

Thomas S. Kuhn's
"The Structure Of Scientific Revolutions"

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In the writings of Thomas Kuhn one begins to realize that "normal science" is the known facts about the earth that people find as undisputable. Kuhn states that scientists go to great lengths to defend these known facts as truth and look at research as new ways of again proving the truth. Kuhn introduces a new way of looking at these scientific facts as "paradigms." He announces that scientific revolution occurs when people are engaged in looking at these facts differently. Change is involved in the process. Resistance to change is involved, also. Even though there is resistance to change, a change will occur.

Human beings are known to be resisters of change. This is especially true in the field of education. We have our core curriculum. We have our English subjects. Shakespeare is one author that comes to mind when talking about resistance to change. Our students, today, have a new medium in studying literature--the Internet. Is Shakespeare still appropriate for our technology savvy children of today? One may argue that our culture needs an element of common ground. If all are required to read Shakespeare, then our multicultural society can say that we have a common knowledge of the classics. However, the other argument would be that Shakespeare's classics aren't necessary for our young people when the world is open to them through the readings presented on the Internet. Our children's world is changing. Their ability to read is the same. But, the paradigm shift that technology has had on reading has changed the way we must teach in the modern day classroom.

As Kuhn has stated, "Textbooks are the pedagogic vehicles for the perpetuation of normal science."(p.5) As he sees it, textbooks have been the vehicle that educators have

used decade after decade to introduce students to literature and the classics. Technology has caused a paradigm shift today from reading and gaining information from textbooks to the wealth of reading and information on the Internet and other reading software's such as Accelerated Reader. Students have learned from a young age how to play computer games, and have grown up as the video generation watching TV's, VCR's and now DVD's. Can we say that our generation of educators is aware of the shift from reading of books to the use of video tools? Has there truly been a shift in the way students learn?

Change has also occurred in education with the introduction of technology in the classroom. There has been an ongoing argument concerning how young should touch typing be introduced into the classroom. The need for mastery of this computer skill has shifted to a much younger age over the last two decades. The anomaly of this situation has caused educators to rethink and shift teaching keyboarding skills to the younger age child. Over the last decade one needs to ask; What knowledge is being lost by this shift? What knowledge is being gained by this shift? In the high school Keyboarding classroom, students have learned touch-typing, formatting skills, as well as different kinds of software skills in the past. Younger children are not physically able to operate a keyboard correctly. They are not learning formatting and they are not mastering the software that is used in the high school classroom. Their hands haven't grown large enough to be able to do the touch-typing correctly. Many believe this skill is unimportant. Is it possible that this skill will be lost because of the shift of teaching keyboarding to a younger age? This "crisis," as Kuhn would refer to, is causing educators to retool. Curriculum is changing to meet the needs of the children who are learning to use the computer at a younger age.

This paradigm shift has been a crisis for many teachers today. Some teachers haven't kept up with the changes that the new generation is going through. Paradigm shifts are occurring with the use of the Internet and reading and also with the age of the student learning the mechanics of operating the computer. Is it possible that the 21st Century is going to bring about a different kind of "normal science?"

Because of this crisis, the revolution of change has occurred in our classrooms. Kuhn says that revolutions bring progress. The skills that once were taught to high school age children are now being taught to lower grade school children. High school business subjects are being revamped for the technology savvy children who are now entering with what were once considered advanced skills. Industry certifications are now the heartbeat of the high school business curriculum. Standards are being raised and there is much more of a demand for highly skilled workers in our global society. Could it be that this crisis, revolution, and paradigm shift will change the way educators teach students today?

I believe that we must change. The computer has caused a revolution in learning. This paradigm shift in learning has created a revolution in the education in this century. The known facts that Kuhn has referred to in his writings are being disputed. The research that has defended the "truth" about normal science doesn't fit our student's style of learning today. Educators are looking at these truths differently and causing change to occur. The computer as a tool has changed the way we think about the textbook as a tool in the classroom. Many have resisted. Many have changed. There is no going back to the way things used to be.

