

## David Ayman Shamma: Teaching Statement

I have had significant educational experience throughout my academic and professional career. As an educator, I focus on teaching theoretical foundations, practical application, and communication. Communication bridges theory and practice as well as builds a strong student base of collaborators and researchers. It becomes more so critical in interdisciplinary work, where people of different walks need to work together.

**Adjunct Professor, PJC, Graphic Design and Computer Graphics:** My role as an educator started when I took a part time summer job as an undergraduate in an art department at Pensacola Junior College (PJC). My job was to fix their lab of Macintosh computers to run some Adobe products. While I was doing this, the faculty began asking questions about the newer versions of Photoshop I had installed. I began researching how the versions changed and informed the faculty on a question-by-question basis. Recognizing this effort, the art chairperson arranged for me to give faculty seminars.

As I finished my undergraduate studies in computer science, I began to see the connection between the darkroom techniques and their software counterparts that Photoshop sought to duplicate. It became apparent that there was a connection between the artist and their work with software as an artistic medium; this connection extends beyond the reapplication of traditional techniques. Even though software may be called a 'virtual' medium, the connection is just as real as a potter's concern with the chemical makeup of his/her glaze or a photograph developer's concern with developer and stop solutions; I began to show the faculty the connections I was discovering.

Before completion of my undergraduate studies, I was appointed at PJC as an adjunct professor, where I began teaching computer graphics applications as a connection between art and technology to first and second year undergraduates. I emphasized teaching communication, enabling art students to converse with software professionals and press operators, as often the case is these three groups of professionals share the same goal but lack the inter-disciplinary communication skills.

I continued my adjunct position as I started my Masters at The University of West Florida (UWF) in Artificial Intelligence. My position at PJC grew into teaching the Computer Graphics series, revising the department syllabus and curriculum for Associate of Arts degrees in Graphic Design and Computer Graphics, and developing and assisting in the writing of a new a Multimedia Associate of Science curriculum, which included developing new classes in Multimedia Design. During the summer months, I taught computer graphics as part of a 'Kids College' outreach to two groups of children: 7-11 year olds and 12-15 year olds.

**Instructor, UWF, Multimedia:** UWF, which is also located in Pensacola, FL, heard of my transformation of Computer Graphics Applications at PJC and hired me as an instructor in a new Multimedia track, where I wrote the department syllabus for and taught Graphic Design Applications taught in the Computer Science department. Also during my Masters, I was the Teaching Assistant for the Introduction to AI class taught by Ken Ford one year, and Pat Hayes the next. Part of my duties as TA was to build, supervise, and coordinate an annual Lego Robot competition. During the summer months, I taught computer graphics as part of a 'Kids College' outreach to two groups of children: 7-11 year olds and 12-15 year olds.

**Instructional Software Development, NASA:** Upon completion of my Masters, I took a research position at NASA Ames Research Center. I continued my focus on education. I spent part of my appointment on developing a CD-ROM of concept maps for use in high school classes through out North and South America. The CMEX CD-ROM is a collection of concept maps that detail what is known about Mars with an emphasis on communicating the union of technology and science goals.

**Teaching at Northwestern:** Throughout my Ph.D. program at Northwestern University, I was the Teaching Assistant for a class on Semantics and Language Understanding for Larry Birnbaum I was also the Teaching Assistant for Kris Hammond in Practicum in Information Systems class. Currently, as a Post-Doc, I am co-teaching a class on News and News Media at the Medill School of Journalism at Northwestern.

**Teaching Philosophy and Future Plans:** My approach uses learning as a process facilitated by teaching. I believe the connection between theory and practice is communication, which I introduce into the student's environment. In Computer Science, this becomes introducing elements of structure from a studio art class. A series of projects should be provided that expose key topics and issues in the theoretical foundations, while still building and making real software. I introduce the use of group critiques as an additional evaluation. To the art student, the converse is true in that a studio art setting is relatively lacking instruction, and so I introduce traditional lectures into the curriculum. The result is engagement. The student can build and support what they know in the foundation that is their project, be it software or art. Additionally, the open critique provides the student with the process of building out of the isolation of a studio, dorm room, or computer lab and leaves them with a portfolio they can show others and in which they can take pride.

I am also interested in designing new courses and curriculum to introduce and encourage cross discipline thinking and discourse; teaching the connections and communications between related yet unconnected areas such as within computer science, fine arts, interaction design, and new media.