



Higher Education : Paradigm Shift Regulation to Accreditation

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Points For the Discussions

- **Development of Education in India**
- **Initiatives**
- **Present Status**
- **Accreditation Vs. Approval**
- **Approaches**
- **Research**
- **Entrepreneurship**
- **Quality Enhancement of Teachers: Approaches**

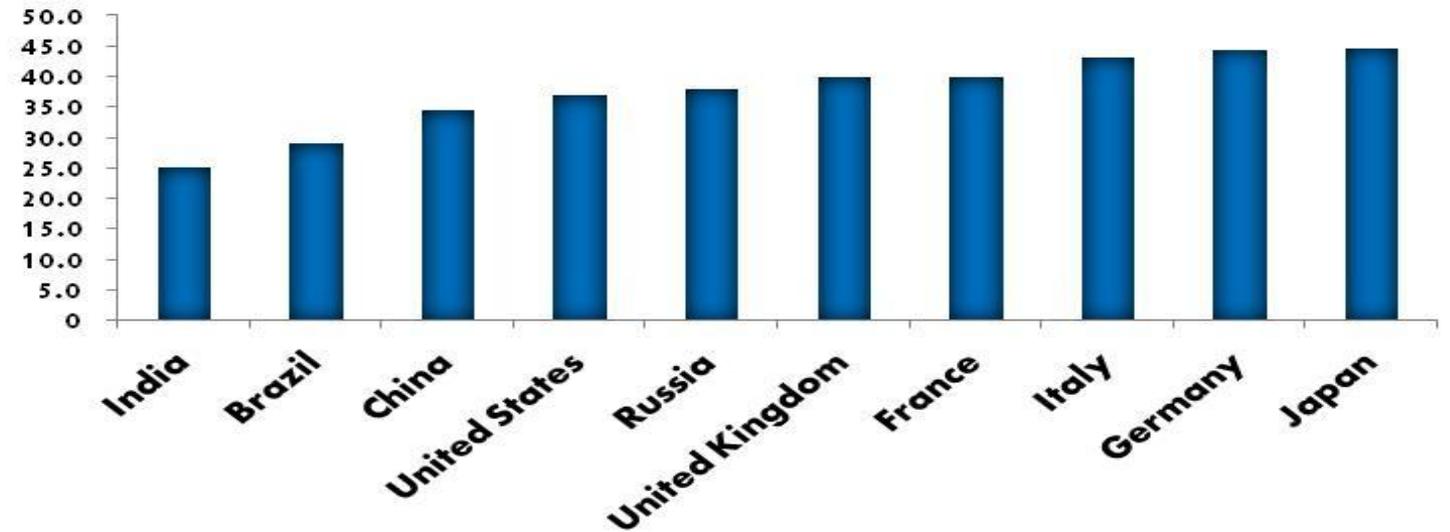
EDUCATION IN INDIA

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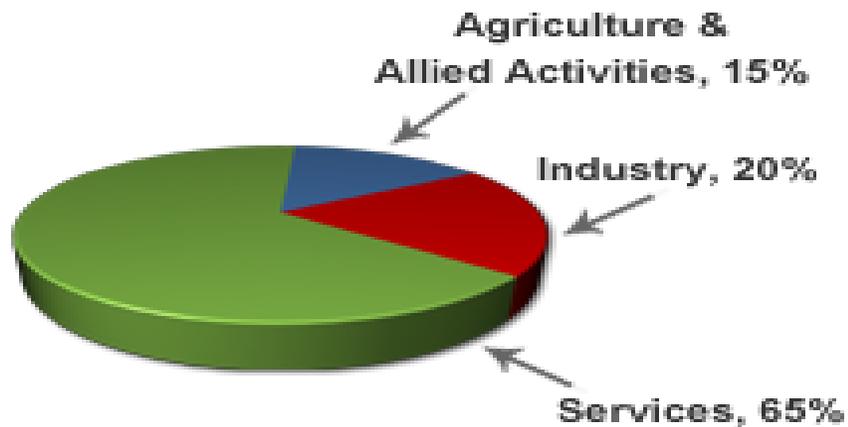
- ▶ Oldest System of Education
- ▶ 3rd Largest
- ▶ Complex- Contradictions- Potential
- ▶ 2030 Youngest Nation 140 M
- ▶ Demographic Dividends
- ▶ Students Priority- Knowledge?
- ▶ Entry of Private Players

We are a young nation

Median Age (Years)



India's GDP Components (Sector)



Service sector to be a game changer

In 2002

86th Constitutional Amendment in Constitution of India.



सत्यमेव जयते

CONSTITUTION OF INDIA

Preamble

WE THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a Sovereign Socialist Secular Democratic Republic and to secure to all its citizens

JUSTICE

Social, economics and political:

LIBERTY

of thought, expression, belief, faith and worship

EQUALITY

of status and of opportunity: and to promote among them all

FRATERNITY

assuring the dignity of the individual and the unit and integrity of the Nation

IN OUR CONSTITUENT ASSEMBLY

this twenty-sixth day of November, 1949, do

HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION

Article 21
A

Right to Education is a Fundamental Right.

Article 51
A

Fundamental Duty of parent / guardian to provide opportunities for education.

What is Higher Education ?



6

Minimum 9 months (full time) after 12 years of schooling.

OR

Minimum 3 years (full time) after 10 years of schooling.

Structure

Pre- Primary

Primary

Upper Primary

Secondary

Intermediate

Higher Secondary

Post Graduate

Ph.D. Etc

Regulation of Higher education system

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■ UNIVERSITY GRANTS COMMISSION (UGC)

Responsible for coordination, determination and maintenance of standards, release of grants.

■ PROFESSIONAL COUNCILS

Responsible for recognition of courses, promotion of professional institutions and providing grants to undergraduate programmers and various awards.

The statutory professional councils are:

- ✓ All India Council for Technical Education (AICTE),
- ✓ Distance Education Council (DEC)
- ✓ Indian Council for Agriculture Research (ICAR),
- ✓ Bar Council of India (BCI),
- ✓ National Council for Teacher Education (NCTE)
- ✓ Rehabilitation Council of India (RCI)
- ✓ Medical Council of India (MCI),
- ✓ Pharmacy Council of India (PCI)
- ✓ Indian Nursing Council (INC)
- ✓ Dentist Council of India (DCI)
- ✓ Central Council of Homeopathy (CCH)
- ✓ Central Council of Indian Medicine (CCIM)

NUMBERS

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	1950	2010-11	2011-12
Universities	30	564	700
Colleges	695	32564	35314
Teaching Staff	24000	890462	934000
Enrollment	0.4%	13%	15%

UG- 85% PG- 12% Research 1% Others 2%
Arts- 36% Science 18% Commerce & Management -17% = 71%
Engineering- 16%

Massive Growth between 2000-2012
Universities- 2 Times Colleges 2.5 Times Students Less than 2 Times
8.6 – 17 M

Universities
Total 700 (Average 23/ State) 11 States 64%(41/ State) 20 States 136% (12/ State)



Institutions 53620



Teachers 14.04 Lakhs



Students 3.50 Crores



Institutions

Universities 993

Colleges 41901

Standalone 10726



Teachers

Universities 1.58 Lakhs

Colleges 10.99 Lakhs

Standalone 1.47 Lakhs



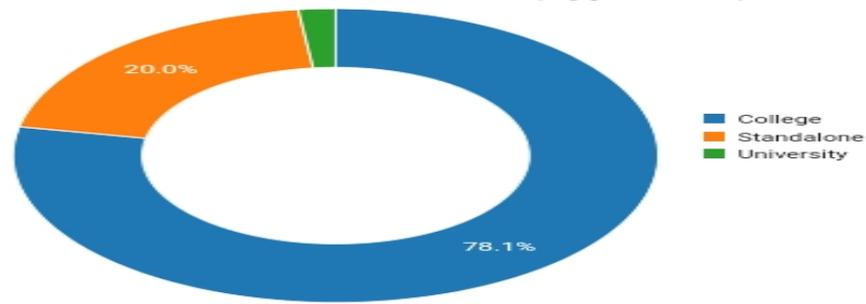
Students

Universities 69.46 Lakhs

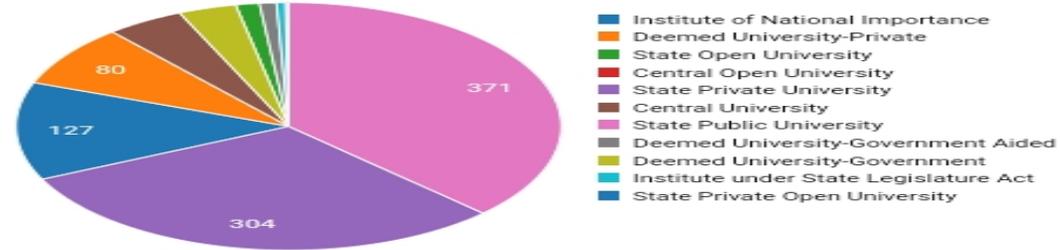
Colleges 2.60 Crores

Standalone 20.23 Lakhs

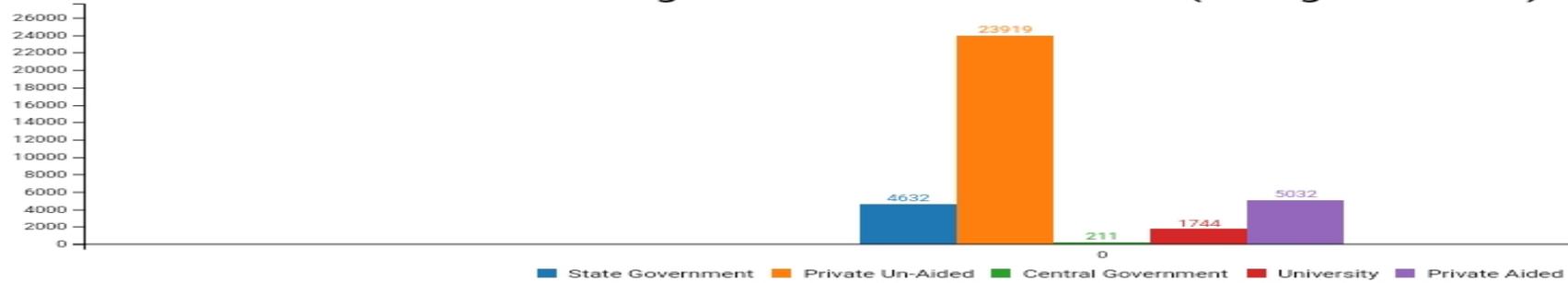
Institutes Distribution(Type-wise)



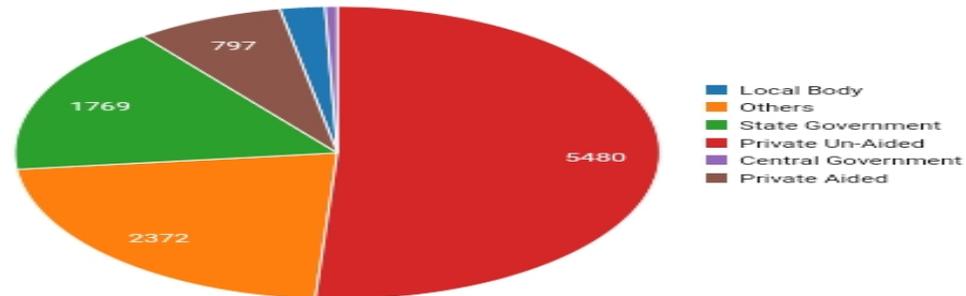
Universities Level Institutes Distribution(Type-wise)



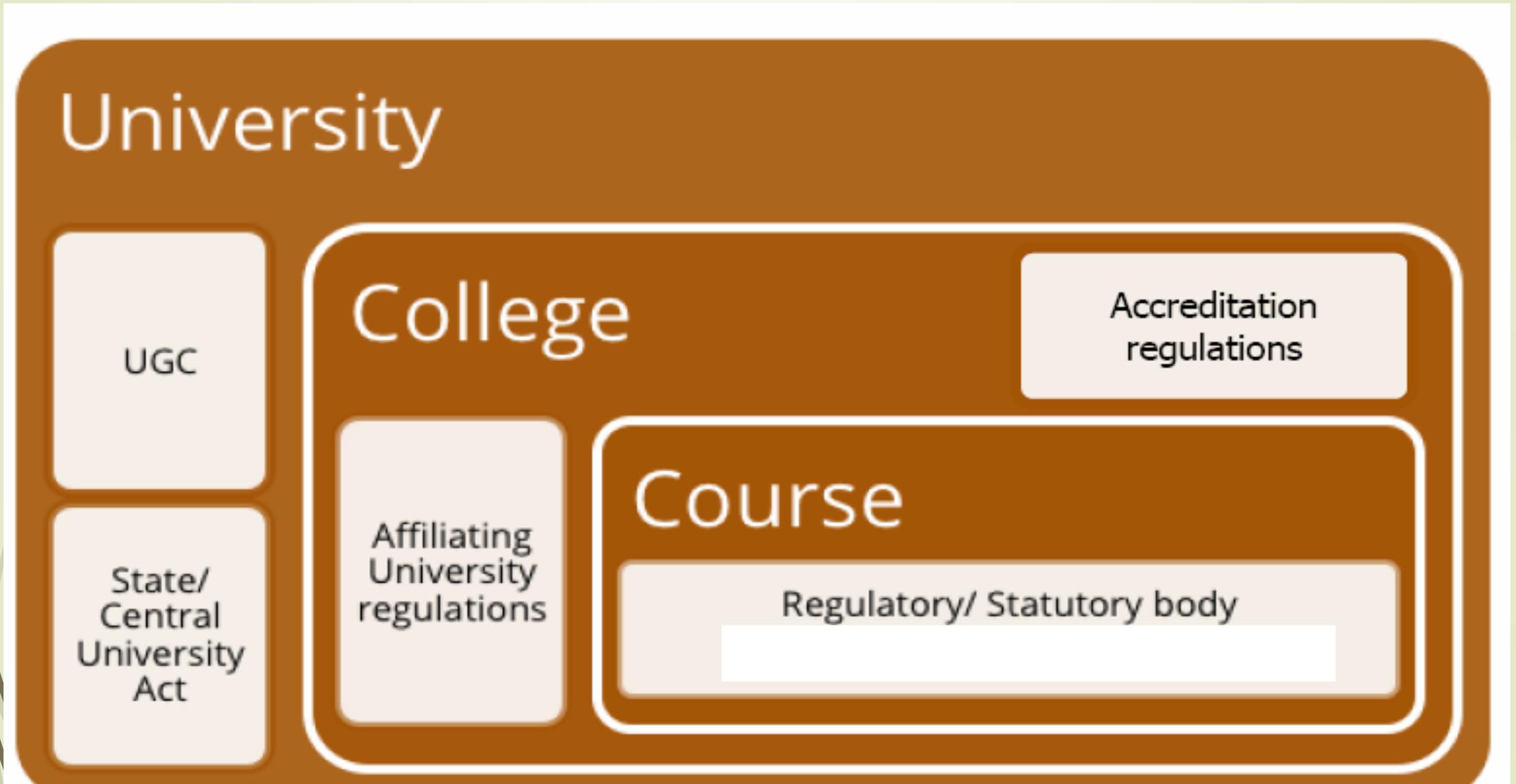
College Level Institutes Distribution(Management-wise)



Standalone Institutes Distribution(Management-wise)

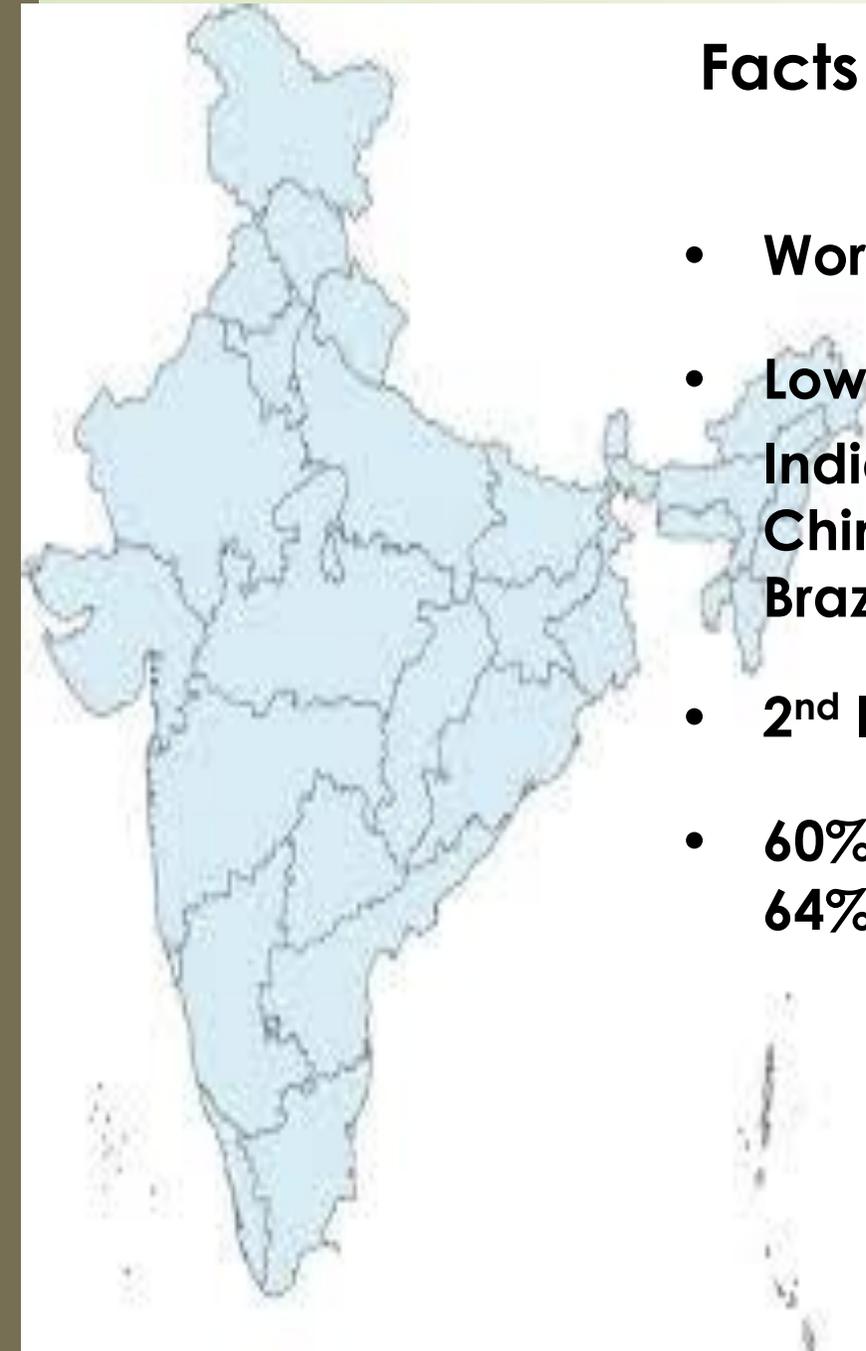


Supply chain of Higher Education



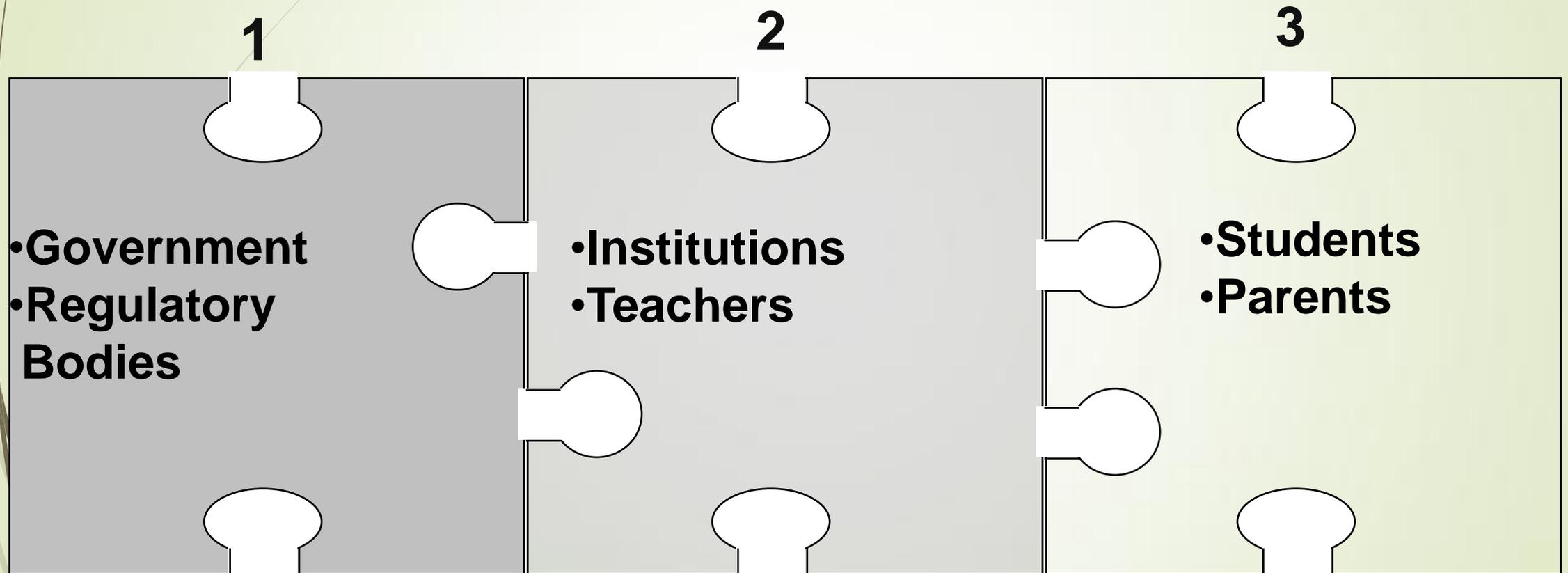
Facts about India – Higher Education

- World's 2nd largest country in terms of population.
- Low student enrolment rate in Higher Education.
India – 18%
China – 26%
Brazil – 36%
- 2nd largest No. of graduates in pipeline by 2020.
- 60% of Higher Education is in the hands of private sector with 64% students enrolment.



Partners in Quality Education

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Relationship

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- Avoidance
- Competition
- Accommodation
- Compromise
- Collaboration



Fake numberplates a challenge to Delhi's odd-even scheme

Anvit.Srivastava
@timesgroup.com

New Delhi: The odd-even formula could be tougher to implement than authorities initially imagined. Drop in at any of the numerous shops dotting the outer circle of Connaught Place in central Delhi and after anywhere between 15 minutes and two hours, you could walk out with an "all-new" numberplate for your vehicle — that too without producing the registration certificate or any other documentation.

Fake numberplates top the list of the many challenges the government faces in implementing its clean-up plan for the capital. According to norms, a number plate can be procured only from an authorised dealer and after producing the RC of the vehicle.

However, at any of these shops that TOI visited, for a nominal price, you could choose from a variety of fonts and material. Shockingly, you could even go in for high-security numberplates, but they will obviously cost you more.

These come with a patented chromium hologram and the alpha-numeric identification of both the testing agency and the manufacturer — all this for a mere Rs 800. Just jot down the registration number of your vehicle on a piece of paper and you can collect the numberplate in an hour.

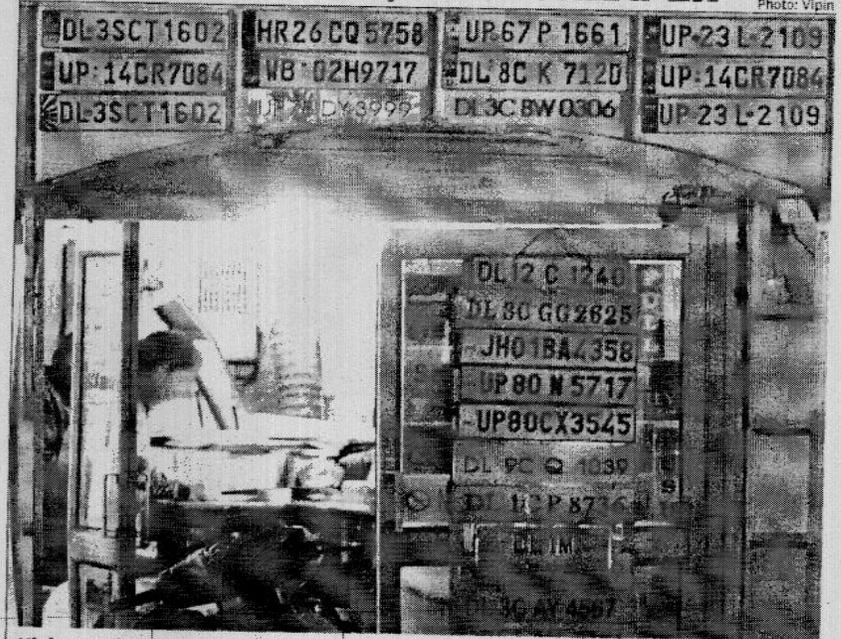
A traffic police official, when asked about the flourishing business, said: "It is the transport department's job to conduct raids on such shops and curb these illegal practices. Traffic police can only identify whether a numberplate is fake or genuine, but further action can be taken by the transport department only."

For "long-lasting" numberplates with impression, all you need is to part with Rs 350 to 500.

"These are long-lasting as we don't

AS GOOD AS REAL, ONLY CHEAPER

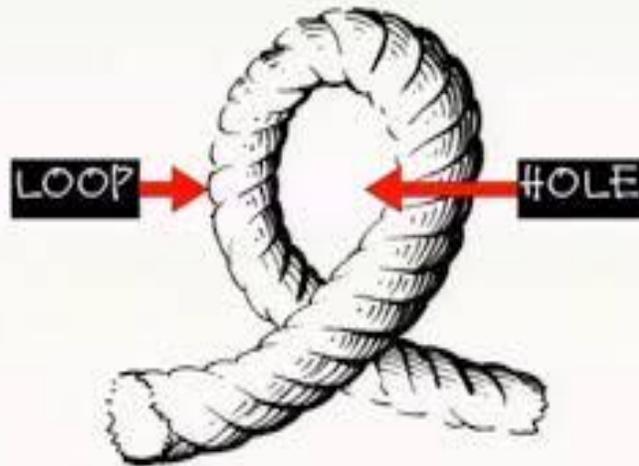
Photo: Vipin



High-security ₹800	Impression ₹350-500	Normal plastic ₹150-250	Hotspots Connaught Place, Kashmiri Gate, Karol Bagh, Vikas Marg
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These numberplates come with a patented chromium hologram and the alpha-numeric identification of both the testing agency and the manufacturer — all this for a mere Rs 800

have to paste letters separately. The digits are carved on an aluminum sheet with pressure and a sticker of the digit is pasted or painted. All this takes 15-20 minutes. If you want a cheaper version, normal plastic numberplates are available for Rs 150-250. Prices vary with design and fonts," says a shopkeeper who didn't want to be named.





Initiatives

Initiatives

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- The First Government carried out survey
 - Medium of Instruction for science and Literature
- Macaulay Report
 - Conscious Policy of Liquidating indigenous Culture Through Planned Substitution of Alien Culture of a Colonizing Power via Education System
- Woods dispatch on education 1854
 - English Language, Structuring of School Education, 3 Universities
- Education commission 1882
 - Structural Withdrawal of Government Support
- University commission 1902
 - To Enquire Condition of Universities
 - Restructuring of University System
 - Indian Education Act 1904
- Government resolution on education policy 1903
 - Standards of Institutions should be raised
 - Diversification at school level
 - Provision of Higher Education & Research In INDIA

Initiatives

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- Calcutta university commission 1917
 - Improvement of School Education
 - Dividing line for secondary and University Education
 - Creation of Intermediate colleges with multiple subjects
 - Establishment of Board of Secondary and Intermediate Education
- Hartog committee 1929
 - Thrust of Industrial and Commerce Education
- Saprú committee 1934
 - Diversification of Courses at secondary level
- Abbot- wood report 1936-37
 - Creation of Polytechnique Colleges
- Zakir Hussain Committee Report 1937
 - Free and Compulsory Education for 7 Years
 - Medium of Instruction – Mother Tongue
- Sargent Report 1944
 - Consolidation of University System
 - Compulsory and Free education age group 6-14

Initiatives

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- Secondary education commission 1952
 - Radhakrishnan Pointed out that secondary education is the weakest link
- NCERT 1961
- Indian Education commission Kothari commission 1964
 - Primary to Higher Education
 - Standardization of National Pattern of Education (Law, Medical)
 - Work force (Chairman, Member Secretary, Associate Secretary, 15 Members, 20 Overseas Consultants, 19 task forces, Sub Groups, Panels of Invited Experts)
 - 9000 Interviews; 2400 Memorandum;
 - 287 Page Report
 - Increase Productivity
 - Promotion of Social and National Integration
 - Education and Modernization
 - Developing Social, Moral and Spiritual Values
 - 10+2+3 pattern Across the country
 - Structuring of School Education
 - Minimum Days and Hours of Instruction
 - Reduction in National Holidays
 - Women Education and empowerment
 - Creation Indian Education Service in line with IAS
 - Skill Up gradation
 - National Policy on Education

Initiatives

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- Report of Education Commission 1968
- First National Policy on education 1968 New Education policy 1986
- National education policy (Modified) 1992

- **Establishment of NAAC, NBA**
- **Technology Vision of India 2020(1996)**
- **Information Technology Action Plan(1998)**
- **Encouraging Private Investment in Professional Education**

Transforming India into a Knowledge Superpower- vision (2003)

- Knowledge commission 2005
 - Expansion
 - 1500 Universities
 - Regulation
 - IRAHE
 - Public Spending
 - 1.5% of GDP out of total 6% on education
 - Establishment of 50 National Universities
 - Role Models
 - Reforms in Existing Universities
 - Academic, Administrative Reforms
 - Restructuring of Colleges
 - Promote Enhance Quality



Present Status

Students Response Towards Present Technical Education System

A Survey Report



Survey done by one of the Statutory Council in India

Question	YES	No
Are you provided with the quality education and laboratory training in your college?	29.81%	70.19 %

- The feedback speak about the status of laboratory facilities
- Results indicates that colleges laboratories are not fully equipped
- Library Resources not available

 Connectivity is still a problem

Survey done by one of the Statutory Council in India

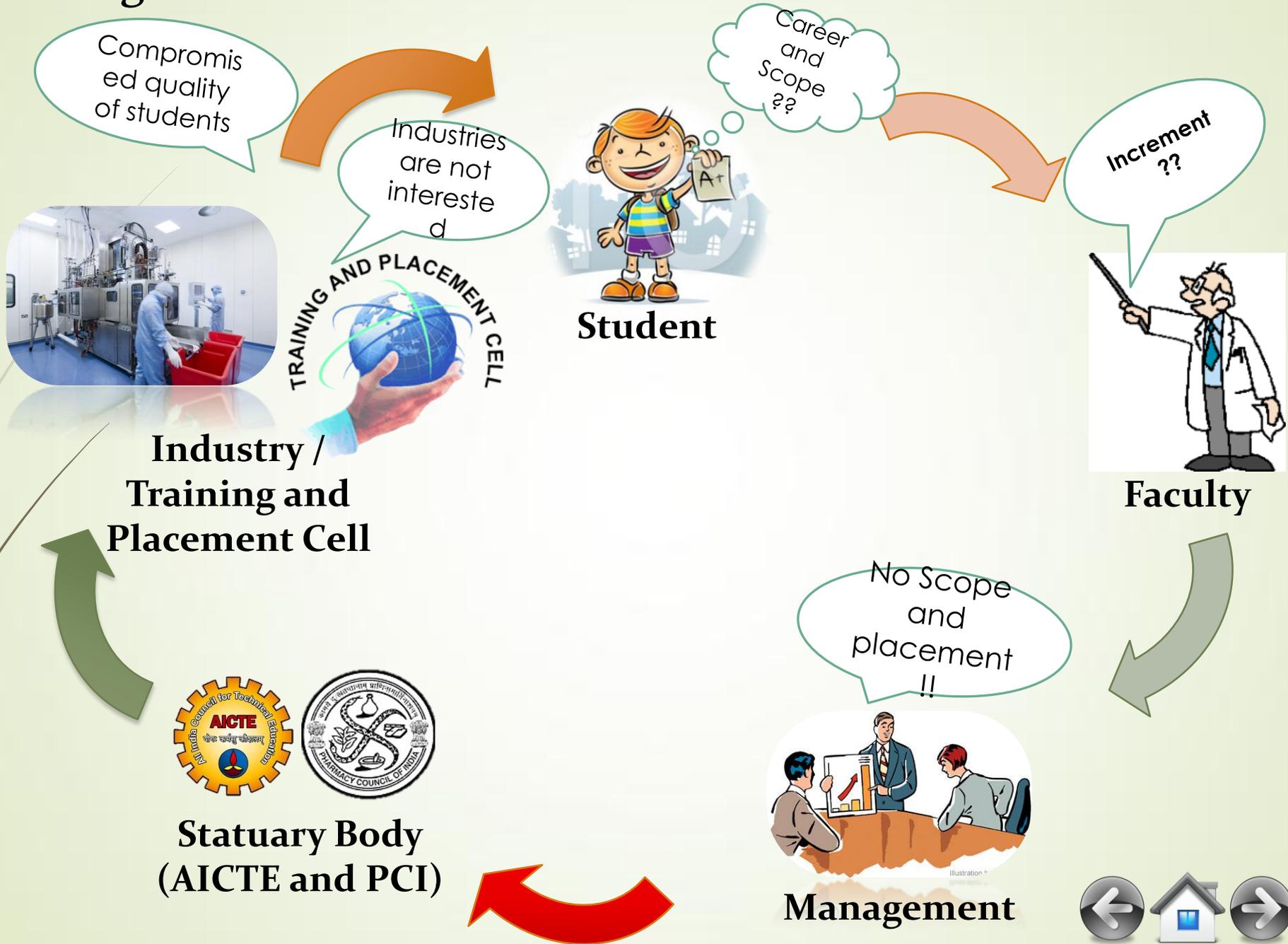
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Question	YES	No
Do you agree with the statement "I am a Trained and skilled professional"	49.14%	50.86%

- **Students are not confident to take the responsibilities in the society**
- **Competence is a problem**
- **Looking only for safe and secure Jobs**

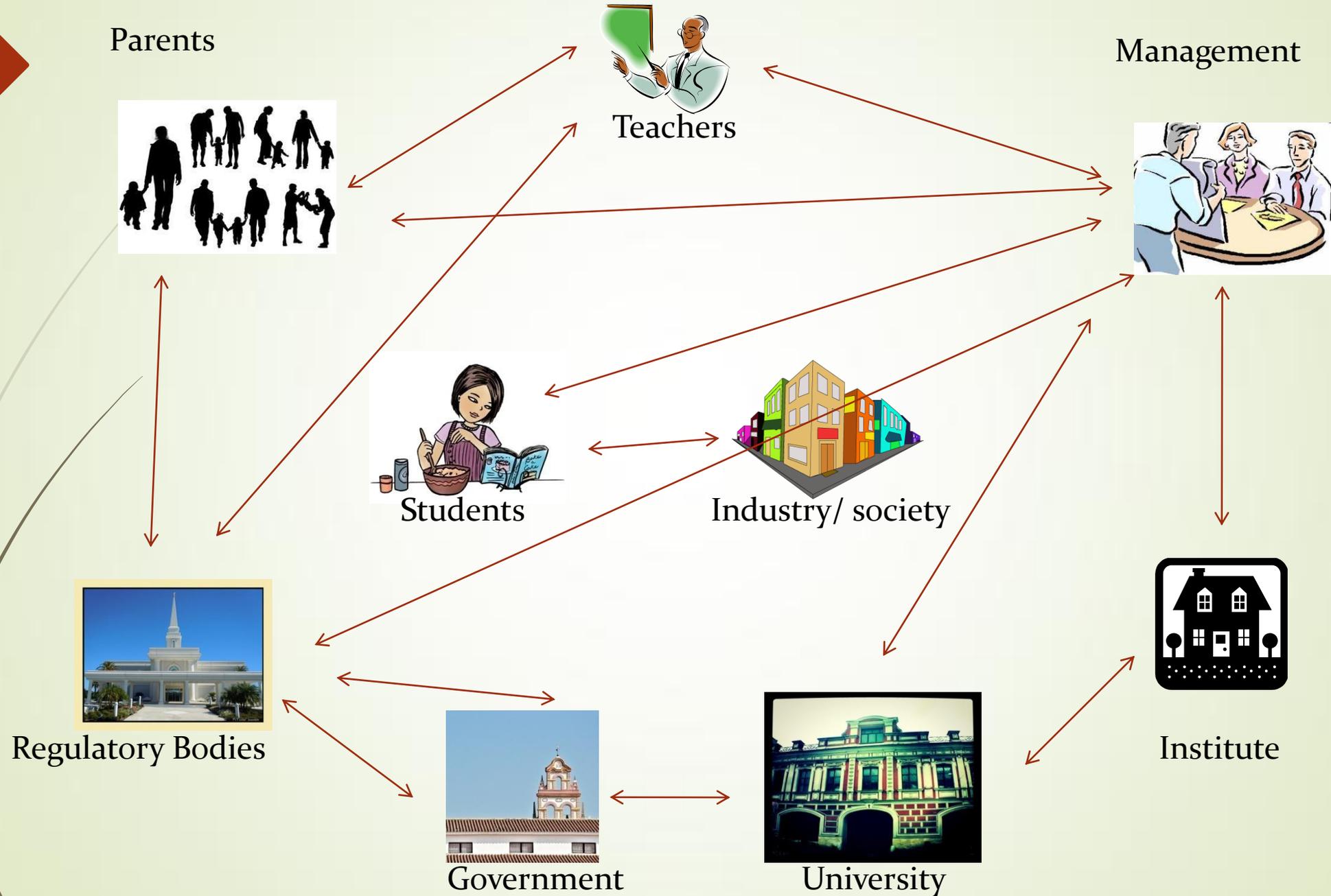


Higher Education: Present Scenario

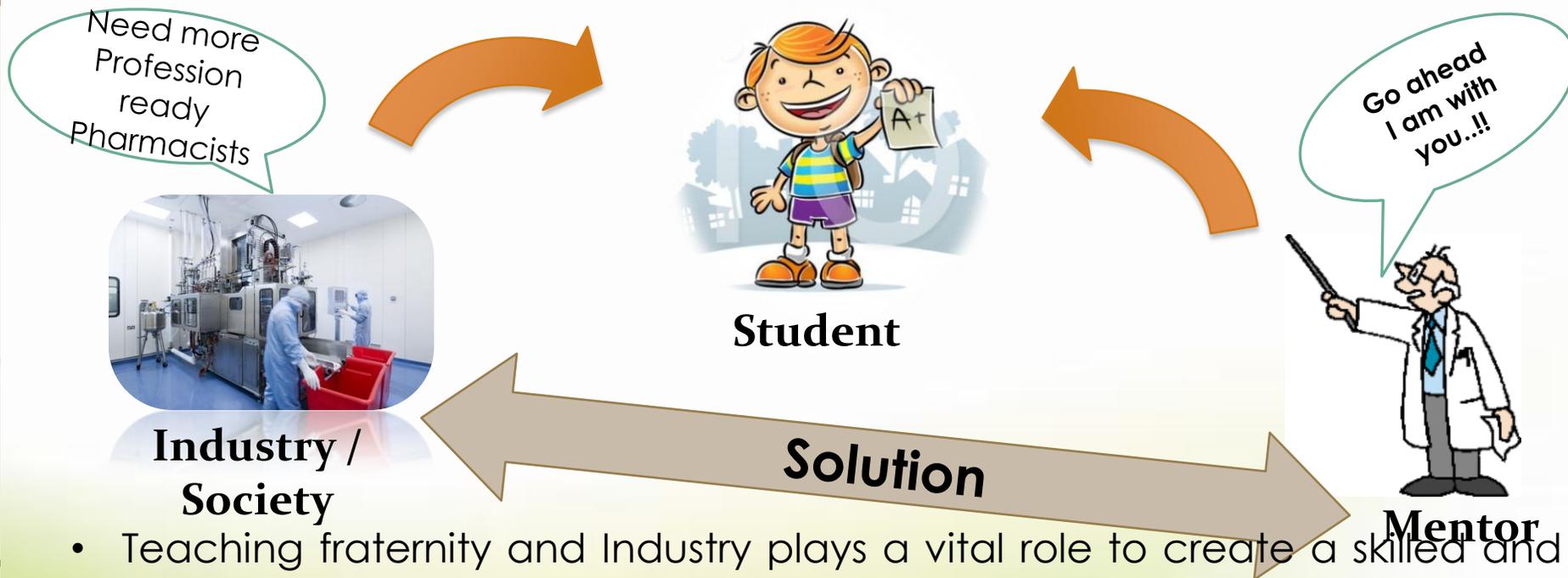


Blame Game

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Solution for the improvisation of current education system

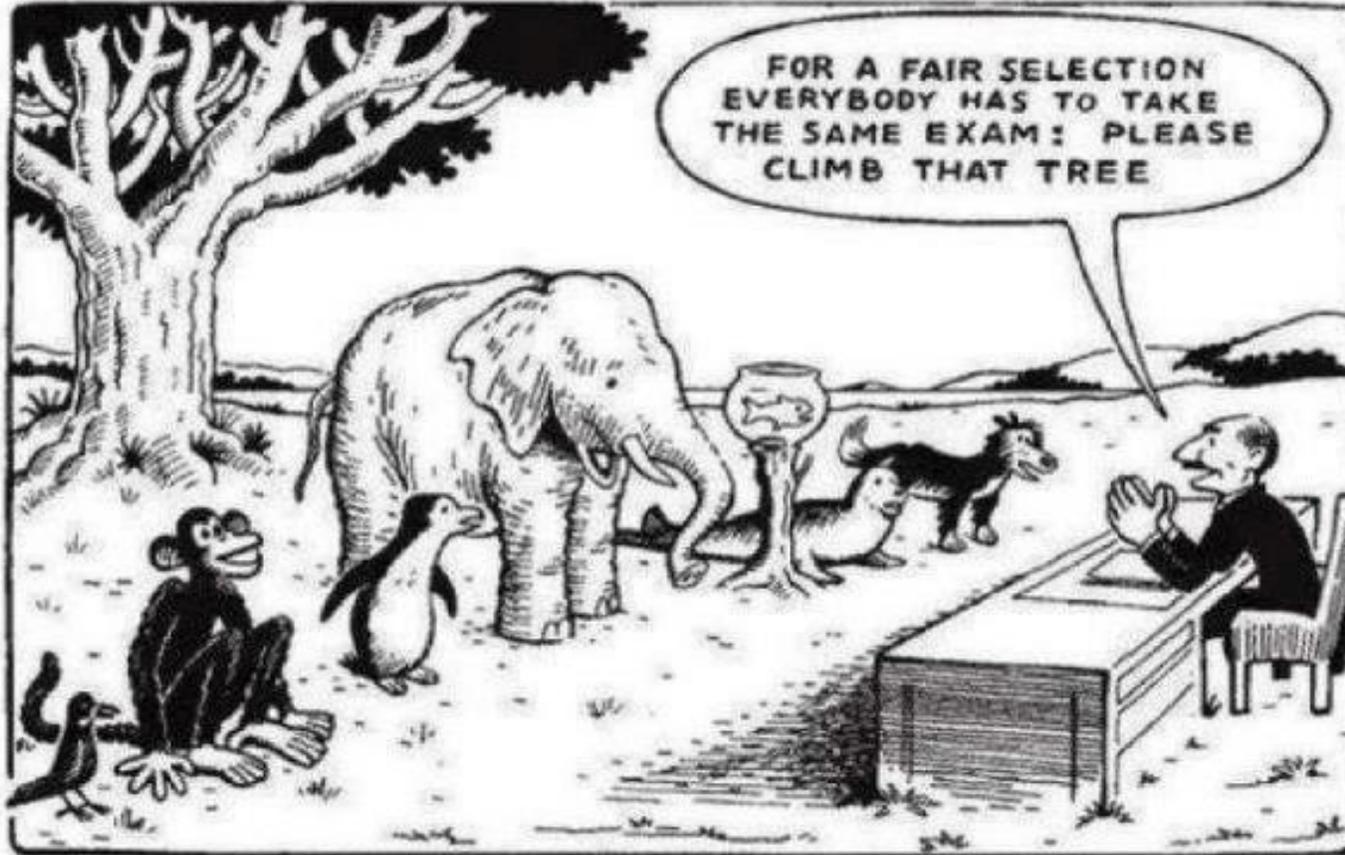


- Teaching fraternity and Industry plays a vital role to create a skilled and Job ready Graduates.
- Faculty and Profession can be a bridge between students and their career option.
- Industry should trained the students to create more skilled professional.
- At the same time the faculty must seed up the technical knowledge and always boost the moral of the students.



EXAMINATION ^{ACADEMIC SYSTEM}

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Our Education System

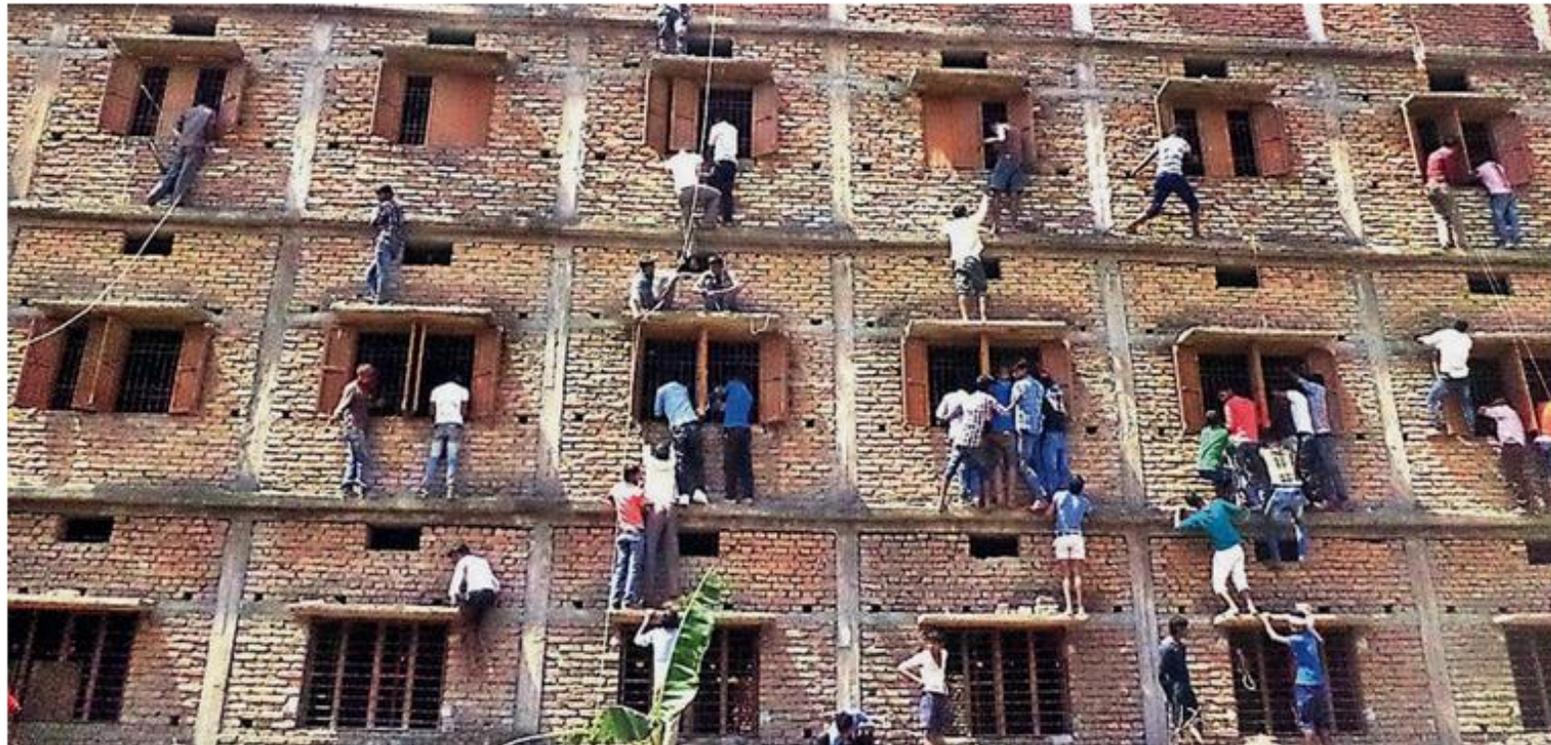
EXAMINATION SYSTEM

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Indian Parents Climbed A School Wall To Help Their Kids Cheat On An Exam [Photos + Videos]

POSTED BY IPOST247 ON MARCH 21, 2015 IN NEWS & MEDIA

Incredible scenes emerge from India where friends and relatives of students sitting national exams are filmed trying to sneak them the answers through their classroom windows. Cheating in school tests is an old Indian problem.



An Extremely Stressful Situation



Bangkok university makes students wear anti-cheating helmets during mid-term exams

Is This Is the Solution ?

World Ranking

- **World University Ranking 2014-15: IIT BOMBAY -226**
- **World University Ranking 2014-15: IIT DELHI -235**

- Sanghai
- Times Higher Education
- Quacquarelli- Symonds

- **Alumni Winning Nobel Field Prize - 10%**
- **Staff Winning Nobel Field Prize -20%**
- **Highly Cited Research -20%**
- **Articles in Science & Nature -20%**
- **Science/ Social Science citation Index - 20%**
- **Per Capita out put -10%**



Solution?



Approval or Accreditation

Wish Comfortably Journey.....



Higher Education Importance of Accreditation.....



FUEL TANK: Customized and reinforced with specially designed tanks which permit it to carry up to 60 gallons of fuel.

REAR COMPARTMENT: Seats President up to four passengers with great legroom - with storage for a child or two. 18, 24 or 30 seats available.

DOORS: Almost glass, light weight and the weight is evenly distributed on a heavy-duty steel frame.

CHASSIS: Based on the U.S. Secret Service's top with the most advanced of driving groups and precision and a 200-hp V-8.

DRIVER'S VIEW: Can enhance armor plating fully and in all directions. It's the only window that will open - by just three inches - so the driver can get a quick look with out any line of sight coming through.

ROOF: Military grade armor of at least five inches thick. Technology of steel and ceramic tiles to break up potential projectiles.

DRIVER COMPARTMENT: Standard steering wheel, but also has a control console and a computer office screen and GPS tracking system.

BODY: Holds up to 10 people and a 1000-lb. engine.

SEAT SEATS: Seats the President and the Vice President and the President.

DEFENCE ACCESSORIES: Equipped with night-vision cameras and night-vision goggles. Also equipped with fire extinguishers, fire extinguishers and fire extinguishers.

TYRES: Run on special rubber with built-in armor. Metal and ceramic composite with steel mesh casing built, making the car fireproof, bulletproof and bulletproof.

FACTFILE:

- Weight: 6000 lbs.
- Height: 60 inches
- Length: 180 inches
- Engine: 200-hp V-8
- Top speed: 140 mph
- 0-60 mph: 10 seconds
- Fuel consumption: 20 mpg

CHASSIS: Reinforced steel chassis makes the car to protect against bombs or grenades and other threats.

CHROME: Reinforced steel chassis makes the car to protect against bombs or grenades and other threats.

TYRES: Run on special rubber with built-in armor. Metal and ceramic composite with steel mesh casing built, making the car fireproof, bulletproof and bulletproof.

DRIVER COMPARTMENT: Standard steering wheel, but also has a control console and a computer office screen and GPS tracking system.

DRIVER COMPARTMENT: Standard steering wheel, but also has a control console and a computer office screen and GPS tracking system.

DRIVER COMPARTMENT: Standard steering wheel, but also has a control console and a computer office screen and GPS tracking system.

Criterion wise analysis

Criterion I:

Curricular Aspects

- ▶ Curricular Design & Development:
- ▶ Academic flexibility:
- ▶ Feedback on Curriculum:
- ▶ Curriculum update:
- ▶ Best Practices in Curricular aspects

Criterion II:

Teaching- Learning & Evaluation

- Admission Process and Student Profile
- Catering to the diverse needs
- Teaching-Learning Process
- Teacher Quality
- Evaluation Process and Reforms
- Best Practices in Teaching-learning and Evaluation

Criterion wise analysis

Criterion III: Research, **Consultancy & Extension:**

- Promotion of Research:
- Research and Publications Output:
- Consultancy:
- Extension Activities:
- Collaborations:
- Best Practices in Research, Consultancy and Extension

Criterion IV: **Infrastructure and Learning Resources:**

- Physical Facilities for Learning:
- Maintenance of Infrastructure:
- Library as a Learning Resource:
- ICT as Learning Resources:
- Other Facilities:
- Best Practices in the development of Infrastructure and Learning Resources

Criterion wise analysis

Criterion V: **Student Support and Progression**

- Student Progression:
- Student Support:
- Student Activities:
- Best Practices in Student Support and Progression

Criterion VI:

Governance and Leadership

- Institutional Vision and Leadership:
- Organizational Arrangements:
- Strategy development and deployment:
- Human Resource Management:
- Financial Management and Resource Mobilization:
- Best Practices in Governance and Leadership

Criterion VII:

Innovative Practices:

- Internal Quality Assurance System:
- Inclusive practices:
- Stakeholder Relationships

Curricular Aspects

- * Initiatives for **effective** curriculum delivery
- * Development of curriculum for own programmes – process
- * Core and Elective options
- * Choice based credit system
- * Self financing programmes – vary from aided?
- * **Skill development programmes**
- * Blended learning
- * **Curriculum enrichment** – graduates employable
- * Multi-disciplinary issues – gender, climatic change, human rights, etc.



Approaches

Strategy For Goal Setting

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SWOT

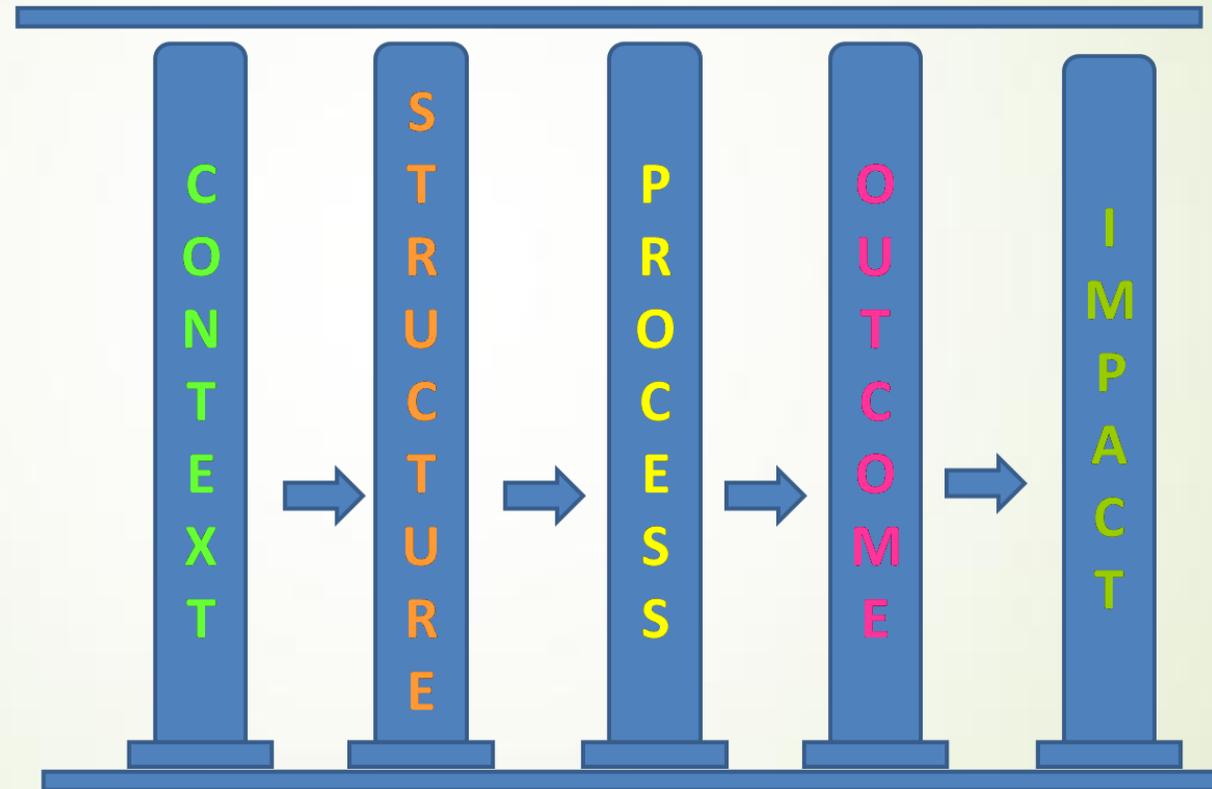
SWOC

ABNA

- **4CF** method for Goal Setting(widest sense)
 - **C**larity
 - **C**hallenge
 - **C**omplexity
 - **C**ommitment
 - **F**eedback
- **SMART** (Specific way)
 - **S**pecific(What, why, who, where which)
 - **M**easurable(How many, How Much, How to know it's accomplished)
 - **A**ttainable / Achievable
 - **R**elevant (skills, knowledge, Attitudes- Competencies and Behaviors)
 - **T**ime bound (Immediate, Short term, long term)

ROAD MAP FOR QUALITY EDUCATION

FIVE PILLARS





PILLAR-1

CONTEXT

- Community and National Needs
 - Inclusive vision for all the sectors
 - Identification of Institutional mission and values
 - Institutional Culture
 - Evolving Technologies and Trends
 - Clarity about the Goals
- 

PILLAR-2

STRUCTURE

- Governance
- Administration
- Organizational Structure
- Collaborative Relationship
 - Research
 - Teaching
 - Practice
 - Inter-Professional

- Resources
 - Human
 - Education
 - Technology
 - Financial
 - Physical Facilities
 - Practice Sites

PILLAR-3

PROCESS

- Policy and Procedures
- Planning
- Management
- Assessment and Evaluation
- Quality Assurance
- Curricular Development, delivery and improvement

- Teaching & Learning methodologies
- Student mentoring
- Grievance mechanism
- Mentoring
- Professional Development

PILLAR-4

OUTCOMES

- Immediate,/ Short term
 - Easy to observe/ measure- Program specific
- Student learning and curricular effectiveness
 - “Profession Ready” Graduates
- Research
 - Studies
 - Presentations
 - Publications
- Service
- Others

PILLAR-5

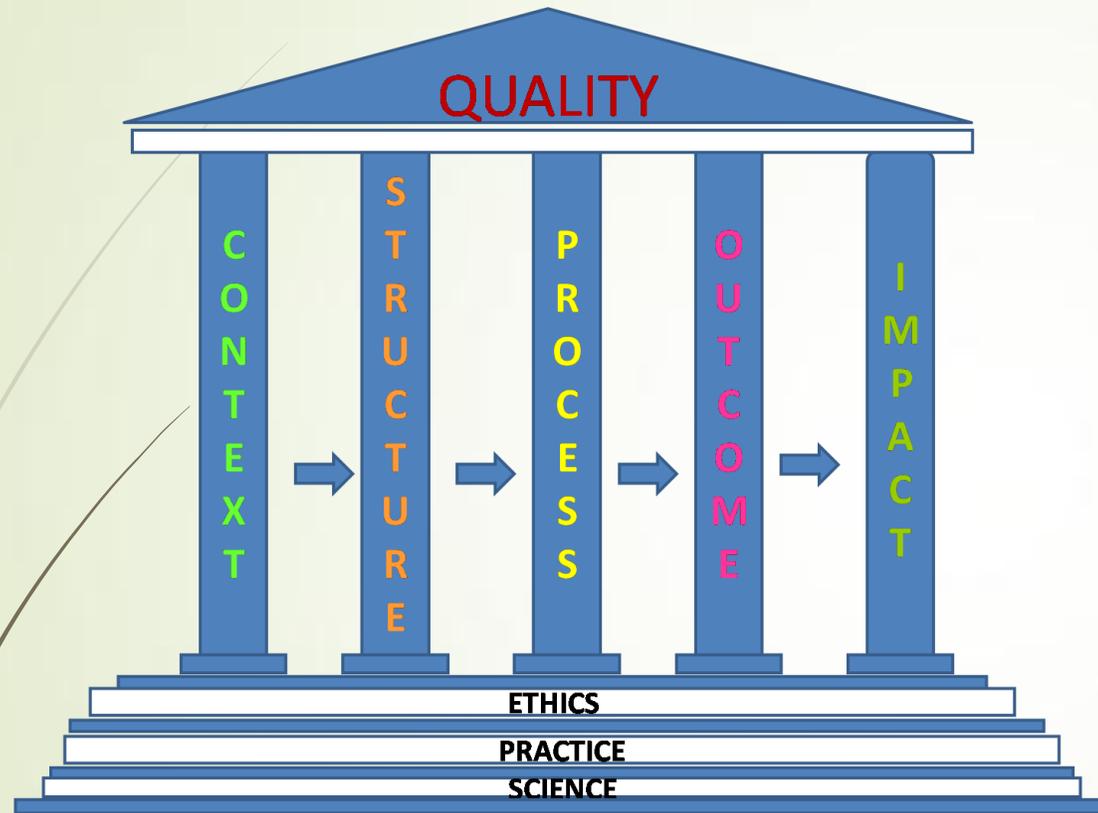
IMPACT

Difficult to measure on short term basis

- Scientific and Technological advancement
- Contributions of the alumina
- Leadership and advocacy
- Innovations and Changes
- Attitude, motivation and self image

Social Accountability

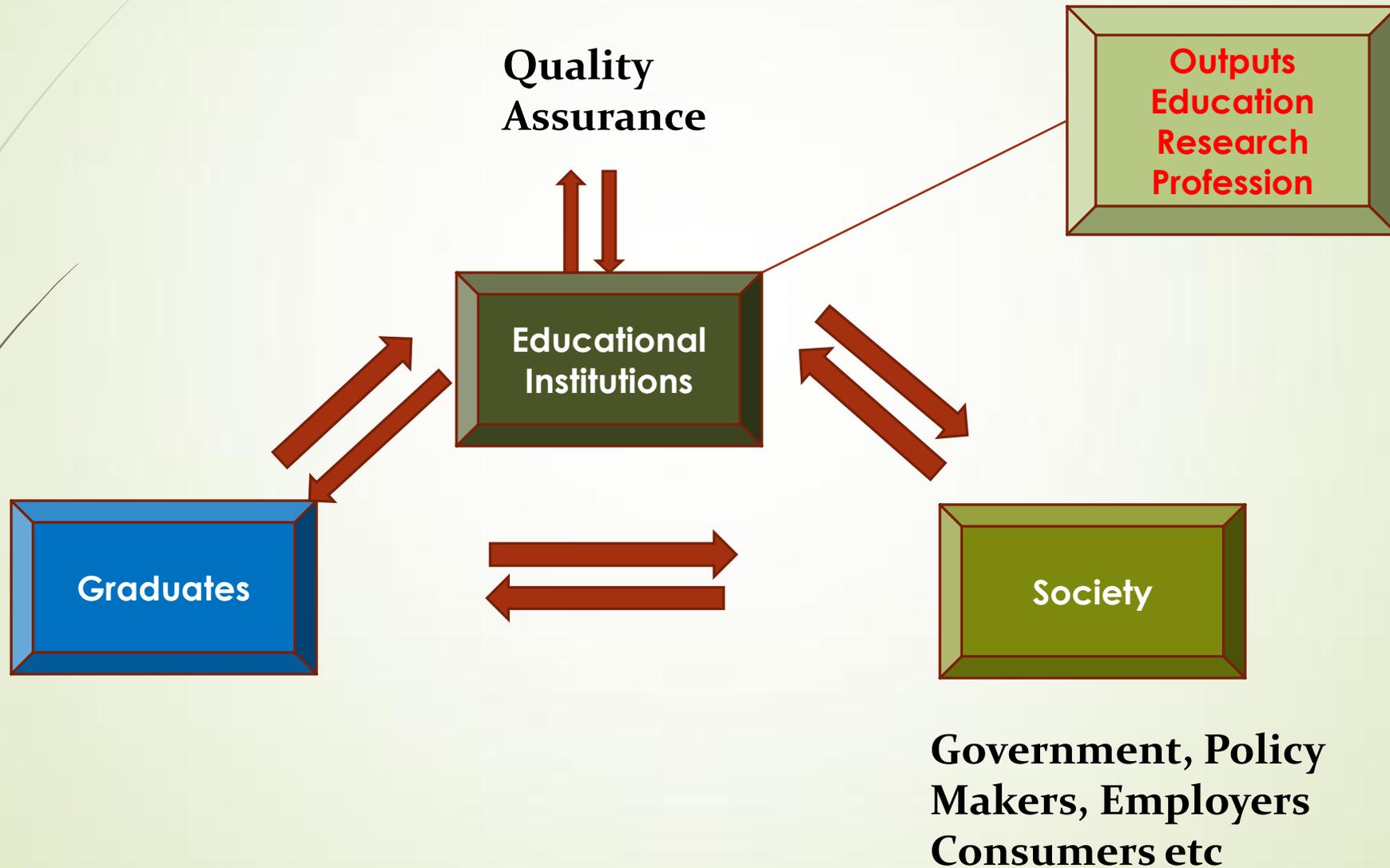
QUALITY OF EDUCATION



**Educational
Activities must
address
all competency
areas
(Knowledge,
Skills,
Attitudes, Values)**

- **Science – Base for Knowledge**
- **Practice Base for Experience**
- **Ethics- base for Attitudes and Values**

Socially Accountable Education





Emergence of Knowledge Society

Need of Entrepreneurship



Emergence of Knowledge Society: Entrepreneurship

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•Mind Over Matter

Ability to convert knowledge in to value; into wealth; into social utility through the process of Innovation

Society - Knowledge Society

Economic Market – Knowledge Market

Conventional Wars- Weapons of Information: Eastman Kodak Vs Polaroid- 1Bn

•Transformation from Generic to Learner Centric Education with the scope of Creativity and Innovations

•SPARK 1980s

•Target 300 Industrial Pillars

•1,00,000 Spark Projects with the investment of 100 bn Yuan

•Annual Business 300 bn Yuan

•Good infrastructure

•Good technical/ management support

•Branding of host Institution

•Marketing of the concept

•Lack of exposure on good practices of business incubation

•Weak Linkages and networking

Good Quality Mentors

Prejudiced Viewpoint of Incubatee

Willingness to structure their work

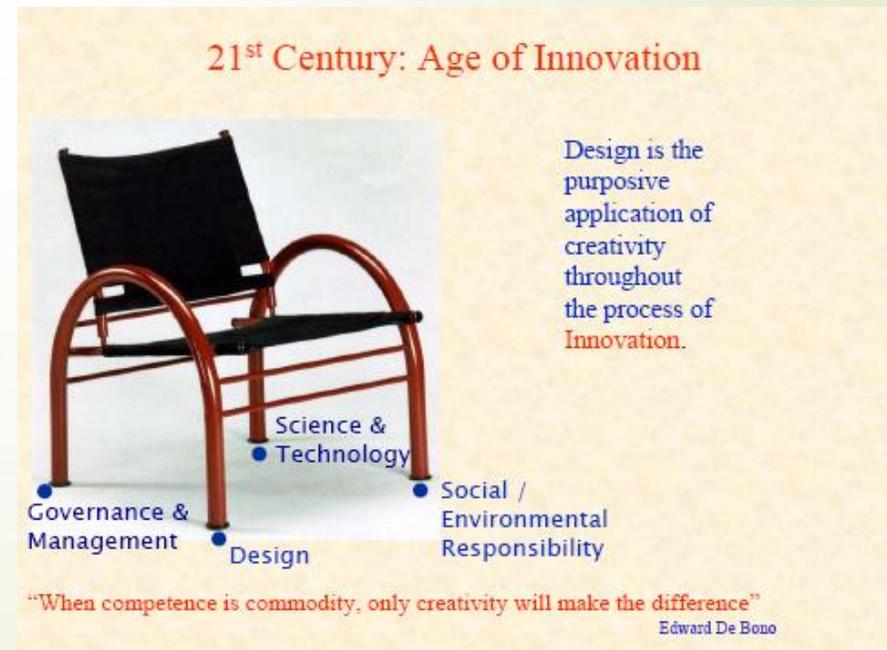
Short term results focused vs Long term

Entrepreneurship Incubators

•Total 4000 USA -1000 ; Europe -1000; China – 400; Korea-300; India-40

Global Scenario of Entrepreneurship Incubators

- 4000 incubators of various types are operational
- USA has more than 1000 incubators
- Europe has nearly 1000 incubators including 300 in Germany
- China has shown exponential growth with almost 400 incubators
- There are about 300 incubators in Korea
- There are about 40 incubators in India



Indian Entrepreneurship Incubator

Strengths

Good infrastructure
Good technical/ management support
Branding of host Institution

Weaknesses

Marketing of the concept
Lack of exposure on good practices of business incubation

Weak linkages with marketing

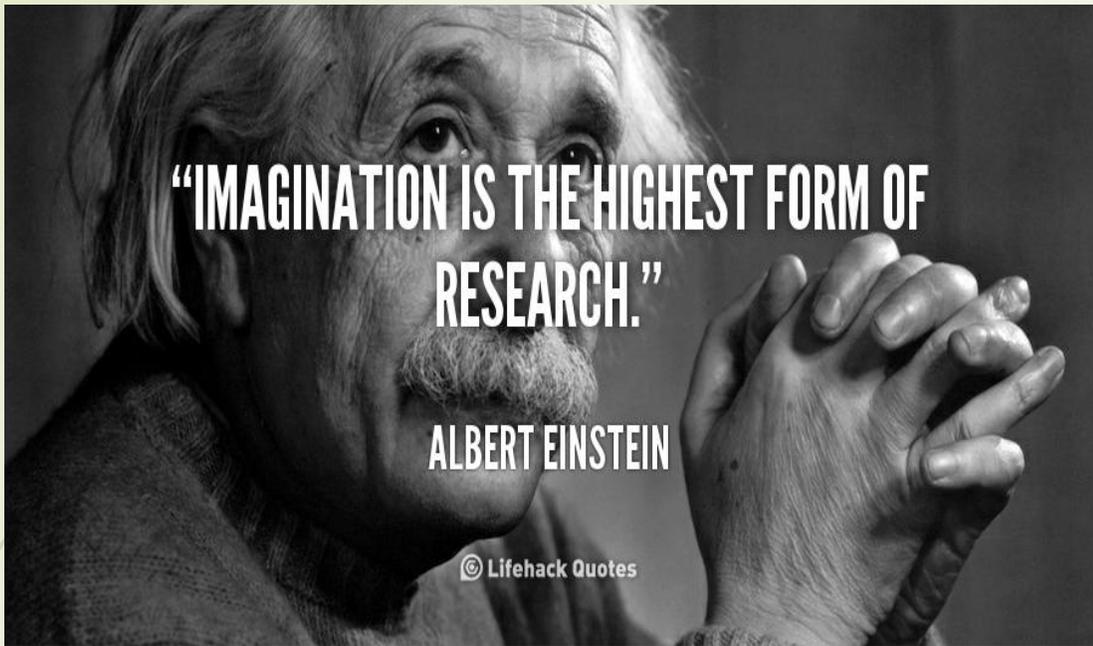
Challenges

Good Quality Mentors
Prejudiced Viewpoint of Incubatee
Willingness to structure their work
Short term results focused vs Long term
System for better availability of Venture, Angel, Seed
Capital Funding

Entrepreneurship Development

- **TO ENCOURAGE STUDENTS TO CONSIDER SELF EMPLOYMENT**
- **PROVIDE TRAINING IN ENTREPRENEURSHIP THROUGH MODULAR COURSES**
- **TO TEACH THE RELEVANCE OF MANAGEMENT**
- **TO INTRODUCE THE CONCEPT OF ENTREPRENEURSHIP IN CURRICULUM**
- **TO FACILITATE SELF EMPLOYMENT AND ENTREPRENEURSHIP DEVELOPMENT**

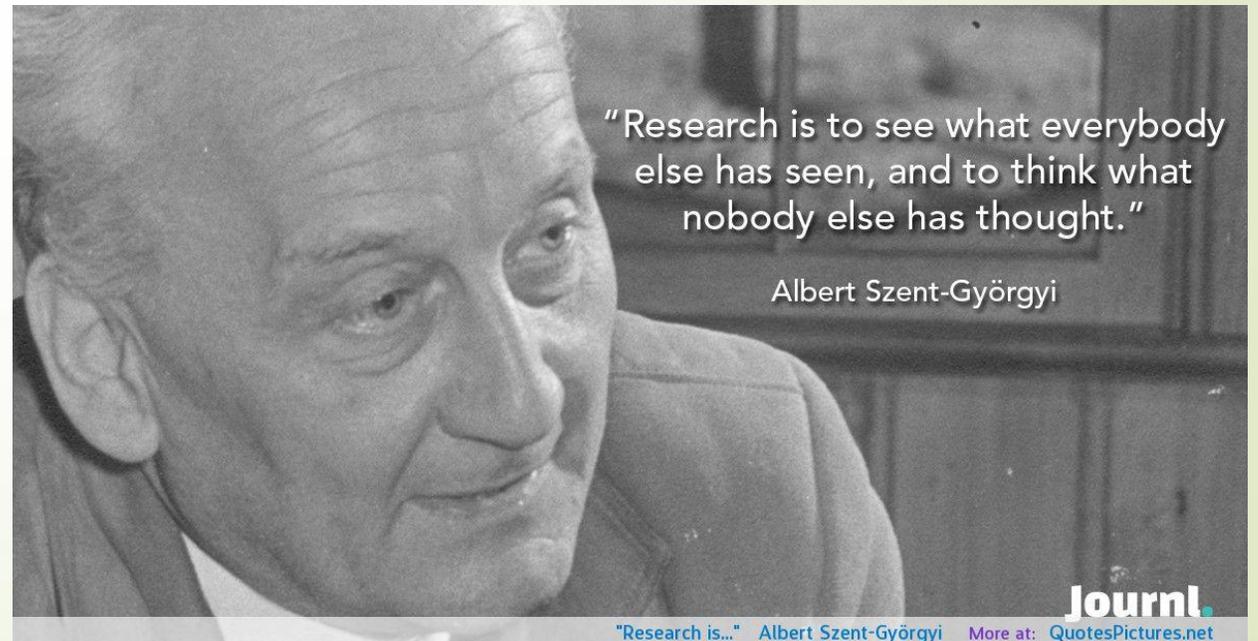
RESEARCH



**“IMAGINATION IS THE HIGHEST FORM OF
RESEARCH.”**

ALBERT EINSTEIN

© Lifehack Quotes



**“Research is to see what everybody
else has seen, and to think what
nobody else has thought.”**

Albert Szent-Györgyi

Journl.

“Research is...” Albert Szent-Györgyi More at: QuotesPictures.net

What is RESEARCH ??

- **Definition:** A systematic investigative approach concerned with a problem or intending to prove or disprove an hypothesis.
- **Standardized steps & sequences:**
 - Identify and define research problem
 - Formulate hypotheses to be proven or disproved
 - Collect, analyze & interpret relevant data
 - Develop & report conclusions
- **Quality Indicators:** valid problem /hypotheses/ methodology , replicable, useful etc



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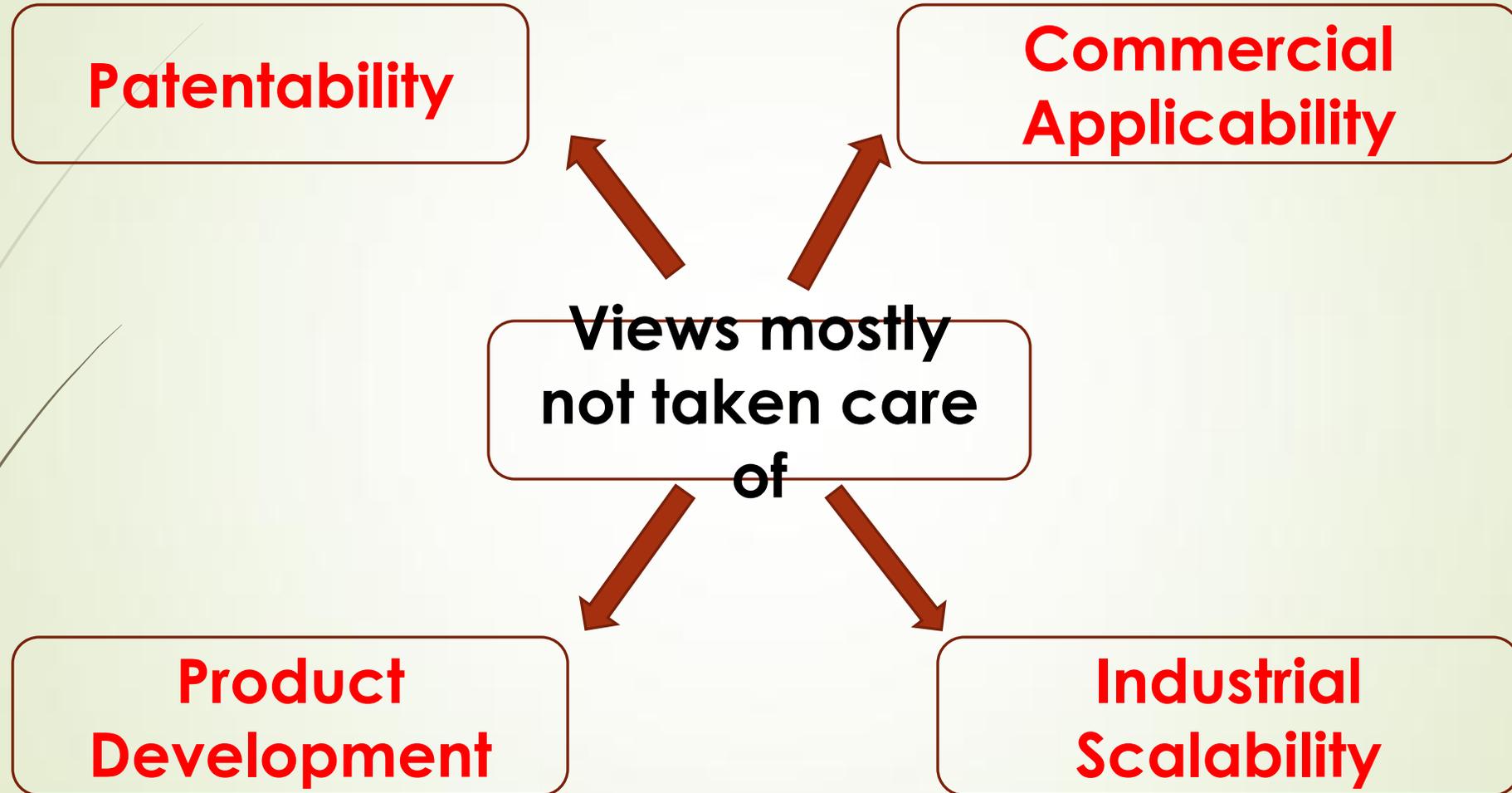
8607698989 8684930049

The banner is mounted on a wall covered with various political posters and advertisements, including one for 'NSUI' and another for 'VOTE SUPPORT'.

Current Scenario of Academic Research

- It is not up to the standard in terms of replicability, transparency, and proper rationale.
- Quality of research is probably going down everywhere with some exceptions.
- Objective of researchers is generally to work for higher degrees (M.Pharm/ MS/ Ph D)
- To publish research paper in any journal.
- To present papers in seminars/symposia/ conferences.
- To get promotions wherever they work.

Current Scenario of Academic Research



Retractions in 2015

- **64 articles** has been retracted from 10 journals of **Springer** due to fake peer review.
- **43 articles** retracted from **Biomed Central**.
- **9 Papers** has been retracted from **Elsevier** due to fake peer review this year while from 2012, total retractions by Elsevier are 20 due to the same reason.
- **120 gibberish** conference proceedings were removed from subscription database.

Faked peer reviews prompt 64 retractions

The cull follows a similar discovery earlier this year.

A

Ewen Callaway

18 August 2015

A leading scientific publisher has retracted 64 articles in 10 journals, after an internal investigation discovered fabricated peer-review reports linked to the articles' publication.

Berlin-based Springer announced the retractions in an 18 August statement. In May, Springer merged with parts of Macmillan Science and Education — which publishes *Nature* — to form the new company Springer Nature.

12/9/2015

Publishers withdraw more than 120 gibberish papers : Nature News & Comment

B

Publishers withdraw more than 120 gibberish papers

Conference proceedings removed from subscription databases after scientist reveals that they were computer-generated

Richard Van Noorden

24 February 2014 Updated: 25 February 2014

India by Numbers:

According to the report published in **Nature News** on **13 may 2015**:

- India is not yet a major player in world science.
- Its publications generate fewer citations on average.
- Relative to its size, India has very few scientists; many Indian-born researchers leave for positions abroad and very few foreign scientists settle in India.
- The country invests a scant portion of its economy in research and development (R&D), and it **produces relatively few patents per capita** compared with other nations.



Major Research Institutes in India

- Based on the citations in Elsevier's Scopus database for institutes that had produced more than 2000 papers between 2010-14, the major research institutes in India are:
 - Punjab University, Chandigarh (PU)
 - Tata Institute of Fundamental Research (TIFR)
 - Council of Scientific and Industrial Research (CSIR)
 - Indian Institutes of Technology (IITs)
 - Indian Institutes of Science, Bangalore (IISC)



Possible Reasons For Low Quality Research



Students have little grasp of discipline/ area of research

Improper definition and identification of research problem

Less opportunity towards drug or product development

Scarcity of quality and experienced mentors

Less priority /opportunity for industrial collaboration

Less interest/opportunity for interdisciplinary research/ collaboration

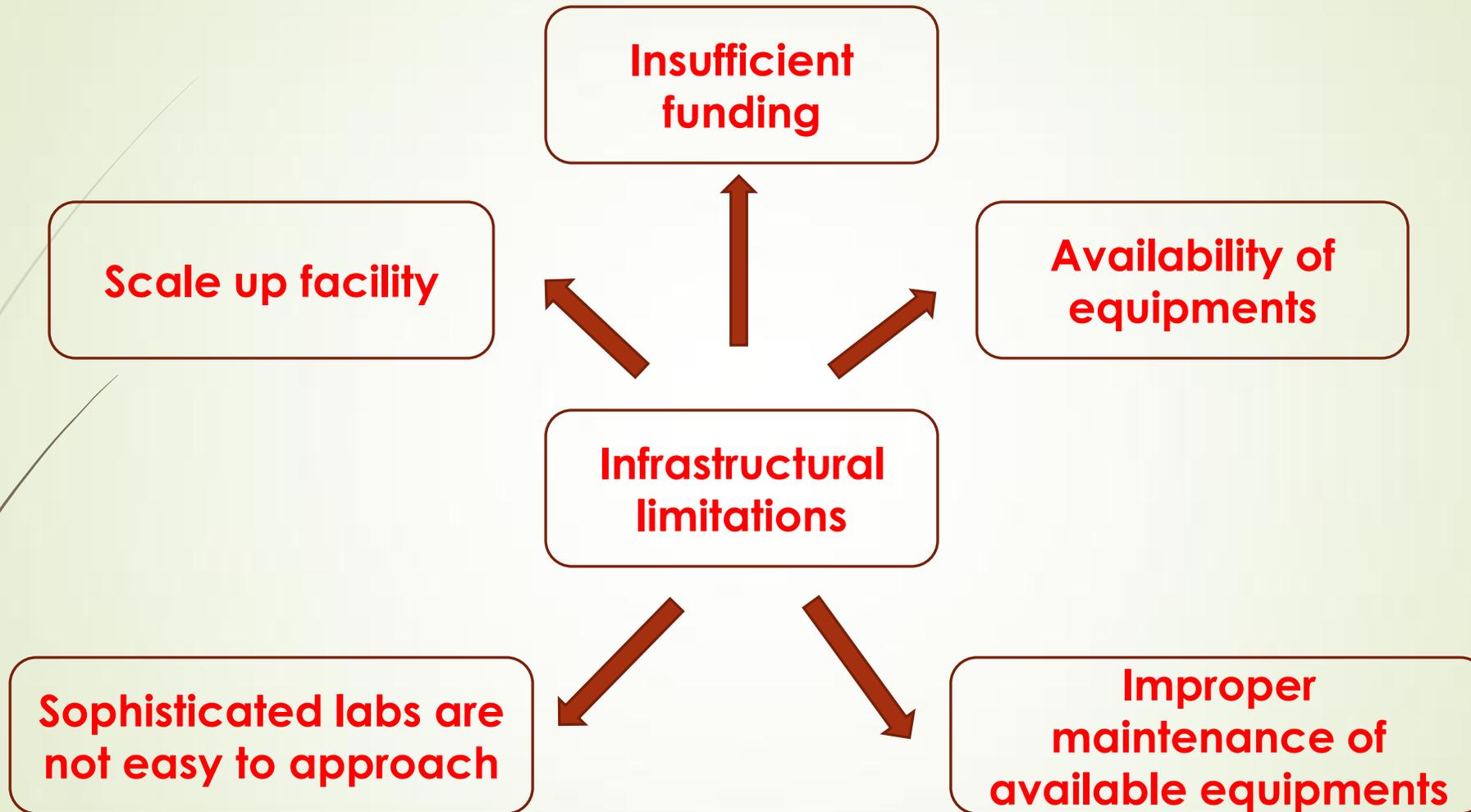
Less interest of industry towards utilizing academic research

Lack of focused goals

Identification and Definition of Research Problem:

- Why this topic?
- What has been done till now?
- Where is the gap?
- What is the concept of filling this gap?
- What would be the expected outcome?
- How output is more beneficial as compared to existing?
- What next if not achieved on conceptually expected line?
- What may be the possible alternative?
- What next if research outcome is positive?
- Whom to approach? ... and for what etc etc...???

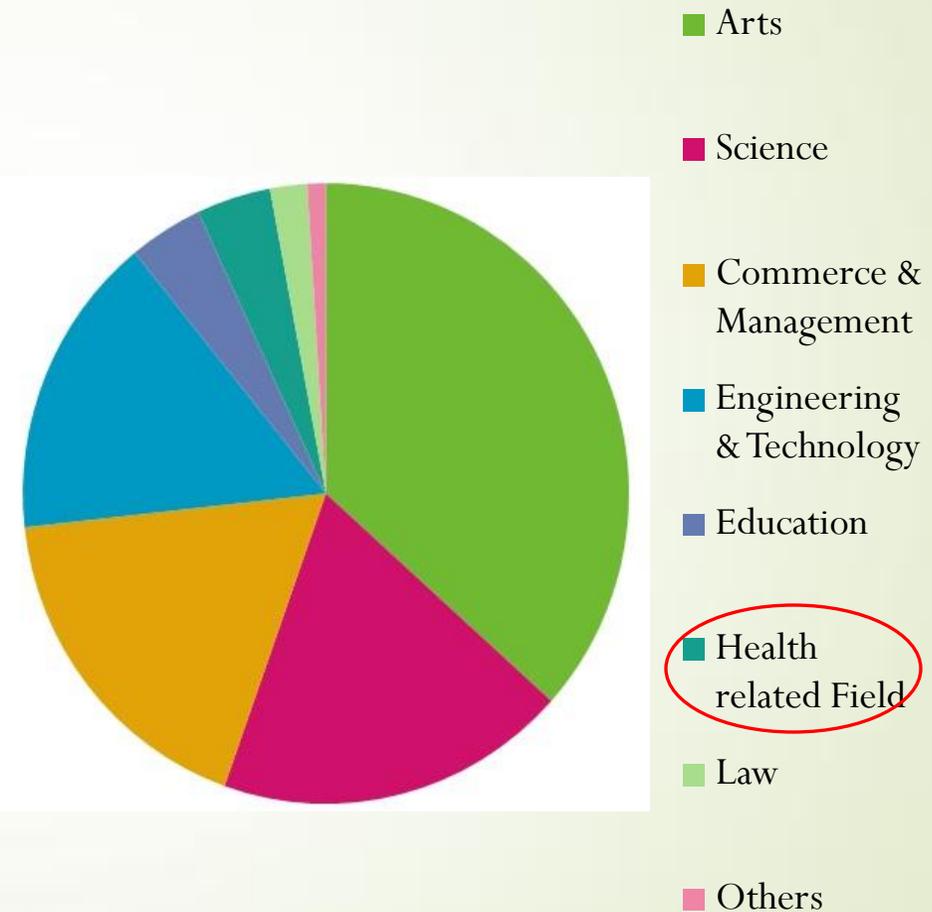
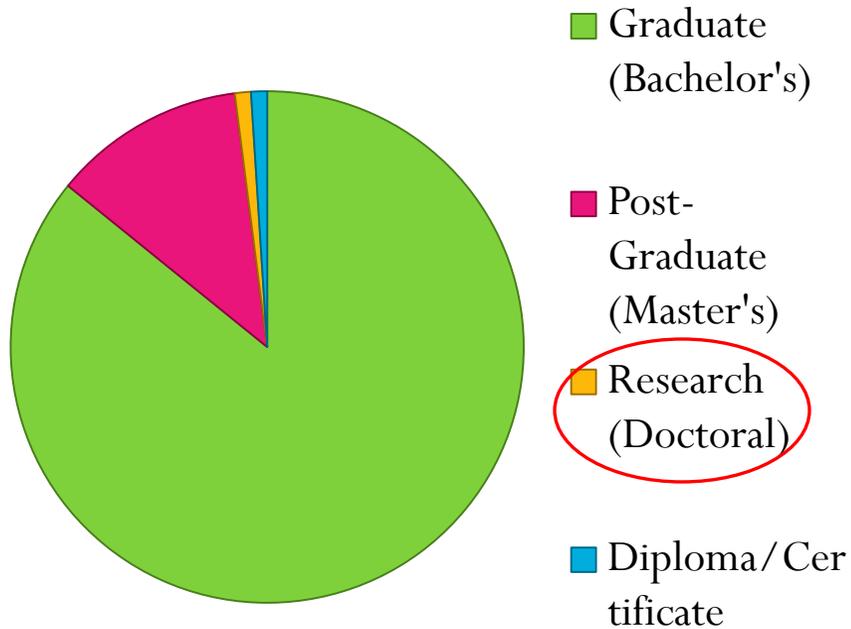
Reasons For Low Quality Research Continued.....



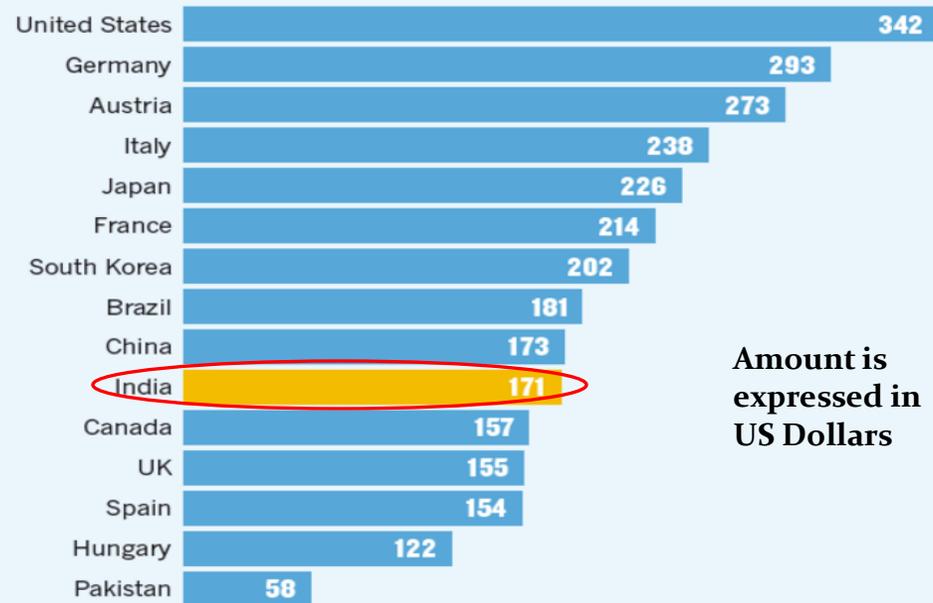
Scenario of Student's interest in India

Contribution of Health related field in research is only 4 %

Out of total, only 1 % of students move towards research

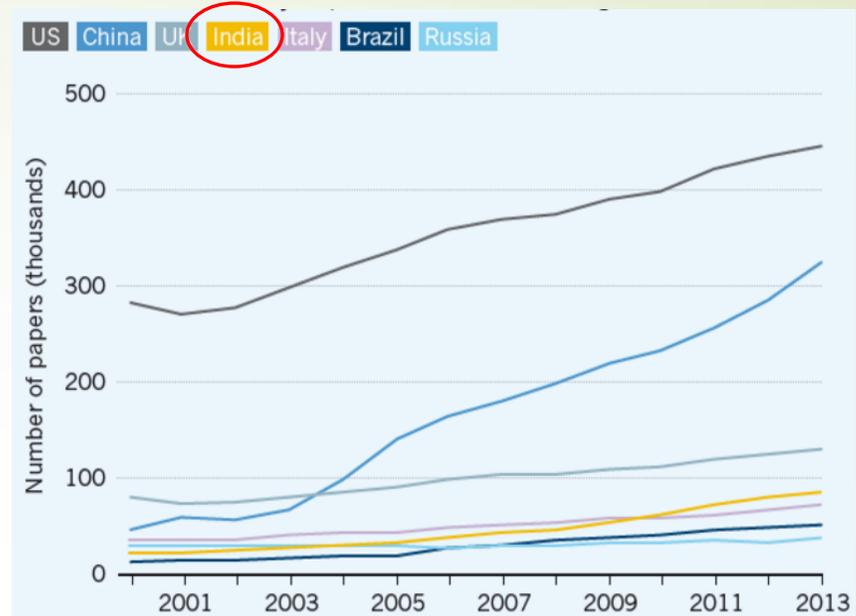


Funding Per Researcher



Amount is expressed in US Dollars

Publications

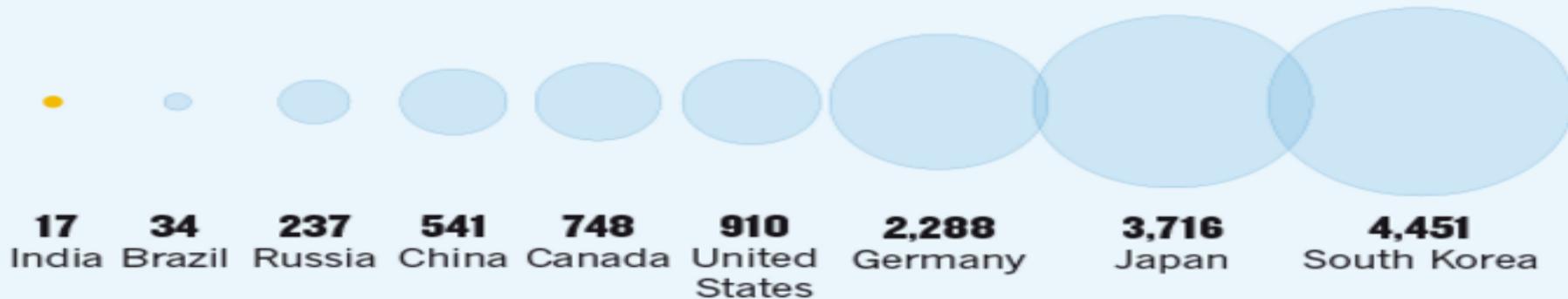


Patents

This Study was published in Nature News May, 2015.

India is one of the world's leading filers of patents but it registers far fewer applications per capita than any other top-filing nation. Multinational firms in India have boosted the country's rate of filing.

● Domestic and foreign patent applications filed in 2013 per 1 million people.



India's budget disappoints scientists

Funding keeps pace with inflation, but renewable energy research is cut heavily.

Budget allocations (millions of rupees)

	2014–15	2014–15 (revised)	2015–16
Department of Atomic Energy	87,370	77,000	92,000
Defence Research & Development	59,847	62,997	65,701
Ministry of Earth Sciences	16,990	13,365	16,197
Ministry of New & Renewable Energy	9,564	5,549	3,032
Department of Science and Technology	35,440	28,980	38,357
Department of Scientific and Industrial Research	37,072	34,000	40,310
Department of Biotechnology	15,172	14,172	16,251
Department of Space	72,380	58,260	73,880
Department of Health Research	10,177	9,320	10,181
Department of Agricultural Research and Education	61,443	48,840	63,200

All numbers are from the ministry-approved budget.



Reasons For Low Quality Research continued.....

No mechanism for proper reward system:

- To reward the quality researcher in an unbiased manner.
- Very few academicians / researchers / scientists in are honored as Fellows of different National Academies (FNA, FASc, FNASc)
- We don't have area of social science in National Academies

Ways to Explore Potential in Academic Research

- Identify knowledgeable candidates with real interest for research.
- Provide funding , facilities and opportunities with quality mentorship to such candidates.
- Quality mentors can be identified by quality publications / patents/ citations/h/i₁₀ index and industrial applicability.
- Current needs of industries and health problems has to be considered while defining the problem of research.
- Collaborative research project should be designed
- Interactive sessions should be arranged between industrial and academic researchers/collaborators.

Ways to Explore Potential in Academic Research Continued....

- ▶ Industries, government and private laboratories should come forward to allow for training and also for execution of research project in part or full.
- ▶ Efforts should be made to collaborate with reputed academic/ research institutions abroad also.
- ▶ Such collaborations may include part time visits of researchers/ mentors for clarity of understandings and achieving the focused targets.
- ▶ Quality research with positive and applicable outcome be suitably rewarded.



All-round efforts need to be made :

- To develop environment for Research
- To encourage students/ scientists to do research not only for the purpose of earning degrees / getting jobs and promotions but also for serving the society with their research output.
- To discover / develop new inventions/ process/ technology/ product
- To provide needed infrastructural facilities and funds
- To reward the researcher / research groups suitably at a public forum and be highlighted through media.



Quality Enhancement of Teachers

QUALITY ENHANCEMENT OF TEACHERS.....

Types of Teachers

- 15% Consultancy or other pursuits- Yield Money
- 10% Busy in International and National Conferences
- 60% Those who could not find anything better to do
- 15% Genuine Academics

Teachers: Neglecting Teaching

- Research--- Priority
- Consultancy---Lucrative Gains
- Seminars---Glamour
- Private Tutions---Soaring Business
- Businessmen---Flair of Business
- Dislike teaching--- They may do any other job
 - Reasons
 - Accountability
 - Recognition
 - Appraisal System and rewards
 - Training
 - Leadership and Commitment on the part of Head of the institution

A Good Teacher

- Educator par excellence
- Life-long learner
- Motivator for students
- Elicitor for curriculum development
- Precursor for academic synthesis
- Facilitator for professional activities
- Creature with honesty & ethical values
- Role model for his students
- Institution builder

**“Vision without Action is Day Dreaming
Action without Vision is a Nightmare”**

Sixteen Point Approach for Quality Enhancement of Teachers

1. Do you feel that you are accomplishing the mission of your institutions in an effective manner ?
2. What are the quality sustainance and quality enhancement measures undertaken by you ?
3. Do you believe in continuous improvement ?

Continued

- 
4. Do you believe in proactive approach to enhance quality of education ?
 5. How are the global trends in education reflected in the curriculum ?
 6. What significant innovations in teaching and learning are introduced by you ?
 7. Do you participate regularly in staff development programmes ?

Continued

- 
8. Do you get involved in regular academic audit of departments ?
Myardsticks / criteria to evaluate your performance ?jjij
 10. Do you participate in process of placement and counselling to the students ?
 11. What out-reach programmes are organized by your participation in the institution ?

Continued

- 
12. Have you facilitated augmentation of the infrastructure to keep progress with academic growth ?
 13. Do you receive research funding from industry, national and international agencies ?
 14. Do you receive a positive feedback from the stakeholders ?

Continued



15. Is your work socially and professionally recognized and applauded ?

16. Do you contribute to preparation of a perspective plan for institutional development ?

Inspiring Leadership

A message written at the reception counter of a
CORPORATE HOUSE.



**“We do not pay you for having
brains. We only reward you for
using your brains intelligently ”**

“Socrates”

Approach for Quality Leadership



Strategy

Ownership

Continuous Improvement

Resources

Assessment and Audit

Training

Evaluation

System

Do not participate in rat race. Even if we win, we are still rats

We should always run with lions. No matter even if we are defeated, we are still lions.



**“ WISDOM LIES NOT IN THE QUANTUM OF
KNOWLEDGE ACQUIRED
BUT IN THE DEGREE OF ITS APPLICATION”**

Swami Vivekananda

The education system is on cross road but
the beauty of time is.....

Every Road Leads to Prosperity

Those who are unwilling to tread on the path
of success will be left behind while the
courageous will prosper.

.....THANKS