The history of Education and University is the history of teaching and learning. Each generation, since the beginning of human evolution and writing, has sought to pass on cultural and social values, morality and religious (or spiritual) values, economic development and governance, medicine and healthcare, science and technology to the next generation. The totality of all these disciplines constitutes knowledge.

I. The Gurukula System of Education
In the first millennium BC, formal education in Ancient India originated with the Gurukul system. The Gurukula was residential in nature with the shishyas (aspirants of knowledge) associated with the Guru to get enlightened, as part of his extended family. At the Gurukuls, the teacher imparted knowledge of Religion, Scriptures, Philosophy, Literature, Warfare, Statecraft, Medicine, Astrology and History. The students made their guru as their role model. The guru imparted this knowledge to his disciples through his own example. The guru was supposed to be of flawless character, and he imparted the same flawless character to his students through his constant association.

II. Medical System and Education in Ancient Egypt, Babylonia, India, Persia, Greece

Egypt: Ancient Egypt developed a large, varied and fruitful medical tradition, as early as 3000 BC. Egyptian medicine developed a practical use in the fields of anatomy, public health, and clinical diagnostics. Imhotep in the 3rd dynasty is credited with being the founder of ancient Egyptian medicine and with being the original author of the Edwin Smith Papyrus (1600BC), detailing cures, ailments and anatomical observations.

Babylonia: The oldest Babylonian texts on medicine date back to the Old Babylonian period in the first half of the 2nd millennium BC. The most extensive Babylonian medical text, however, is the Diagnostic Handbook written by the physician Esagil-kin-apli of Borisppa, during the reign of the Babylonian King Adad-apla-iddina (1069-1046 BC), which introduced the concepts of diagnosis, prognosis, physical examination, and medical prescriptions.

Ayurveda Medical System in India: In the first millennium BCE, the world’s first scientific system of medicine emerges known as Ayurveda, literally meaning the science of life. Ayurveda is the literate, scholarly system of medicine that originated in post-Vedic India. Its two most famous texts belong to the schools of Charka (born c. 600 BCE) and Sushtra (born 600 BCE). Both these ancient compendia include details of the examination, diagnosis, treatment, and prognosis of numerous ailments, and various forms of surgery, including rhinoplasty, the repair of torn ear lobes, perineal lithotomy, cataract surgery, and several other excisions.

Education & Medicine in Persia: The ancient Persian city of Gundishapur, located in the country's southern province of Khuzestan, was founded in 271 BCE by the Sassanid king, Shapur I. King Shapur II chose the city as his capital and built the world's oldest known medical center, which also included a university and a library with an estimated 400,000 books. The Academy of Gundishapur was a renowned center of learning, and offered training in medicine, philosophy, theology, science. astronomy, mathematics, philosophy, military commandership, architecture, craftsmanship, agriculture and irrigation, and geometry.

Greece: The first known Greek medical school opened in Cnidus in 700 BC. Alcmeon, author of the first anatomical work, worked at this school, and it was here that the practice of observing patients was established. A towering figure in the history of medicine was the physician Hippocrates of Kos (460 BC 370 BC), considered the "father of modern medicine." Hippocrates categorized illnesses as acute, chronic, endemic, and epidemic. Herophilus of Chalcedon, working at the Medical school of Alexandria placed intelligence in the brain, connected the nervous system to motion and
III. Education and Medicine in the First Millennium and Middle Ages

In India: The first millennium and the few centuries preceding it saw the flourishing of higher education at Nalanda, Takshashila, Ujjain, and Vikramshila Universities. Amongst the subjects taught were Art, Architecture, Painting, Logic, Mathematics, Grammar, Philosophy, Astronomy, Literature, Buddhism, Hinduism, Arthashastra (Economics & Politics), Law, and Medicine. Each university specialized in a particular field of study. Takshila specialized in the study of medicine, while Ujjain laid emphasis on astronomy. Nalanda, being the biggest centre, handled all branches of knowledge, and housed up to 10,000 students at its peak.

Education and Medicine in Islamic Middle Ages: The Islamic civilization rose to primacy in medical science as Muslim physicians contributed significantly to the field of medicine, including anatomy, ophthalmology, pharmacology, pharmacy, physiology, surgery, and the pharmaceutical sciences. Muhammad ibn Zakariya al-Razi (865-925) became the first physician to systematically use alcohol in his practice as a physician. The Comprehensive Book of Medicine was written by the Iranian chemist Muhammad ibn Zakariya al-Razi, wherein he has recorded clinical cases of his own experience and provided very useful recordings of various diseases. Avicenna, considered among the most influential medical scholars in history, wrote The Canon of Medicine (1025) and The Book of Healing (1027), which remained standard textbooks in both Muslim and European universities until the 17th century. In 1242, Ibn al-Nafis was the first to describe pulmonary circulation and coronary circulation, which form the basis of the circulatory system, for which he is considered the father of the theory of circulation. He also described the earliest concepts of metabolism and developed new systems of physiology of pulsation, bones, muscles, intestines, sensory organs, bilious canals, esophagus, and stomach.

IV. Formal Education and Universities in the Medieval Period

The first medieval institutions generally considered to be universities were established in Italy, France, and England in the late 11th and the 12th centuries for the study of arts, law, medicine, and theology. The University of Salerno alongside the University of Constantinople in the 9th century were the first institutions of higher education in Medieval Europe. The first degree-granting university in Europe, and the world, was the University of Bologna (established in 1088). The first universities in Europe were University of Bologna (1088), University of Paris (1150), University of Oxford (1167), University of Modena (1175), University of Palencia (1208), University of Cambridge (1209), University of Salamanca (1218), University of Montpellier (1220), University of Padua (1222), University of Toulouse (1229), University of Orleans (1235) and University of Coimbra (1288).

University studies took six years for a Bachelors degree and up to twelve additional years for a master's degree and doctorate. The first six years were organized by the Faculty of Arts, where the seven liberal arts were taught: arithmetic, geometry, astronomy, music theory, grammar, logic, and rhetoric. Once a Bachelors of Arts degree had been conferred, the student could leave the university or pursue further studies, in one of the three other faculties law, medicine, or theology-- in which to pursue the masters degree and doctorate degree.

It is noteworthy to mention about Leonardo di ser Piero da Vinci (April 15, 1452 May 2, 1519), who was an Italian polymath: painter, sculptor, architect, musician, scientist, mathematician, engineer, inventor, anatomist, geologist, cartographer, botanist and writer. Leonardo's journals include musical instruments, hydraulic pumps, reversible crank mechanisms, finned mortar shells, a steam cannon, as well as plans for several flying machines, including a light hang glider and a machine resembling a helicopter.

Anatomical study of an arm (c.1510) and A design for a flying machine (c.1488) Institut de France, Paris
VI. Research University Concept:

Under the guidance of Wilhelm von Humboldt, a new university was founded in Berlin in 1810, which became the model for a Research University. A Research University, according to the 1994 Carnegie Classification of Institutions of Higher Education, is deemed to engaged in extensive research activity, offers a full range of academic programs, and is committed to providing graduate education through the doctorate.

**Top Research Universities rankings are based upon:**

1. Quality measures: National Academy membership, prestigious faculty awards, doctorates awarded, postdoctoral appointees, and SAT scores of entering freshmen;
2. Faculty Scholarly Productivity Index: books published, journal publications, citations of journal articles, honors and awards.

Cambridge University, in the category of Research Universities, ranks as one of the world's topmost universities, having a record number of 87 Nobel Laureates. Most of all, the university is renowned for a long and distinguished tradition in mathematics and the sciences. Many of the most important scientific discoveries and revolutions made at Cambridge include: understanding the scientific method, by Francis Bacon; the laws of motion, by Sir Isaac Newton; the discovery of the electron, by J. J. Thomson; the splitting of the atom by Ernest Rutherford, and of the nucleus by Sir John Cockcroft and Ernest Walton; the unification of electromagnetism, by James Clerk Maxwell; the discovery of hydrogen, by Henry Cavendish; Evolution by natural selection, by Charles Darwin; the Turing machine, a basic model for computation, by Alan Turing; the structure of DNA, by Francis Crick and James Watson; pioneering quantum mechanics, by Paul Dirac; Cosmology concepts by Stephen Hawking. Other Cambridge academics include major economists such as John Maynard Keynes, Thomas Malthus, Alfred Marshall, Milton Friedman, Piero Sraffa, and Amartya Sen.

VII. Universities for Social Transformation (the modern theme for university in society)

We are living in an era of significant socio-economic-political turmoil, as everyone is taking a critical look at the role of governments in socio-economic security and happiness factor for its people. In this phase, the University takes on a very important role, in taking a leading and constructive role in the social transformations of our times. Today, universities face significant challenges to their traditional position in society, as contemporary knowledge systems are becoming more distributed and learning ubiquitous. Where does this leave the university - as a historically specialized and privileged place for development and dissemination of knowledge and learning? This is the challenge facing modern universities all over the world, to make their surrounding regions to become environmentally and socio-economically sustainable, and to provide templates for local and regional sustainable peace.

VIII. Ideal Modern University

So now taking into account the concepts and roles of universities from ancient times to present, let us define our concept of an ideal university, as one which:

1. emphasizes heightened values of living: in personal living and in interactions with societal members;
2. imbibes neohumanist ideals in educational programs;
3. promotes the development of society according to: Samgacchadhvam samvadadhvam Let us move together, let us sing together; Samvomannamsi janamat let us come to know our minds together;
4. incorporates the concept of Gurukula, wherein the faculty members are dedicated to foster the holistic development and enlightenment of students, and are role models for students;
5. is a comprehensive research university, having all faculties: humanities and social sciences; physical, biological sciences, and environmental sciences; engineering sciences, biotechnology and pharmaceutical sciences; management: of business corporations and sustainable communities; medicine and health sciences; law and governance; agriculture and forestry; veterinary science and medicine.
6. is socially conscious of serving the regional community and promoting its social transformation

This is the model university that we should promote to catalyze a new civilization!