

# Teaching and Learning Principles of the Ancient Indian Education System and its Relevance with the National Education Policy 2020

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## ABSTRACT

The teaching and learning principles followed in the ancient Indian education system were largely based on the student centric teaching and learning principles as advocated in the modern system of education. The overall development of the student including the inner and outer self was largely practiced in Indian ancient education system. Also, the principles and practices discussed in Andragogy bears striking similitude with the practices followed in the ancient system. The relevance of understanding these traditional Indian teaching and learning principles increases with the introduction of National Education Policy (NEP) 2020 by Ministry of Human Resource and Development, Government of India as it highlights that all these principles are required to be adopted by the Higher Educational Institutions. This article aims to discuss some of the teaching and learning principles of the ancient Indian education system and their relevance in contemporary times along its coherence with NEP.

**Keywords:** Adult learning, Student centric education, Traditional indian education

## INTRODUCTION

The education system in India has been diverse and dynamic. From Gurukul tradition in ancient system to flexible and online learning process in the contemporary times, Indian education system has witnessed a continuous shift from being student centric to teacher centric and then back to student centric one.

The historical background of India is exceptionally rich in terms of cultural heritage, resources and the teaching-learning tradition. The existence of Takshila University (1000 BCE), Nalanda (500-1200 CE), Vallabhi (600-1200 CE) and Vikramshila (800-1193CE) Universities are the best archeological evidences for the prevalence of education system in India [1]. The education model of these universities was largely student centric with focus on multidisciplinary education including the study of ancient scriptures, law, medicine, astronomy, military science and the eighteen silpas or arts [1]. The Upanishads provides enough evidences of Gurukul traditions of teaching learning methodologies of ancient times, seemingly providing basis for many of the teaching learning concepts of contemporary times.

The emphasis of the ancient Indian education during these times was the holistic development of the student i.e., their inner as well as outer self; so as to prepare them for life. This has been prevalent all along in the ancient education system but with subsequent modernisation, the focus has largely been inclined towards the development of only the outer self and the cognition. Indian curriculum had largely been teacher-centric with particular emphasis on development of cognitive component or knowledge through education [2].

In the contemporary times, the curriculum has largely shifted on being student-centric with value addition of courses so as to increase the competency and employability [2].

The NEP introduced by Ministry of Human Resource and Development, Government of India in 2020 has largely focused on the adaptation of the Takshila model for holistic development of the student and to include interdisciplinary and multidisciplinary studies to develop the student as a whole [3]. The NEP stresses on the overall development of the child including the knowledge, skills and values that prepare an individual for life. It stresses on practical and experiential learning by the students.

“Andragogy” is an adult learning philosophy that relates to the different learning needs of the adult and adolescent learners as compared to child learners and advocates the use of different teaching learning methods in comparison to the Pedagogical practices used for children. This concept was first introduced by Alexander Kapp in 1833 [4], but the popularisation and practice of principles of andragogy was done by Knowles SM et al., in 1984 and Hensechke JA [5,6]. It was only in the later part of 20<sup>th</sup> century that the developed world understood the different learning needs, different teaching learning practices for children and adults. It is debatable, whether this concept was really nonexistent or it was ignorance of the developed world with the principles and practice of ancient Indian education system which has been prevalent much before and has striking similarities to the concept proposed by Knowles SM et al., and the contemporary system of education [5]. The various teaching and learning principles of Indian ancient system are discussed in this article through various slokas/verses of Indian ancient education which bears striking similarities with the adult learning principles and the contemporary system of education.

This article aims to discuss the similarities of the modern education concepts with the traditional teaching and learning practices prevalent in the ancient education system including the adult learning principles. It also aims to highlight the turnabout that Indian education system is making to connect to its own traditional and cultural roots through the introduction of NEP.

## Discussion of Ancient Indian Sloka/verse and its Coherence with the Contemporary Education Principles and Andragogy Philosophy

1. The Badrayan Brahma Sutra in its first Sloka [7] describes the concept of teaching and learning as “अथातो ब्रह्म जिज्ञासा”, (Athato Brahma Jigyasa). Here Brahm stands for knowledge. To impart knowledge, the first and foremost objective is creation of inquisitiveness and intense desire to learn. Once jigyaasa (curiosity or inquisitiveness) is created, the learners’ self-directed efforts will make him to find ways and means to gain knowledge out of all available resources.

This is the underpinning concept of andragogy and states that as a person matures, he understands himself and transits from being a dependent person towards a more independent and self-directed human being [8]. Thus, once an adult develops the desire to learn, his internal motivation will direct him towards learning instead of any force, pressure from a teacher. Hence, with adults the role of teacher is to facilitate the development of desire to learn and to guide the correct path and learning will eventually follow.

This concept is also focused upon in NEP which emphasises that student should be given autonomy and flexibility to choose his own career path by selecting the courses from various disciplines as per his desire for learning. Also, the emphasis on open distant learning somewhere facilitates the self-directed learning where a student learns as per his own interest, own pace and own time.

2. The second chapter of Taittiriya Upanishad, called Brahmananda Valli states [9,10]

ॐ सह नाववतु । सह नौ भुनक्तु । सह वीर्यं करवावहै । (Om Saha Naav[au]-Avatu | Saha Nau Bhunaktu | Saha Viryam Karavavahai |)

तेजसि नावधीतमस्तु मा विद्विषावहै ॐ शान्तिः शान्तिः शान्तिः ॥ (Tejasvi Naav[au]-Adhiitam-Astu Maa vidvishavahai | Om shanti shanti shanti ||)

Meaning [9]

Om. May Brahman protect us both (Teacher and Student)!

May Brahman bestow upon us both the fruit of Knowledge!

May we both obtain the energy to acquire Knowledge!

May what we both study reveal the Truth!

May we cherish no ill-feeling towards each other! Om. Peace! Peace! Peace!

This ancient verse clearly explains the student or learner-centric method of teaching learning wherein both the learner as well as facilitator are benefitted by the process. This verse explains that the ultimate goal of education is to search for the ultimate truth for one's existence. It is a journey towards self-realisation and enlightenment and it explains that both the facilitator as well as student work together in harmony to achieve that. This is in coherence with all the elements of modern experiential and interactive learning that involves the participation of students and guidance by the facilitator. NEP also stresses a lot on giving students the autonomy and flexibility in their learning process and to have their participation in the learning process. The use of student centric teaching pedagogies like group discussions, problem based project based learning and experiential learning have been abundantly stressed in NEP. Basically the student centered learning has changed the education process from being 'instructive' to a more 'constructive' one wherein the learners or students construct and reconstruct knowledge through participatory or experiential learning.

Not only the knowledge development of students, NEP also stresses on the capacity and knowledge development for teachers through trainings, internships, faculty development programs so that both the students and the teachers learn together and learn from each other which ultimately helps in raising the quality of the education and overall development of the individuals and ultimately the nation.

This also bears similitude with the principle that the adult learners bring life experiences and knowledge to learning experiences which throws light on the equal partnership of a teacher and student in the student centric teaching learning process.

3. The Pavamana Mantra is from the Brihadaranyaka Upanishad (1.3.28) [11] states

ॐ असतो मा सद्गमय । तमसो मा ज्योतिर्गमय । (Om Asato Maa Sad-Gamaya | Tamaso Maa Jyotir-Gamaya |)

मृत्योर्मा अमृतं गमय । ॐ शान्तिः शान्तिः शान्तिः ॥ (Mrtyorma amrtam gamaya | Om shanti shanti shanti ||)

Meaning [10]:

Om, (O Lord) keep me not in (the phenomenal world of) unreality, but make me go towards the reality (of eternal self),

Keep me not in (the ignorant state of) darkness, but make me go towards the light (of spiritual knowledge),

Keep me not in (the world of) mortality, but make me go towards the world of immortality (of self-realisation),

Om, Peace, Peace, Peace.

This in fact, is the principle sloka for the purpose of education that means bringing student from darkness of unreality to light of real existence and about its ethical principles. The education should not take students away from morality and ethics or human value system which is necessary for the existence of the universe and life.

The ancient Indian system of education laid much emphasis on the overall spiritual development of the individual. It aimed at the development of both the mind and the body of the students thus enabling them to concentrate on such activities as attention, retention, observation and experimentation. This idea has a particular importance for the adult and adolescent age group as the frontal lobe of the brain attains its full development at an age of 18-22 years, which is the exact age group of adult and adolescent learners in higher education set-up [12]. This frontal lobe of the brain is responsible for executive functions, thinking, planning, organising, problem solving, emotional and behavioural control of an individual [12].

At this stage of life, the individual/adult learner has the capacity to understand the ultimate goal of education i.e., self-realisation which has been well written in Indian ancient slokas and should be the intended objective of the teaching-learning process adopted.

somewhere, during the evolution of Indian modern system of education, we have largely focused on the development of the 'cognition' but the 'manan shakti' or training of mind has largely been ignored.

The NEP now lays due stress on the development of critical thinking and reflection skills in the student and advocates to include value based education, morals, ethics and spiritual development of the student through multidisciplinary studies to produce morally responsible human resource for the nation.

This principle correlates well with the development of 'affective' domains of education process in the learner as described by the Bloom's taxonomy [13].

4. Bloom's Taxonomy in ancient times

Dr Benjamin Bloom in 1956 gave the concept of Bloom's Taxonomy to promote higher forms of thinking in education and identified three domains of educational learning [13]. This includes:

- Cognitive or knowledge
- Psychomotor or skills
- Affective or attitude

These domains though largely popularised in 1956 were existent in Indian ancient education system and are explained under the four fundamentals of the ancient Indian education system [14].

First is the knowledge related to life, which signifies that the pupil while staying with his teacher in Gurukul get knowledge of life through listening to his teacher and meditation. The student would acquire practical knowledge of the world and society through close contact with the people. The oral teachings given by the teacher had to be memorised by the student till the advent of writing system. Thus, a lot emphasis was given on rote/memory or cognition. The knowledge given by the teachers correlates with the cognitive domain of Blooms Taxonomy and the connect with people of society for a life like experience would help in shaping the behaviour as well as attitude of the student for life, thus correlating with the *affective* domain of Blooms taxonomy.

Secondly, the close association between the teacher and student would result in all round development of the student as the pupil residing with his teacher would imbibe all the ideals and qualities of his teacher.

Thirdly, the pupil would develop his social contacts during his stay in Gurukul and would collect fuel- wood, supply water and do other household odd jobs for the teacher. This would inculcate the sense of duty, discipline and responsibility in the student thereby developing the 'attitude' of the student. This correlates with the 'affective' domain as explained in Blooms taxonomy.

Lastly, the student would be imparted vocational training in occupations of animal husbandry, agriculture and dairy farming etc., by tending his teacher's cows and serving him in diverse ways. Apart from this, certain skills were also imparted in the learners as per their capability and desire. These skills were classified as 64 kalas and 14 vidyas [Table/Fig-1] [15].

| Name of kala/vidya          | Interpretation   |
|-----------------------------|--|
| Geet vidya                  | Art of singing   |
| Vadya vidya                 | Art of playing on musical instruments  |
| Nritya vidya                | Art of dancing   |
| Natya vidya                 | Art of theatricals   |
| Alekhyia vidya              | Art of painting  |
| Viseshakachhedya vidya      | Art of painting the face and body with colour                                      |
| Tandulakusumabalivikara     | Art of preparing offerings from rice and flowers                                   |
| Pushpastarana               | Art of making a covering of flowers for a bed                                      |
| Dasanavasanganaraga         | Art of applying preparations for cleansing the teeth, cloths and painting the body |
| Manibhumikakarma            | Art of making the groundwork of jewels   |
| Aayyaracana                 | Art of covering the bed  |
| Udakavadya                  | Art of playing on music in water   |
| Udakaghata                  | Art of splashing with water  |
| Citrayoga                   | Art of practically applying an admixture of colours                                |
| Malyagrathanavikalpa        | Art of designing a preparation of wreaths.   |
| Sekharapidayojana           | Art of practically setting the coronet on the head                                 |
| Vaitaliki vidya             | Art of awakening master with music at dawn.  |
| Vaijayiki vidya             | Art of gaining victory   |
| Vainayiki vidya             | Art of enforcing discipline  |
| Balakakridanaka             | Art of using children's toys   |
| Akarshakrida                | Art of playing with dice or magnet   |
| Dyutavisesha                | Art of knowing specific gambling   |
| Vastragopana                | Art of concealment of cloths   |
| Abhidhanakoshacchandojnana  | Art of the use of lexicography and meters  |
| Chalitikayoga               | Art of practicing as a builder of shrines called after him                         |
| Kriyavikalpa                | Art of designing a literary work or a medical remedy                               |
| Manasi kavyakriya           | Art of composing verse   |
| Samvacya                    | Art of conversation  |
| Mlecchitakutarkavikalpa     | Art of fabricating barbarous or foreign sophistry                                  |
| Yantramatrika               | Art of mechanics   |
| Nirmittijnana               | Art of knowing prediction by heavenly voice  |
| Desabhashajnana             | Art of knowing provincial dialects   |
| Dharanamatrika              | Art of the use of amulets  |
| Aksharamushitikathana       | Art of talking with fingers  |
| Kesamarjanakausala          | Art of combing hair  |
| Utsadana                    | Art of healing or cleaning a person with perfumes                                  |
| Sukasarikapralapana         | Art of maintaining or knowing conversation between male and female cockatoos       |
| Meshakukkulavakayuddhavidhi | Art of knowing the mode of fighting of lambs, cocks and birds                      |
| Vrikshayurvedayoga          | Art of practicing medicine or medical treatment, by herbs                          |
| Akara jnana                 | Art of mineralogy  |
| Maniraga jnana              | Art of tinging jewels  |
| Dhatuvada                   | Art of metallurgy  |
| Raupyaratnapariksha         | Art of testing silver and jewels   |

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|--|--|
| Vastuvidya                                 | Art of engineering   |
| Takshana                                   | Art of carpentry   |
| Tarkukarma                                 | Art of spinning by spindle   |
| Pattikavetranavikalpa                      | Art of designing preparation of shield, cane and arrows  |
| Kavyasamasyapurana                         | Art of solving enigmatic verses  |
| Natikakhyayikadarsana                      | Art of enacting short plays and anecdotes  |
| Pustakavacana                              | Art of reciting books  |
| Durvacakayoga                              | Art of practicing language difficult to be answered by others  |
| Prahelika                                  | Art of making and solving riddles  |
| Vinadamurakavadya                          | Art of playing on lute and small drum  |
| Sutrakrida                                 | Art of playing with thread   |
| Sucivayakarma                              | Art of needleworks and weaving   |
| Panakarasaragasavayojana                   | Art of practically preparing palatable drinks and tinging draughts with red colour   |
| Citrasakapubhahakshyavikarakriya           | Art of preparing varieties of delicious food   |
| Hastalaghava                               | Art of sleight of hand   |
| Kaucumara                                  | A kind of art  |
| Aindrajala                                 | Art of juggling  |
| Nepathyayoga                               | Art of practically dressing in the tiring room   |
| Karnapatrabhanga                           | Art of decorating the tragus of the ear  |
| Sugandhayukti                              | Art of practical application of aromatics  |
| Bhushanayojana                             | Art of applying or setting ornaments   |
| <b>Four Vedas</b>                          |  |
| a) Rig veda                                | A large collection of hymns in praise of the gods  |
| b) Sama veda                               | It is a collection of melodies and chants  |
| c) Yajur veda                              | Knowledge of the sacrifice   |
| d) Atharva veda                            | The procedures for everyday life   |
| <b>Four UpaVedas (abodes of knowledge)</b> |  |
| a) ArthaShastra                            | Ancient treatise on statecraft, economic policy and military strategy  |
| b) Dhanurveda                              | Science of archery   |
| c) GandharvaVed                            | Treatise on performing arts, encompassing theatre, dance and music   |
| d) Ayurveda                                | The word ayurveda consists of the words ayus, meaning "longevity", and veda, meaning "related to knowledge" or "science". Thus, ayurveda is the science of life                |
| <b>Six Vedangas</b>                        |  |
| a) Shiksha                                 | Science of phonetics and phonology of sanskrit, its aim is the teaching of correct pronunciation of the vedic hymns and mantras  |
| b) Kalpa                                   | Art of rituals   |
| c) Vyakaran                                | Sanskrit grammatical tradition of vyakarana  |
| d) Nirukta                                 | Art of etymology, particularly of obscure words. It consists of brief rules (sutras) for deriving word meanings, supplemented with glossaries of difficult or rare vedic words |
| e) Chhanda                                 | Study of vedic meter in classical sanskrit poetry  |
| f) Jyotish                                 | System of astrology  |

[Table/Fig-1]: List of 'kalas' and 'vidyas' in the ancient Indian system of education [15].

Thus, the ancient Indian education was not merely theoretical but was related to the realities of life. The concept of 'Learning by doing' was the very core and essence of education in ancient India. This very well correlates with the psychomotor domain of the Bloom's Taxonomy.

The students or learners at that time were also given a choice to select from the list of kalas or vidyas as per their competency and desires. In the ancient scriptures, only Lord Krishna has been mentioned to have learnt all of these kalas within a span of 64 days [15].

These skills (kalas and vidyas) were required to be learnt through practical training and interactive practice and were the foundations for the skills required to earn the livelihood.

This is same as the concept of skill based courses that are being focused upon in contemporary education in today's times instead of only the theoretical knowledge. This has also been much emphasised in the NEP which advocates initiation of vocational courses in higher educational institutions to enhance the competency, employability and entrepreneurial skills of the learner.

The age old concept of allowing the learner to choose the skill they want to pursue has now been introduced in higher education system as choice based credit system where the student can choose their own courses as per their desires. And this has been the main highlight of NEP that advocates to have a flexible curriculum and in giving autonomy to the students to choose their courses and pursue a career they desire.

#### 5. Tarka Shastra

In Indian tradition of learning there were six principle shastra out of which four were of great importance. These include "Vyakarana, Mimamsa, Tarka, and Vedanta" [16,17].

Out of these, Tarka shastra was the most important in teaching learning methodology. Tarka Means 'logic'. This shastra includes a debate or an argument between two parties, the one who raises the question called "poorav paksha" and other who submits the answer with arguments is called "apara paksha".

This shastra is a type of teaching learning methodology followed and in the contemporary scenario, it can be categorised under participatory and experiential method of teaching and learning like interactive session, tutorial or group discussions. The adoption of these student centric and participatory pedagogic practices for better learning experience of students has also been much highlighted in NEP.

#### 6. Role of Teacher (Acharya, Upadhyay, Charakas and Guru)

In the ancient Indian system, teacher was more of a facilitator who imparted knowledge through story telling, memorisation, hands on methods, critical analysis, seminar and question and answer interactive sessions which is exactly what are being advocated now in learner centric system of teaching and learning process and in NEP.

## CONCLUSION(S)

The ancient Indian education principles and best practices are extremely relevant even in today's times. This is explained by the re-emphasis of all these principles in the recently introduced NEP which

signifies the about turn that Indian education system is taking to take us back to Indian roots. The Indian ancient education system also included the principles of adult teaching and learning which are currently popularised for higher education in the modern education. The understanding of these principles and practices would help all the academicians in building strong individuals who are competent, skilled, employable as well as morally responsible citizens of the nation.

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