Why We Need to Talk about Informatics

As we begin the 21st century a concern among many educators is whether we are providing our students with the skills they will need in this brave new world. Discussion often centers around the issues of globalization and the demands it brings on language and culture awareness. While these factors do distinguish the 21st century, another equally important factor is the utilization of computing, specifically digital information.

Information is power, but unless you can harness that power it cannot help you. Corporations are amassing information at incredible rates with terabytes of storage becoming commonplace. As we move forward, it will be the corporations that can best utilize this information that will succeed. Similarly, it will be the employee who can best utilize this information who will succeed.

While not everyone will be working with such massive quantities of information, it is inescapable that everyone **will** be working with digital information. This skill is no longer the sole purview of backroom analysts and computer programmers. From nursing, pharmacology, and other health care professions to economics, political science, and education, every professional will be working with digital information.

The utilization of this information is studied within the field of informatics (information + automatic). From an academic perspective, this field encompasses the collection, storage, analysis, and presentation of information. (Two facts must be noted. First, corporations refer to this same field as Business Intelligence. Second, in Europe, the field of informatics carries a broader perspective and is more in line with what is referred to as computer science in the United States.)

While several informatics degree programs and areas of study are emerging at universities around the country, no such training exists at the secondary school level. This is not surprising. Professional positions that would require the use of an informatics background would also require a college degree. Why teach informatics in high school when it can be taught in college? The reason we should include informatics in our high school curriculum is that our students will need informatics skills in their college courses. We teach all high school students to write research papers even though relatively few of them will ultimately become researchers. The reason is that they need to be able to conduct and write about their research in order to be successful in college regardless of their major. Similarly, 21st century college students need to be able to collect, analyze, and present information in order to be successful in college regardless of their major.

This proposal calls for developing a basic informatics course suitable for upper level high school students. Prerequisites for the course would include good math skills and a good comfort level working with computers. No programming experience would be necessary. The course would introduce students to skills that will allow them to work comfortably and effectively with digital information during their college studies. Proposed topics would include:

- What is Informatics?
    - Need for Informatics
    - Breadth of Informatics
- Informatics Tools
    - Simple Analysis and Presentation Tools (e.g., Excel)
    - Application Integration Methodologies (e.g., mashup tools)
    - Working with XML

Successful completion of such a course would empower college-bound students and help them succeed in the 21st century.

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