our role shifts from a lecturer to a mentor.

Tailoring to Students' Needs

To run a successful project-based class, the lenses for design from Jesse Schell’s The Art of Game Design: A Book of Lenses[4] have helped greatly. Schell’s work has inspired me in both my research in Extended Reality and my work as an educator. As games are incredibly diverse, rarely will there be one solution that fits all. An action-packed fighting game involves very different lessons from a laid-back methodological city builder. We as educators can gather and curate these various lenses for design and present them to the student based on their needs.

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To be a better teaching assistant and to live up to this philosophy, I strived to master the material in each class that I took and taught. During my time at USC, I also took the opportunity to take or audit other game-related courses, such as Business and Management of Games, Interactive Media Startup, Social Games, and so on. Over time, I have accumulated a wealth of experience that allows me to teach many introductory classes in games. Further, I believe my broad knowledge will be particularly helpful in introductory courses where students are exploring their passions. I can help them identify their needs, offer open-ended assignments with customizable tasks based on interests, recommend suitable classes, and advise on what to look into.

Summary

My long student career in academia as a teaching assistant has helped me see from both the educator's and the educated's perspectives. I am well-equipped to teach introductory classes in game design and development. My greatest strength is teaching project-based courses in game design, engineering, user interfaces, user experience, and extended reality.

Courses

Extended Reality
- Introduction to XR
- Spatial User Interface

Game Design
- Introduction to Game Design
- Tabletop Game Design
- Experimental Games

Game Engineering
- Mobile Games
- Networked Games
- Game Artificial Intelligence

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CITATION

[1] Frisina, Warren G. The unity of knowledge and action: Toward a nonrepresentational theory of knowledge. State University of New York Press, 2012.

[2] Fullerton, Tracy, Chris Swain, and Steven Hoffman. Game design workshop: Designing, prototyping, & playtesting games. CRC Press, 2004.

[3] Zyda, Michel. "Do We Need Universities Anymore?" YouTube, uploaded by mikezyda, 27, Feb, 2023, www.youtube.com/watch?v=pdF3oEY6ZlM.

[4] Schell, Jesse. Tenth anniversary: The art of game design: A book of lenses. AK Peters/CRC Press, 2019.