

Chapter 4
Humanware

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A Few “Humanware” Principles: The key to successful use is Know-how. Too many people spend thousands of dollars on hardware, hundreds of dollars on software and zero dollars on humanware. Teachers are rarely trained on a consistent basis. The appeal of the quick fix causes many schools to buy computers or laptops for all when very few teachers know what they’re doing. Money must be budgeted for ongoing training or else the institution runs the major risk of computerization: not using the machines and thereby wasting money. The fact that computers become dramatically more powerful and cheaper every 2-3 years means that you don’t buy unless you have a concrete plan for the implementation of those uses. Our view in The Original Teaching Company is that computer salespeople generally tell you half of what you need to know. What they neglect might be best described in the following OTC guiding principles:

“HUMANWARE” PRINCIPLE #1 ***Computers don’t save time; they consume it***

Learning how to use software effectively consumes time. And even when you have mastered the techniques, you generally find that the computer consumes time, because now you have the flexibility to improve the quality of your work. In fact, rather than thinking that you buy a computer to save time, it is best to think that you are buying it to improve the quality of your output. Maintaining a database of poetic terms or creating a multimedia essay to post on the Web may actually be much more time-consuming, but the quality is more likely to be superior. Educational software and Web sites allow for a deeper, richer treatment of many subjects, not necessarily for a quicker means to process the material. Without question, computers consume too much time, but if the quality can be improved, then obviously we need to examine when and how to use them.

“Humanware” Principle #2 ***Computers resemble violins more than blenders***

Buy yourself a blender, unbox it and you're ready to use it. But get yourself a violin, and it's most likely that you will need instruction. Without a good teacher, very few people can learn to play the violin. With one, most people can! And even if you don't absolutely need computer instruction, you can save yourself considerable time and frustration. We believe that learning each software tool — word processor, database, spreadsheet, desktop publishing — requires 10 to 30 hours of instruction. And even though many educational software packages can be looked at without instruction, an experienced user can save a first time looker hours of time with instruction. Yes, of course, some people require no instruction. But this is probably under one tenth of the population—people willing to read manuals carefully and spend hours fiddling with the features. Let's face it, most normal people greatly prefer reading novels to manuals!

“Humanware” Principle #3 *The key to success is increasing overall proficiency*

In the old days of 1980, businesses might typically spend about \$10,000 to \$20,000 on hardware and allocate 10% for initial training. In the 2000's, the machines are more powerful and much cheaper, but the training needs have not vanished. It is only the hype of computer salespeople and advertisements that makes us believe we can buy a computer, take it home, turn it on and instantly become productive—without any training or support. It is only the hype of computer companies and technology-rich schools that makes us believe that if we have a lab of 25 machines or laptops for everyone, our schools will improve. There are so many computers in schools that are not being used, it is absolutely amazing. Why? Because there is not enough know-how amongst the users. Not enough teachers who know how to use educational software to its advantage. Not enough English teachers who know how to use word processing to teach the art of writing. Not enough art teachers who know how to use graphics software. Not enough math teachers who know how to use graphing software. Not enough. Not enough. Not enough. We've got hardware and software ad nausea. We ain't got enough people!



Crazy Contrasts: Computers and Music

How is parenting like driving through tunnels? How do the Boston Celtics' ups and downs resemble yours? Sometimes you can gain insights when you try to find meaningful connections between 2 seemingly unrelated subjects. So let's try to list connections between the world of music with its long and rich tradition and the world of computers which is so volatile.

- The computer is more like a violin than a blender.
- Access to hardware is crucial.
- Access to hardware is not sufficient.
- There are many people who believe they cannot become even moderately skillful. Most of them — with proper instruction — can be proven wrong.
- The software makes the hardware a lot more interesting.
- The copying issue with all of its moral and legal implications is a significant issue in both fields.
- Gaining proficiency in each field involves some degree of fine motor skill and physical dexterity.
- The time it takes to achieve proficiency is much longer than anticipated.
- The key to success is regular usage and regular practice.
- Children seem to be able to gain proficiency as well if not better and more quickly than adults.
- Both subjects are being taught in such token and inadequate fashion in most schools that the net result is poor.
- Some people can become proficient on their own, but most benefit tremendously by quality instruction.
- Teaching a large group of people — even 10 to 20 people — at once is incredibly challenging in these 2 subjects; small group and one-on-one hands-on instruction is invaluable.
- Each discipline is multi-faceted involving several of the established intelligences — logical, aesthetic, visual, auditory and motor skills.

