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"Bougainvillea" by Surmeet Kaur
-Artist's portrayal of the feminine connection of protecting the earth, environment, and life

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About cover page pic

Title- Bougainvillea. Medium Watercolor on paper, Size - 8 x 11 inches
"The feminine connection is a portrayal of the soft, sensitive, vulnerable yet adamantine connection we all share with each other beyond gender, race, class status, ethnicity, and so on. The flowering tree not only depicts the delicate and graceful character of the feminine aspect of protection and resilience in times of alarming humanitarian challenges and climate change. It presents a motherly perspective of beauty, equality, and oneness in the true sense".
Email: surmeetartspace@gmail.com | instagram: Surmeet_Art_space | website: surmeetartspace.com

EDITORIAL

REMOVAL OF GOVERNOR AS CHANCELLOR OF STATE UNIVERSITIES BY THE GOVERNMENT OF ONE STATE AFTER OTHER STATE!

The institution of the Governor of State, as mentioned in the Constitution of India, ensures checks and balances in a democracy. It is a constitutionally mandated office. Hence it is expected to be above any political party in power in the state/centre. It is also expected that even if he/she is appointed from any political party he/she is expected to act above the party considerations. However, quite often some conflict occurs owing to differences in visions/actions of the party in power in the state and the governor of the state/centre.

Several State University Acts had provided that the Governor of the State would also be Chancellor of the universities in the state. As Chancellor he /she is an appointing authority and is in Chair at the time of award of the degree to the students. As per the Universities Acts Chancellor is to appoint a Vice-Chancellor of the University out of a panel of three/ five names suggested by the search committee. The position of the Governor of the state was assumed to be a non-partition person. Even if a person belongs to a political party prior to his/her appointment he/she is expected to play a non-party role. However, things started changing in the early 80s.

The first change occurred in Tamil Nadu when the state was headed by Smt. Jayalalitha the then Chief Minister of the state from the AIDMK political party. Dr. Chenna Reddy was then the Governor of the state and the Chancellor of Universities in the state. The convention may have been that Governor would normally consult informally with the state government before the appointment of the Vice-Chancellor of a University. However, Shri Chenna Reddy in his wisdom thought that he can appoint the person without even informal consultation with the state government i.e. Chief Minister. Smt. Jaya Lalita was upset and she brought out an amendment in the Act of universities wherein a clause was added that Chancellor would appoint Vice-Chancellor of University in consultation/concurrence with the state government. There were a lot of newspaper reports at that time blaming political interference in the Universities. But the high position of the Governor of the state also got to blame for political considerations.

Over a period of time position of governor, though expected to be non-political tended to become politically oriented. This happened one after other states. Many states also introduced the provision of consultation /concurrence with the state for the appointment of the Vice Chancellor by the Governor in their amended universities Acts.

The recent amendment of the Universities Act 2022 in Tamil Nadu moved by the Chief Minister Mr. M.K. Stalin of DMK, even takes over the power of the Governor to appoint the Vice-Chancellor of universities in the State. There are stated to be 13 universities in the state. The oldest Chennai University Act of 1923 was also amended to empower the state government to appoint and remove the Vice=Chancellor. The reason for change also cited the provision in University Act 1949 in Gujarat wherein the state government has the power to appoint the Vice-Chancellor of the University in the state. It also cited the Telangana University Act of 1991.

The Maharashtra Government also amended the Public University Act in 2016 to empower the state government with regard to the appointment of the Vice-Chancellor of Universities in Maharashtra. Governor is given choice to appoint out of two names given by the government. West Bengal also amended the University Acts to empower the state government to appoint the Vice-Chancellor.

Ms Mamata Banerjee, the Chief Minister of the State of West Bengal from the Trinamul Congress Party has even said that she would like to remove the governor from the position of the chancellor of the University. She passed the bill in the legislative assembly to amend the universities act and removed the Governor as chancellor of

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Editor
G.D. Sharma
Co-editor
Baldev Mahajan

Seed-Chest has launched International Diploma in Educational Leadership- Higher Education - Fourth batch. It has put contents on Canvas Learning Management System. First course on Leadership, Planning and Finance was completed on 31 November, 2022. The Second Term course on Policy, Excellence, and Internationalization started from 1st December, 2022. These are modularized courses. Each module is transacted over a period of one month. There are interactive sessions every Thursday for two hours between 7 to 9 PM. Participants are taking an active interest in learning from LMS and interactive sessions. The module on Achieving Excellence and Assuring quality in Higher Education starting from 1st January, 2023 and Module on Internatinalization will start from February, 2023.

This is a modular programme. Every module has credits and can be taken by the participants by enrolling for the module. On completion of the module and presentation of the learning outcome portfolio the participants can earn a certificate of credit earned. In the same way, participants can complete a term containing three modules and get credits and certificates for the completion of a term. The next term will start from March, 2023 containing modules on AI, IoT, Blockchain, Brand Building and entrepreneurship. Interested persons can visit www.seededu.org or write an email for details to programme coordinator of IDEL-HE

LEADERSHIP DEVELOPMENT PROGRAMME FOR DEANS OF UNIVERSITIES, PRINCIPALS OF COLLEGES AND IDEL-HE

Introduction:

The means of production and distribution owing to the introduction of digital technology are changing very fast. The organization of services and the system of governance are also changing at a very rapid rate. Research and development added with digital technology have assumed higher speed in the application. Many cognitive skill jobs are being performed by machines. The education processes are highly impacted by digital technology. With the introduction of the high-speed real-time communication, process teaching-learning is transforming rapidly. To respond to the emerging situation National Education Policy, 2020 has recommended several reforms in higher education. To implement these reforms coordination and maintenance standards agencies have brought out several guidelines and new regulatory measures. To discuss these key reforms and strategy to implement a three-day leadership development programme was organized at India Habitat Centre from 19th December, 2022 to 21st December 2022.

The Programme focused on:

(i) Multidisciplinary, outcome-based education, National Qualification Framework, and Academic Brank of Credit.
(ii) Issues in the financing of Reforms in higher education,
(iii) Institutional Development Plan- UGC IDP Framework
(iv) Use of AI, IoT and Block chain technologies in education.

The programme was inaugurated by Dr. Mahesh C. Pant, Chancellor, the National Institute of Educational Planning and Administration, New Delhi. The inaugural session was chaired by Shri Baldev Mahajan, former Director, NIEPA. Dr. Pant highlighted the relevance of NEP-2020 and emphasised on overall development of students. Shri Mahajan focussed on several aspects of NEP-2020 and said a great deal of efforts and commitment is needed to implement the reforms.

Several eminent academics presented their views and interacted with the participants. Among them are Professor K. Ramachandran, Senior Advisor NIEPA. He spoke of Multidisciplinary aspects of policy and interacted with participants.Professor Furqan Qamar. Former VC Central University NIEPA, spoke on Issues of Financing of NEP-2020 Professor Bhusan Patwardhan, Former Vice Chairman. UGC and Present Executive Chairman, NAAC, Bangalore, spoke on strategy for implementation of reforms and shared his vision of Re- Imaging NAAC/ Professor Sudhanshu Bhusan. Professor at NIEPA and Acting VC NIEPA, shared concepts and practices of development of Institutions. Professor AC Pandey, Director, Inter-University NEC Centre, New Delhi spoke on institutional Development Plan-UGC framework. Professor GD Sharma, spoke on Autonomy and Degree Granting Status to Colleges. Professor MM Pant, Former PVC IGNOU, New Delhi, spoke on AI in Education and education Dr. RC. Sharma, of Ambedkar University, on AR and VR with Shri Yaspal Sharma Dr. Bhawana Chibber, New Delhi, on the use of AI in Higher Education Professor K. Srinivas, NIEPA, New Delhi on LMS and MOOCs in higher education. Shri Vishal Sahgal, New Delhi spoke on AI software for Education

Professor NV Varghese gave valedictory addresses and distributed certificates to participating Deans of Universities, College Principals, and IDEL-HE participants. In his valedictory address, he delved into key issues of the development of higher education.

KNOWLEDGE GENERATION IN INDIAN WISDOM TRADITION

PROF. NARAYAN PRASAD *

The paper deals with the method of Knowledge generation in western and Indian philosophical systems. According to it, knowledge enshrined in western philosophy is belief-driven in terms of ontological and epistemological assumptions while in Indian wisdom tradition (IWT) it is inquiry-driven. The pursuit of knowledge for the sake of knowledge has never been the ideal of IWT

Unlike philosophy of science as envisioned in Western Philosophy (WP), 'Darshan' in Indian Wisdom Tradition (IWT) as knowledge seeking activity means seeing the truth. Here knowledge generation through inquiry is not just confined to fulfilling intellectual curiosity or for advancement of knowledge alone. The purpose of knowledge is to redress the human predicaments (dukha-traya). Knowledge generation aims to experience, intuit or to realize the truth. The Western view that Bhartiya Darshan is only a combination of theology and mysticism devoid of rigorous investigation through reasoning is incorrect and contrary to the facts. Bhartiya Darshan enquires into the objects of the empirical world, supernatural objects like God, values of various kinds and the subjective states of experience by following rigorous inquiry.

Keeping in view the philosophical contrast between Indian Wisdom Tradition and Western philosophy regarding knowledge generation, the paper addresses the following questions:

1. What are the characteristics of knowledge in IWT?
2. How knowledge has been conceptualized in IWT and what is the distinction between jnana (cognition) and prama (knowledge)?
3. What has been the process of knowledge generation in IWT?
4. What has been the philosophical stand of IWT on ontology, epistemology and axiology?
5. What is the distinction between Indian Wisdom Tradition and Western Philosophy (WP) on the various issues connected to Knowledge Generation?

For the sake of convenience of the presentation, the paper has been divided into four parts. The first part deals with the characteristics of knowledge in IWT, its conception and process of generation. The second part throws light on the ontology, epistemology and axiology as envisioned in IWT. The third part provides a brief comparison between Indian Wisdom Tradition and Western Philosophy on various issues connected to knowledge generation. The fourth part provides the summary and conclusions.

*Professor of Economics, School of Social Sciences, Indira Gandhi National Open University, New Delhi

I

From the very outset, it is pointed out that there are six Indian orthodox *Philosophical Systems namely, Sankhya, Yoga, Nyaya, Vaisesika, Purvamimansa and Uttarmimansa* who believe in the authoritativeness of the Vedas. Against these, there are other three philosophical systems i.e. *carvaka*, Buddhist and *Jaina* systems which do not believe in the authoritativeness of the Vedas. These are referred to as heterodox systems of Indian Philosophy.

From the very outset, it is pointed out that there are six Indian orthodox Philosophical Systems namely, Sankhya, Yoga, Nyaya, Vaisesika, Purvamimansa and Uttarmimansa who believe in the authoritativeness of the Vedas.

All these nine systems together are covered under Indian Wisdom Tradition. However, this paper is based only on two systems: *Nyaya* and *Vaisesika* in the matter of empirical knowledge and Vedanta in case of transempirical knowledge.

FEATURES OF KNOWLEDGE GENERATION IN IWT

1. Philosophy of science as knowledge seeking activity in Indian Wisdom Tradition moves to know from gross to subtle, from external to internal world, from object to subject and from manifest to unmanifest.
2. Knowledge is generated through enquiry. Three kinds of enquiries are involved in the process of knowledge generation- subjective enquiry *(Pramata Vichar)*, objective enquiry *(Prameya Vichar)*, and purpose of the enquiry *(prayojana Vichar)*.
3. Unlike western philosophy, philosophy of science in IWT as knowledge seeking activity is not restricted to intellectual enquiry or just for advancement of knowledge. The purpose of the enquiry into the means of knowledge as well as objects of knowledge is to redress the different kinds of human sufferings. In this sense *Bhartiya Darshann* is not only a theory but practice, not only a view of life but also a way of life.
4. Reasoning is followed during the course of enquiry. Indian logical tradition in terms of *Purva paksh* and *Uttar paksha (Samvad)* is resorted to make the mundane life comfortable and to remove ignorance

led delusion.
5. Knowledge is not *Purush tantram* but *Vastu tantram* i.e. it does not depend on the will or action of a person but on sources or means of knowledge *(Pramanjanyam)*.
6. Enquiry is open to everybody irrespective of enquirer's belongings to any caste, religion, county or time.
7. The results of the enquiry are verifiable or repetitive in nature. The results can be put under scrutiny or verification to other investigators.
8. Systematic research methodology rooted in Indian Logical Tradition is followed during the course of enquiry.

PRAMA AND COGNITION:

The term *'jnan'* (cognition) and *Prama* (knowledge) in Sanskrit language are distinct to each other. Jnana stands for all kinds of cognition. It may be valid, false or doubtful. A valid cognition is termed as samyak jnan, an erroneous cognition as viprit jnan, and a doubtful cognition as sansaya jnana. The word '*prama'* on the contrary, is valid knowledge. It does not have the prefixes like valid, erroneous or doubtful because of the fact that prama is always necessarily valid. The expression 'erroneous knowledge' reflects inherent contradiction because what is erroneous, cannot be knowledge and what is knowledge cannot be erroneous. Similarly, the expression 'doubtful knowledge' is again indicates contradiction because two words do not go together. Prama has two characteristics: truth (abadhitva or yathartatva) and novelty (anadhigatatva) in the context of Pramana theory in IWT (Datta, DM, 1972).

WHAT IS KNOWLEDGE?

"Prakarshen Miyate Anaya Iti Prama" (Sukhbodhanand, 2017). In simple terms Prama refers to cognition of an object measured or ascertained by way of intellectual or mental modification (Budhivriti). In other words, grasping the correctness of any object of knowledge through the instrumentality of mental modification is termed as Prama. Prama has been defined by different Indian Philosophical Systems in a different way.

According to Vedanta valid Knowledge is that which is Anadhigatam, Abadhitam, Asandhigdham, and Smriti vilakshanam. In other words knowledge is valid if it is praman specific (it is arising out of a particular pramana), if it is not negated, if it is beyond doubt, and it is distinct from memory. In other words, knowledge is valid only if it:

1. Can be known exclusively by one means and is not accessible to other means. If it can be known by more than one means, the knowledge becomes invalid (Anadhigatam).
2. Can never be negated by change of means, change of time or change of space. In other words, cognition is true if it remains un-contradicted (Abadhitam).
3. Is beyond any doubt (Asandigdham).
4. Is distinct from the memory of a person, place or thing (Smriti Vilakshanam). Memory is not the source of knowledge because it is not an independent experience. It is only the recollection of the experience which has already been gained.

According to Nyaya Philosophy, "valid knowledge is definite and assured cognition of an object which is also true and presentational in character. This means that knowledge is true or valid when it reveals its object with its nature and attribute which abide in it despite of all changes of time, place and other conditions" (Chatterjee, 1965, PP. 50).

On closer scrutiny of both the stands taken by Vedant and Nyaya Philosophy, we find that Vedant defines knowledge (transempirical knowledge) from the absolute stand point of view whereas Nyaya has defined knowledge (empirical knowledge) from relative stand point of view.

TYPES OF KNOWLEDGE

Human being is a complex entity consisting of matter (labeled as three bodies gross, subtle and causal) characterized by its inert, limited, ever changing nature and Spirit (self) whose nature is specified as existence, consciousness, and bliss. Accordingly, IWT provides two types of knowledge whose nomenclature has been given differently by different traditions in different context.

Absolute Knowledge	Relative Knowledge
Trans-Empirical Knowledge	Empirical Knowledge
Higher Knowledge	Lower Knowledge
Immediate Knowledge *(Approksh Gyan)*	Mediate Knowledge *(Proksh Gyan)*
Intuitive Knowledge	Rational Knowledge

On the basis of axiological considerations, IWT divides knowledge into two categories: Higher knowledge (Para Vidya) and lower knowledge *(apara vidya)*. On the ontological considerations knowledge has been bifurcated as a transempirical or absolute knowledge and empirical or related knowledge. On the basis of the means or source of knowledge, knowledge can be classified into four categories:

1. Direct perception *(Pratyaksha jnan)*
2. Inferential knowledge *(Anumiti jnan)*
3. Knowledge based on comparison *(Upaman jnan)*
4. Immediate knowledge *(Aparokshya jnan)*

PROCESS OF ACQUIRING KNOWLEDGE

A. Empirical Knowledge

1. Knowledge proceeds from inner to outer.
2. Even in objective knowledge there is revelation of the self.

Indian Philosophical Systems particularly *Vedant* and *Nyaya Darshan* are rooted in contact Theory of Perception, which, inter-alia envisages that Knowledge

proceeds from inner to outer. Impelled by the mind, the sense organs come into actual contact *(sannikarsa)*. The mind moves out through sense organs and takes the form of the object which is termed as intellectual or mental modification *(manovriti)*. The Vedanta describes the process of perception as follows:

Impelled by the mind, the sense organs of perception come into actual contact *(sannikarsa)* with the object in question. The mind *(antahakarana)* now moves out through the sense organs of knowledge and takes the form of the object. This modification of the mind is called a vritti. The function of the sense organs is only to guide the mind to the object. But it does not reveal the object, which can only be illumined by the Self consciousness. During the process of perception of an external object through the mental modification, knowledge or cognition is enlightened by the Self illumined consciousness. The light of the individual self (known as *cidabhasa*) Illumines the object, or rather the vritti (that part of the mind modified into the form of the object). The reflection of cidabhasa on the vritti is called phala or fruit in Advaita. This is the knowledge of the object (Naik, 2019, PP. 147).

B. Transempirical Knowledge

In attainment of Self knowledge (absolute knowledge), the subject per se becomes the subject of inquiry. In other words, in the course of inquiry of higher knowledge, the distinction between Pramata and Pramey goes away. The Pramata and Pramey becomes one. In such a situation the eligibility conditions for aspirant of a higher knowledge (Adhikari) becomes very tough and mandatory. These include: Discrimination (Vivek) between the eternal and non-eternal, Dispassion (Vairagya- the absence of desire for the enjoyments in this world and in heaven), Six- fold wealth (Sama (control of the mind), dama (control of the senses), uparati (withdrawal of the mind), titiksha (forbearance), shraddha (faith), samadhan (absorption of the mind)), longing for liberation (Mumukshtam). If one doesn't possess these necessary qualifications, he will not be able to experience the higher knowledge.

The tools of analysis and synthesis used in the process of acquiring of self knowledge (absolute knowledge) are deconstruction and reconstruction. Deconstruction refers to negation of one's identification with five sheaths -- Annamaya, Pranamaya, Manomaya, Vijnanmaya and Anandmaya due to ignorance of one's true nature. To quote Acharya Shankar from his Nirvan Shatakam:

"Mano buddhi ahankara chittani naham Na cha shrotravjihve na cha ghraana netre Na cha vyoma bhumir na tejo na vayuhu Chidananda rupah shivo'ham shivo'ham Chidananda rupah shivo'ham shivo'ham Chidananda rupah shivo'ham shivo'ham" (Verse 1)

(I am not the mind, intellect, ego and memory (the four aspects of what is known as antah- karana); nor (am I the five organs of knowledge) the ear, tongue, nose, eyes (and skin); nor (the five elements) space, earth, fire, air (and water). I am pure Knowledge and Bliss, I am Siva, Auspiciousness itself.)

For the transformation of person's life and for overcoming the foundational ignorance they suffer from, reconstruction method has been used. This method aims to enable the seeker to recognize his true nature i.e. sat (real), chit (knowledge) and bliss *(ananda)*.

The *Upanisads* make use of stories and dialogues to convey the eternal truth, which is the product of reflection. What is difficult to be conveyed through Western Logical system in terms of premises, conclusions, and corollaries can easily be conveyed through stories and dialogues like the dialogue between *Nachiketa* and *yama* in *Kathoupanishad Aruni* and *Swetketu* in *Chandogyaupanishad*, *Varun* and *Bhragu* in *Tetarriupanishad* etc. In almost all the Upanisads we come across such stories and dialogues.

The nature of inquiry to be followed in search of the Self has the following characteristics:

1) Faith can be the starting point of inquiry. To begin with it can be above the reason but it should not contradict the reason, otherwise it will not lead to systematic inquiry.
2) Revelation and reason supplement each other. What scriptures reveal is made intelligible by means of reasoning, and reasoning is guided by scripture.
3) Inquiry (vicara) which is indispensable for knowing the truth comes to an end only when the goal is reached.
4) Matter, life, mind, and intelligence through which Bhrigu moves in his metaphysical exploration are aspects of reality in its manifested condition, in the state of becoming. This prima facie may lead to consideration that matter is the reality. On this consideration, materialism may be explained in terms of matter and motion.
5) Further inquiry reveals that life which shows a higher organizational complexity cannot be

explained in terms of matter. So is the case with mind and intelligence, each of which functions as an organizing principle at higher levels.

THE TEST OF VALIDITY OF KNOWLEDGE

In the context of validity or invalidity of knowledge, two questions arise:

1. What does constitute the validity or invalidity of knowledge?
2. How is the validity of knowledge can be known by us?

The first question refers to the conditions of origin while the second relates to ascertainment of truth and falsity. In this regard two views have been offered in IWT. In Nyaya's opinion neither validity nor invalidity is self

evident, but both are constituted and known by external conditions. This is known as the Nyaya theory of extrinsic validity and invalidity. The Mimansa and Vedanta have advocated the theory that all knowledge has self-evident validity while falsehood is due to certain extrinsic conditions. This is termed as intrinsic theory of validity.

The Nyaya theory of validity and invalidity of lower knowledge:

To Naiakiyas, knowledge is just manifestation of objects. No knowledge per-se is true of false. Truth and falsity of knowledge depends on its conformity and non-conformity to objects or facts. A knowledge is true when it correspondence to the real nature and relations of its objects. For generation of knowledge, general condition i.e. 'Prakarshen Miyate Anaya Iti Prama' cognition of an object by of contact with organ of knowledge is required for its validity.

But its validity depends on such special conditions as the health of the sense organ, distance of the object, sufficient light and sense-object contact. On the contrary, perception is invalid, when general conditions are modified or vitiated by such other special conditions like, disease, distance, darkness and dim sense objects (Chatterjee, 1965).

Regarding ascertainment of validity, Naiyayikas maintain that truth or falsity of knowledge are known by certain external conditions i.e. other than the conditions of knowledge itself.

Knowledge is known to be valid when it leads to successful activity in relation to its object. In brief, Naiyayik's view can be summarized, "The knowledge becomes true if and only if, it corresponds with facts. Truth is established if it is coherent with other parts of our knowledge and our practical activities. So, truth is constituted by correspondence with facts and is tested by coherence and practical activities."

Vedantic Theory of validity of Knowledge:

In the conception of knowledge by Vedanta that 'Anadhiktam, Abadhitam, Asandhigdam, Smriti Vilakshanam Yah Sa Prama' the word 'Abadhitam' viz. knowledge that cannot be negated or contradicted is valid. The validity of knowledge is due to conditions that are intrinsic to knowledge. This means that knowledge is both valid and known to be valid by its own intrinsic conditions.

The Self (subject) is a self manifesting reality. Hence, it does not require any extraneous test. In such knowledge the content and object of consciousness are the same and directly known to be the same. Such knowledge, is therefore, not only true but also known to be true by itself. Therefore, the truth of self-consciousness is self evident whereas other truths are evidenced by external tests like coherence, pragmatic utility or verification.

II
PHILOSOPHY OF SCIENCE IN INDIAN WISDOM TRADITION

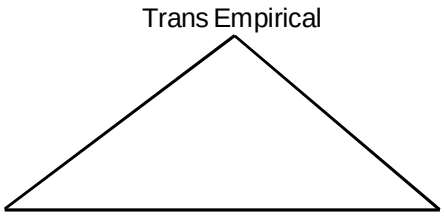
The philosophical issues in the context of conducting an inquiry include

1. Ontology
2. Epistemology, and
3. Axiology

These three together constitute the philosophy of science in the context of knowledge generation. Let us discuss these constituents one by one.

1. Ontology: Ontology is a branch of philosophy that is concerned with the nature of what makes up reality. Indian Wisdom Tradition (Vedanta) envisages three constituents (layers or dimensions) of the reality:

1. Trans empirical reality
2. Empirical reality
3. Phenomenal or apparent real



This enables us to construct the theory of reality at two levels for the purpose of conceptual analysis. Being (existence) and the world (dependent existence) are arranged in a hierarchy. The former, being the source and support of the world, is endowed with a higher ontological status and the latter being the dependent existence is endowed a lower status. The higher ontological status of Being is called paramarthika (absolutely real), while the lower ontological status of the world is termed vyavaharika (empirically real). It is significant to point out that the two levels are not comparable to two storeys, one below the other, of a building. While one can see both the storeys of a building at the same time, one cannot experience both the levels of reality simultaneously (Bala Subramanian, 2010).

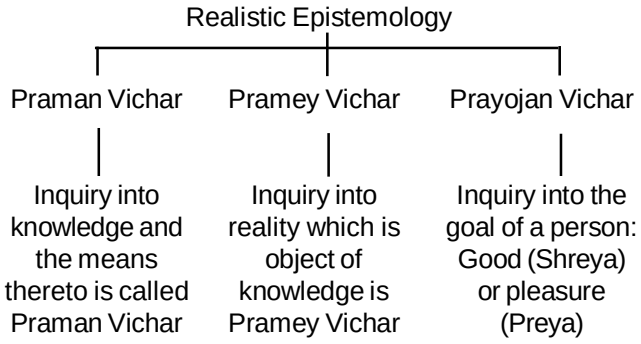
The world which is rooted in Being is, indeed, spiritual. It all depends on how one sees the world. The Upanisads suggest a new outlook, a new perception of the world. Ramana Maharsi, a contemporary exemplar of Hindu spirituality, said that when the world is perceived as Brahman, i.e. Being, it is real and that when viewed in separation from brahaman, it becomes unreal. This is, indeed, the spiritualization of the world as taught by the Upanisads.

2. **Epistemology:** Epistemology essentially refers to

the method or means of inquiry. In other words, it relates to how we know what we know. In IWT, a systematic and rigorous inquiry into the nature of the object of the knowledge leads us to know the temporal and perennial truth. Four entities are involved in generation of such knowledge:

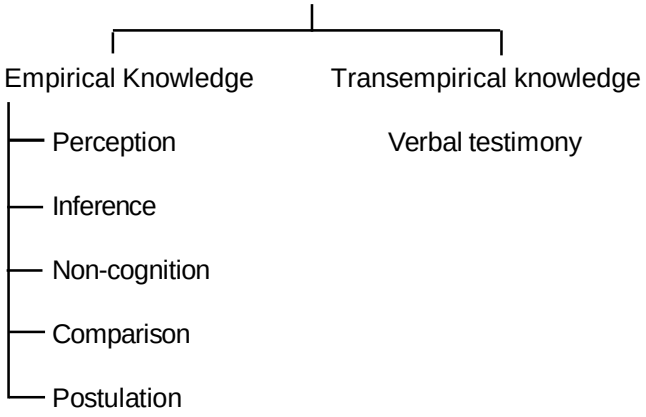
1. Subject (Pramata)
2. Object of Knowledge (Pramey)
3. Means to Knowledge (Praman)
4. Knowledge (Prama)

IWT follows realistic epistemology which has above four components. Knowledge cannot be in abstraction. Knowledge belongs to someone and is about something. This indicates that knowledge is relational requiring a subject who knows and an object which is known. Knowledge by its very nature is revelatory of the object i.e. it reveals the object to the subject. Three kinds of enquiries are involved in the process of knowledge generation- subjective enquiry (Pramata Vichar), objective enquiry (Prameya Vichar), and purpose of the enquiry (prayojana Vichar).



The nature of pramana is to impart knowledge, whether it is shastra pramanam (verbal testimony), or pratyaksha pramanam like eyes or ears. Let us say, there is an object which is within the range of sight of your eyes, and your eyes are open, can you avoid perception? Not possible. If I request you to look towards me but not to see me, is not possible. No. You are helpless because, having placed yourself within the range of seeing me; you do not have any option but to see me. Your will has no role to play here because gyanam is pramantantaram, not purushtantram, not based upon your will. When pramana is there, knowledge will take place (Dayanand Saraswati, 2016). Praman is not an engager to actions because praman has already given rise to knowledge when one is exposed to it. When the object is there within the range of knowledge organs of senses, knowledge takes place. Eyes do not make the person engaged in seeing, eyes reveal the object, and that is the job of the eyes. Similarly ears also reveal sound. The nose picks up a bad smell which nobody wants to pick up. Nose picks it up because it does not care whether you like it or not; nose is around

(Praman Vichar- Source /means of knowledge)



and the smell is around, therefore it will pick up smell, that is the nature of pramanam. The nature of pramanam is same whether it is knowledge of sense object or object of verbal testimony. Knowledge is always vastu tantram, it is as true as the vastu, whatever the object is and the nature of pramanam is just to reveal that.

All the subjects related to material prosperity and behavioral life like natural sciences, social sciences, cultural sciences, medical sciences etc come within the domain of empirical knowledge wherein the object of inquiry (Pramey) is other than the Self. In these subjects a Pramata and Pramey are two distinct entities and remain separate during the course of investigation. Here, the qualification for the Pramata (Researcher) for generation of knowledge depends upon his/her area of specialization/discipline. Having one area of specialization/ discipline does not empower/ entitle to have competency to undertake research in another area/ discipline.

Invalidity of Praman

Any praman becomes invalid if:

1. It provides knowledge What is known through another source of knowledge
2. It establishes what is opposed to another source of knowledge
3. It establishes what is doubtful
4. It does not establish anything at all (Balasubramanian, 2016).

3. Axiology: Axiology refers to values of different kinds, priority or focus given to an object of knowledge during the course of inquiry. In IWT, one of the three kinds of inquiry i.e. 'Prayojan Vichar' pertains to axiology which essentially address the question 'what for do we know?' This means inquiry into values of various kinds ranging from bodily and economic values connected with the mundane life to spiritual values (i.e. knowledge of the Self). Both types of values attract a man. To quote Kathopanishad:

Both the good and the pleasant approach a
Man. The wise man, pondering over them,
discriminates. The wise chooses the good in
preference to the pleasant. The simple-minded,
for the sake of worldly well-being, prefers the pleasant.
(Verse 1.2.1, Kathoupanisad)

As his choice or value, so his action. He is attracted by worldly pleasures and his efforts accompany correspondingly. After realizing the non-eternal nature of worldly pleasures ending in sorrows and miseries, he thinks how to overcome them. This thinking leads to change his choice from pleasure to good. His search for higher knowledge begins at this point. To quote Mundakupanishad:

"Parīkṣya lokān karmacitān brāhmaṇo
nirvedamāyānnāstyakṛtaḥ kṛtena |
tadvijñānārthaṁ sa gurumevābhigacchet
samitpāṇiḥ śrotriyaṁ brahmaniṣṭham"

"(The seeker of the Brahman, having put to the test the worlds piled up by works, arrives at world-distaste, for not by work done is reached He who is Uncreated. For the knowledge of That, let him approach, fuel in hand, a Guru, one who is learned in the Veda and is devoted to contemplation of the Brahman.)"

Upanisads suggests a method of inquiry, which can be characterized as regressive, for reaching the Self. Self knowledge is attained by discriminating the Self from the not Self by way of proceeding from the gross to the subtle, from the outward to the inward. Self is characterized as the originator, sustainer and dissolver in terms of Tatastha Lakshana and sat, chit- Ananada as the very nature in terms of Swarupa Lakshana. One has to give up stage by stage the things which are not-Self- the senses and their objects, the intellect and the mind till one reaches the Self.

The nature of inquiry to be followed in search of the Self in terms of axiology has the following characteristics:

1. Matter, life, mind and intelligence all these are the manifestations of the reality; they constitute a hierarchy with matter, which is gross, at the bottom and the Spirit, or the Self, which is subtle, at the top.
2. The analysis of the grades of existence, or levels of reality, from matter to Spirit is from the metaphysical perspective.
3. We can also view them from the axiological side. The life of human beings is at different levels- material, vital, mental, intellectual, and spiritual, because they are endowed with matter, life, mind, intellect, and Spirit; and the different values they pursue constitute a hierarchy. Bodily values are the lowest while spiritual value is the highest.
4. The higher value, it is necessary to emphasis does not annul the lower value, but fulfills it. The Upanisad says that the wise one, who has realized Brahman and who remains as Brahman, attains all desires. The liberated person is in harmony with himself and also in harmony with all (Balasubramanian, 2010).

III
A BRIEF COMPARISON BETWEEN INDIAN WISDOM TRADITION (IWT) AND WESTERN PHILOSOPHY (WP) ON KNOWLEDGE GENERATION

IV

IWT takes holistic view of knowledge generation extending from its empirical to transempirical domain. Here, pursuit of knowledge is not just for the sake of knowledge. It aims to redress the human sufferings of all kinds- physical, external and spiritual. In this sense philosophy in India is not only a view of life but also a way of life.

Unlike western philosophy wherein knowledge is belief driven in terms of ontological and epistemological assumptions, knowledge in IWT is inquiry driven involving three kinds of inquiries- Pramata vichar, Pramey vichar and Prayojan Vichar. Stimulus response theory of perception guides the knowledge generation process in WP whereas contact theory of perception is relied upon by IWT in the process of knowledge generation.

Extrinsic theory of truth in case of empirical knowledge and intrinsic theory and uncontradicted theory of truth in case of trans-empirical knowledge resorted by Naiyakis and Vedantas respectively in the validation of knowledge. On the other hand, western philosophers depending upon their belief on ontological and epistemological positions, have argued for correspondence theory, tentative theory, consensus theory, pragmatic theory and relative theory as criteria for validation of knowledge.

In terms of ontology IWT envisages three constituents of reality- transempirical, empirical and apparent against WP which treats mind and soul as synonymous to each other and mind and matter as two distinct kinds of entities, one as a thinking kind of thing and other as extended kind of thing. Due to this confusion, they have four types of ontological positions empiricism, subjectivism, substantialism and rationalism.

Two approaches of inquiry- rationalism and empiricism together with realism and Nominalism using four kinds of logic - induction, deduction, retroduction and abduction are followed in WP.

Against WP, in IWT, systematic and rigorous inquiry into the object of knowledge is followed to know the temporal and perennial truth involving four entities- subject, object of knowledge, means to knowledge and Prama. Here scriptural revelation and reason supplement each other. Scriptural revelations are made intelligible by means of reasoning and reasoning is guided by scriptures.

S. No.	Issues	WESTERN PHILOSOPY (WP)	INDIAN WISDOM TRADITION (IWT)
1.	**Conception of knowledge**	Knowledge refers to cognition which is essentially belief driven in terms of ontological assumptions relied upon. Cognition in WP may be valid, false or doubtful.	Knowledge is referred to as *Prama* (valid knowledge) which is inquiry driven. Three kinds of inquiries are involved in the process of knowledge generation-- subjective inquiry, objective inquiry and purpose of the inquiry.
2.	**Domains of knowledge**	WP essentially deals with the empirical knowledge and leaves the higher knowledge within the domain of the religion. It deals with the knowledge related to the external world in the waking state of human beings.	IWT deals with the different domains of knowledge (i.e. absolute or transempirical knowledge and relative or empirical knowledge) and their associated philosophical aspects like ontology, epistemology and axiology. It takes into consideration all the three states (waking, dream and deep sleep) of affairs in the analysis of knowledge generation.
3.	**Process of knowledge generation**	WP relies upon the **Stimulus Response Theory of Perception** rooted in the brain-centric model of perception which postulates the brain as the cause of perception and ideation, as the intelligent centre in which the various sensory signals from the environment are processed and presented as the manifold phenomena of the world. We perceives objects due to the impressions of the forms of objects being carried over from the objects to our (gross) sense organs and that these impressions when transmitted through the sensory channels of the body to the brain are interpreted and transformed into the percepts that we perceive (*Naik*, 2019).	IWT relies upon the **Contact Theory of Perception** which provides that Impelled by the mind, the sense organs of perception come into actual contact (*sannikarsa*) with the object in question. The mind *antahakarana*) now moves out through the sense organs of knowledge and takes the form of the object. This modification of the mind is called *vritti*. The function of the sense organs is only to guide the mind to the object. But it does not reveal the object, which can only be illumined by the self consciousness. During the process of perception of an external object through the mental modification, knowledge or cognition is enlightened by the self illumined consciousness.
4.	**Validation of knowledge**	1. Correspondence theory of truth 2. Tentative theory of truth 3. Consensus theory of truth 4. Pragmatic theory of truth 5. Relative theory of truth Cognition can be treated as truth if it appeals to the evidences gained from objective observations (correspondence theory). The results of deductive theory testing are always subject to future revision. Truth changes as testing proceeds (tentative theory). **Consensus theory** of truth relies upon the idea of rational discussion free from all constraints and distorting influences. The **pragmatic theory** of truth believes that something is true if it is useful. **Relative theory** of truth provides that there are many truths because there are multiple social realities.	1. Extrinsic theory of truth 2. Intrinsic theory of truth 3. Uncontradicted theory of truth To *Naiyayikas* cognition is true which reveals an object as it is and where it is. *Sankhys* system has propounded that cognition is true if it is in harmony with other experiences. *Vedanta* has taken a position that cognition is true which remains uncontradicted.

5.	**Ontology**	The belief that soul and mind are synonyms to each other and mind and matter are two distinct kinds of entities, the one as a thinking kind of thing and the other as extended kind of thing has not enabled them to grasp the relationship between mind and matter which, in turn, has led them to resort to reduction either in the form of rationalism or empiricism depending on which one viz.. mind or matter is given primacy. Due to these confusions, they have four types of ontological positions empiricism, substantalism, subjectivism and rationalism. Some believe that matter constitute the reality (materialism) while others believe that reality is made of ideas (rationalism). The third set of the Philosophers believes in materialistic view of reality but view that people in different times and places interpret reality differently (substantialism). The fourth set of Philosophers believes that Human experience is characterized as a process of interpretation rather than direct perception of an external physical world (subjectivism).	Indian Wisdom Tradition (*Vedanta*) envisages three constituents (layers or dimensions) of the reality: 1. Trans empirical reality 2. Empirical reality 3. Phenomenal reality This leads to the formulation of the two-decker theory of reality for the purpose of conceptual analysis. Being and the world are arranged in a hierarchy. While the former, which is the source and support of the world, is endowed with a higher ontological status, the latter which has a dependent existence is accorded a lower status. The higher ontological status of Being is called *paramarthika* (absolutely real), while the lower ontological status of the world is termed *vyavaharika* (empirically real).
6. **6.1**	**Epistemology** **Approach of inquiry**	Two kinds of epistemology have been provided. Empiricism relies on the use of human senses to produce reliable knowledge meaning thereby that the knowledge of the world can be obtained only through direct sense-experience. Concepts and generalizations provide summaries based on many observations. This entails ontological assumptions of an ordered universe made up of discrete and observable events.Rationalism provides that reliable knowledge is derived from the use of pure reason, from establishing indisputable axioms and then using formal logic to arrive at the conclusions. Theories are not winnowed from observations or facts; they are pure inventions of human mind i.e., only conjectures and not generalizations based on 'pure observations'. In the context of social sciences, these philosophical positions can be elaborated in terms of two dominant epistemological positions- Nominalism and Realism.	In IWT, systematic and rigorous inquiry into the nature of the object of the knowledge leads us to know the temporal and perennial truth. Four entities are involved in generation of such knowledge: 1. Subject (*Pramata*) 2. Object of Knowledge (*Pramey*) 3. Means to Knowledge (*Praman*) 4. Knowledge (*Prama*) Inquiry into reality which is object of knowledge is *Pramey Vichar*. Inquiry into knowledge and the means thereto is called *Praman Vichar*. Inquiry into the goal of a person good or pleasure is known as *Prayojan Vichar*.
6.2	**Logic of inquiry**	· Types of logic- Induction, Deduction, Abduction, Retroduction · Logic is based on arguments in terms of deductive and inductive arguments. · Inference through the process of linking propositions formed in terms of	· Types of Logic: From the stand point of absolute reality and relative reality -- *Adhyarop – apvad nyaya,* debate and discussion in terms of *purva paksha* and *uttar paksha.* · Scriptures led reasoning rooted in the

		premises and conclusion. · Application of two valued logic.	principle of discrimination between truth and false. · Inference to know the unknown is drawn through universal association between two entities. Five steps are involved in the inference process: *Pratijna, Hetu, Udaharan, Upanaya and Nigamana.* · Application of four valued logic to multi valued logic.
6.3	**Source or means of knowledge**	1. Direct Perception 2. Inference	1. Direct Perception 2. Inference 3. Comparison 4. Postulation 5. Non-cognition 6. Verbal testimony

In IWT, there are five sources or means of knowledge i.e. perception, inference, simile, postulation and non-cognition to acquire the empirical knowledge and verbal testimony to experience transempirical knowledge.

Against this, WP has relied upon only two means of knowledge to have the empirical knowledge of worldly objects.

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EDUCATION & TRAINING IN CIVIL AVIATION SECTOR IN INDIA

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The article share information on the scope of civil aviation education and training. It highlights the areas and scope of introducing UG, PG, and MBA programmes in Civil Aviation Education.

What is Civil Aviation: Civil Aviation is flights and aircraft used for personal and business purposes, such as transportation of goods or passengers, rather than for military purposes. Civil aviation means any air operation carried out by civil aircraft for the purpose of commercial air transport. Aerial work or general aviation includes any other services directly or partly related to such activities. It also means commercial air transport, including scheduled or non-scheduled passenger and cargo flights.

A Complex Web of Civil Aviation: The organizational structure of civil aviation is quite complex, to say the least. The general public has hardly any idea as to how it operates. Civil Aviation can be divided into two folds: International Regulatory & Advisory bodies, and the National setup. While the first is common to all, the latter is the more or less identical world over

A specialized agency of the United Nations, ICAO is an apex organization working towards promoting the safe and orderly development of Civil Aviation worldwide.

INTERNATIONAL REGULATORY / ADVISORY BODIES:

International Civil Aviation Organization - ICAO, (Montreal, Canada, 1947): A specialized agency of the United Nations, ICAO is an apex organization working towards promoting the safe and orderly development of Civil Aviation worldwide. It is done by establishing Standards and Recommended Practices & Supporting Policies on aviation safety, efficiency, air regulations, economic sustainability, and environmental responsibilities. Further, it is dedicated to developing safe and efficient international transportation for peaceful purposes and ensuring a reasonable opportunity for every State to operate. Currently, ICAO has 193 States (Nations) as its Members.

International Air Transport Association - IATA (Montreal - Canada 1945): This is a trade association of the world's airlines representing some 290 airlines as its members representing 120 nationalities. It supports many areas of aviation activities and helps formulate industry policy on critical aviation issues. IATA is a primary vehicle for inter-airline cooperation in promoting safe, reliable, secure, and economical air services. It carries an advisory status with ICAO.

Airports Council International - ACI (Geneva, Switzerland, 1991): ACI is an organization of airport authorities aimed at unifying industry practices for airport standards. It represents the collective interest of airports around the world to promote excellence in the aviation industry. It has 717 members representing 183 countries and operates nearly 2000 airports. It has an advisory status with ICAO.

Civil Air Navigation Services Organization (Amsterdam Airport, Schiphol, Netherlands - 1996): CANSO is an international body representing interests of Air Traffic Management worldwide. It brings together world's air navigation service providers, leading industry innovators, and air traffic management specialists, in order to shape our future skies. It shares information among its members, develop new policies with ultimate aim of improving air navigation services on ground & in the air. It has some 20,000 individual members connected from 86 air navigation service providers (ANSP). It has advisory status with ICAO.

NATIONAL SET UP

For orderly, regulated and growth oriented air transportation, Civil Aviation Department operates under State control. In some countries this function is clubbed with other function e.g. general transportation or tourism, whereas, many countries have set up separate Ministry of Civil Aviation, as in India. Earlier, it was the Ministry of Tourism & Civil Aviation. At State level also Civil Aviation Deptt. is part of the State Ministry. In order to provide more autonomy, accelerate growth, and to attract professionals into services, in this internationally competitive mode of transportation, recent trend is to set up an independent Civil Aviation Authority, viz Civil Aviation Authority of Fiji Islands (CAAFI), or Civil Aviation Authority of Botswana (CAAB), where this author has served as an Aviation Expert. In India also proposal to set up Civil Aviation Authority is under way.

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INDIAN SCENARIO

Ministry of Civil Aviation

In India civil aviation is regulated, and guided, by the Ministry of Civil Aviation. MoCA is a nodal ministry responsible for the formulation and implementation of national policies and programmes for the aviation sector in India. Administration of various industry related Acts & Rules (viz. Air Craft Act, Air Craft Rules) also comes under its purview. MoCA also represents India on various international forums, meetings, conventions and bilateral agreements with other countries for to and fro air services from India. Broadly, MoCA has following organizations under its umbrella.

Attached Offices:

- Directorate General of Civil Aviation (DGCA)
- Bureau of Civil Aviation Security (BCAS)
- Commission of Railway Safety
- Aircraft Accident Investigation Bureau

Autonomous Bodies

- Airports Economic Regulatory Authority of India
- Indira Gandhi Rashtriya Uran Academy (IGRUA)
- Rajiv Gandhi National Aviation University

Public Sector Undertakings

- Airports Authority of India
- National Aviation Company of India Limited. Re christened as Air India Limited. Mainly it consists of: Air India Air Transport Services Limited with its subsidiaries - Airline Allied Services Limited; Air India Express Limited; and Hotel Corporation of India Limited).
- Pawan Hans Limited.

Role of Air Transport in Indian Economy: Not too long ago, general perception about Air Travel was, "it by the rich & for the rich". Contrary to this, aviation plays an important role in the Indian Economy and for that matter world economy. Following list, to name the few, will facilitate understanding of general readers:

- Earning Foreign Exchange
- Domestic & International Public Utility
- Links country with rest of the world
- Generates employment opportunities
- Essential for Tourism Development
- Contributes in terms of growth to travel related industries, such as: Hotels, Travel Agencies, Freight (Cargo) forwarders, Motor Transport etc.
- Improves communication across the country through rapid delivery system
- Contribute to trade and commerce by providing speedy delivery of cargo, perishable commodities.
- Airlines and Airports are large scale consumers of goods and services.
- A matter of national prestige.

Airports & Air Transport World: Contrary to the common perception that the civil aviation (airlines and air travel) is all that air transport is about, in reality" ninety percent of aviation is on the ground and only ten percent is in the air", said Glen Curtis, an Aircraft Designer and Entrepreneur. In view of this, airports are an integral part of the commercial aviation system - the place where airlines and their customers converge. Airports are the portals through which aircraft passes (from air side) and passengers or freight pass through land side to join in union in a movement of people and commodities from one corner of the world to another. But for airports, air transport will remain in air (metaphorically also). Airports provide strong, dependable, ground support for airlines to fly with passengers and freight, wherever and whenever they want.

Posture of Airport Today: Depending on observer's point of view, airports are:

- Vital Assets essential to the growth of economy.
- Way of generating commercial activities, tourism, and employment
- Convenient means of travel and communication
- Nuisance to public, safety and comfort aspects on surrounding areas (aircraft accidents, aircraft noise)
- Questionable way of using public land and funds (according to some).

Airport Challenges: Varying in degrees, airports face following challenges:

- Expanding: passenger terminal capacity, runway capacity, cargo terminal capacity
- Coping with bunching of flights phenomena (most of the flights arriving and departing in a few hours' slot of the day or night which brings pressure on airport / airline services)
- Challenges posed by increasing number of Private Airlines (increased landings and take offs, bay allocation, space in terminal building, etc.)
- Meeting ever increasing customer demands and expectations
- Reducing staff cost & increasing productivity
- Increasing non- traffic revenue (other than Landing, Navigational, Aircraft Parking, fees / charges)
- Technology Upgradation (ATC, Communication, Airport Construction, etc.)
- Better land use & protection of land from encroachment
- Agency Coordination (several agencies, government, non- government, private, have presence at the airport
- Providing services on cost recovery basis through cooperation & understanding
- Coping with conflicting interests of various Agencies

- Increasing demand for basic infrastructure, modernization
- Competition from neighbouring countries Airports
- Coordination with State / Central Government Agencies
- City side control - Coordination with Local Authorities
- Access to Airport
- Beautification
- Privatization (Rehabilitation of Excess Manpower, curtailment in revenue, competition, etc.)
- Training & Preparing Manpower for Tomorrow

Airports Authority of India (AAI) - A Public Sector Undertaking came into being in 1995 with merger of International Airports Authority of India (IAAI) and National Airports Authority (NAA). AAI is responsible for integrated development, expansion & modernization of Air Traffic Services, Passenger Terminals, Operational Areas, and Cargo facilities at the airports in the country. It has under its umbrella 137 Airports, which includes:

- 23 International Airports
- 81 Domestic Airports
- 10 Custom Airports
- 23 Civil Enclaves (Defence Airfields)

AAI Subsidiaries:

- AAI Cargo Logistics & Allied Services Company Limited (AAICLAS)
- Chandigarh International Airport Limited (CHIAL)
- Dholera International Airport Company Limited
- Deoghar Airport Limited
- Dhalbhumgarh Airport Limited

AAI Joint Ventures:

- Delhi International Airport Limited
- Mumbai International Airport Limited
- GMR Hyderabad International Airport Limited
- Banglore International Airport Limited
- National flying Training Institute Limited, Gondia
- MIHAN India Limited, Nagpur Airport
- Kanpur International Airport Limited
- Digi Yatra Foundation

AAI Customers - Exhaustive and not complete list.

- Passengers (Arriving, Departing & Transit Passengers)
- Airlines (National, Private, International)
- Company owned Aircraft
- Immigration
- Health Authorities
- Air Insurance Companies
- Airport Security Agency
- Customs
- Banks & FOREX Agencies,
- Concessionaires (book stalls, travel goods shops, shops selling handicrafts and other merchandise)
- Hotels, Restaurants and Snack Bars
- Travel Agents
- Tour Operators
- Cargo Agents
- Post & Telegraph
- Medical & First Aid facility
- Tourism Development Corporation (and Privately operated) Duty Free Goods Shops
- Car / Bus Rental Operators, and Cabs
- Ground Handling Agencies
- Rail reservation Counters
- VVIP, Business and Airlines Lounges
- Oil Companies

AAI Training Initiatives : Considering the complex nature of operations, passenger expectations, vagaries and uncertainties (climatic conditions) in airlines operations, web of numerous agencies and retail community and their expectations, international competition and comparison , ever increasing demand for modernization of Airport Terminals, services and equipment , and its resultant pressure on organization's monetary and other resources, training and development of its employees plays an important role. Realising this the T & D function has been receiving due importance and monetary and other assistance from the Top Management over the years. AAI has created strong network of training institutes in different parts of the country for training and development of its vast reservoir of Human Resources - semi skilled, skilled, technicians, engineers, air traffic controllers, navigational staff, cargo and airport personnel, fire staff and managerial personnel, required for operations in diverse fields. AAI has five major training establishments for training its own as well as other Agency Personnel from India and oversees.

Indian Aviation Academy (New Delhi) - Established in 1986 as an Institute of Airport Management, by the then International Airports Authority of India's (IAAI), the institute has come a long way. In this eventful journey, it has undergone changes in its nomenclature and widened scope of its training activities. From Institute of Airport Management, it was renamed as Institute of Aviation Management (IAM) and subsequently as a National Institute of Aviation Management & Research (NIAMAR). With an objective to give more functional autonomy and to further widen nature and scope of Aviation Training, NIAMAR was converted into a Registered Society. This paved way to set up an Indian Aviation Academy, at New Delhi with AAI, DGCA, and BCAS as its partners. Academy conducts training programmes for airport personnel, DGCA & BCAS executives and staff. As a hub of aviation training, it has made name in Asia as one of the leading aviation management training centre.

Academy conducts hosts of international training courses, seminars and conferences. According to Academy sources, it has so far trained 22,000 airport professionals, 4000 security and 3000 safety personnel, 1000 cargo managers, and have offered 200 fellowships for the aviation personnel from under developed countries. In the past IAM, NIAMR has also jointly organized number of seminars, conferences and training programmes in collaboration with international bodies such as: ICAO, IATA, ACI EU, etc. among others with international trainee participants and faculty support. See Annexure 1 for a representative list of training programmes offered in various aspects of Airport Management.

Civil Aviation Training College, Allahabad: Established in 1948, the oldest training establishment of AAI (earlier that of DGCA & National Airports Authority (NAA). Major thrust area of training here is Air Traffic Controller (ATC) & Air Navigation training, both long term Ab initio training for fresh graduates and short term courses for in - service personnel. With the training facilities and infrastructure of international standards, aviation personnel from third world countries participate in CATC training programmes almost on regular basis.

Fire Training Centre (FTC), New Delhi: Considering importance of preparedness of fire services & fire personnel in Airport Rescue and Fire Fighting Services, in the event of emergent situations at the Airports, which may arise at any time of the day and night, the then International Airports Authority of India (IAAI) had created training facilities and infrastructure for regular training of fire personnel including fire officers. FTC is well equipped with training infrastructure. Senior executives from different departments of AAI and outside experts are invited as guest speakers during the training programmes.

Fire Service Training Centre, Kolkata: Initially started by the Ministry of Civil Aviation (MoCA), Fire Training facility was transferred, in 1976, to the then IAAI, in order to meet training requirements of fire personnel working in international airports (Calcutta - Kolkata & Guwahati) and domestic airports situated in Eastern Region and North Eastern Region. FSTC, besides training airport fire personnel, organises Basic Training Courses for private candidates and advanced training courses for Port and Shipping Personnel on regular basis.

National Flying Training Institute (NFTI), Gondia: Set up in 2007 as a joint venture between AAI and CAE Inc. of Canada, the institute offers 19 months' duration training programme for freshers in Commercial Pilot Licensing (CPL), meeting training standards and other requirements of DGCA and ICAO.

Regional & Airport Training Centres: In addition to above mentioned Institutional Training, Regional Offices (Northern Region - Delhi; Western Region - Mumbai; Southern Region - Chennai; Eastern Region - Kolkata; & North Eastern Region - Guwahati), and Major International and Domestic Airports have established their own training centres, albeit on a small scale, where training programmes are organized, with experts drawn from AAI, local sources on a regular basis.

Nominations for External Training. Besides in - house training at the Corporate Training and Development Centres / Institutions, AAI nominates large number of operational, technical, and non - operational, non - technical personnel, executives in particular for training programmes organised by reputed Management Institutions, IITs, and such other training bodies every year. This includes overseas training organised by ICAO, ACI, IATA, and such other International Training Institutes of repute.

University Education in Civil Aviation: It can be said that, whilst purpose of training is to refresh, enhance, existing skills and to inculcate newer skills and competencies required to perform present and or future job assignment by an employee, whereas, purpose of formal education is to widen horizon and subject knowledge and understanding and helping in overall growth and development of an individual. Training, then aims at short term and immediate gains, whereas, education is a long term investment. Providing formal degree, post- graduate degree, or diploma courses in the field of civil aviation has not gained much ground as yet, more so on Indian soil. Whereas, in Western countries, one can see number of Universities offering Graduate and PG courses in civil aviation, in India, institutions of higher learning engaged in imparting knowledge in this field can easily be counted on fingers. There also 'commercial' interest which overtakes 'quality' education. As a result, one comes across rarely an effective Degree or MBA programme in Civil Aviation or a credible Diploma qualification in Civil Aviation, or in its functional areas such as Airport / Airline Operations, Air Cargo Operations, Airport / Airline Safety and Security, Passenger Facilitation, and so on.

With increasing number of airports and airlines coming in the domain of privatization, it is possible that these private entities will look for and rather welcome, fresh graduates, post graduates, with formal education entering in the field of civil aviation. Then there is large percentage of young population already working in aviation sector in junior, middle levels and are looking for advancement in their career. Opportunities to pursue any affordable and recognised qualification in aviation will certainly improve their chances of career

advancement. Since they are already in employment, they may not be in a position to join on- campus long duration degree, diploma courses. However, they will welcome if such courses are available on the 'on line' mode and / or by 'correspondence' method or even in hybrid model. As such there is huge market out there for universities and management institutions to develop and offer degree, post graduate degree, diploma courses in civil aviation, through these modes. It is hoped that recently established Rajiv Gandhi National Aviation University will take a lead and work in the direction of meeting this long felt need and thus bridging a gap between demand supply. A gap of quality education in the growing and dynamic field of civil aviation in India.

Annexure I

TRAINING PROGRAMMES OFFERED BY NIAMAR - IAA (A REPRESENTATIVE LIST)

Airport Operations

- Airside Operations Management
- Airport Terminal Management
- Induction Course for Apron Supervisors
- Ab- Initio Course for Airport Managers
- Workshop on Fire Administration

Airport Security

- Aviation Security (AVSEC) Management Course
- Aviation Security (AVSEC) Basic 123
- Aviation Security (AVSEC) Awareness

Airport Engineering Courses

- Structural Analysis & Design of Airport Structures
- Advance Training on Electronic System in Terminal Building
- Works & Accounts
- Airport Master Planning Foundation Course for Engineers
- E & M Installations in Terminal Building (Design, Installation, & Maintenance)
- Land Management
- Conservation of Energy
- Advance Training Programme for Civil Engineers
- Concrete Technology
- Airport Construction and Project Management

HR, Finance & General Management

- Performance Appraisal & Counselling
- Executive Development Programme
- Personnel Management for Non - Personnel Executives
- Business Ethics & Customer Care
- Managing for Productivity
- Labour laws - A Manager Must Know
- Finance for Non- finance executives
- Programme on Commercial & Non-commercial Revenue
- Refresher Course for Finance Executives

Air Cargo Management

- Dangerous Goods Regulation
- Cargo Management programme
- Integrated Cargo Management System Technology EDI Bar Coding.

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the universities and made the Chief Minister the Chancellor and the Minister of Education the visitor of Private Universities. There is also a controversy in the Kerala Government about the role of the governor in the appointment of the Vice-Chancellors of the Universities.

The amendment of University Acts by the BJD Government in Odissa has been challenged by the University Grants Commission. The University Grants Commission under the provision of its Act for maintenance of coordination of standards in higher education as provided in its Act of 1956 had issued guidelines for the appointment of faculty and vice- Chancellor. These guidelines/regulations are termed as subordinate acts flowing from the UGC Act of 1956 and therefore viewed as bindings on the Universities as part of education on the concurrent list 66 of the concurrent list and UGC Act assuming superior position under Article 254 of the constitution of India.

The interpretation has been given by Justice MR Shah and Justice Nagarthma. As guidelines/regulations were flouted by the Gujarat Government in the appointment of Vice-Chancellors of the State University, the appointment of VCs flouting the UGC Guidelines, has been struck down. It may be pointed out that regulations were regarding the qualification of persons to be appointed as the Vice-Chancellor and not who can appoint the Vice-Chancellor.

The tussle between the state government and the Governor as the Chancellor of the state universities will continue unless the issue of the position and functions/ practices of the governor are non-political as mandated in the Constitution of India is mutually settled. The principle that universities are expected to be autonomous and the government, through the office of the Governor as Chancellor, is expected to keep an arms-length while dealing with universities would be seriously compromised. In other words, the very character of a university would undergo a change from an autonomous institution accountable to a larger body of local and global society to the immediate needs of those who pay and control. This would be a great loss to academics and the future development of society at large. The issue needs to be settled as early as possible.

NATIONAL QUALIFICATIONS FRAMEWORK- CONCEPTS AND PRACTICES

G.D. SHARMA *

The paper highlights the concept and practice of the National Qualifications Framework as obtained in some countries. It attempts to link with recent guidelines issued by UGC on National Higher Education Qualification Framework.

UGC has come out with draft National Higher Educational Qualifications Framework. This paper is part of report brought out by the author in 2002 in NIEPA. The paper is being reproduced to enable readers to understand and appreciate the efforts being done now under the NEP-2020. The paper deals with various concepts and practices of development of National Qualification framework from national and international perspective.

The Background

According to the law of land degree is awarded by the universities. Recognition of these degrees are done by the University Grants Commission (UGC) by publishing the titles of the degree in it's regulations. Recently it has added some of those, which were instituted by the universities.

However, education and the training of human resources in our country is done by several recognized or unrecognized institutions. Besides the programmes leading to degree, the university and non-university institutions offer several programmes of studies leading to certificates and diplomas. The level of complexity of education programme determines whether a certificate or a diploma is to be awarded for the programme. Several non-university institutions also award certificate and diploma. But there is no system to recognize these and to ensure that certain level of knowledge, skills, complexity and outcomes are maintained for certificates, diplomas and degree programmes and so forth. There is also no system to ensure mutual recognition of diplomas and certificates within the country and also for those who are coming from and going to other countries with certificates and diplomas awarded by the respective countries.

Several non-university institutions also award certificate and diploma. But there is no system to recognize these and to ensure that certain level of knowledge, skills, complexity and outcomes are maintained for certificates, diplomas and degree programmes and so forth.

Yet, another issue is the transfer of credit within the formal university system and non-university training institutions and the recognition of certificates for further studies. The recognition of work experience gained by the person on the job is not yet valued as credit in education and training. The degree is viewed as the end of education. Continuous learning, experiential learning, and greater attainment in the training of the mind have no recognition. The system is characterized as a rigid one, as against the need for being flexible. The system never focuses on learning outcomes as applied to real-life situations. Nor does it recognize the need for lifelong learning or experiential learning. The degree is the end of learning.

For centuries, a university degree or diploma constituted a well-defined `asset'. It represented the acquisition of a body of knowledge and an ability to use it intelligently in the exercise of certain functions within society. But this conception has been undermined, partly because the knowledge which constituted the `asset' has tended to become outdated and to rapidly lose its value and partly because as a corollary, the functions which it served have themselves changed, both in method and in content. Consequently, a university qualification is no longer an acquisition that will serve the holder for the rest of his or her life. Instead, it must be seen as a potential to be used to assimilate new knowledge and to participate in, or at least to adapt to, the process of innovation, instead of being an end point, it should constitute a starting-point, oriented towards the future rather than the past. UNESCO has done much to encourage this new approach and has embodied it in the various regional conventions on the mutual recognition of studies, degrees and diplomas which have been drawn up on its initiative and most recently in the Recommendation on the Recognition of Studies and Qualifications in Higher Education adopted by the General Conference at its twenty-seventh session in November, 1993.

It is consistent with this trend that consideration should be given not only to an individual's qualifications but also to the experience they may have gained outside their formal educational work, their achievements, publications, etc. The move in this direction has been strongly encouraged by UNESCO and in the recommendation as well as the regional conventions reference is made to the desirability of taking account of such factors, in addition to academic qualifications, when assessing a person's ability to engage in particular activities.

Source : World Guide to Higher Education (1996), UNESCO.

* *Former Secretary, UGC, Director, CEC and Professor NIEPA*

Some of the countries, realizing the importance of flexibility in education and training systems and relating learning to the outcome, introduced a system of the qualifications framework.

The objectives of the Qualifications Framework as evolved are :

i) Introduction of flexibility - wherein vertical and horizontal mobility is possible;
ii) Standardizing of the qualifications;
iii) Recognition of skills; training institutions in or outside the university and government sector;
iv) Portability of credits, qualifications, and its comparability within and outside the country; and
v) Assessing the qualifications based on the outcome of learning*.

FROM INPUTS TO OUTCOME-BASED SYSTEMS

The concept is a major shift in the educational paradigm. It shifts education processes from input-oriented to outcome-oriented and the applicability of knowledge and skills. It focuses on knowing the subject to use the subjects for decision-making. It shifts the emphasis from knowing the information to the critical and creative use of information. It shifts focus from individual being to social being. It attempts to recognize qualifications based on outcomes of learning - where applications and skills constitute key components. It has also specified/ critical areas of outcomes of learning. These critical areas are related to:

1. Critical and creative thinking
2. Teamwork in groups and community.
3. Managing self/ones activity responsibly and effectively.
4. Collection, organization and critical evaluation of information.
5. Communicate effectively and scientifically using mathematics and language skills in oral and written presentation.
6. Using scientific technology effectively showing concern for environment and health of others.
7. Understanding of the world and set of related systems by recognizing the problem-solving context do not exist in isolation*.

This is a shift from input evaluation to the outcome of a learning-based system of education and encourages a concept of a seamless, flexible, lifelong education system.

The critical outcome of standards of qualifications focuses on developing capability among the students to :

i) Reflect and explore the variety of strategies to learn more effectively.
ii) Act as responsible citizens in a local, national and global context.
iii) Culturally and aesthetically sensitive.
iv) Explore education and career opportunities.
v) Develop entrepreneurial opportunity*.

FROM RIGID TO FLEXIBLE SYSTEM

This concept envisages the introduction of flexibility in the system by way of creating the possibility for horizontal and vertical movement of students from one qualification to another qualification. It also allows the portability of credits of one qualification to another qualification. It also recognizes prior learning/achievements. Except for a few programmes, in a good number of countries presently vertical and horizontal movement of students is almost impossible. Recognition of prior learning is very rare. The qualifications framework envisages vertical and horizontal movement and recognition of prior learning.

STANDARDIZATION OF QUALIFICATIONS

Besides the standardization of degree qualifications in terms of years of education, there is no further detailed standardization about the level of inputs, process of transaction and the level of outcome of learning. Similarly, there are no standardizations in various certificates and diplomas being offered by the university and non-university institutions. Owing to lack of standardization it becomes difficult to compare or to allow portability of qualifications or for that matter, credits. The standardization of qualifications with their levels both for general, vocational training, and prior learning would help assuring the expected outcome and assess this outcome in a comparable framework.

FROM UNRECOGNIZED TO RECOGNIZED QUALIFICATIONS

Presently in India as well as in many countries, training of mind and skill is done in several ways. The programmes are offered by universities, colleges and government recognized institutions. Their qualifications get recognized automatically, irrespective of quality and outcome. On the other hand, many institutions offer various education and skill training programmes which though not recognized by the government are recognized by employers. In a good number of cases such programmes are offered in close consultation and collaboration with employers or with employers' associations, but are not recognized or registered. There are many programmes which are offered neither in consultation nor keeping in view the required standards and these cause harm to students; yet there is no system of regulation.

Therefore, national-level registration and recognition of qualifications will enable us to recognize the vast system of training of mind and skills and also discourage fly-by-night institutions and unscrupulous persons offering dubious programmes.

INTERNATIONAL RECOGNITION

With globalization, the movement of educated manpower has become imperative. The world economy is moving

towards breaking geographical barriers. Sometimes the physical movement of persons may be necessary, yet at other times it may not at all be necessary as many activities of white color jobs could be done sitting at home. Similarly, multinational corporations would like to have a person with internationally comparable qualifications so that staff can work in teams and groups consisting of multinationals. The mobility of students from one place to another is also becoming frequent. If qualifications are internationally comparable, the mobility of students and employers becomes easier. The national standardized qualifications framework makes it possible for other countries to clearly understand the level and complexity of qualifications and compare them with their own country's qualifications. It may also become possible for many or group of countries to come together and mutually recognize the qualifications.

QUALIFICATIONS FRAMEWORK AND QUALITY ASSURANCE AND ACCREDITATION

The issue of quality assurance is closely linked with the quality proclaimed to be given under a qualification, yet the issue has not been comprehensively seen owing to the fact that the qualifications were not based on the outcome of learning or employability and the role of institutions in enabling the students to acquire the required knowledge and skills. Except for the Institutions of Management, till recently employability of students was not an important criterion of assessment of the institutions, where grading seems to take the cognizance of employability of students. Here no formal assessment of quality by the accrediting agency has also been done. National Qualifications Framework is built around the concept of standardized outcome-based learning. It offers scope for systematic assessment of proclaimed outcomes under qualification and their comparability across the nation. The quality assurance agency being an independent qualification generation and standard-setting mechanism attempts to ensure the level of quality in practice. Therefore, quality assurance and accrediting agencies become an important part of assuring the quality of qualifications. The quality assessment, given the standard criteria, can be independently done by accredited quality assessment agencies.

INTERNATIONAL EXPERIENCES

Countries which have attempted a National Qualifications Framework (NQF) are not many. Australia faces the problem of the inflexibility of the system and the present and future requirements of educated persons to implement this concept. South Africa in order to dismantle a hierarchical system of education and shift it from an `input' based to `outcome of learning' based system and to recognize the vast system of training of mind and skills attempted an elaborate system of NQF through South Africa Qualifications Authority. The New Zealand went for NQF to bring coherence to qualifications and for assuring standards. The UK, as a response to recommendations of Dearing Committee, has attempted to set-up QF. Some of these countries are trying to finalize it by the year end or so.

Successful modern economies and societies require the elimination of artificial hierarchies, in social organisation, in the organisation and management of work, and in the way in which learning is organised and certified. They require citizens with a strong foundation of general education, the desire and ability to continue to learn, to adapt to and develop new knowledge, skills and technologies, to move flexibly between occupations, to take responsibility for personal performance, to set and achieve high standards, and to work co-operatively.
Source : White Paper on Education and Training (1995), South Africa.

OBJECTIVES OF QUALIFICATIONS FRAMEWORK

All four countries which attempted Qualifications Framework had the main objectives of relating qualification with the outcome of learning, comparability, and portability of qualifications. These are oriented towards the standardization of qualifications as well as recognition. These also attempt to make the system flexible so that students from one qualification can move to another qualification as these being comparable in terms of levels. It also encourages the concept of lifelong education. Principles underpinning the NQF in South Africa are given in Table 1.

What do NQF qualifications look like?

The NSB regulations indicate that a qualification shall:

- Represent a planned combination of learning outcomes which has a defined purpose and which is intended to provide qualifying learners with applied competence and a basis for further learning;
- Add value to the qualifying learner by providing status, recognition, enhancing marketability and employability;
- Provide benefits to society and the economy;
- Comply with the objectives of the NQF;
- Include both specific and critical cross-field outcomes that promote life-long learning;
- Where applicable, be internationally comparable;
- Incorporate integrated assessment appropriately to ensure that the purpose of the qualification is achieved. Assessment should include a range of formative and summative assessment methods such as portfolios, simulations, workplace assessments and also written and oral examinations; and
- Indicate in the rules governing the award of the qualification that the qualification may be achieved in whole or in part through the recognition of prior learning,

Table 1 : Principles Underpinning the National Qualifications Framework

Principle	Definition
Integration	… form part of a system of human resources development which provides for the establishment of a unifying approach to education and training
Relevance	… be and remain responsive to national development needs
Credibility	… have national and international value and acceptance
Coherence	… work within a consistent framework of principles and certification
Flexibility	… allow for multiple pathways to the same learning ends
Standards	… be expressed in terms of a nationally agreed framework and internationally acceptable outcomes
Legitimacy	… provide for the participation of all national stakeholders in the planning and co-ordination of standards and qualifications
Access	… provide ease of entry to appropriate levels of education and training for all prospective learners in a manner which facilitates progression
Articulation	… provide for learners, on successful completion of accredited prerequisites, to move between components of the delivery system
Progression	… ensure that the framework of qualifications permits individuals to move through the levels of national qualifications via different appropriate combinations of the components of the delivery system
Portability	… enable learners to transfer their credits or qualifications from one learning institution and/or employer to another
Recognition of Prior Learning	… through assessment, give credit to learning which has already been acquired in different ways, e.g. through life experience
Guidance of Learners	… provide for the counseling of learners by specially trained individuals who meet nationally recognized standards for educators and trainers

Source : A Draft framework for Qualifications in the Higher Education and Training Band of the National Qualifications Framework - A Working Paper compiled by Michael Cosser, 1998. (SAQA)

which concept includes but is not limited to learning outcomes achieved through formal, informal and non-formal learning and work experience.

Source : The National Qualifications Framework : An Overview, SAQA.

The Level of Qualifications

South African Qualifications Framework divided the whole education system in eight levels. Upto 3 levels it is concerned with School and 5 - 6 for college/university levels and 8 for Ph.D. level. Whereas Australian Qualifications Framework deals with 12 levels. Of this 1 for Senior Secondary level, 2 - 5 certificates, 6 - 7 diploma and advance diploma levels and 8 - 10 under-graduate and graduate diploma and 11-12 post-graduate qualifications and doctoral degree. However, New Zealand has 8 levels. 1-3 school levels, 4-6 advanced Diploma, 7-8 bachelors and master's degree. UK has attempted certain levels for vocational qualifications. They are in the process of development. Within vocational qualifications four levels namely; Entry, Foundation, Intermediate and Advanced levels.

LEVELS

A qualification must be assigned a level that aligns it to a NQF level. Levels of qualifications are assigned in relation to the highest number of credits that are at or above a particular level at which the qualification will be registered for example a National Certificate must have 40 credits at or above the level at which it is registered. Consequently, it is possible for qualifications to include credit achieved at levels above and below the level at which the qualification is registered. A level two National Certificate may include credit achieved from above level two and below level two.

GENERAL DESCRIPTION OF LEVELS

The following descriptions are a general informal guide to levels for qualifications on the national Register. Table Three

Level One	Provides a basic foundation for further study including basic vocational skills
Level Two	Could be equated with achievement expected during the fourth year of secondary schooling and includes process work skills
Level Three	Could be equated with achievement expected during the fifth year of secondary schooling and include practice and sub-trade level skills
Level Four	Could be equated with achievement expected in skilled trade studies
Level Five	Could be equated with achievement expected in the first year of degree studies or for advanced trade or technician studies.
Level Six	Could be equated with achievement at the second year of degree level studies for higher level technician and para-professional studies.
Level Seven	Could be equated with achievement at the final year of degree level or professional studies
Level Eight	Could be equated to more achievement at postgraduate level such as a Masters or Doctorate, or for senior professional studies.

Source : NZQA Registering Qualifications in New Zealand - Consultation Draft, February, 2000.

Qualification Generation, Standardization and Qualification Evaluation

South Africa has evolved a system of qualifications generation body which deals with the generation of qualifications in consultation with industry, employer, and academics i.e. stakeholders. These qualifications are standardized by a separate body and evaluation of these qualifications is done by an evaluating body that is independent of the qualifications-generating body. After these qualifications are registered these qualifications are known to everyone in the country. Those providing education and training, therefore, have to conform to these. A similar process is also followed for qualification generation, standardization, and evaluation, the expected outcome level of each qualification is clearly spelled out in three categories. An example of the same is given in Table 2.

GENERAL REGISTRATION CRITERIA

The following general criteria are intended to ensure that:

" quality assurance of qualifications may be consistently applied;
" prospective graduates may compare qualifications; and
" people may make informed choices about which qualification pathway they will pursue.

Outcomes

The outcome statement of a qualification is a description of the nature of what a holder of the qualification should be expected to have achieved. Outcomes must be expressed in terms of both :

" what the whole qualification represents in terms of the application of knowledge, understanding, skills, and attitudes; and
" the components of the qualification which, in their combination, make up the wholeness of the qualification.

There is no standardised way of expressing these outcomes. Since 1991, a range of types of qualifications have been expressed in terms of outcome statements including degrees and related qualifications. The outcomes must, however:

" be stated as specifically as possible (supported by publicly accessible details where qualification components are specified);
" improve understanding about the qualification in accurately describing achievement;
" allow meaningful comparisons to be made with other qualifications, revealing any significant differences between similar qualifications (particularly if there are significant credit transfer restrictions associated with the qualification);
" be capable of being used to determine equivalencies with the NQF system of levels and credits where these are not used; and
" enable the transparent operation of a fair system of credit transfer.

Source: NZQA Registering Qualifications in New Zealand - Consultation Draft, February, 2000.

CHARACTERISTICS OF THE BACHELOR'S DEGREE PROGRAMME

A Bachelor's degree is a systematic and coherent introduction to the knowledge, ideas, principles, concepts, chief research methods, and problem-solving techniques of a recognised major subject (or subjects, in the case of a double degree or a double major). It requires meeting specified requirements, as set down in the relevant degree regulations, and involves at least one sequential study programme in which content is progressively developed to the point where a candidate is prepared for postgraduate study and supervised research. It prepares a candidate for advanced study as well as directed research and scholarship in the major subject(s) of the degree.

Bachelor's degree programme is taught mainly by subject experts who are active in research.

Entry
A programme of study leading to a Bachelor's degree builds upon prior study, work or experience and is open to those who have met the specified entrance requirements.

Outcomes
A graduate of a Bachelor's degree programme is able to:
a. demonstrate knowledge and skills related to the ideas, principles, concepts, chief research methods, and problem-solving techniques of a recognised major subject (or subjects, in the case of a double degree or a double major);
b. demonstrate the skills needed to acquire, understand and assess information from a range of sources;
c. demonstrate intellectual independence, critical thinking and analytic rigour;
d. engage in self-directed learning; and
e. demonstrate communication and collaborative skills.

Source : NZQA Registering Qualifications in New Zealand - Consultation Draft, February, 2000.

CREDIT REQUIREMENTS

A Bachelor's degree requires a minimum of 360 credits from levels 4 to 7. Some Bachelor's degrees, notably in professional fields such as engineering, the health sciences and law, encompass additional credits and may require a longer period of study. For example, an eight-semester (four year full-time equivalent) degree would usually be equivalent to 480 credits. Of the credits required for a Bachelor's degree, at least 20% of the minimum (ie 72 credits out of 360) should be from each of levels 4/5, 6 and 7 on the National Qualifications Framework, or the credits should be demonstrated to be at levels equivalent to NQF levels 4/5, 6 and 7.

A maximum number of credits from level 4 must be specified in the regulations for the degree. The maximum should be such that the integrity of the qualification at the higher levels is maintained.

Relationship with other Qualifications
A person who holds a Bachelor's degree may be permitted to enrol for the Postgraduate Diploma or the Master's degree.

Source : NZQA Registering Qualifications in New Zealand - Consultation Draft, February, 2000.

RECOGNITION OF PRIOR LEARNING

The NQF in all the countries attempts to recognize the prior learning and thereby avoid repetition and encourage experiential learning. Such methods makes the system flexible and seamless.

Table 2

The following table provides more detailed formal and technical guidelines for developers of qualifications and standards to assist them in deciding what level to assign a qualification and ensure that there is some consistency in the level descriptions of qualifications.

Level	Process	Learning Demand	Responsiblity
1	Carry out processes that: - are limited in range - are repetitive and familiar - are employed within closely defined contexts	Employing: - recall - a narrow range of knowledge and cognitive skills - no generation of new ideas	Applied: - in directed activity - under close supervision - with no responsibility for the work or learning of others
2	Carry out processes that: - are moderate in range - are established and familiar - offer a clear choice of routine responses	Employing: - basic operational knowledge - readily available information - known solutions to familiar problems - little generation of new ideas	Applied: - in directed activity - under general supervision and quality control - with some responsibility for quantity and quality - with possible responsibility for guiding others
3	Carry out processes that: - require a range of well-developed skills - offer a significant choice of procedures - are employed within a range of familiar contexts	Employing: - some relevant theoretical knowledge - interpretation of available information - discretion and judgement - a range of known responses to familiar problems	Applied: - in directed activity with some autonomy - under general supervision and quality checking - with significant responsibility for the quantity and quality of output - with possible responsibility for the output of others

4	Carry out processes that: - require a wide range of technical or scholastic skills - offer a considerable choice of procedures - are employed in a variety of familiar and unfamiliar contexts	Employing: - a broad knowledge base incorporating some theoretical concepts - analytical interpretation of information - informed judgement - a range of sometimes innovative responses to concrete but often unfamiliar problems	Applied: - in self-directed activity - under broad guidance and evaluation - with complete responsibility for quantity and quality of output - with possible responsibility for the quantity and quality of the output of others
5	Carry out processes that: - require a wide range of specialised technical or scholastic skills - involve a wide choice of standard and non-standard procedures - are employed in a variety of routine and non-routine contexts	Employing: - a broad knowledge base with substantial depth in some areas - analytical interpretation of a wide range of data - the determination of appropriate methods and procedures in response to a range of concrete problems with some theoretical elements	Applied: - in self-directed and sometimes directive activity - within broad general guidelines or functions - with full responsibility for the nature, quantity and quality of outcomes - with possible responsibility for the achievement of group outcome
6	Carry out processes that: - require a command of wide-ranging highly specialised technical or scholastic skills - involve a wide choice of standard and non-standard procedures, often in non-standard combinations - are employed in highly variable routine and non-routine contexts	Employing: - specialised knowledge with depth in more than one area - the analysis, reformatting and evaluation of a wide range of information - the formulation of appropriate responses to resolve both concrete and abstract problems	Applied: - in managing processes - within broad parameters for defined activities - with complete accountability for determining and achieving personal and/or group outcomes
7	Carry out processes that: - require a command of highly specialised technical or scholastic and basic research skills across a major discipline - involve the full range of procedures in a major discipline - are applied in complex, variable and specialised contexts	Requiring: - knowledge of a major discipline with areas of specialisation in depth - the analysis, transformation and evaluation of abstract data and concepts - the creation of appropriate responses to resolve given or contextual abstract problems	Applied: - in planning, resourcing and managing processes - within broad parameters and functions - with complete accountability for determining, achieving and evaluating personal and/or group outcomes
8	Carry out processes that: - require expertise in highly specialised and advanced technical or research skills - involve complex and advanced technical or research procedures - are applied in highly specialised and unpredictable contexts	Requiring: - great depth of knowledge in a complex and specialised area - the generation , evaluation and synthesis of information and concepts at highly abstract levels - the creation of responses to abstract problems that expand or redefine existing knowledge	Applied: - in planning, resourcing, managing and optimising all aspects of the processes engaged in - within complex and unpredictable contexts - with complete accountability for determining, achieving, evaluating and applying all personal and or/ group outcomes

Source: NZQA Registering Qualifications in New Zealand - Consultation Draft, February, 2000.

How does SAQA acknowledge Recognition of Prior Learning (RPL)?

Among the objectives of the NQF are the need to facilitate access to, and mobility and progression within education, training and career paths as well the need to accelerate the redress of past unfair discrimination in education, training and employment opportunities. SAQA is challenged to find a way in which these two objectives can be met, to find a way to recognise the learning that has taken place outside traditional learning contexts, previously the only learning contexts that were formally recognised. SAQA has indicated its intention to engage its structures in the area of RPL as a means of giving practical meaning to these objectives.

SAQA has mentioned RPL directly in the NSB regulations and has also made reference to it in the ETQA regulations. In the NSB regulations, the criteria for the registration of a qualification are outlined. One of these requirements is that the proposal should indicate in the rules governing its award, that the qualification may be achieved in whole or in part through the recognition of prior learning. The point is made that the concept of RPL includes but is not limited to learning outcomes achieved through formal, informal and non-formal learning and work experience.

In the ETQA regulations one of the criteria for accreditation as an ETQA is that the activities of the ETQA must advance the objectives of the NQF and hence in accordance with these objectives, policies and procedures for RPL are also the responsibility of the ETQA and hence will be considered in the accreditation process.

Source: The National Qualifications Framework : An Overview, SAQA.

REGISTRATION AND RECOGNITION

All the qualifications registered in the national register of qualifications are recognized. Registration process presupposes the clear statement of qualification, its outcome and the level. In all the four countries this Registration and Recognition is done nationally as the details of every qualification is very clearly spelt out and outcome and level is also specified. This also provides for possibility of portability of qualifications and credits. Based on national recognition and clear statement of the level, other countries can also mutually or otherwise easily recognize the qualifications.

National qualifications should have internationally recognised characteristics of a good qualification. They should :

" have a clear purpose;
" be internally coherent;
" recognise broad transferable and generic skills as well as specialised industry and professional skills;
" have clear indications of entry and exit points for intended graduates;
" meet obligations under the Treaty of Waitangi;
" specify quality assurance requirements pertaining to its delivery and attainment (including appeal provisions);
" provide an indication of its relationship with other qualifications; and
" document clearly and openly the above and statements of what people are required to attain to be awarded the qualification.

Qualifications should not prevent someone from doing something that they are capable of doing because of their gender, ethnic origin, disability or unreasonable cost.

Source: NZQA Registering Qualifications for New Zealand - Consultation Draft, February, 2000

IMPLEMENTATION AND MANAGEMENT

Implementation of the concept is done through passing of an Act by the state and by setting up a Qualifications Authority. South Africa has passed an Act SAQA Act No. 58 in 1995. Similarly, Australia has set-up Australian Qualifications Framework in 1995 as also the New Zealand has set-up NZQA in 1990 and the UK started in 1996. These work through an authority and their several bodies. The SAQA has 29 members board. Similarly, New Zealand has a board appointed by its Government. Australia has a ministerial council and advisory board of AQF.

WHAT ELSE DOES THE SAQA OFFICE DO?

SAQA is responsible for the development and maintenance of a National Learners' Records Database (NLRD). The first version of the NLRD was launched in 1999. Once fully established and populated, the NLRD will be able to provide information about:

" SAQA and its sub-structures (NSBs, SGBs and ETQAs);
" Qualifications and standards registered on the NQF;
" Accredited ETQAs and their providers;
" Registered assessors;
" Moderating bodies;
" Individual learner achievements.

The NLRD will be able to provide policy makers with comprehensive information to enable informed decision-making.

SAQA has the task of evaluating educational qualifications, especially if foreigners who wish to attend South African education institutions or who wish to enter the South African labour market.

SAQA also has a Resource Centre that keeps copies of SAQA publications and SAQA-related documents as well as other material that SAQA staff may need in the course of their work.

...contd. on page 28.

OSINT - A CRITICAL ELEMENT IN INFORMATION POWERED WORLD

ER. RAHUL AGARWAL *

The paper deals with Open source Intelligence from a historical and futuristic perspective. It uses in different fields of research and analyses.

WHAT IS OSINT?

Open Source Intelligence (OSINT) is intelligence gathered from publicly available free sources such as those available on the Internet. The concept isn't limited to the internet and encompasses all publicly available sources.

In this case, the term "Open Source" is not related to the famous open movement, but to any publicly available source where the user can obtain the information in their intelligence data collection.

HISTORICAL PERSPECTIVE

Before the CIA (Central Intelligence Agency), the United States had an office called the Office of Strategic Services or OSS. The Research and Analysis branch at OSS was dedicated to Open Source Intelligence. They collected information from newspapers, journals, press clippings, and radio broadcast reports from all over the world, to hunt for photos or articles that might provide crucial intelligence about the enemy.

They collected information from newspapers, journals, press clippings, and radio broadcast reports from all over the world, to hunt for photos or articles that might provide crucial intelligence about the enemy.

But today, OSINT is used by all for different purposes. Journalists writing news reports, students in academia working on research projects, employers scoping out job candidates, law enforcement working on crime cyber criminals looking to scam people, and much more. The availability of the right information helps in achieving comprehensiveness of output and gaining a competitive advantage.

OSINT SOURCES

The key theme behind the OSINT concept is information that can be obtained for free. It can be available in newspapers, blogs, web pages, tweets, social media cards, images, podcasts, or videos as long as it is public, free, and legal. These sources can broadly be divided among the following categories:

1. Print & Broadcast Media
2. Internet, Social Media
3. Public Govt Data
4. Professional & Academic Publications
5. Commercial & Financial Data
6. Grey Literature - tech papers, patents

OSINT is not science, but a method

Historically, OSINT has been more art than science. The amount of data available and the variety of sources makes it humanely impossible to do it without the right tools. With advancements in computing, mass storage, artificial intelligence, science, and analytics, a variety of tools have evolved that help in OSINT exercise.

" Is an experienced technology expert and innovator. He is head of Technology and Operations, 3SR Consultancy, Gurugram, Haryana

OSINT CONCEPTS

Intelligence

Intelligence can be defined as useful insights and inferences that can be drawn from the analysis of available information.

Intelligence Cycle

Intelligence gathering is a cyclic process involving Collection -> Filtering and processing -> Analysis and exploitation -> Production of inferences

" The collection stage involves acquiring and collating data from various sources.

" Filtering and processing of the information collected to ensure we have relevant and reliable content.

" Analysis and exploitation of the filtered, relevant content, utilizing inductive reasoning skills to identify the "so what" from all data The exploitation stage involves connecting the dots between identifiers and analysing results in a broader context. One of the challenges is that not all sources of information are equally valid, since some might contain bias or have questionable origins. Checking the credibility of data at this stage is important.

" The last stage is the production of inferences, which involves consolidating your findings into a useful report and then sharing it with others. Developing insights from the analyzed data and deriving inferences that are actionable and proactive in the identification of fraud, fraud avoidance, fraud recovery, or loss reduction

SURFACE WEB VS DEEP WEB

The Surface Web (or Visible Web) is anything that is indexed by typical search engines likes Google, Bing, Yahoo, Mozilla Firefox, Microsoft's Internet Explorer or

*Head of Technology and Operations at 3SR Consultancy, Gurugram

Edge, etc., to discover anything over the internet. From regular searches for information, finding news or desired products online, this is the web browser that is used by most of the users. This section of the web falls under constant government surveillance across the world.

According to some statistics, these search engines have indexed at least 6 billion pages. But according to estimates, this makes for only 4% of the whole web. The content visible on the surface Web is similar to what is visible above the water line of an iceberg. The Deep Web is an order of magnitude bigger than the Surface Web with content largely remaining unknown or invisible to typical search engines.

DATA CURATION

When we harvest from the web, we are receiving data in many formats and perhaps many languages. Data curation involves tagging, tuning, normalizing and enriching of data collected from various sources so that it is usable and has got some structure suitable to perform analysis.

IDENTIFIERS

Identifiers are unique keywords that describe a piece of data. Some examples include name, email, birthday, IP address, MAC address, phone number, geo coordinates, home address, license plate, etc. These identifiers might exist across many different datasets, scattered across the internet.

PIVOTING

Pivoting is searching for the same identifier in different datasets to correlate and discover new identifiers about a research target. For instance, a photo might contain a unique landmark that you can discover using Google Street view that leads you to a house. Searching for the address on public country records can reveal the owner's name, which can then be used to discover social media accounts and email addresses. In this case, we've pivoted from a photo to an email address.

METHODS OF DATA COLLECTION

Generally, there are two ways to gather data and information: active and passive.

Active collection involves direct contact with a target. This might mean physically travelling somewhere, talking with someone, dumpster diving, or scanning a system for vulnerabilities. While these results can be very accurate, there's a higher risk of detection because of direct involvement.

Passive collection, on the other hand focuses more on quiet observation of data that's generated by a target. Some examples include studying maps, listening to someone's conversation, or finding vulnerabilities by fingerprinting a device based on its network traffic, etc.

OSINT largely falls under the passive collection category since it can almost be done from the comfort of one's chair while remaining anonymous. The downside is that passive collection requires much more involved analysis and the quality of intelligence may not be as good as in active collection.

There's actually a third collection method called semi-passive, that falls somewhere between the previous two. This involves leveraging a third-party service's active collection measures to perform passive analysis.

OSINT USE CASES

OSINT techniques are widely used across a range of industries-cybersecurity operations analysts, law enforcement agencies, fraud investigators, threat hunters, researchers, investigative journalists, and many more. It can be used for a wide range of use cases, especially those involving internet-based research. Some of the OSINT use cases are listed below:

1. Cybersecurity Operations
2. Social Media Investigations
3. Business Risk Intelligence
4. Fraud Detection and Investigations
5. Track events and happenings
6. Identify technical vulnerabilities
7. Law Enforcement
8. Ethical Hacking and Penetration Testing
9. Market research and Customer analysis
10. Physical security
11. Operational and reputational risks
12. Enhancing decision-making through better insights
13. Identifying investment opportunities
14. Supplementing datasets

and innumerable more….

OSINT METHODS AND TOOLS

Social Media Analysis

Social media analysis (or SOCMINT) is gathering OSINT using Social Media. Social media has made OSINT on people super easy. People willingly put information about themselves out there. Looking at the social media pages of a person one can very quickly gather much more information about the person than other methods of OSINT. For example, a seemingly innocent picture could be the answer to a secret question, or a colleague wishing someone happy birthday and thereby inadvertently disclosing their date of birth.

One can easily gather information on individuals with a view to defrauding them or stealing their identities. Sources can include social networking sites like Facebook, Instagram…, professional networking sites like LinkedIn,… , video sharing or vlog sites, or microblogging sites like Twitter, etc.

Social Media Scraper

A social media scraper is an automatic web scraping

tool that extracts data from social media channels. These scrapers are essentially computer bots that have been designed to extract data from web pages in an automated manner.

SOCMINT USE CASES

Security teams can use social media analysis to hunt for an entry point for social engineering, or for physical site penetration.

Law enforcement agencies can derive information on extremist groups who use social media for spreading their beliefs and ideologies, promoting radicalization, recruiting members and creating online virtual communities sharing a common agenda. Twitter and other microblogging websites get used as a platform for communication during planning and mobilization of civil unrest related events.

Companies create their own discussion board on their intranets that help them get information about their employee engagements, reactions to company decisions, etc. Extending this further with social media analysis, they can get further insights into the employee behaviours.

OSINT ON DIGITAL PHOTOS

Digital Camera's use EXIF (short for Exchangeable Image File) format for storing photos. EXIF defines a format for storing information about the content (or metadata) as part of the jpeg files. Almost all new digital cameras use the EXIF format, storing information regarding the image such as shutter speed, exposure compensation, metering system used, flash usage, ISO number, date and time the image was taken and resolution. Some images may even store GPS information, so someone can find out where the images were taken!

There are open source tools like ExifTool that allow exploring EXIF information for a photo, including geolocation where it was taken (if location tagging was enabled).

OSINT IN RECONNAISSANCE

Reconnaissance is the first stage of hacking or penetration testing, in which the hacker gathers information about its target through all possible sources. It is essential for launching an attack.

Typically the reconnaissance starts with "Google Dorking," the use of Google searches to find security loopholes in an organization.

For example, someone can write a query to search for all spreadsheets that have a company's name and the word "password." If one of the company's admins has ever exposed such a spreadsheet accidentally on the web, it can be hunt down by hackers.

GOOGLE HACKING

Google operates the world's most widely used Internet search engine. This search engine crawls nearly every web page, of every web site, and builds a massive database of all the information it gathers. The search keywords entered by people are searched through this database for articles or pages with the keyword. Google then retrieves the most relevant web sites based upon its algorithm which prioritizes the articles. This algorithm is known as the PageRank algorithm, named for Larry Page, one of Google's founders.

Google, makes finding information online quick and simple, particularly when we are performing classified searches like online shopping, finding a new restaurant, or looking for a job. However, when searching for unclassified information about individuals, persons of interest, businesses, or other more specific targets, the number of results returned from Google can be overwhelming.

Google has particular keywords and operators that can assist in extracting precise information from this extraordinary database. For example, using 'site' keyword, the results can be limited for a specific site. So, you can try google search using

site:twitter.com m m pant

It'll show various twitter postings by Prof Pant.

Please note that keyword 'site' needs to be followed by ':' and the specific website address without any gap in between.

We can restrict search results to specific filetypes by using keyword 'filetype'. So, we can do google search using

```filetype:xls site:gov.in```

It'll show list of excel files hosted on GoI websites.

There is a huge list of such keywords that can be used to do a focused search in the massive database maintained by Google with all the publicly available information on almost every website on internet. These keywords can be used alone or in various combinations with or without operators like +, -, ", ~, ., *, |, OR, etc. to make query more specific.

Google Hacking is a term that refers to the art of creating complex search engine queries for these focused searches. These search strings are also called Dorks. Hence, this type of focused searching is also referred to as Google Dorking.

SOME OTHER OSINT TOOLS:

Here is list of freely available OSINT tools that are used for their different purposes:

1. Maltego - Maltego is a good tool for pivoting, providing information related to an entity
2. Shodan.io or Censys.io - Shodan, and Censys are search engines to find out servers, networks and internet-connected devices
3. The Harvester - The Harvester is a good tool for collecting intelligence like email and domain for the specified target.
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4. TinEye - TinEye is a reverse search engine for images - for a given image, one can find out wherever it came from and how it's getting used. TinEye uses AI techniques such as neural networks, pattern recognition, machine learning, and image recognition rather than using metadata.

THE DARK SIDE OF OPEN SOURCE INTELLIGENCE

If some information is readily available to intelligence analysts, it's also readily available to malicious users. OSINT tools and techniques can be used to hunt down potential targets and exploit weaknesses in target networks.

IS OSINT LEGAL OR ETHICAL?

While OSINT techniques are often used by malicious hackers for reconnaissance before launching an illegal attack, the tools and techniques themselves are perfectly legal. These are designed to help get a view of data that's openly available and put the house in order, if needed.

SUMMING UP

We are living in an information-driven society. Data production is increasing at an exponential rate. The ability to use OSINT tools and techniques to turn this data into actionable intelligence will certainly play a role in determining what's next for big data in business.

...contd. from page 24

The Communications and Secretariat division provides SAQA with a secretarial service for the Authority and its sub-committees required in the execution of its duties e.g. the Executive Committee, the Finance Committee.

Source : The National Qualifications Framework: An Overview, SAQA

UGC draft National Qualification framework is put for debate and suggestions. For higher education qualifications it has suggested levels 5 to 9. These levels are as follows:

Higher Education Qualifications at different levels on the NHEQF

NHEQF level	Examples of higher education qualifications located within each level
Level 5	Undergraduate Certificate. Programme duration: First year (first two semesters) of the undergraduate programme.
Level 6	Undergraduate Diploma. Programme duration: First two years (first four semesters) of the undergraduate programme.
Level 7	Bachelor's Degree. Programme duration: First three years (Six semesters) of the four-year undergraduate programme.
Level 8	Bachelor's Degree (Honours/Research). Programme duration: Four years (eight semesters). Level 8 Post-Graduate Diploma. Programme duration: One year (two semesters) for those who exit after successful completion of the first year (two semesters) of the 2-year master's degree programme.
Level 9	Master's degree. Programme duration: Two years (four semesters) after obtaining a Bachelor's degree. 28 | University Grants Commission Level 9 Master's degree. Programme duration: One year (two semesters) after obtaining a Bachelor's degree (Honours/ Research).
Level 10	Doctoral degree

Source: UGC Draft National Higher Education Qualification Framework (NHEQF)

Table No. 3 of the draft framework gives the learning outcomes descriptors. This can be accessed on the UGC website. These need to be seen in the international context. It is hoped this paper will help concretize the debate and final outcome of National Qualification Framework.

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This column brings out briefs of : Ph.D, M.Phil Researches in Education, Economics of Education, Social, Political, Psychology aspects of education conducted in University /College departments. It also brings out briefs on researches done by Research Institutions, Industry and NGOs. This column was introduced from April-June, 2016 issue of College Post. Method of reporting the researches completed and in progress was given in that issue. Interested researchers, professors and Heads of institute are requested to send their brief accordingly. Purpose of this column is to high light the researches in education conducted in university and college departments and in any other institution / industry and NGO for the benefit of policy makers, research scholars, thinkers. Readers are welcome to encourage relevant person and institute to send briefs on research done and being done in education.

This issue brings to you briefs on following Researches in Education

PH.D. THESIS

AN ECONOMIC ANALYSIS OF FINANCING OF HIGHER EDUCATION IN INDIA, Researcher: Ramanjini, Guide: Dr. Gaythri, K, Department of Economics, University of Mysore, Date of completion 2021

Some Key Findings:

This thesis provides some valuable insights with respect to some of the most contentious issues related to higher education financing such as output fluctuations and public educational expenditure, patterns and determinants of household educational expenditure, quality and incidence of public higher educational expenditure in India.

On pro-cyclical nature and fiscal transfers:

First, education expenditure of Indian States is pro-cyclical in nature in relation to States? real GSDP and expenditure related to higher levels of education shows a higher degree of pro-cyclicality than lower levels of education.

On Household expenditure:

(i) Households in India have to spend around 15 per cent of their total consumption expenditure for meeting the expenses of higher education of their members

(ii) This share is significantly higher for urban areas than for rural areas.

On the elasticity of Education Expenditure:

The analysis reveals a positive association of household higher education expenditure with household income. However, the observed elasticity of income is larger for middle income groups than poorest and richest income classes.

The coefficient values of income dummies for all the three time points unequivocally suggest that the poorest households feel the highest burden of education expenditure than any other income class although the rich income classes spend higher amount from their household sources.

On the Quality of Public Expenditure:

Based on grouping of all the 28 states into two groups i.e. Non-Special Category States (NCS) and Special Category States (SCS). Kerala, Goa, Haryana occupies top three position with respect of NCS and states such as Uttar Pradesh, Rajasthan and Chhattisgarh obtained bottom three positions.

Similarly Jammu & Kashmir, Arunachal Pradesh and Uttarkhand are the top performers and Tripura, Nagaland and Assam are the worst performers with regard to SCS.

The state of Goa has obtained the first place in respect of expenditure quality index. Its performance with respect to quality index has been mainly driven by its higher allocation of resources to higher education. The state of Kerala has occupied the second place in respect of quality index.

It is observed that the lower revenue base of the states disables them to provide sufficient levels of higher education facilities to the people. Consequently, lower levels of service provision may not help the same states to enjoy the advantage of economies of scale which in turn elevate the unit cost of the services.

On Benefit incidence of Higher Education:

The share of benefit is consistently increasing with household consumption expenditure except for decile 6th. In other words, income of the household seems to be positively associated with the share of higher education benefit.

There exists a linear pattern in the distribution of benefits from lower levels of education to higher levels with no single exception.

Observations on Policy of financing:

It is also noteworthy to mention that the expenditure allocation policies of the government that views reduction of funds to a particular levels of education as the only feasible way in order to make provision of greater funds to others needs to be re-looked as provision of equitable educational opportunities call for eliminating inequalities in all the levels of education

Another policy-relevant observation emerging from the findings of the study is that the percolation of benefits to the poor due to expansion of higher education over time. In fact, the marginal gains for lower income groups associated with expansion are substantially higher than higher income groups.

College post highly recommends this study to researchers and policy makers.

JAPAN

UNIVERSITY REFORMS TAP POST-PANDEMIC SHIFTS IN ATTITUDES

The pandemic led to a global shift in teaching and in learning attitudes, including in Japan, where students now expect the university to be more than a place for top-down instruction. Kiyoshi Yamada, Chancellor of Tokoi University said "Universities need to respond to the new demands through disruptive creation and transformation," He said "The pandemic is not only about sickness and deaths. COVID-19 has shed new light on many higher education operations and practices that must meet a 'new normal'. Tokai is taking this challenge very seriously,"

Pandemic-related disruption forced universities to adopt survival measures, but the enforced changes have become unprecedented opportunities for reform in Japan's highly traditional higher education system. In particular, it has provided opportunities to break down barriers between subjects and departments and promote more personalised and flexible university education.

"said Kiyoshi Yamada, chancellor of Tokai University, a leading private institution boasting a reputation in engineering and science.

Yamada told University World News.

Curriculum reform

On curriculum reform Mr. Yamad said "Japanese universities are "bogged down with an ingrained culture that prioritises [discussing] the pros and cons of any change rather than taking action. That system is at fault,"

Yamada, a professor of economic law, however, refuses to label COVID-19 as a lost opportunity. Rather, he said, "pandemic despondency" was an opportunity for Tokai to push forward with new approaches to higher education, though he acknowledges this can be a frustrating process.

Yamada noted that "change is a gradual process and can be achieved with small steps. That style is better suited to a large established university like Tokai, steeped in tradition."

Universities are currently educating undergraduates who were in their first year during the initial COVID-19 outbreak in early 2020. This cohort has experienced the worst impact of the pandemic-related lockdowns imposed in Japan, as elsewhere.

Surveys conducted last year provided sobering insights. While Japanese students appreciated not having to commute to campus on crowded trains during COVID-related lockdowns, they also struggled with loneliness and lack of motivation to study stemming from long bouts of isolation.

ACCELERATED STUDENT MOBILITY

Tokai University last year announced its Crisis Leveraged Actions for Revitalisation (CLEAR) project, which draws on its COVID-19 experience to address previously intractable issues in the university, for example, its shared-credit programme that attracted few takers since its inception in 2012 due to a conservative student culture.

Slated to start next April, the CLEAR programme is promoted as an enticing opportunity to accelerate student mobility through a system that is more flexible and also caters to the diverse interests of students, said Yamada, who described it as fish swimming in a sea that is not static or rigid.

Mr. Yamada spearheaded the concept of higher education as a "travel experience" that encourages students and faculty to embark on learning between campuses with the aim of breaking down borders between Japanese universities.

The changes are significant in higher education in Japan where student mobility is restricted to a particular department or topic. Accepting credit transfer between domestic universities and foreign counterparts is also a more recent development.

A key feature is the development of personalised programmes made up of compulsory subjects and electives that encourage undergraduates to select subjects outside their registered departments and earn credits across the diverse academic offerings of Tokai's six local campuses and an international college in Hawaii that offers intercultural Pacific Rim studies.

"Harnessing hybrid teaching methods that became popular during the pandemic is also a boost," Yamada pointed out, explaining that remote learning provides wider access to classes at different campuses.

Tokai Hawaii can enrol students on a quarterly basis, supporting flexible schedules. Undergraduate classes can start in any of its 10-week terms, which is more conducive to cross-border experiences. Similar opportunities are available with Hanyang University in South Korea or Shenzhen University in China under Tokai University's global citizenship programme.

FOCUS ON HUMANITIES

Yamada is also pushing for a renewed focus on the humanities despite Tokai's reputation for engineering and science, which accounts for 60% of its student enrolment. "New demands in higher education have narrowed the traditional line that divided students between sciences or arts," he said.

Okai University's founders included in its mission the idea of peace in higher education.

Courtsey and source : University World News - Suvendrini Kakuchi 09 November 2022

STUDENTS GOING ABROAD FOR STUDIES:

The story of students going abroad for studies, particularly for medicine education made chilling news last year when about 20 thousand students from India were stuck in the war torrent Ukraine. It is said a large number of Indian students are studying for medical education in Russia and China. Recent figures for students going to these countries are not readily available. But traditionally Indian students have been going for higher education in the UK and the United States in large numbers. Recent figures for visas issued to students going to the US for studies between June to August show that 82,000 students have planned to go to the US for studies in 2022-23 as compared to 62,000 students' visas issued by the US in 2021-22.

Similarly, the number of students going to the UK for higher studies has also increased during this year. The latest figures for Study visas issued by the UK show that 1,17,965 students have opted to go for studies in the UK. The increase from the previous year is suggested to be almost 89 per cent from the previous year.

The number of students going to the US and UK from India and China accounts for a very large proportion. In the US these two countries' students account for almost 50 percent of all international students studying in the US. Earlier Chinese students going to US and UK were higher than in India. But now the trend is changing. This year number of student visas issued to Chinese students by the UK was less than the number of visas issued to Indian students.

Data reveal that nearly 2 lakhs (1,99,182) Indian students were pursuing higher education in the US in the year 2021-22 as compared to 1,67, 582 students in 2020-21. The increase is 19% from the previous year. During this period number of students from China decreased by 9 per cent, whereas the number of students from Pakistan, and Bangladesh, increased by 17 and 23 per cent. The increase in the number of students from Spain was the highest i.e.41 percent and from South Korea was lower i.e. 3 per cent only.

The latest data for international students in India are hard to come by. We need to carry out studies for encouraging students to come to India for studies. Every student going abroad spends around 20 lakhs annually. The amount of money India transfers to other countries on account of students going abroad is substantial. We need an economic analysis of this phenomenon.

EDUCATION LOANS TO STUDENTS

An education loan scheme was introduced to help students to study for higher education in India and abroad. The loans were given at Prime Lending Rate. Every public sector bank was requested to disburse loans to students for studies. Some target for disbursal was also fixed. The latest data published in ToI -on 17th November 2022 show that this target is less than 13.5 %. For 2022-23. The report also says that NPA in education loans is also rising. It is said there is a relatively greater default in small-ticket loans. Under the scheme, a loan up to Rs. 4lakhs does not require any collateral. Whereas loan amount Rs. 7.5 lakh can be obtained by a suitable third-party guarantee. Loans of above Rs. 7.5 lakh require tangible collateral. In all the above categories co-obligation of parents is necessary.

PSBs have distributed about Rs. 79,000/- in loans till June 2022. Of this amount, 8 percent is stated to be NPA. This amounts to Rs.6, 246 Crores. No analysis of reasons for the default is reported in the news. However, there is a need to do an analysis of the reasons for default. Is it owing to lack of employment of graduates or for any other reasons?

FACULTY POSITIONS IN IITS, CENTRAL UNIVERSITIES AND IIMS

Report of unfilled faculty positions in central universities and state universities is often reported in the newspapers. One could read year after year that about one-third of positions are vacant in universities in India. The figure does not change much over the years. A recent report published in the Times of India, on December 17, 2022, states that 40.3 percent of faculty positions in IITs are vacant. IITs are very premium institutes in India and fully funded by the Government of India yet many positions are lying vacant. Indian Institute of Mines has the highest number of vacant positions i.e 59.8 Percent. This is followed by IIT Kharagpur with 49.7 percent vacant faculty positions. For the past five years five IITs namely, ISM, Dhanbad, IIT, Kharagpur, IIT (BHU) Varanasi, IIT, Kanpur, and IIT, Roorkee has about 40 Percent vacant faculty positions. IIMs are also not far behind. IIMs have nearly 31.5 percent vacant positions of the total of sanctioned positions. The percent of vacant positions in Central Universities add up to 32.6 percent. The report also reveals that among general and social and economically deprived groups at all levels namely professor, Associate Professor and Assistant professor is relatively higher among socially and economically deprived sections. For the General Category vacant faculty positions are relatively higher for the position of professor almost double that of Associate and Assistant Professor in Central Universities it is 45.1 percent. The figures of vacant position are a matter of worry when India is planning to implement NEP-2020 which has an emphasis on quality, flexibility and multidisciplinary and outcome-based higher education. We need to do a thorough study of reasons for the vacant positions and work out strategy for filling in the vacant positions.

INDIA SINCE INDEPENDENCE (revised and updated), Bipan Chandra, Mridula Mukerjee and Aditya Mukerjee, Penguin Random House, 2008 Pp.

This book was published in 2008 and a lot of water has flown over the bridge since then. I thought, it is important to re-look at it, particularly when we are at 75 years of independent India. The book begins with- The Colonial Legacy, National Movement Legacy, and the Evolution of the Constitution of India and its Main Provisions. The Architecture of the Constitution's Basic Features and Institutions. These five chapters form the backdrop of happening after the independence of India. The authors highlight the main provisions as -Adult Suffrage, Preamble, Fundamental Rights and Directive Principles, and A Secular State. Discussion on these aspects in the book is important to know for citizens of India.

Rightfully authors have devoted almost another five chapters discussing the Initial years, and consolidation of India as a nation in four chapters titled Consolidation of India as a Nation (II) linguistic Reorganization of States, Consolidation of India as a Nation (iii) Integration of Tribals and Consolidation of India as a Nation (iv) Regionalism and Regional Inequality.

Another five chapters deal with Years of Hope and Achievement 1951-1964, Foreign Policy The: Nehru Era. Jawaharlal Nehru in Historical perspective, Political Parties, 1947-64: The Congress, Political Parties, 1947-1965: Authors, in a chapter on Jawaharlal Nehru from a historical perspective, while delving into positive and weak aspects of Nehru, write "Above all Nehru wanted to build an independent self-reliant economy, for independence depended on economic strength and capacity to resist economic and political domination." They conclude… Nehru's economic policy did prove to be the right one for India as a result economic achievement was quite substantial."

In political Party: Congress, authors bring out, along with others, two distinct aspects namely, the political economy of the Congress party and the Party and the government -the Kriplani vs Nehru controversy. On political economy, authors highlight "During the Nehru era, Congress remained basically a party of the center or middle with left orientation- in other words, a left of the center party- though it had right and left minorities at the flanks." In view of the reviewer the Kriplani- vs Nehru controversy laid a good foundation for the separation of roles of the party and the government.

Another five chapters deal with From Shastri to India Gandhi -1964-69, Indira Gandhi years- 1969-73. JP Movement and Emergency- Indian Democracy Tested, Janata Interregnum and Indira Gandhi's second coming 1977-84 and Rajiv years. Besides several achievements of Shastri ji during India -Pak War, Mrs. Gandhi's handling of the Bangladesh War, and the experiment of Smiling Budha, The happenings during this period i.e., the JP movement and imposition of emergency need to be mentioned here. After the Allahabad High Court Judgment unseating Mrs. India Gandhi, Mrs. Indira Gandhi appealed to Supreme Court as per constitutional provisions. But JP's movement wanted her to resign. The situation went to the extent to quote" The entire opposition game plan was made explicit by Morarji Desai in an interview later in the evening:" We intend to overthrow her, to force her to resign for good… "Thousands of us will surround her house to prevent her from going out or receiving visitors. We will camp there night and day shouting for her to resign" Authors write In other words, the opposition plan had all the hallmarks of a Coup d'état." Mrs. Gandhi justified internal emergency on three counts. The chapter deals with aspects of the emergency and JP movement in depth and offers various alternative possibilities both on the JP movement and declaration of emergency. Authors write " A giant of a person, with many strengths and many weaknesses, Indira Gandhi strode the Indian Political state .." they conclude by quoting Indira Gandhi telling a friend before her assassination " Whatever happens to me - I feel I have paid all my debts " to quote authors " And India and its people were surely richer for her having done so." The Chapter on Rajeev describes his achievements in IT, Panchayati Raj, handling the pressure from the opposition and weak aspect namely dent on secularism owing to Shah Bano Case and his dealing with Sri Lanka, and finally his assassination. Authors write " It is to Rajeev 's credit that, in the midst of scandals and conspiracies, he personally handled with great élan, from all accounts, the crisis arising out of one of the severest droughts of the twentieth century"

The next five chapters deal with Run up to New Millennium and after, Politics in the States- Tamil Nadu Andhra Pradesh and Assam. Politics in states -West Bengal and Jammu & Kashmir, The Punjab Crisis, Indian Economy,1947-1965:The Nehruvian Legacy. These make very useful readings.

Chapters 26 to 34, nine chapters deal with the Indian Economy-1965-1991, Economic Reforms Since 1991, The Indian Economy in the New Millennium. The chapters deal with several land reforms, Bhoodan Movement and Green Revolution.

Chapters 35, 36, and 37 deal with the revival and Growth of communalism and Communalism and the Use of State Power, and Caste Untouchability, Anti-Cast Politics, and Strategies. The chapter of Communalism and Use of State Power deals with the growth of communalism and happenings in Gujarat - Genocide in Gujarat.. "

The book's last four chapters attempt to review Indian Women Since Independence, Political Economy an overview, Disarray in Institutions of governance and Millennium Achievement, 'problems and prospects.

The book ends with a hope that "The power of the people in a democracy is 'liberating Deluge' that can, and we are sure will sweep away the accumulated dirt of ages. This is, of course, all the more reason for the preservation and deepening of democracy in India"

Writing on contemporary history/story is a very difficult task, which authors have done very succinctly. t it is one of India's rare and detailed accounts of happenings since independence. This deserves to be read by those who have hope in Indian Democracy.

GD Sharma

seed...

CHEST

CERTIFICATE COURSES ON
VALUES & LIFE COPING SKILLS

MODULE 01 - 2 CREDITS

THIS MODULE IS DIVIDED INTO THREE BROAD UNITS NAMELY:

(1) Value Orientation - Definition, Norms and Values, and Perennial Values-

i. Sincerity
ii. Concern
iii. Seeking to do the best
iv. Sense of thought and action which can harm the individual and the society.
v. Sense of duty
vi. Sense of character

(2) Values in Modern Society - (i) Modernization and Modernity, (ii) Rationalist and liberal model, (iii) Revivalist and Orthodox Model, (iv) Radical and Revolutionary model.

(3) Types of Contemporary Societies - (i) Traditional, (ii) Transitional, (iii) Modern Societies - Ethics and moral foundation and Culture (iv) Post-Modern Society.

- Each of the units has assignments. These will be supplemented with the latest ideas while interacting with specialists.

MODULE 02 - 2 CREDITS

THIS MODULE IS DIVIDED INTO THIRTEEN UNITS NAMELY:

1. Emotional Intelligence
2. Self Esteem
3. Yoga
4. Skills for Quality Life
5. True North Principle
6. Potential for Four Human Endowments
7. Work
8. Sense of Duty
9. Habits of Thrift
10. Environment Protection Policy of India
11. Fundamental Rights and Duties
12. National Security
13. Personal Security with its several sub-aspects.

- Each unit and sub-unit have assignments to be attempted by the participants.

IMPORTANT NOTE-

Courses will be offered in collaboration with the institutions. Also, students can directly enroll for the Certificate Courses.

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