

What's Happening in Instructional Technology:

Surprising Trends and their Consequences

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Abstract

This essay is my statement of purpose for the CSUMB MIST program. I am applying for admission to the program to pursue the following professional and educational goals: To explore new approaches to instructional design in a formal educational setting; to study learning theory and identify ways to apply its principles to technical writing; and to explore ways to use interactive multimedia in training materials. This short essay explains each of these goals.

*Keywords:* admission essay, application for admission; statement of purpose

Statement of Purpose for the CSUMB MIST Program: A demonstration essay for IST 501

### **Introduction**

My first goal is to explore new approaches to instructional systems design (ISD) in a formal educational setting. I want to find out whether ISD really is “too slow and clumsy to meet today’s training challenges” (Gordon & Zemke, 2000, p.44). Further, I want to study whether a linear ISD process might be appropriate for “lower level” tasks (Mappin, 1998) such as the procedure required to evacuate an aircraft during an emergency. To explain this goal, I’ll describe what inspires me, what I’m doing now, and what I hope to achieve by getting a degree from CSUMB.

### **Goal 1**

For as long as I can remember, I’ve been inspired by writing, drawing, painting, and photography. As a kid, I was always writing and illustrating stories, and as an undergraduate at Principia College, I double-majored in English and Studio Art. In my senior year at Principia, I edited the school’s annual literary-arts magazine *Praxis*, and I was named editor-in-chief of the weekly school newspaper *The Pilot*. This experience combined my love of writing and visual art, and exposed me to the world of writing for publication. Table 1 shows the proper method of using and citing a table (Wetzels, p.283).

**Table 1.** Means and standard deviations of time-on-task, mental effort, performance, and mental efficiency

	Low prior knowledge				High prior knowledge			
	No notes		Notes		No notes		Notes	
	M	SD	M	SD	M	SD	M	SD
Time-on-task learning phase (s)	111	44	111	23	123	39	150	38
Time-on-task transfer phase (s)	81	24	89	17	97	33	111	27
Mental effort learning phase	5.79	1.16	6.28	1.29	5.02	1.49	4.42	1.11
Mental effort transfer phase	5.61	1.49	6.59	1.26	5.42	1.30	4.65	1.28
Performance learning phase	3.95	1.99	4.14	2.16	6.04	1.86	7.32	1.65
Performance transfer phase	3.49	1.43	3.85	1.50	5.61	1.78	6.60	1.60
Mental efficiency transfer phase	-0.29	0.90	-0.62	0.90	0.56	1.10	1.27	0.85

I'm also inspired by learning, both in school and independently, and I've been able to learn new technologies as they emerged. For example, when Apple introduced the Macintosh computer, I was one of desktop-publishing's early adopters. My faculty advisor and I lobbied the Principia College Board of Directors to purchase computers and laser printers for *The Pilot*, and we joined the revolution. I stayed on for a fifth year as an undergraduate at Principia to transition the paper, and the students producing it, from the old paste-up process to the camera-ready desktop publishing system. Later, I would be among the first to learn a new touch-screen interface when I worked for Apple on the team that designed the iWork applications for the iPad.

After I finished my degree at Principia, I expected to attend graduate school within a couple of years. Instead, I began working for Evans & Sutherland, a pioneer in the computer graphics and simulation industry. As an English and Studio Art major, I was excited to find that my writing and visual design skills had value in the computer industry, first in desktop publishing and corporate communications and then in technical writing. The idea of going back to school drifted toward the bottom of my to-do list.

Table 2 illustrates where I obtained my editorial and writing experience.

Table 2		
<i>Editorial and writing experience</i>		
Organization name	Organization description	Years of experience
Principia College <i>Pilot</i>	College	3
Evans & Sutherland	Computer software and hardware	12
Ensim Corporation	Computer software	8
Apple Inc.	Computer software and hardware	1.8
Dell	Computer software and hardware	1.5

Over the years, I've seen many changes in technical writing practices. When I started as a technical writer, we generally wrote books that used linear narration to document products. The books were distributed in print format, and users had to rely on tables of contents and indexes to find information. When information needed to be updated, we either re-printed the books or released "change packets" that contained new pages with the changes marked. The costly process was complicated, error-prone, and labor-intensive.

Now, the focus has shifted to creating online content that can be managed and presented dynamically from a single source, and I've done my part to expedite that shift. At Ensim Corporation, for example, I designed and implemented a content-management system that maintains topic-based chunks of information in a database. I transitioned the content from our old books and Help systems into the database, and I trained our team of writers in India to use the new tools and writing styles. When the transition was complete, we were able to write, review, and maintain content more accurately and efficiently. Equally as important, we could

provide information in formats that work best for users: Word documents, PDF documents, HTML pages, and so on.

Today, technical writers are often referred to as “information developers” or “instructional designers,” and we are constantly searching for better ways to provide the information people need when and where they need it. Further, instructional design opportunities are all around us: on the products we use, such as cars and computers; at the places we visit, such as museums, aquariums, and supermarkets; and in training materials, such as corporate training and certification systems.

And that’s only the beginning. I’m thrilled by the possibilities for presenting and accessing interactive information, including the use of social media. Many questions remain: How can we incorporate social media effectively? How can we create dynamic, interactive visuals that compliment written information? How can we customize information to meet user needs, or enable users to customize the information themselves? What is the best way to convey instructions in a user interface: links to PDFs? Inline text? Hover Help? All of the above? As a technical writer, I explore these and other questions on a daily basis on my own; I am eager to explore them in a formal educational setting as well. I am also interested in learning more about the “Standard Systems View” of ISD, which includes, “needs assessment” and “formative evaluation” (Schiffman, 1995, p.134).

The CSUMB MIST program, with its “blended learning” approach, has sparked my interest. I expect that the CSUMB MIST program will expose me to new ways of presenting information and provide opportunities to test new approaches and exchange ideas with a group of like-minded students and faculty. Although my current full-time position is challenging, I can do much of my work from home, which gives me the flexibility I will need to complete a degree. In

addition, as a full-time technical writer, I will be able to implement what I'm learning in a product-development environment and obtain feedback from real-world users.

An advanced degree will also help me grow and progress in the technical writing field. As competition for jobs increases, it's not enough to be able to use authoring tools, such as FrameMaker, Dreamweaver, or XMetaL. Moreover, many job candidates will be able to say that they have created documentation for a wide variety of software and hardware products. On the other hand, completing an advanced degree demonstrates an additional level of commitment to the field. I am looking forward to participating in and completing the program.

### **Goal 2**

My second goal is to study learning theory and identify ways to apply its principles to technical writing. I have been writing technical product documentation for a long time. I know how to gather the information required for a set of installation instructions. I've worked closely with subject matter experts to document complex technical procedures and scientific instruments. I've proven my ability to analyze user tasks and create context-sensitive Help systems for software. I am skilled at organizing content into topics that conform to the DITA (Darwin Information Typing Architecture) model and can be reused in multiple outputs. And I have presented information in graphical form to accommodate users whose learning styles are more visual. But I have never formally studied learning theory. There are a great many things I don't know about how people process and retain information, and I'm eager to find out more.

### **Background for Goal 2**

As a technical writer, I have studied users and analyzed how they use computer software and hardware, but I want to challenge the assumptions I've made by examining the established theories regarding how people learn. How do environment, background, and culture affect the

ability to absorb information? How can we present information so that different types of learners can understand it? Is there a single approach that works for every style, or should we attempt to customize content for each type of learner? How can we leverage the strengths of different user interfaces, including touch screens, voice-controlled devices, and motion-sensitive systems, to convey information and instructions?

As a participant in the CSUMB MIST program, I want to examine the methods and patterns I currently use to present information and experiment with new ones. Going forward, I want to see how principles of learning theory can be applied to my technical writing projects to improve the user experience.

### **Goal 3**

My third goal is to explore ways to use interactive multimedia in training materials. When I think of interactive multimedia, the first word that comes to mind is fun. When you combine words, sounds, video, and the ability to interact with them, you have the potential for fun.

You also have the potential for chaos, as well as budget, maintenance, and localization nightmares. For example, if information is contained in a high-production video, and the information changes, you might have to re-shoot the video. If the information is destined for a global audience, you might have to re-shoot multiple versions of the video for localization and translation. In addition, there are challenges when searching for information contained in multimedia. How do we meet those challenges?

Advances in technology, including the increase in Internet bandwidth and the emergence of touch-screen interfaces, make it possible to present rich interactive content over the Internet and on personal devices. But just because we can create rich interactive content doesn't make it

the right choice for all material or for every audience. How do we identify content that is right for multimedia, as well as the tools, standards, and style guidelines to use when creating and maintaining multimedia content? How do we evaluate its effectiveness? As a member of the CSUMB MIST program, I look forward to exploring these and other issues with faculty and students in the program.

Further, I hope to apply what I learn about interactive multimedia to the technical writing projects I work on and to use what I learn at CSUMB as a basis for exploring the multimedia frontier going forward.

### **Conclusion**

In summary, my goals are to study instructional design, learning theory, and interactive multimedia in the formal environment of the CSUMB MIST program. I intend to apply what I learn to my work as a technical writer, and to create user experiences that are truly useful, intuitive, and inspired. I want to develop new ways to present information that transcend established patterns and practices. I want to figure out what's next for information development and instructional design.

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