Introduction

Growth of any knowledge base depends on a dynamic continuum of a tripod of the creation of new knowledge through research, effective transfer of knowledge through proactive education, and utilization of the knowledge with good professional practice. A set of knowledge system is likely to be relative to time and place settings, which facilitates its need-based development. If such a dynamic continuum is not maintained, the knowledge base becomes stagnant and static and may gradually pass into mere history and may not remain dynamic and useful. Hence, even in case of traditional knowledge systems such as Ayurveda, it is not wise to sit idle on the treasure of the ancient knowledge base without any effort to generate new knowledge, innovative education, and renewed methods of the practice. The traditional belief that Ayurveda is eternally perfect science beyond time and space and does not need any research and development has done big harm to this great science. There is a need of more and more dynamism and activism in this field to update Ayurveda and to develop it further in tune with the changing needs of the society today. Hence, education should always visualize and reflect its desired goal and outcome.

In ancient times, the above-said tripod of knowledge flourished through Guru-Shishya tradition in Gurukulas. With the dawn of modern age, gradually, the Gurukulas shrank and gave way to a rapid trend of institutionalization which seems to be the need of the time. The institutions were thought to be superior to the traditional Gurukula system because the institutions provide the learner with the learning opportunity from more than one Guru, besides additional tools and facilities of learning such as libraries, laboratories, and hospitals. One can consider it a welcome transition, but the institutions today lack the eternal strength of the Guru factor. If the Guru factor in universities and colleges is restored and strengthened, our universities could become real modern Gurukulas.

Modern education stands on a tripod of (1) institutional material infrastructure, (2) proactive students, and (3) capable teachers. This tripod plays the same role in effective education which in the words of Samhitas is played by the Tridanda of life: Sattva-Atma-Sarira, i.e., mind-soul-body, respectively. The material infrastructure of an institution is its Sthula Sarira, the student community is the Sattva, i.e. dynamic proactive mind of the education system, and the teachers are the Atman or the soul of the education system. An effective fruitful education will prevail only if this Tridanda is in place and is in dynamic continuum. Unfortunately, in today’s educational system, the Tridanda of education is not in proper balance, and more importantly, the Atman component of education, i.e., the teacher factor has become the heaviest and weakest, which was strongest in Gurukula system of ancient times. Our universities and colleges will yield the desired results only when the quality and status of teaching faculty improves to the level of a Gurukula.

Who is a Good Teacher

A Guru is not merely a communicator of information or textual knowledge. He/she is the comprehensive builder of the student including his/her knowledge, his/her skill, and personality, as a whole empowering him/her to become a superior human being, a competent professional, and a master of his/her knowledge system. A teacher has to enthrone into his/her students not only the information rather he/she has to equip them to become a powerful learner. The access to information is now so easy that it is not always necessary to hire a teacher for informational education. A teacher or Guru is really needed for pragmatic education, skill, and life experience. This is all the more true in case of Ayurvedic education where a learner has to become a competent professional to handle a highly humanistic profession such as medicine and health care.

A good teacher is one (1) who has an in-depth knowledge of his/her subject and has academic competence, (2) who has practical experience of his/her subject and skill, (3) who has the ability to communicate his/her wisdom and knowledge to his/her students with powerful delivery, (4) who has ability and aptitude to use modern teaching aids, (5) who has personal human qualities and honesty to his/her profession, (6) who is student-friendly and has transparent will and sincerity to the student’s welfare, (7) who has basic instinct and liking for teaching job and who has job satisfaction and work culture, (8) who has quest to learn to improve and pursue for excellence, (9) who likes to interact with students proactively even outside classrooms, and (10) who is able to display a role model image in the institution inspiring the students community at all levels. An educational institution should have a quality audit mechanism to assess the quality of the teaching ability and skill of the faculty periodically on above parameters with the help of a quality audit team comprising academicians, administrators, and also students.

Empowerment of Students

Education is empowerment in true sense. “Education is the dynamic process which enables the knowledge base to exist and to remain useful. Education, on one end, motivates
growth of new knowledge, and at the other end, opens vistas for its professional application for the benefit of humankind. Education synthesizes culture and works for a better society and a better world tomorrow. Education has remained a perpetual process all through the ages in different forms in different traditions and cultures, which has been changing to suit the needs of the human of the day."

The focus of modern education is to empower the students with knowledge, information, and skill besides overall personality development so that they may stand on their own feet and function efficiently and optimally in their life at personal, social, and professional settings. All educational institutions are expected to empower their students to enable them to function as good citizens and effective players in life settings. The institution should monitor its own ability and performance on this score periodically through an effective performance audit.

The paradigms have been changing in recent years in the field of teaching and education worldwide. The most praised trends are (1) shift from traditional teacher-centered teaching to student-centered teaching where the leader of educational to the student himself, not merely the teacher. The student has to play a proactive role. He/she can no more afford to remain a passive receiver of information or knowledge. He/she has to become proactive and should also play a constructive and creative role in curricular reform and program development. (2) shift from directed teaching to induction of learning ability and skill. In this model, it is expected that the teacher will not merely transfer a set of information to his/her students in a classroom rather he/she will try to inculcate learning ability and skill in students so that they learn much more themselves than they are taught directly in a classroom by a teacher. This is very important because knowledge and information today has grown so much that it cannot be taught by a teacher in a classroom. It is advisable that the student has to be transformed into a good learner and should be motivated to self-learning all through his/her life. It is expected that every teacher should now remodel his/her teaching style in tune with such shifting paradigms.

Curriculum Development and Regulatory Mechanisms

Curriculum development and updating is a continuum and a dynamic rolling process. A curriculum is never final. The regulatory bodies such as the Central Council of Indian Medicine (CCIM) and certain university systems are obsessed with the idea of uniform standards which is often for administrative convenience. I believe that the undue emphasis on rigid uniformity of curricula may lead to static end. A curriculum should be designed for product definition which may vary from course to course and institution to institution. The universities and faculties should be granted adequate scope to develop courses with the needed quantum of information, practicals, and professional skill. Regulatory bodies such as the CCIM should decide only minimal standards with larger and flexible scope of development at the level of universities and faculties where the real expertise exists.

It can not be over-emphasised that the core regulatory body CCIM has remained a sick regulatory organisation for many years warranting major reform or to think of an alternative model of regulatory mechanism with greater transparency."

Modern Medicine Component in Bachelor of Ayurvedic Medicine and Surgery Courses

Some specific issues in curriculum development in AYUSH education are already on national debate and need progressive and proactive outlook in tune with the contemporary needs. One of the major issues in this series is the question of including the complementary component of modern medicine knowledge into the Bachelor of Ayurvedic Medicine and Surgery (BAMS) courses. I am of the opinion that the quantum of modern science and modern medicine to be added into the curriculum of Ayurvedic studies needs careful monitoring and need-based consideration in the light of long-term strategies about the future of Ayurveda in this country. Prima facie this requirement cannot be denied. We do need it. But, how much and in what mode and for what purpose is all a ticklish question. The national debate on this issue has crystal cleared both the benefits and dangers on this front: (1) There is no doubt that interface of Ayurveda with modern science does help in the better understanding of Ayurveda besides imparting professional competence on certain dimensions (not on all dimensions) among the graduates. This is the positive possibility. (2) On the other hand, the danger is that the growing quantum of addition of modern medicine in these courses will lead to massive brain drain with undue migration of Ayurvedic graduates to modern medicine practice because practice of modern medicine is easier than Ayurvedic practice. Such a situation will bring about a show-down for Ayurveda as a whole besides lot of legal and ethical issues. Thus, we are still at crossroads on this issue. Some suggestions which have been projected time to time are as follows:

- Full modern medicine teaching at par to MBBS course to BAMS students along with full course of Ayurveda with provision of increased duration of the BAMS integrated course of 7 years
- To give full parallel knowledge of modern basic medical sciences and diagnostics with minimal need-based teaching of modern therapeutics
- To allow only basic modern medical sciences such as anatomy, physiology, and biochemistry, and no modern diagnostics and treatment
- No modern medicine teaching at all in BAMS course leading to pure Ayurvedic teaching.

The Present Ongoing Courses

The present ongoing AYUSH education as regulated by the CCIM is on the pattern of option 2 as mentioned above with an ongoing tug of war between the exponents of extremist groups, warranting changes in the quantum of modern medicine component in BAMS courses time to time. The final policy is still awaited. Certain other minor reforms which have been debated frequently in relation to higher education in Ayurveda as per the existing syllabi have been swinging around the following issues:

- The first professional BAMS course has to be reduced to 1 year. The paper on the history of Ayurveda has
to be merged with the teaching of Samhita. Teaching of Padartha Vijnana has to be strengthened with some relevant teaching of higher physics relevant to life science with emphasis that Padartha Vijnana should be taught as a science, not as religion and philosophy.

- The third professional BAMS course should be provided full 2-year time to enhance professional training, which is very poor at present. There is a need of practical and clinical training in diagnostics and therapy strengthened by more bedside teaching.
- In PG courses, the 1st-year program is to be critically examined for its relevance. It could be easily merged to the specialty part except a selected set of lectures on research methodology.
- PhD program should consist of research on specialized subjects besides learning part-time credit courses in the subject area with formal examination and certification.
- Short- and long-term independent or complementary courses have to be started in emerging borderline areas in consideration of the need of the day.

### The Present Scenario of Education Sector in AYUSH

It may be pointed out that the AYUSH educational institutions are in a very poor shape in terms of their infrastructure and faculty strength so that the CCIM has banned new admissions in over one-third of the 250 Ayurvedic colleges because of lack of training facilities, especially shortage of teachers even in national institutes and apex institutions. No serious attempt is being made to overcome the situation. In spite of the global consensus that development and mainstreaming of AYUSH systems is the only logical strategy to improve the extremely poor condition of health-care sector as a whole in India (where “health for all” is still a dream), the policy makers have shown no concern. As per the records, the Government of India spends only 1.0% of its gross domestic product (GDP) on health sector as compared to over 15.0% GDP expenditure on health in developed countries. The share of AYUSH in national health budget is still more disappointing, on an average being < 3.00% of the 1.0% allocation on health. This huge gap and disparity is continuing for many years in spite of the repeated recommendations of the Planning Commission and Parliamentary Committees to raise this proportion to 10.00%. This lack of governmental support has left AYUSH sector in a poor shape which reflects overtly in education and research in AYUSH, particularly the infrastructure of AYUSH colleges.

There are above 250 Ayurvedic colleges in India, for which we need about 20,000 teachers. It is believed that half of the teaching positions are vacant because no enough qualified persons are available to occupy these positions and even few who are available are reluctant to opt for such jobs because of poor service conditions. The essential qualification to become a teacher in an Ayurvedic college is MD degree in the concerned subject. It is a question that from where so many MDs will come when India produces only about 2000 MDs a year in contrast to 21,000 MDs in modern medicine. There is an urgent need of substantial hike in PG education to produce more and more MDs and PhDs to meet the requirement of recruitment as teachers in AYUSH colleges and to become specialist practitioners. Such a hike in PG education will have to be planned through a fast track strategy through proactive debate among the authorities of the Ministry of AYUSH, CCIM, CCRAS, universities, senior faculty of existing AYUSH colleges, management of private colleges, and other stakeholders. The renewed interest shown by the new Central Government and launching of a comprehensive National AYUSH Mission by the Government of India seem to have displayed a proactive political promise which awaits an effective implementation now. Promotions of Medical Pluralism and Mission Mainstreaming of AYUSH have been slowly progressing, warranting fast track action now. AYUSH fraternity should draw impetus and inspirations from big boost success stories of AYUSH sector such as the UN approval of the International day of Yoga to be celebrated every year on June 21 worldwide and the Nobel prize of Medicine of 2015 won by Dr. Youyou Tu of our sister discipline Traditional Chinese Medicine in our neighborhood China for the discovery of a novel anti-malarial drug artesminin from a Chinese herb described in an ancient text of fourth century, which is contemporary of the works of Vagbhatta in India.

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