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# **Role of Indian Knowledge System and Modern Strategies In Secondary School Education**

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## **ABSTRACT**

*In the 21st century, humans believe that knowledge-gaining path is only through education. Today, the progress of a nation is more than ever dependent upon the quantity and quality of education received by people. From the point of view of education as a human need, emphasis has to be placed on the mastery of the spoken word as a medium of communication and socialization, the acquisition of universal literacy, its capitalization, the acquisition of education with lifelong activities. The present article entitled as 'Role of Indian Knowledge System and innovative modern strategies in secondary school education'. In this article researcher focused on knowledge needs to be developed internally in the mind and external observation with activities in the secondary school students. It is the age of secondary students to grasp maximum things and connect their knowledge to society /environment. Socialization is more found in this age i.e. 13 to 15. The present article studies on Indian knowledge system with ancient to present scenarios by streaming these points i.e. What is knowledge? What is education? What is experience? Which is the first among it? Indian Knowledge System (IKS) in ancient periods is discussed in the paper, they are Vedic knowledge system, Buddhism knowledge, Muslim knowledge system, British knowledge system, IKS after independence. Essential factors of good knowledge in the modern secondary school education system: Integration of Philosophical education, Psychology education, moral education and technological education. Enlightened the role of teacher in IKS and Review of related literature are discussed in the paper.*

**Keywords:** Vedic knowledge; Buddhist Period Knowledge; Experimentation; Teacher Role

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## **INTRODUCTION**

In general, knowledge is the word to 'know' something in a fictive sense. The term epistemology is an expression of philosophical conviction; epistemology is the study of knowledge. Knowledge is said to be overall understanding of the world, be its mental physical, sociological, biological, and spiritual in human being in wide range. According to Plato "Human knowledge should fulfill the condition of being justified, belief and truth"

According to National Educational Policy, 2020, "The Indian knowledge system comprise of jnan, vignan and Jeevan Darshana that have evolved out of experience, observation, experimentation and rigorous analysis. This tradition of validating and putting into practice has imparted our education, arts administration, law, justice, health, manufacturing and commerce" (Ministry of Education, 2023). Indian knowledge system includes Health, well-being, consciousness, tradition, astronomy, mathematics, economy studies and so many life skills. Vocational education was found in secondary schooling but the new Indian education system implemented higher education as optional subjects.

## **REVIEWS OF RELATED LITERATURE**

Arunima and Pakkerappa (2018) studied specific business review international 'students study conducted on perception of school teachers in knowledge management, the result revealed that very young teachers and highly experienced teachers were more positive enthusiastic about knowledge system practices through various activities'. Poonam Thapliyal (2023) studied on IKS in curriculum in higher education the result reveals that proposed model of IKS is helpful for those whose interest among this courses.

## **WHAT IS KNOWLEDGE?**

Knowledge is the word to 'know' something in a fictive sense. The term epistemology is an expression of physical conviction. Epistemology is the study of knowledge. Knowledge is overall human being understanding of the world, in terms of physical, socially, mentally, biologically and spiritually.

According to National Curriculum Frame Work 2005, "knowledge can be conceived as experience organized through language into patterns of thought, thus creating meaning, which in term helps us to understand the world we live in. It is a patterns of activity or physical dexterity with thought, contributing to acting in the world and the creating as well as making of new things. Human beings over time have evolved many bodies of knowledge, which include repertoires of ways of thinking of feeling and of doing things, and constructing more knowledge" (Prajnya, 2014).

Knowledge is awareness, understanding, information description, through discovery and learning etc. The three type of knowledge are prior knowledge, experimental knowledge and Posterior knowledge.

## **PRIOR KNOWLEDGE**

Before leading or gaining to experience person derive the knowledge. It is also called *swayam siddha dhyana* in philosophy. Without having experience if person come to know about fact in the absence of avoidance is known as prior knowledge. Through intro vision, introspection or thinking knowledge is gained. The nature of knowledge is a universal and based on truth. This knowledge is found in saints, glorified soul or pieties.

## **EXPERIMENTAL KNOWLEDGE**

A person has when they know some facts with having any type of evidence from his experience. The evidence might come from their experience. After the experimentation truth or knowledge comes out. This knowledge is called *anubhava janya dhyana*. Example Scientist, experimenters, or any research based knowledge related to posterior knowledge.

## **POSTERIOR KNOWLEDGE**

This type of knowledge in philosophy is called as *Anubhava vedhya dhyana*. It is not guessing or experienced knowledge it is gained through perception or grapping through sense organs. Examples skills, attitude or senses organs provide knowledge.

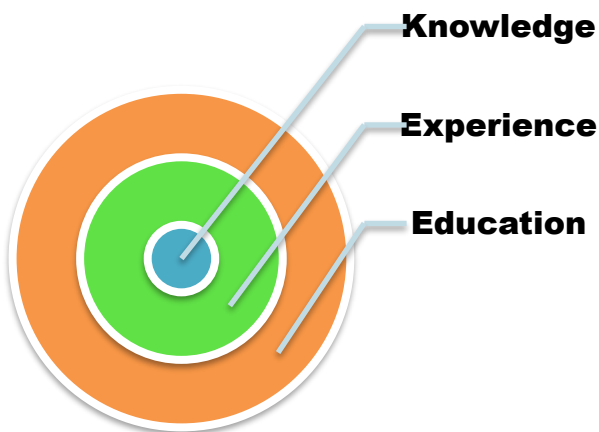
## **WHAT IS EDUCATION?**

According to Rigveda (3000 B.C) "Noble thoughts coming from every side". According to Aristotle (384-322 B.C) 'Education prepares the student for his eudemonic life with happy and joyful human being when he attain their highest excellence' (Kongawad, 2007).

## **WHAT IS EXPERIENCE?**

According to philosophers experience is process of in which knowledge is obtained by specific and concrete. With the direct observation or participation of human experience is gained authentically.

Always experiences are based on past events and are by practice skills , learning, visual, audio etc, is store in memory which performs very quickly process and gives outcomes.



*Figure: 1. Relationship between Knowledge, Experience and Education*

## RELATIONSHIP BETWEEN KNOWLEDGE, EXPERIENCE AND THE EDUCATION

Knowledge is independent factor. Experience is depend on knowledge and past performance while education through both knowledge and experience is gained. Knowledge is first, experience is second and education is third factor.

In general we interpret that knowledge is information and skills acquired through experience or education. Experiences and learning are two sides of one coin. It is related as experience to learning. All the knowledge can't be acquired by learning, it provide through experience.

## IKS IN ANCIENT PERIODS

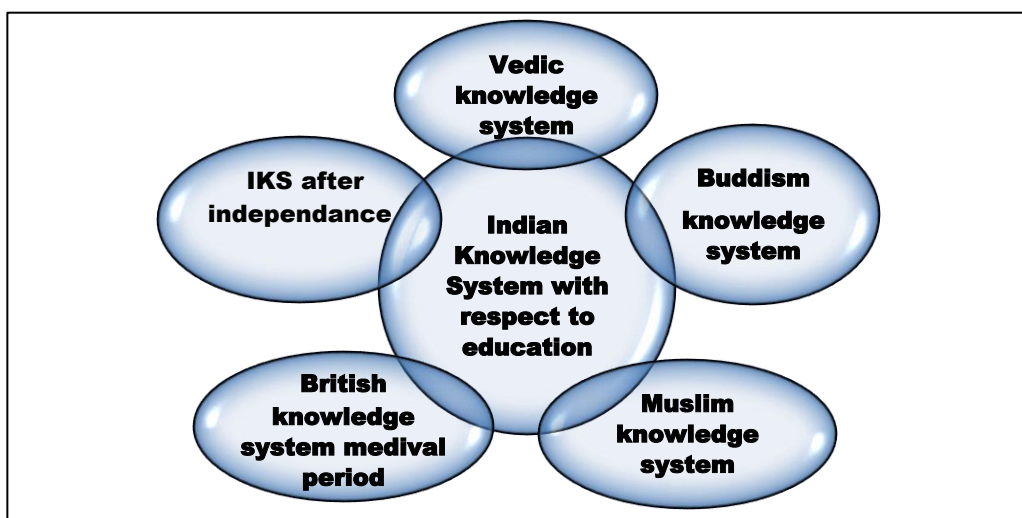


Figure : 2. IKS in Ancient Periods

## VEDIC PERIOD IN INDIA (3000-500)

Vedic knowledge refers to some collections of ancient texts and culture of Hindu as well as Indian Country. The word Veda means spiritual knowledge derived as 'Vid' taken from sanskrit it means "to know". The aim of Vedic education was to realize the supreme and achieve supreme consciousness (Brahman). Vedic period, people wanted knowledge to remove ignorance/unawareness move towards enlighten. In the vedic period to achieve the salvation the paths are development of mental, spiritual, physical, and intellectual powers. Vedic knowledge is third eye of the person not to seen only get experience. It protects the human through spiritual and Goddess enlightenment knowledge.

To improve the knowledge by treading, discussion, experiences, recitation, illustration with examples, question answer methods stands first instead of certificate course. To move towards spiritual world it is only one path that is through control of the sense organs which

was practices and though from guru to students. Learning is possible through formal and informal education. Matter, things, property vanishes but knowledge remain forever in the mind. To controlling over mind only possible through tool called knowledge. Spirituality involves environment of teacher and learner. Students consider venerable, should to teachers. Inculcation of a spirit of piety and righteousness was the aim of education.

The education provided at the age of 8 years to 12 years classroom under the tree or temples. Brahmin caste students used to learn Vedas with maximum memorization drill and practice methods. The subjects of curriculums during this periods was Vedas, types of Vedas, history, arithmetic, geometry, philosophy, ethics, rituals, astronomy, logic sequences, ayurveda medicines, animal husbandry, commerce, trade, yoga, sculpture, diplomacy, agriculture, military science, construction and administration from primary education to higher education. Only girl child can take education not married womans. Woman need to perform Vedic ceremonies properly.

### **BUDDHISM PERIOD ( 200BC-200AD)**

Buddhist expand of knowledge through education was for all. This is the preseason people shifted from Brahmin to Buddhist education. Everyone should get spiritual knowledge and physical knowledge. To gain knowledge person should be far away from the eastism. Buddhist said knowledge that life is a type of cycle of rebirth and suffering. To believe enlighten called Nirvana in a life it is possible only by escape from this cycle. According to Buddha says "The real knowledge which is nothing but wisdom can be attained by knowing the impermanent nature of all objects we hank after and annihilating cravings for them". Living with the practicing of meditation are essential conditions for gaining wisdom. Buddhist epistemology of knowledge is perception and inferences are the correct knowledge. There are seven elements of knowledge in it they are mindfulness, investigation, effort, joy, tranquility, concentration and equanimity. Types of knowledge are hearing, thinking, mental, cultivation.

Knowledge invariably has a connection with the objects of the senses. For 8years education started up to 20 years, students used to be qualified to become monk. 'Pali' language is used to instruct students and given preference local language. Education facilitated under the tree. Vocational educations are writing, agriculture, commerce, animal husbandry, magic and archery etc. Subjects are medicine, social service general behaviors. No freedom was given to woman to get education.

### **MUSLIM PERIOD KNOWLEDGE ( 570AD- 632AD)**

The basic knowledge of Islam to keep belief in God called Allah. They belief in prophels, angles, Islam books, day of judgment and fate. Knowledge is an assign or allocate of Allah and may all knowledge originates from Allah. Islam make 3 major divisions of knowledge they are religious, pure and natural science. Basically Islam believe knowledge is in pure form. Without knowledge there is not salvation. Everybody should get education to gain knowledge. Knowledge peoples able to be aware of good things and bad things. Muslim

education was oriented not only to the major sources of knowledge are Quran and Hadith. Al-Khabar al-sadiq was the primary sources of knowledge among them. The mosques in the early decades of Islam formed the activities related to political, social, religious, and education. Also formed valuable libraries comprising books on religion based, philosophy, and science to build knowledge. Religious knowledge for salvation one of main of Muslim education was to spread the religious knowledge to masses for the purpose of achieving salvation (Wani & Maqbool 2012).

At the age of 4 years, 4 month, 4 days Maulvi (teacher) used to recite the relevant recitation from Kuran. Only Muslim Caste students given education The subjects are thought based on Kuran and the medium of language are Arabic and Persian. The main practice skills areas are sculpture, house construction, weapon, construction. Muslim rulers emphasis was on moral values, conservation, letter writing arithmetic's, agriculture, medicine, logic, physical mathematics and divine philosophy. Woman education was neglected.

### **BRITISH PERIOD ( 1765-1946 )**

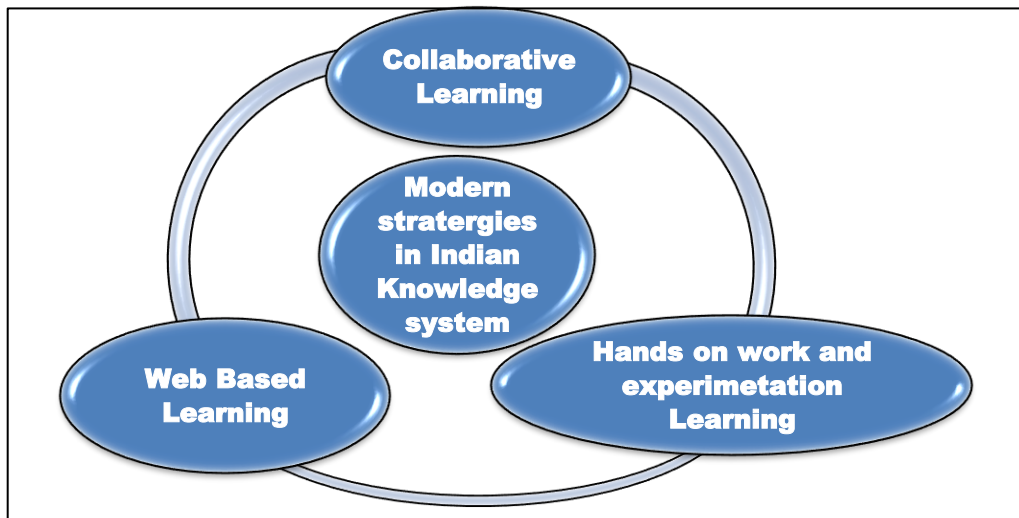
In the British Indian education system religious institutions neglected / abolished and established British education institution in English language for schools and colleges. British education policies come in to two sections they are first one east India Company and British Crown. It brought western knowledge and science, created social and political awareness in Indian country. Given importance to Indian arts also developed literacy with cultural consciousness. Lack of plan for establishing the education and present educational institutions were neglected. Mass education was major weaknesses and neglected woman education. Higher education involved technical education, science and arts.

### **AFTER INDEPENDENCE (1947)**

Indian government appointed secondary school education commission on September 23, in the year 1955 under the Dr. Lakshaman Swami Mudaliar as chairman. Aim of education to develop capacity for clear thinking and new ideas. Clear in speech and writing. Mother tongue was first priority to give instruction in secondary school education. Subjects thought social studies, general science, mathematics, craft, music and physical education. Activity method, experimental method, demonstration method, introduction method, project work and co-operative work used in classroom.

Priority given to religious education, moral education, health education, guidance towards vocational education and dominant too much by examination. The curriculum was narrow based on bookish and theoretical . Does not include technical and vocational subjects which are essential to training the students to take part in the industrial and economical development of the country.

## **IKS IN MODERN PERIODS**



*Fig:3. Modern strategies of knowledge system*

## **COLLABORATIVE LEARNING**

This is type of learning or educational approach necessary of grouping of learners work together to solve or take the problem, complete task in appropriate manner and able to learn new concepts. The pioneers of this approach are psychologists Abraham Maslow, Paolo Freire and Lev Vygosty. It is focus on the collective or group knowledge and thinking of the group changes the role of students, teacher and they interact in the classroom. The major steps to conduct collaborative teaching to gain knowledge are

- Identification of the problem
- Formation of group of students
- Sharing of ideas
- Teachers facilitates learning evidence
- feedback

This type of learning designed based on objectives formed on concept. Here students work with the team mainly concentrated on group rather than the individual work. It involves more activities and understands about team support. Students share their knowledge with each other and communicate each other. Student learns responsibilities and come out from hesitation. Teacher always with stand as facilitator for collaboration in teaching-learning. The major principles are discussion, share knowledge/ideas, collaboration, interaction, brain stormed and community. Teacher introduce about the group making 5-6 number of students, instructing students to discuss about debate topic given by teacher with their interest. The arrangement of students with 4 members, first student called co-coordinator, second one note taker, third one summarizer and finally planner of next steps. Monitor

group of students walk around address any questions as needed. At the end of the discussion calling students to share, summaries the topic given to them. Allowing the rate or grade of students each other based on quality and quantity of contributions. Encouraging students to handle their own issues before coming near to teacher .

## HAND ON WORK AND EXPERIMENTATION

Hand on experiments learning is learning by doing method. In this students actively participate in various activities using their hands and bodies to learn concepts clearly. Examples: touching the object, grasping, feeling, holding, manipulating, caressing etc. Also pushing, pulling, toughing, sweeping and carrying provide experience. Experimental learning provides experience and applies their knowledge in which they have learnt in a real world situation. Example field trips, guest speakers, demonstrations virtual experiences projects making etc. According to psychologist Edger Dale (1969) 'The learners retain more information by what they 'do' as opposed to what is 'heard', 'read' or 'observe'



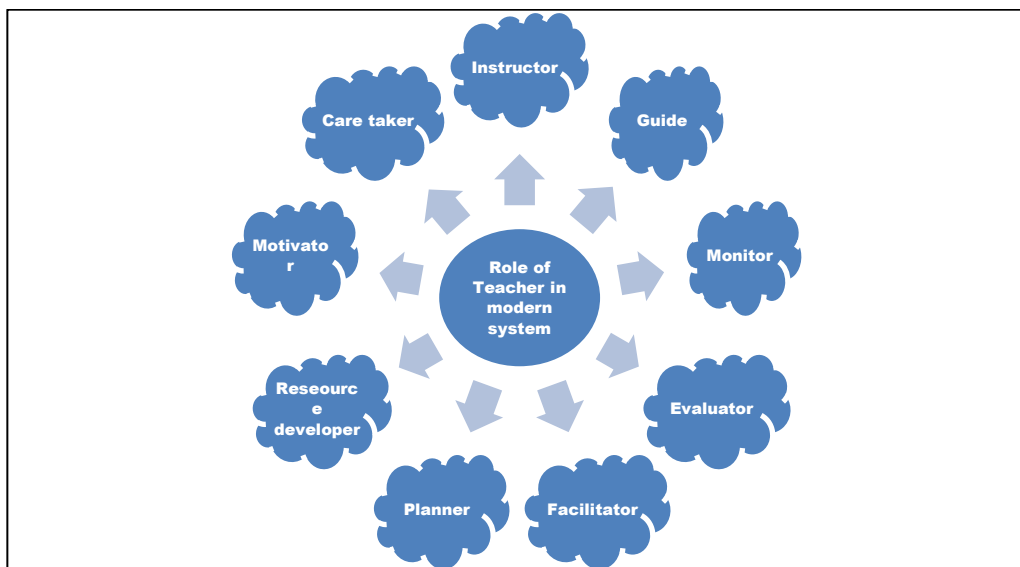
Figure: 4. Edger Dale cone of experience of learning

In this Cone of experience 10% reading concept perceived by students. 20% by hearing remained in their mind, 30% watching videos and view images, 50% grabbed knowledge by exhibition, demonstration and hands on experience, 70% collaborative learning with peers, friends, parents and teachers, 80% achieved by experiences a phenomenon and finally 90% gives real results by experimentation or presentation among learns/students.

## **WEB BASED LEARNING**

Web based learning is one way to learn, using web based technologies or tools in a learning process (Michael, 2007). Web based learning that uses the world wide or the internet as a means and a method for delivery for learning and instruction (Alessi & Trollip, 2011). By the above definitions we can predict as web based learning is one way and two way learning, through web student and teacher learn self and which boost the individual confidence among them. web based learning provides audio visual aids, graphics, images shapes, maps and graphs to learn effectively along with the long term memorization. Web based instruction means (Computer assisted Instruction) is a method of developing lessons where teacher can use the web (online) source to students which can access to recover any information that would be useful to them.

The main role of the teacher is she/he must be a guide in the use of tools that means to assure the correct usage of each one of these resources. The technology advances every day, the teacher has to catch up to the current technology that is master piece in this method. Teacher has to choose the best programs relevant to subject and other informational tool which is correct for students to develop skill and entertainment as well due to this method it is a essential part. The question comes that why to use this WBL innovative strategy because it enhance students and teachers learning. Spending more time with students working in small group, large group and one on one reduce difficulties in teaching tasks, reducing paper flow and management and also improve instructional materials.



*Figure: 5. Role of teacher*

### Role of teacher in IKS: (Guru, instructor, Guide, facilitator, organizer)

- The aim of education to upgrade of knowledge among students through teaching. Change of behavior is called learning. This aim was found earlier and present education.
- Earlier Guru always with stand as a father of learner and developed over all skills. Teacher had patience, humanistic, emphatic listener, humble, ethical and caring towards learners. Modern teachers respect student's knowledge, humorous, emphatic listener, creative, passionate, personality developer, subject experts, good communicator and skill developers
- Role of teacher will be discussed below by comparing ancient period and modern periods. Guru, shikshak and swami etc termed were used in ancient periods. In new education system teacher is named with various terms they are
- Along with the knowledge development teacher need to counsel, motivate and guide students to realize their life goals in term of self actualization.
- Morality, respect to teacher and obedience was found absent in ancient periods but in modern education loosing morality, respect over the teacher. The pre-season behind this is luxurious life style and improper use of electrical gadgets. It is proved by various research studies.
- Innovative teaching method, strategies, techniques and tools is provided by government to secondary schools education to bring effectiveness in teaching, knowledge development, updated knowledge, and active classroom.
- New Indian knowledge system incorporating web based learning, projective learning, collaborative learning and computer assisted learning and activity based learning along with the traditional teaching learning process.
- Various pre-service and in service-trainings is provided to teachers to improve students grasping through multimedia, audio-visual aids, chats, static models, motion models, discussion forums field strip etc.
- Teacher role to planning, preparation, organization of content, elaborating content, evaluation stages for classroom teaching.

### **ESSENTIAL FACTORS OF GOOD KNOWLEDGE IN MODERN SECONDARY SCHOOL EDUCATION SYSTEM**

#### **Philosophical education**

Philosophy means in the Indian point of view Prof M. Varma in his book said Indian term Darsana as an equivalent to philosophy i.e means of 'seeing'. Swami Vivekananda educational philosophy says "All knowledge secular or spiritual is in human mind, knowledge is inherent in man, no knowledge comes from outside, it is all inside. The soul is the source of infinite knowledge, which has been existing there through eternity. So each

of us carries the infinite library of the universe in our mind. This knowledge is covered and hidden like a mine. It is for us to unearth, to uncover, to unveil, to discover". Philosophical education is a bunch of beliefs and guiding principles for teachers in knowledge development among students.

### **Psychological based education**

This type of education is essential to explore the cognitive, behavioural, emotional and sociological influence on the learning process to gain knowledge. This factor affects more on students because educational psychology is used in the consultation, it helps students by working through others who have direct contact with them and who most influence on their lives. It helps in the development of skills like observation, experimentation, clinical, developmental and testing.

### **Moral Education**

It is a type of education that involves process teaching and learning about the principles and values of truth. It fosters ethical principles, compassion, honesty, empathy and integrity. In between various electronic gadgets and mass media, moral values disappearing. It is the responsibility of the teacher to follow and incorporate moral values first to teach students. It influences students to be brave in handling problematic situations.

### **Technology-based education:**

Education technology brought innovative techniques, tools, methods and strategies to make the teaching-learning process scientific, clear, simple, easy, innovative, paperless, interesting and effective. It helps students to get infinite knowledge, and information through various multimedia, gadgets, audio-visual aids and the internet to connect with other country people to share our knowledge. Wild wide through teleconference students can learn new aspects and share their knowledge fraction of a second.

### **CONCLUSION**

As far discussed above Indian knowledge system was based on formal or informal education. In the present scenario, we call it formal education. Learning is a process carried throughout the life with various knowledge. But education is specific to some extend move with the options for higher education. In secondary education universal knowledge being developed in classroom more than that of environment local knowledge. To study our culture, morality, historical, philosophical and new updated knowledge is achieved through the education. In secondary schools along with Indian knowledge education recent strategies and tools are using by teachers to improve students in learning with gaining knowledge. Collaborative teaching, experimental teaching, hands on work, project based teaching, web based learning are the new strategies using in modern education to bring effectiveness in teaching and learning along with improving knowledge.

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