

## Statement of Teaching

Thinking about teaching transports me to my early days as a student, the years when I was an instructor, and recent times when I became a student again. I have observed and experienced different teaching methodologies from both sides of the classroom, allowing me to think about each side's expectations. As a student, I longed for professors to expose the topics with clarity and purpose. As an instructor, I require my students to achieve the learning objectives by being active learners and improving their critical thinking. After those years of learning and teaching, combined with other opportunities where I have shared content with audiences, I have identified the principle that motivated me to study the most and kept my audience's attention. That guiding principle is **always to provide a context** for learning the material at hand.

### A Context for Instructional Objectives

My initial goal in every lesson is for the students to understand the relevance to learn the upcoming content. I see this process as drawing sketch lines before starting a painting; they provide a sense of shape, boundaries, and depth. For this purpose, a real example speaks volumes about the relevance of the topics. Elements such as historical anecdotes, video clips, or images would be good examples that invite discussion and draw the learner to the material.

With such elements in mind, the students have reference frames that make the lesson relevant to learn. This approach was useful when I started studying computer graphics, particularly for the concepts that require significant mathematical notions. I decided to follow the same strategies when I taught computer graphics formally. For example, I showed gameplay video clips from video games to discuss the relevance of geometric transformations and parametric curves to represent orientation and motion. A short video was enough to motivate students and set the lesson's expectations.

### A Context for Instructional Topics

Each student has a visual paradigm that illustrates the development of the topics. The quality of that paradigm transforms into motivation or frustration for the learner. My goal is that such visual models are as straightforward as possible by presenting the content in formal and practical contexts. The mathematical language allows us to manipulate concepts in the abstract realm following a

systematic approach. A practical example transforms abstractions into concrete situations that show how ideas work altogether.

Teaching computer science benefits from both methods since we can directly implement the math using a programming language and run the application. This approach's goals are two-fold: to show that the math works and put it directly into practice. I observed that, for a significant number of students, this parallel between formal notions and programming is the key to master fundamental concepts such as algorithms and data structures.

### **A Context for Instructional Assignments**

As a student, I valued the assignments that provided me with practical experience. In those situations, I understood the relevance of the evaluated content and its purpose for solving real problems. As an instructor, I desire real-world experiences for my students as well. These opportunities solidify learning and polish the details of each student's mental image of the developing objectives. I find inspiration for such assignments from the products and services the students consume daily, which helps me design appealing, relevant, and engaging learning activities.

Using these methods revealed exciting results while teaching mobile app development, which happened during the mobile app boom in Colombia. As professors, we frequently try different strategies to manage student's use of cellphones during class. I decided to use it to my advantage by giving them a project about a messaging app, which included a feature to indicate if a sent message was read (this was before Facebook bought WhatsApp, so such a functionality didn't exist at that time). The students found the feature both exciting and necessary. I gave them the freedom to implement this feature as they deemed appropriate; the results were impressive and even comical on occasions. Notably, two groups implemented a color code system similar to what WhatsApp uses up to this day.

Providing contexts to the learning objectives, topics, and assignments is an ever-developing process. This kind of approach varies for each student and classroom, which means there are always elements to adjust and improve. Such improvements are imperative as we enter an age of technology-assisted teaching and online classrooms. I still follow this context-based strategy when I am learning and teaching. Making content relevant to everyday application increases the student's knowledge and maximizes the learning opportunities. As a professor, I will provide context, show relevance, and equip students with the tools needed for interpersonal growth and continued success.