

**UNO CYGNAEUS:
THE FINNISH VISIONARY
WHO CHANGED EDUCATION FOREVER**

by
William E. Dugger, Jr.
Senior Fellow, International Technology and Engineering Educators Association
E-mail: wdugger@iteea.org
and
Emeritus Professor of Technology Education
Virginia Tech
E-mail: dugger@vt.edu

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Uno Cygnaeus was one of the most influential educators in history. He is recognized as being the “Father of the Finnish Folk School.” This basic general education system was for all boys and girls, a pioneering effort for which Cygnaeus and Finland are still recognized today. Cygnaeus also advocated the separation of schools from the supervision of the church – that became the responsibility of the Finnish public school system. Through Cygnaeus’ leadership and writing, education in Finland and other countries has benefited significantly.

Cygnaeus was a strong advocate and leader for preparing teachers to teach folk school and handicrafts (sloyd) education. He was the founder of a teacher preparation institution titled, “Jyvaskyla Seminary.” In some of his writings related to this seminary, Cygnaeus uses the words “lecturer in arts and technology.” This is one of the earliest, or possibly the earliest use, of the word “technology” historically related to education. As a result, some people view him as the “Father of Technology Education”.

The concept that work is a “moral responsibility,” and it should be perceived as an “honor of man” to accomplish, came from Cygnaeus. Central to his thinking and writings was that education for work should acquaint every child with real work so that every citizen of the future would have a general appreciation and respect for work and not just training for a specific vocation.

WHAT IS THE ORIGIN AND BACKGROUND OF UNO CYGNAEUS?

Uno Cygnaeus was born in 1810 in Hameenlinna, Finland. His father was instrumental in promoting and creating an interest in different folk processes, artifacts, and handicrafts for Uno during his childhood. His father taught woodwork skills, and he taught his son to turn wood on a lathe, make handicrafts, and gain a love and respect for working with your hands. It is evident that these childhood experiences influenced Cygnaeus’ thinking and philosophy very much in his later life.

Cygnaeus attended the university in Turku and continued later to study at the University of Helsinki where he majored in natural sciences (biology and zoology) and theology. He received his master’s degree in 1836. In 1837, he became an ordained priest and served as an assistant pastor and prison chaplain in Viipuri, Finland for two years. He also taught in a private (non-church related) school in Viipuri.

After his work in Viipuri, Cygnaeus moved to another part of the Russian empire and became the first pastor of the Sitka, Alaska Lutheran Church where he served for approximately five years. Then in 1845, he moved to St. Petersburg, Russia where he served as assistant clergyman of St. Catherine’s Church in St. Petersburg. A few years later, he was promoted to the position of administrator of a parochial school of St. Mary in St. Petersburg. His experience in Alaska, along with his educational background in Russia and Finland, gave him excellent preparation for his leadership role later in life.

Cygnaeus then served for over a decade as director of the Finnish School in St. Petersburg until the mid 1850s.

In 1855, the Russian senate was commissioned to research the educational systems in other countries in middle Europe. Uno Cygnaeus was given a grant in 1858 from the Russian senate to accomplish this task. As a result of his investigations; travels to Sweden, Denmark, Germany, Austria, and Switzerland; and drawing from the best of educational thinking of people like Frobez, Pestolozzi, and Diesterweg, Cygnaeus prepared a report to the Russian senate in 1860. Due to the creation of the informative report, he was asked to write a proposal that same year for establishing a general educational system in Finland. In this report, he proposed the now famous "Finnish Folk School" as a basic school for all children. The report was the fundamental basis for a law passed in 1866 to establish folk schools throughout Finland for all pupils and to develop universities to prepare teachers to teach in these schools. In 1861, Cygnaeus was nominated to the National Board of Education in Finland as the first "Chief Inspector of Schools." He held this position until 1887 (one year prior to his death in 1888). Cygnaeus was concurrently responsible for the Finnish Folk Schools and the teacher professional preparation institutions or "seminars."

The concept of the Finnish Folk School was cutting-edge and inventive in the total spectrum of education. It laid the foundation for much of what we do (and try to do) worldwide today in the study of technology.

CYGNAEUS' INFLUENCE ON THE STUDY OF TECHNOLOGY

In its most basic meaning, technology is the modification of the natural world to meet certain human needs and wants. Technology helps us to extend our abilities by improving our health; growing and processing food and fiber; harnessing and using energy; communicating more effectively; processing data and information faster and more efficiently; moving people and things farther and quicker; producing products; building structures and environs; and other activities.

As it was mentioned earlier, Uno Cygnaeus actually used the term "technology" as early as 1861 in Finland in reference to working skills for technology at that time. Cygnaeus strongly believed in having a quality general education for all children (both boys and girls). He stressed the significance of schooling as the major factor in developing one's personality as well as mental (cognitive), physical (psychomotor) capabilities, and values and ethics (affective). Cygnaeus believed that learning should not just include studying books, but children should also learn to use their hands with some level of dexterity. He used the mandatory handicraft (sloyd) education for all pupils to accomplish this.

If Cygnaeus were alive today, he would most likely be a strong supporter of the study of technology by all students from kindergarten through

high school. The first priority of a study of technology is to provide technological literacy to all students. This study includes all students who traditionally have not been served by technology programs. Most certainly, Cygnaeus would view the study of technology today as mandatory (not as an elective).

Technology must be a required subject for every student at every level of education. Incorporating a study of technology into a country's school systems will require establishing unified content through standards, developing curriculum, creating assessments, preparing and updating teachers, and providing and maintaining exemplary laboratory environments. This effort will reap rewards for citizens in every community, and society as a whole.

As has been stated earlier, technology education is the school subject specifically designed to help students develop technological literacy. Technology education is not the same as educational technology which is sometimes referred to as instructional technology (IT) or information and communication technology (ICT). Educational technology involves the study of computers and the use of technological developments in the digital setting, such as hardware, software, audiovisual equipment, and mass media, as tools to enhance and optimize the teaching and learning process and environment in all school subjects. Many times educational technology is referred to in literature as "teaching *with* technology" and not "teaching *about* technology".

PHILOSOPHIES OF CYGNAEUS AND SALOMON

One of the best insights into Cygnaeus and his beliefs and philosophy comes from "Letters of Uno Cygnaeus and Otto Salomon," compiled by Dr. Tapani Kananoja who held the position of Chief Inspector at the Finnish National Board of General Education for 20 years (the same office that Uno Cygnaeus was appointed to over a hundred years earlier). Kananoja provides some very interesting personal and philosophical perceptions of Cygnaeus and his colleague, Otto Salomon from Sweden.

In his paper, Kananoja states that "The relation between the Cygnaeus and Salomon seems problematic sometimes. Cygnaeus seems to have been the teacher, Salomon the apprentice, not always so obedient. The latter [Salomon] respected the former [Cygnaeus] and voluntarily adopted a lot. The scheme of work by Salomon seems not to have changed, however; it is vocational, bound to techniques, up to the end, even if Salomon frequently expressed his ideas to be the same as the ideas of Cygnaeus [who was a champion of general education]" (Kananoja, 1999).

A tension between general education and vocational education still exists today in most countries. This is especially true in the United States (U. S.) where industrial arts education and now technology education have philosophically been general education and yet about one half of the 50 states have technology education under the vocational education (now referred to as career and

technical education—CTE) umbrella administratively controlled at the state department of education level.

In 2000, *Standards for Technological Literacy: Content for the Study of Technology (STL)* was developed by the Technology for All Americans Project at the International Technology Education Association. This effort for developing what every child in Grades K-12 should know and be able to do in order to be technologically literate was funded in the U. S. by the National Science Foundation (NSF) and the National Aeronautics and Space Administration (NASA). The standards underwent a rigorous review and subsequent revision by the National Research Council, with input and advice from the National Academy of Engineering. The development of *STL* created a stronger relationship with general education or core education, especially science and mathematics. An important part of *STL* is that it gives substantial attention to the concept of engineering design.

In the recent past, there has been a movement in the US to include the study of technology in the integration of science, technology, engineering, and mathematics (STEM) into a transdisciplinary subject in schools. This effort further separates the relationship between the study of technology and vocational/CTE education in the United States.

SUMMARY

Uno Cygnaeus is a recognized educator in the worldwide history of education. Most people view him as the “Father of the Finnish Folk School” while many view him as the “Father of the Finnish Public School System.” Others refer to him as the “Father of Technology Education”. His work and the work of many others since him have propelled Finland to be rated at the top of recent worldwide educational studies.

Clearly, Uno Cygnaeus was a visionary and pioneer in his philosophy and accomplishments in education. We have all benefited from his ideas and work, and we will continue to do so in the future. One cannot help but wonder that if Uno Cygnaeus were to return to our world today for just a short while, would he be pleased or discouraged with what he sees in education?

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