

1. Details of Module and its structure

	Module Detail											
Subject Name	Education											
Paper Name	Perspectives, Issues and Research in Teacher Education											
Module Name/Title	Evolving a Taxonomy of Educational Skills											
Module Id	e-PG EDN 10.01											
Pre-requisites	The learners have understanding of Hard Skills, Soft Skills, Life Skills, Various Skills and Taxonomy											
Objectives	 To understand the concept of educational skills To highlight the various skills used in education To evolve a taxonomy of educational skills required in education To discuss the status of scholars in education on various educational skills 											
Keywords	Hard Skills, Soft Skills, Info-savvy Skills, Life Skills, Taxonomy of Educational Skills											

2. Development Team

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Ultimate aim of Education anywhere should be to develop a complete human being. For that skills need to be developed in all the domains to live happy, productive and peaceful life. Hard skills are the core skills which are required for innovation, creation, construction, and production in various disciplines, such as, Physics, Chemistry, Mathematics, Biology, Engineering & Technology, Arts, Commerce. The various phases are sensitivity, germination, incubation, innovation, creation, construction, development implementation, whether it is designing, production and flying of an aero-plain or sensing, creating, composing and reciting a poem, or formulating, producing, analyzing and injecting a drug, or designing, development, organization and administration of an institution. Soft Skills are needed for everyday transaction. These are required for how people relate to each other: communicating, engaging in dialogue, giving feedback, cooperating as a team member, contributing in meetings and resolving conflicts, setting an example, team-building, facilitating meetings, encouraging innovations, solving problems, making decisions, planning, delegating, observing, instructing, coaching, encouraging and motivating. To be good at hard skills usually takes smarts or IQ (also known as our left brain-the logical center). To be good at soft skills usually takes Emotional Intelligence or EQ (also known as our right brain- the emotional center). Hard skills are skills where the rules stay the same regardless of which company, circumstance or people you work with. In contrast, soft skills are self-management skills and people skills where the rules change depending on the company culture and people you work with. For example, programming is a hard skill. The rules for how we can be good at creating the best code to do a function is the same regardless of where we work. Communication skills are a set of soft skills. The rules for how to be effective at communication change and depend on the audience and the content we are communicating. Hard skills can be learned in school. There are usually designated level of competency and a defined path as to how to excel with each hard skill. Most soft skills are not taught well in school and have to be learned on the job by trial and error. Careers can be classified into three categories, careers that need hard skills and little soft skills, both hard & soft skills, mostly soft skills and little hard skills.

But, Hard Skills & Soft Skills combination is rarely found. There is less research, but, more publication, less creation but more communication, less production, but, more marketing and vice versa. Masses are lost in customary designs. Hard Skills which emerge through sound theoretical base or lead to theory, with practice, patience and perseverance having precision and perfection passionately emerge. Soft skills demand environmental sensitivity & action.



Communication, transaction and transmission through the soft skills infuse life into this sphere.

Here, the intent is to arrive at a combination of hard skills & soft skills. Hard and soft skills are often referred to when entering into & living a profession. While hard skills are essential to enter, it is the soft skills that facilitate professional ethics & aesthetics. To be a good personality fit for any profession we need to be quality producers, humanistic communicators, and civilized & scientific consumers.

The establishment has outgrown in most of the fields in India, such as, Teacher Education, Engineering, Medicine, and even Agriculture. The main cause & effect are the improper planning & unemployable product. The human development should ensure self-employability in respective fields.

Science without experimentation skills, Art without creativity, Commerce without substance, Mathematics without speculation, Logic without reasoning, Schools without life skills, Polity without statesmanship, and nature without beauty are empty. There is a need to realize skills in all the areas. But, the question is having Life Skills, Thinking Skills, Human Development Skills, Management Skills, Emotional Skills, Adaptability and Social Responsibility Skills, Vocational Skills, Professional Skills, and many more skills have achieved the status of Skills?

Dhodi Nayana & Goel Chhaya (2012) have published a book- Enhancing Info-Savvy Skills in Student Teachers: A Research Work. The book reports the Doctoral Study of Ms. Dhodi Nayana under the Guidance of Dr. Chhaya Goel. The volume demonstrates very well how the info-savvy skills of Asking, Accessing, Analyzing, Applying and Assessing were developed in the Pre-Service Teachers of India through surfing on Cultural Heritage of India, Buddhist Heritage of India and on the domains of their respective discipline methods. It has been a joyful experience to travel through this volume experiencing various surfing skills, viz., skimming, scanning, authenticating, hyperlinking, switching, skipping culminating into Educational Immersion for seeking solutions.

Helaiya Sheetal & Goel D.R. (2011) published a Book-Life Skills Programme for Student – Teachers: A Research Work. The book embodies the doctoral work of Ms. Sheetal Helaiya



on enhancement of Life Skills through development and implementation of a Life Skills Program for Secondary Student-Teachers. The following Life Skills identified by the WHO were considered for the study:

- Self-Awareness Skill
- Empathy Skill
- Interpersonal Relationship Skill
- Effective Communication Skill
- Critical Thinking Skill
- Creative Thinking Skill
- Decision Making Skill
- Problem Solving Skill
- Coping with Emotions Skill
- Coping with Stress Skills

An exhaustive attempt was made to differentiate all these Life Skills into various components. Number of Activities were designed, developed and implemented to enhance the Life Skills. The Life Skills Program was implemented on the Pre-Service Teachers during 2008-2009 at the Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India. Post-intervention scenario on the Life Skills of the Student-Teachers revealed that there was a remarkable gain in their Self Awareness Skill, Effective Communication Skill, Interpersonal Relationship Skill, coping with Emotions Skill, Decision Making Skill and Problem Solving Skill. There was moderate gain in their coping with stress skill, Empathy Skill, Critical Thinking Skill and Creative Thinking Skill. The most impeding factor in life ios that most of us lack Self Awareness Skill, that is, neither we know our strengths, nor do we know our weaknesses. We do not know our goals. As a result, we are poor in many other life skills. If we fail to identify with the self, then we fail to identify with others also, that is, we lack empathy skill. Creative Thinking Skill and Critical Thinking Skill, both in one, is a rare combination. We need to learn how to zoom out and zoom in. The complexities of life are increasing day by day. We need to learn how to cope up with the stress and emotions. We need to learn how to be our own selves and equally how to be one with the others. We need to realize healthy constellation through empathy, interpersonal relations and effective communication. We need to make right decisions, timely. Teachers need to possess healthy life skills for development of healthy society. So the Life Skills should be integrated in Teacher Education.



Vaidehi P. Gupta (2013) conducted a Study- Role of ICT for Wholistic Development of the Student Teachers. It is evident from the study that ICT does play its role in wholistic development of Student Teachers. We need to extend the role of ICT for development of all the domains wholistically.

The complexity of the prevailing conditions demands skills for healthy, peaceful, harmonious, full & meaningful living under highly complex socio-cultural-political-economic-demographic conditions. So, there is a need to integrate skills in Education. There are innumerous skills which various tasks demand. There is a need to arrive at skill level in all the areas to cope up with the challenges. Education ought to be rational as well as scientific. There is a need to realize Skill inclusive, Skill integrated, and Skill evolving School Education & Teacher Education at all levels, right from pre-primary to tertiary & continued education. The present article attempts to evolve a taxonomy of Educational Skills & explore the status of Education Scholars on 25 Skills.

TAXONOMY OF EDUCATIONAL SKILLS

Taxonomy of Educational Skills has been presented under the following 12 Domains:

- 1. Self-Development Skills
- 2. Social Skills

Interpersonal & Collaborative Skills, Communication Skill, Resilience Skills, Social Responsibility Skills, Human Relations Skills, Emotional Skills, Adjustment Skills, Human Development Skills, Citizenship Skills, Accountability

- & Adaptability Skills
- 3. Life Skills
- 4. Critical Thinking & Training Thinking Skills
- 5. Research Skills
- 6. Constructivist & Connectionist Skills
- 7. Systems Thinking Skills
- 8. Information Age Skills

Info-savvy Skills, Techno-pedagogic Skills, Digital Age Skills, Open Education Resourcing Skills



- 9. Leadership, Administration & Management Skills
 - Creative Leadership Skills, Administration Skills, Time management Skills, Key Skills for Every Manager
- 10. Spiritual Development Skills
- 11. Yoga Skills
- 12. Wholistic Development Skills

1. SELF DEVELOPMENT SKILLS

Category- I: Self Development Skills

- a. Monitoring one's own learning needs.
- b. Locating appropriate resources.
- c. Transferring learning from one domain to another.

2. SOCIAL SKILLS

Category-II: Interpersonal & Collaborative Skills

- a. Demonstrating Networking & Leadership
- b. Adapting to Varied Roles & Responsibilities
- c. Working Productively with others
- d. Exercising Empathy
- e. Respecting Diverse Perspectives

Category -III: Communication Skill

- a. Who
- b. Says What
- c. To Whom
- d. Through Which Channel
- e. With what effect

(With a variety of contexts & Through a variety of forms)

Category-IV: Resilience Skills



- **a.** Critically sensing the deviant behavior(s)
- **b.** Cause & Effect Analysis
- c. Marginal Analysis
- d. Functional Analysis
- e. Regressing Efficiently

Category-V: Social Responsibility

- a. Acting Responsibly
- b. Demonstrating Ethical Behavior in
- > Personal life
- ➤ Workplace
- > Community

Category- VI: Human Relation Skills

- a. Decency
- b. Decorum
- c. Discipline
- d. Empathy
- e. Sharing
- f. Fellow-Feeling
- g. Politeness
- h. Peace & Harmony
- i. Healthy Competition

Category VII: Emotional Skills

- a. Self-Awareness
- b. Self-Management
- c. Social Sensitivity
- d. Social Management

Category VIII: Adjustment Skills

- a. Skill of Home Adjustment
- b. Skill of School Adjustment
- c. Skill of Social Adjustment



- d. Skill of Emotional Adjustment
- e. Skill of Health Adjustment
- f. Skill of Symbiosis

Category- IX: Human Development Climate

- a. Trust
- b. Risk Taking
- c. Openness
- d. Reward
- e. Responsibility
- f. Support
- g. Feedback
- h. Team Spirit
- i. Collaboration

Category X: Citizenship Skills

- a. Sovereign
- b. Social Sensitivity
- c. Learning about Community
- d. Secularity
- e. Democratic
- f. Public & Republic
- g. Leadership
- h. Management
- i. Cooperation & Collaboration
- j. Participation Skill

Category- XI: Accountability & Adaptability

- a. Exercising personal responsibility in personal, workplace & community contexts;
- b. Setting & meeting high standards.

3.LIFE SKILLS

Category-XII: Life Skills

a. Self-Awareness



- b. Empathy
- c. Interpersonal Relationship
- d. Effective Communication
- e. Critical Thinking
- f. Creative Thinking
- g. Decision Making
- h. Problem Solving
- i. Coping up with emotions
- j. Coping up with Stress

4. Critical Thinking & Training Thinking

Category- XIII: Critical Thinking Skill

- a. Analyzing
- b. Reflecting
- c. Querying Evidence
- d. Conjecturing Alternatives
- e. Drawing Conclusion
- f. Stating Results
- g. Justifying Procedures
- h. Presenting Arguments
- i. Self-Regulation

Category IV: Training Thinking

- a. Depressive to Booming
- b. Non-Pathological to Pathological
- c. Invalid to Valid
- d. Polar to Null
- e. Ego-centric to Socio-centric
- f. Obsessive to Final
- g. Partistic to Wholistic
- h. Non-sensible to Sensible
- i. Traditional to Modern
- j. Pessimistic to Optimistic
- k. Crooked to Straight



- l. Rigid to Flexible
- m. Unsocial to Social
- n. Dependent to Autonomous
- o. Narrow to Broad
- p. Practical and Theoretical
- q. Non-Technical to Technical
- r. Non-Logical to Logical
- s. Non-Imaginative to Imaginative

5. RESEARCH SKILLS

Category-XV: Research Skills

- a. Skill of identifying problem
- b. Skill of formulating Problem
 - Developing Conceptual Framework
 - Skill of Reviewing & implication
 - Skill of Research Questioning
 - Developing Rationale
 - Constructing Statement
 - Enunciating Objectives
 - Formulating Hypotheses
 - Operationlization/Explanation of Terms
 - Deciding Research Type
 - Research Designing
 - Cognizing Population & Sampling Techniques
 - Specifying Delimitation
 - Constructing/Selecting Tools & Techniques
 - Laying down Data Collection Procedure
 - Working out/ Deciding Data Analysis Techniques
 - Interpreting Analyzed data
 - Formulating Findings
 - Discussion Mechanism
 - Converging into Theses
- c. Building Theory



6. Constructivist & Connectionist Skills

Category-XVI: Constructivist Skills

- a. Engagement
- b. Germination
- c. Incubation
- d. Innovation
- e. Creation

Category-XVII: Connectionist Skills

- a. Interpretation of units
- b. Activation of the network of units
- c. Learning Algorithm
- d. Recurrent Neural Networking
- e. Evolving continuous, dynamic systems approaches

7. Systems Thinking

Category-XVIII: Systems Thinking

- a. Cognizing all the parameters
- b. Establishing interrelation & interdependence
- c. Realizing Integrated Whole
- d. Ensuring Efficiency
- e. Ensuring Cost Effectiveness

8. Information Age Skills

Category-XIX: Info-Savvy Skills

- Asking
- Accessing
- Analyzing
- Applying
- Assessing

Category-XX: Techno-Pedagogic Skills:

• Media-Message Compatibility



- Media Designing
- Integration of message, media and modes
- Proximity of Message Forms
- Media Language Proficiency
- Media Choice
- Media Credibility & Message Authenticity

Category-XXI: Digital Skills

- Functional Literacy skills: Use of images, graphics, videos, charts and visual literacy.
- Scientific Literacy skills: Understanding of both theoretical and applied aspects of science and mathematics.
- Technological Literacy skills: Competence in the use of information and communication technologies.
- Information Literacy skills: Ability to find, evaluate and make appropriate use of information, including via the use of ICTs.
- Cultural Literacy skills: Appreciation of diversity of cultures.
- Global Awareness skills: Understanding of how nations, corporations and communities all over the world are interrelated.

Category -XXII: Open Education Resourcing

- Open Education Resources for Learners
- I. Learning- Content (geogebra, google earth)
- II. Creativity (hot potato, C map)
- III. Evaluation (R-campus & Mahara)
 - Open Education Resources for Teachers, Teacher Educators & Facilitating Learning
 - I. Learning Management System (Moodle & Wiki spaces)
- II. Teacher Managed Communication Platforms (Classroom 2.0 & Web Quest)
- III. Statistical Tools for data processing
- IV. e-Journals
- V. e-books
- VI. e-News Letters
- VII. Webinars & Web Conferencing
- VIII. WBI



9. Leadership, Administration & Management Skills

Category XXIII: Creative Leadership Skills

- a. Socio-centric rather than ego driven
- b. Empowers the people to make decisions rather than take decisions
- c. Listen oriented than tell oriented
- d. Pulls the organization towards a vision
- e. Listens to intuition
- f. Generates lasting commitment
- g. Open minded than opinionated
- h. Teaches importance of self-responsibility rather than teaches subordinates to take directions
- i. Models self-responsibility rather than in a self-protect mode
- j. Knows, relaxing control yields results rather than is afraid of losing control
- k. Focuses on building on strengths rather than finding & fixing problems.
- 1. Teaches how to learn from mistakes rather than quick to fire those that fail

Category: XXIV: Administration Skills

- a. Planning
- b. Organizing
- c. Staffing
- d. Coordinating
- e. Budgeting

Category XXV: Time Management

- a. The ability to Say "No", Learning to Say "No", How to Say "No"
- b. Spacing Things Out; Do not procrastinate
- c. Using Social Time Wisely
- d. Prioritizing and Reprioritizing constantly
- f. Keeping your health/sleep/exercise in check

Category- XXVI: Key Skills for Every Manager

a. Leadership and People Management

Attract, retain, motivate, coach and develop team members for high performance.



b. Communication Skills

Communicate, present, assert, speak senior management language

c. Collaboration Skills

Influence, build relationships, manage conflicts

d. Business Management Skills

Understand strategy, business functions, decision-making and workflow

e. Finance Skills

Budget, forecast, manage cash flow, understand financial statements, manage business metrics

g. Project Management Skills

Plan and manage successful projects, manage risks, costs, time and project teams

10. Spiritual Development Skills

Category XXVII: Spiritual Development

- a. Religiosity
- b. Knowledge of Soul
- c. Quest for life values
- d. Conviction, Commitment & Character
- e. Happiness & Distress
- f. Brotherhood
- g. Equality
- h. Acceptance & Empathy
- i. Love & Compassion
- j. Flexibility
- k. Leadership in Educational Change

11.YOGA Skills

Category XXVIII: Yoga Skills

- a. Yama or Eternal Vows: Ahimsa, Satya, Astey, Aprigraha & Brahmacharya
- b. Niyama or Observances: Saucha, Santosha, Tapas, Savdhyaya, Ishvarapranidhana
- c. Asana: Firm, Comfortable Meditative Posture
- d. Pranayama: Regulation of the Vital Force
- e. Pratyahara
- f. Dharna



- g. Dhyana
- h. Samadhi

12. Wholistic Development Skills

Category XXIX: Wholistic Education Skills

- a. Subject Knowledge
- b. Inter-disciplinary
- c. Environmental Attitude
- d. Health Development
- e. Emotional Development
- f. Spiritual Development
- g. Integrated Development

STATUS OF EDUCATION SCHOLARS ON 25 SKILLS

1. Info-Savvy Skills

In this digital age of ICT everyone should be info-savvy, that is, in a position to skillfully do Asking, Accessing, Analyzing, Applying and Assessing. But, a large majority of us are not info-savvy. There is a need of integrating info-savvy skills in Education.

2. Techno-Pedagogic Skills

Most of the Teachers and Teacher Educators, even in this age of ICT are Pedagogues, but not Techno-Pedagogues. There is a need to develop Techno-Pedagogic skills, such as, Media-Message compatibility, Temporal and Spatial Proximity of Message Forms, Media Language Proficiency, Message, Media and Mode integration, Realizing Media Credibility & Message Authenticity, Media Search & Choice.

3. Vocational & Occupational Skills

We need to identify, nurture and develop vocational and occupational skills in various areas, such as, agriculture, horticulture, sericulture, electricity, electronics, sewing, plumbing, nursing, so that, the young ones become productive and self-supportive.



4. Research & Construct Skills

There are various research skills, such as, imagination & creativity, logic & reasoning, conceptual & theoretical thinking, reflection & feedback, data collection, experimentation, analysis and dissemination. These days there is added focus on Constructivist Approach. The constructivist approach demands various skills, such as, Engaging, Exploring, Explaining, Elaborating and Evaluating. All these skills need to be comprehensively identified and practiced.

5. Management Skills

There should be Education for critical & creative managers along with the abilities of planning, organizing and controlling. Creative and critical management demands various skills, such as, Instantaneously zooming out and zooming in, More Eco-driven than Ego-driven, Sometime over & above the systems but never against the system, Always deals in public agenda, never in personal agenda, Is open minded rather than closed opinionated, Sets the organization towards vision rather than lost in routines, Delegates to the level of irreversibility, Believes in building on strengths, Generates lasting commitment, Brings the processes to logical end, Believes in Total Quality Management, Deals in reality with intelligence, wit and humour. There is a need to integrate Management Skills in Education.

6. Life Skills

Various Life Skills, such as, Self-Awareness, Empathy, Inter-Personal Communication, Coping-up with Stress, Coping-up with Emotions, Creative Thinking, Critical Thinking, Decision Making and Problem Solving have been introduced in the School Curricula in India under Co-Scholastic Areas, but the Teacher Education institutions have largely not integrated these skills. There is a need to bridge the gaps between requirements of School Education and Teacher Education.

7. Adjustment Skills



Life is Adjustment. There should be adjustment in all spheres of life, such as, Home, Health, Society, Emotions and Education. How to adjust in all the areas? All of us need to learn to live together. Adjustment simultaneously in all the areas is rarely found these days. There is a need to realize comprehensive adjustment. There is a dire need to realize symbiosis.

8. Special Education Skills

Learners with Special needs require especially skilled teachers. Also, the scope of Technology Integrated Special Education needs to be explored. Even the Software packages like JAWS are not easily accessible.

9. Human Development Skills

Education should be man making. There is a need to integrate emotional development skills, spiritual development skills, and above all human development skills. Wholistic Education & Evaluation demand conceptualization, acculturation, classification and integration of various skills. Some appreciable attempts have been made and are being made, both, at the School Education and Teacher Education levels.

10. Accountability & Adaptability

There is a need to exercise responsibility in personal, workplace and community contexts, so as to set and meet high standards. We owe an explanation to the self, as well as, others for each and every act of ours. We need to moderate our temperament many a times with others. Before we attempt to supersede others we need to learn to transcend our own selves.

11. Communication Skills

There is a need to establish effective communication in a variety of contexts through a variety of forms, both, intra-personal & interpersonal, intra-faculty & interfaculty, intra-nation & inter-nation. We need to be fully sensitive to the effects of who, says what, to whom, & through which channel, be it Gram panchayat, University Board of Studies, Syndicate, Senate, Central Advisory Board of Education, Legislative, Judiciary or National Parliament.



12. Self-Direction Skills

There is a need of monitoring one's own learning needs and transferring learning from one domain to another. Also one should have the skill of locating appropriate resources. Each one of us has to pave our own paths. There are rare learning resources and guides to guide us. We need to identify our own paths while stepping in. It is because of faster obsolescence of coping skills and knowledge.

13. Social Responsibility Skills

Everyone should act responsibly and demonstrate ethical behaviour in personal life, work place, community and society. We are yet to find meaning with local citizenship before advocating global citizenship.

14. Human Relation Skills

Every one, everywhere, under all sorts of conditions should observe decency, decorum and discipline. There should be sharing with politeness. There should be fellow feeling and empathy. There should be coexistence with peace and harmony. For this self-discipline and empathy with the others' viewpoints are the necessary conditions.

15. Emotional Skills

Most of us presume to know our strengths but are seldom conscious of the weaknesses. There is a need to be thoroughly aware of the self. There is a need to learn self-management. We should sustain our social sensitivity and learn social management. Growing complexities of the 21st Century immediately demand self-awareness & self-management, social sensitivity & social management.

16. Human Development Climate Skills

There is a need to develop Human Development Climate Skills, such as, Trust, Risk Taking, Openness, Reward, Responsibility, Support, Feedback, Team Spirit and Collaboration.



Owing to growth pressure there is a heavy emphasis on material well being leading to nuclear and finally fragmented family as an institution. The filial affection and empathy and compassion are weaning out. While man has to work as an organization, either he/she or the organization or both ought to make an attempt to create these values so as to work in cohesion.

17. Spiritual Intelligence Skills

Material attainment of any level has to be subservient to the spiritual attainment leading to the understanding of the self at the highest level of super sub-consciousness. Spirituality, Knowledge of Soul, Quest for Life Values, Conviction, Commitment & Character, Healthy State in Happiness and Distress, Brotherhood, Equality, Acceptance and Empathy, Love & Compassion, Flexibility, Leadership in Educational Change ought to be the natural features of every human being.

18. Innovation, Creation & Construction Skills

Dancing Crops, Flowing Wisdom, Enchanting Music, Touching Songs, Resonating Dance, Immersing Verses, Speaking Sculptures, Enlightened Learners, and Innovative Researchers are the wonderful Springs of Nature. Such skills need to be scaled up.

19. Wholistic Education Skills

Wholistic Education should focus on knowledge of the discipline, inter-disciplinarity, Environmental Attitude, Health development, Emotional Development, Spiritual Development and integrated development.

20. Inter-disciplines

Many a interdisciplinary Programs have come up, such as, Bio-Chemistry, Bio-Technology, Microbiology, Bio-informatics, Bio-Physics, Bio-Statistics, Genetics. Choice Base Credit System is being introduced throughout to realize inter-disciplines.



21. Value Integrated Education

Education should be character building. Education should be governed by Human Relations Model, rather than by traditional, hierarchical, bureaucratic model. Education should create global communities for sharing their states through reflective dialogues. Higher Education should harness the Power of Science & Technology for realizing Cultural Excellence.

22. Technology Integrated Education

There is technological revolution in Education. There is a shift from Online Learning to Twitters, Face-book to Semantic Web. There is a quick shift from Web-1 to Web-2 to Web-3 technology. Smart Classrooms are emerging. Wi-Fi, i-Pad, e-book, e-Reader, e-News Letter and Webinars are emerging. There is a need to realize Technology Integrated Education.

23. Digital Age Skills

Digital Age Skills have become the basic needs of the present century, such as, Global Awareness Skills- Understanding of how corporations and communities all over the world are interrelated, Cultural Literacy Skills- Appreciation of diversity of cultures, ICT Skills-Ability to find, analyze, evaluate and make appropriate use of information, Scientific Literacy Skills- understanding of both theoretical and practical aspects of Science, and Functional Literacy Skills- Use of Information & Knowledge for living healthy, happy, meaningful and long life.

24. Yoga Skills

Yoga should be essential in Education Curricula. There should be adequate inputs and practice on

- Yama or Eternal Vows: Ahimsa, Satya, Astey, Aprigraha & Brahmacharya
- Niyama or Observances: Saucha, Santosha, Tapas, Savdhyaya, Ishvara-pranidhana
- Asana: Firm, Comfortable Meditative Posture
- Pranayama: Regulation of the Vital Force
- Pratyahara: Sense withdrawal



• Dharna: Concentration

• Dhyana: Meditation

• Samadhi: Absorption

Rationale of the Study

Educational Skills emerge scientifically through problem specific theorization, instantaneously. Now the question is having various skills been integrated in Teacher Education scientifically & comprehensively. 21st century conditions demand skills for healthy, peaceful, harmonious, meaningful and full living under highly complex sociocultural-political-economic-demographic and environmental conditions. Skill is the Science applied artistically or art applied scientifically, precisely, easily, joyfully, cost effectively. It demands perfect, instantaneous coordination of mind and motor muscles patiently & passionately. Education ought to be science based, skill based and technology integrated. The present paper attempts to explore the status of Education Scholars on various skills.

Objectives of the Study

- 1. To study the perceptions of Ph.D. Scholars on Educational Skills.
- 2. To study the relative status of Ph.D. Scholars in Education on various skills.
- 3. To study the comprehensive profile of Ph.D. Scholars on various skills.

Sample for the study

Sample for the study is constituted of 15 Ph.D. Scholars available at CASE on the date of data collection.

Tools & Techniques Employed

A Skill Status Inventory was constructed by the investigators on 25 Skills, having 179 items against 5-point scale- Very Often, Often, Sometimes, Rarely, Never, as follows:



Skill Status Inventory: Skills & Items

SNO	Skill	Number of Items
1	Info-Savvy Skill (ISS)	8
2.	Techno-Pedagogic Skill (TPS)	22
3	Techno-Management Skills (TMS)	9
4	Techno-Special Skills (TSS)	15
5	Techno-Living Skills (TLS)	11
6	Accountability & Adaptability (A&A)	4
7	Communication Skill (CS)	2
8	Critical Thinking & Systems Thinking (CT&ST)	3
9	Information and Media Skills (I & MS)	2
10	Interpersonal & Collaborative Skill (IP&CS)	5
11	Problem Solving(PS)	3
12	Self-Direction (SD)	3
13	Social Responsibility (SR)	4
14	Human Relations Skills (HRS)	5
15	Emotional Skills (ES)	4
16	Life Skills (LS)	7
17	Adjustment Skills (AS)	5
18	Human Development Climate Skills (HDCS)	9
19	Spiritual Intelligence Skill (SIS)	9
20	Research & Construct Skills (R&CS)	12
21	Management Skill (MS)	10
22	Citizenship Skills (CZS)	7
23	Wholistic Education Skills (WES)	6
24	Digital Age Skills (DAS)	6
25	Yoga Skills (YS)	8
26	Total Items	179

Data Collection

The Skill Status Inventory was administered on the available 15 Education Scholars. They registered their responses against 5-point scale.

Data Analysis

The data were analyzed in terms of frequencies and % responses, skill-wise and overall. Objective-wise data analysis is presented as follows:



A. Perception of the Scholars on Educational Skills

Table-1: Perception of the Scholars on Educational Skills

SNO	Response
1	All the skills are essential to lead the life. Skills should be properly used, timely
	adopted when and wherever required to achieve our life objectives. Media skills are
	useful for getting information, Techno-Pedagogic Skills to save time and
	presenting/providing contents effectively, Emotional Skills are useful for managing
	self, whereas, Spiritual and Yoga Skills show path to lead healthy and happy life.
2	I believe that different kind of skills can make a person happy, healthy, interactive,
	cooperative, eco-friendly and global. Techno-savvy skills make a person interactive
	with a machine, a human and the environment. Info-savvy skills keep a person up-
	to-date with latest, reliable and authentic information. Life skills help a person in
	dealing with life situations. Spiritual and Yoga Skills help in self realization and
	stress reduction. ICT based curriculum has already been introduced in education by
	the government. It is the duty of teachers to develop such kind of skills in them and
	students. Through Techno-Pedagogic skills teaching-learning becomes more
	interactive. Through environmental awareness skills, a person becomes more eco-
	friendly.
3	Over all, I can say that info-savvy skills, techno-pedagogic skills, techno-
	management skills have been very useful to me in teaching of English language.
	The life skills like communication skills, critical thinking, and system thinking,
	interpersonal and collaborative skills, problem solving skills, human relations skills
	are required to survive in this competitive world. I want to improve the yoga skills,
	social responsibility skills, and information and media skills.
4	I use skills as per my understanding and requirement. All skills are important and
	necessary in life. But, acquisition of skills depends on requirement and capability. I
	can manage my work, I can take my stand, I can express my views easily. I can use
	different media and modes.
5.	As I am average on knowledge of techno-pedagogic skills, I need to improve such
	skills through which the future problems related to my career/profession can be
	resolved. With respect to info-savvy skills I can realize what kind of information is



	needed and what are the sources for obtaining information. I am relatively poor at
	emotional skills and yoga skills.
6	According to the present conditions of my life, I am best using my social skills and
	trying to cope up with the emotions arising out of these situations. In doing so I am
	taking help of my friends. In my professional life, I use collaborative & cooperative
	skills to formulate my problems and analyze them. All in all I think I am learning
	new social, emotional and cultural skills which help me to lead a good life. About
	techno-pedagogic and info-savvy skills, I am using them more now compared to
	earlier days. Thus, I can say that soon I may become a better techno-savvy & info-
	savvy person.
7	I am good at human relationship skill and social responsibility skills, but often, I
	am not in a position to convey my intention at right time or in correct form
8	I feel confident to use various skills, such as, problem solving, social skills and
	management skills. I feel some skills are needed for adjustment as per conditions
	and surrounding atmosphere.
9	I am developing my skills through practice and experience. Skills are very much
	essential in my life, every time through which, I can satisfy myself in a variety of
	ways.
10	Yes, skills are very important in life. The skillful life is happy life and to lead a life
	successfully we need to integrate all of these skills and many other skills in all day-
	to- day activities. I personally need to develop in techno-pedagogic skills and yoga
	skills. I believe that, I can manage and lead successful life with the different skills,
	namely, communication, management, emotional, wholistic, human development,
	spiritual skills and others also. Still, we need to enrich and there is always scope for
	development and advancement. So, I think I learn one or the other skill every day
	and implement and practice in my personal, social and professional life.
11	I can control emotions and practice life skills in daily life. I can have spiritual
	intelligence skills. I also practice, adjustment skills and communication skills.
	Management skills are also important for every individual.
12	Many of the skills mentioned, I have not experienced in my life due to not having
	experience of working in any organization. I can adjust with others very
	comfortably. I can communicate with students and others comfortably. Little weak
	in emotional skills. I can manage myself for having better future life. Not



	experienced much technologically, such as, info-savvy skills, but capable of doing
	experienced much technologicarry, such as, into-savvy skins, but capable of doing
	good work in those areas. I can identify and solve problems from personal, social,
	as well as, research areas. I have average critical thinking and creative skills.
13	Some skills are inborn, whereas, some are acquired and mastered. I feel many of
	the skills can be explored and mastered in life. ICT related skills need good
	exposure and practice. Some skills like adjustment skills, spiritual skills, life skills,
	need a base within self and if we have a good base, that is, good atmosphere
	provided, it becomes easy for one to explore and enrich such skills.
14	I rate myself four on a five-point scale in management skills, citizenship,
	educational skills, life skills, adjustment skills, but only one in techno-pedagogic
	skills & info-savvy skills. I need to polish & elaborate more on these skills related
	to technology. In future, these skills can be incorporated for a better healthy and
	spiritual growth.
15	In today era techno-management skills and info-savvy skills are necessary for
	everyone, though many a people are not aware of these skills. Life skills, too, are
	essential for everyone.

B. Relative status of the scholars on various skills

Table-1: Skill Status of the Scholars on various skills

Scholar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Max.
Skill																Score
ISS	31	38	32	25	27	27	35	27	31	39	32	31	32	29	34	40
TPS	74	97	85	74	76	69	98	59	82	101	92	88	97	76	86	110
TMS	26	37	29	23	29	11	16	37	42	42	36	15	31	14	23	45
TSS	58	60	52	63	60	31	44	47	57	63	64	24	43	27	34	75
TLS	26	45	44	42	34	41	40	33	53	46	42	30	44	29	47	55
A&A	16	15	16	15	13	19	18	13	16	20	18	11	16	13	16	20
CS	8	8	8	6	6	10	8	10	9	10	9	7	8	7	7	10
CT & ST	10	12	13	10	11	12	15	8	15	14	11	10	11	9	11	15
I & MSs	8	10	8	8	8	7	10	7	10	10	7	8	8	8	9	10
I & CS	19	23	22	20	17	20	21	19	25	25	22	19	25	20	18	25
PS	12	14	13	12	12	12	13	15	15	15	14	12	11	13	14	15



SD	15	12	12	12	10	9	13	12	15	15	13	12	12	11	14	15
SR	20	19	16	16	16	15	19	20	17	20	20	17	20	16	18	20
HRS	20	22	20	16	16	20	24	18	25	25	22	23	25	16	25	25
ES	19	16	16	16	16	13	14	20	20	20	19	17	18	14	16	20
LS	31	26	28	28	25	25	24	27	35	33	28	28	30	24	29	35
AS	20	21	20	15	19	22	20	22	25	25	22	22	24	20	19	25
HDCS	35	36	36	35	36	43	40	45	44	45	43	38	41	43	44	45
SIS	37	40	42	35	31	37	38	42	45	45	45	41	43	43	43	45
R& C S	55	54	48	45	43	50	60	56	56	59	54	49	51	47	58	60
MS	42	37	39	39	40	32	42	42	42	50	44	33	41	44	38	50
CS	31	30	28	27	24	26	33	28	33	34	26	26	30	28	25	35
WES	24	24	24	24	23	21	29	20	19	24	25	23	28	27	30	30
DAS	19	22	24	19	22	16	28	20	23	26	20	22	24	28	25	30
YS	27	18	24	24	24	28	23	21	29	32	21	19	27	22	27	40
OSS	68	73	699	649	638	616	725	668	783	838	749	625	740	628	71	895
	3	6													0	

B. Relative Status of the Research Scholars on Various Skills

It is evident through Table-1 that the

- A. maximum score obtained on info-savvy skills is 38 out of 40, whereas, minimum score obtained is 25. the mode is 31, whereas, the mean score is 31.33.
- B. maximum score obtained on Techno-Pedagogic Skills is 101 out of 110, whereas, minimum score obtained is 59. the mode is 74, whereas, the mean score is 83.6.
- C. maximum score obtained on Techno-Management Skills is 42 out of 45, whereas, minimum score obtained is 11. the mode is 37, whereas, the mean score is 27.4.
- D. maximum score obtained on Techno-Special Skills is 64 out of 75, whereas, minimum score obtained is 24. the mode is 60 whereas, the mean score is 48.47.
- E. maximum score obtained on Techno-Learning Skills is 53 out of 55, whereas, minimum score obtained is 26. the mode is 44, whereas, the mean score is 39.73.
- F. maximum score obtained on Adaptability & Accountability Skills is 20 out of 20, whereas, minimum score obtained is 11. the mode is 16, whereas, the mean score is 15.67.



- G. maximum score obtained on Communication Skills is 10 out of 10, whereas, minimum score obtained is 6. the mode is 8, whereas, the mean score is 8.06.
- H. maximum score obtained on Critical Thinking & Systems Thinking Skills is 15 out of 15, whereas, minimum score obtained is 8. the mode is 11, whereas, the mean score is 11.46.
- I. maximum score obtained on Information & Media Skills is 10 out of 10, whereas, minimum score obtained is 7. the mode is 8, whereas, the mean score is 8.4.
- J. maximum score obtained on Interpersonal & Collaborative Skills is 25 out of 25, whereas, minimum score obtained is 17. the mode is 19, whereas, the mean score is 21.
- K. maximum score obtained on Problem Solving Skills is 15 out of 15, whereas, minimum score obtained is 11. the mode is 12, whereas, the mean score is 13.13.
- L. maximum score obtained on Self Direction Skills is 15 out of 15, whereas, minimum score obtained is 9. the mode is 12, whereas, the mean score is 12.46.
- M. maximum score obtained on Social Responsibility Skills is 20 out of 20, whereas, minimum score obtained is 9. the mode is 20, whereas, the mean score is 17.93.
- N. maximum score obtained on Human Relations Skills is 25 out of 25, whereas, minimum score obtained is 16. the mode is 25, whereas, the mean score is 21.13.
- O. maximum score obtained on Emotional Skills is 20 out of 20, whereas, minimum score obtained is 13. the mode is 16, whereas, the mean score is 16.93.
- P. maximum score obtained on Life Skills is 35 out of 35, whereas, minimum score obtained is 24. the mode is 28, whereas, the mean score is 28.06.
- Q. maximum score obtained on Adjustment Skills is 25 out of 25, whereas, minimum score obtained is 15. the mode is 20, whereas, the mean score is 21.06.
- R. maximum score obtained on Human Development Climate Skills is 45 out of 45, whereas, minimum score obtained is 35. the mode is 36, whereas, the mean score is 40.26.
- S. maximum score obtained on Spiritual Intelligence Skills is 45 out of 45, whereas, minimum score obtained is 31. the mode is 45, whereas, the mean score is 40.46.
- T. maximum score obtained on Research & Construct Skills is 60 out of 60, whereas, minimum score obtained is 43. the mode is 54 whereas, the mean score is 40.46.
- U. maximum score obtained on Management Skills is 50 out of 50, whereas, minimum score obtained is 32. the mode is 42 whereas, the mean score is 40.33.



- V. maximum score obtained on Citizenship Skills is 34 out of 35, whereas, minimum score obtained is 24. the mode is 28 whereas, the mean score is 28.6.
- W. maximum score obtained on Wholistic Education Skills is 30 out of 30, whereas, minimum score obtained is 19, the mode is 24, whereas, the mean score is 24.33.
- X. maximum score obtained on Digital Age Skills is 28 out of 30, whereas, minimum score obtained is 16. the mode is 22, whereas, the mean score is 22.53.
- Y. maximum score obtained on Yoga Skills is 32 out of 40, whereas, minimum score obtained is 19. the mode is 27, whereas, the mean score is 25.06.
- Z. The maximum score obtained on Over All Skills is 838 out of 895, whereas, minimum score obtained is 616. The mean score is 699.8, whereas, there is no occurrence of mode.

Profiles of Scholars on Various Skills

Scholar-1 has got the highest score on Self Direction and Social Responsibility Skills. Next in the series are Emotional Skills, Research & Construct Skills, Life Skills and Citizenship Skills. He is relatively low on Techno-Living Skills, Techno-Management Skills, Digital Age Skills, Yoga Skills, Info-Savvy Skills.

Scholar-2 is highest on Information & Media Skills. Next in the series are info-savvy skills and social responsibility skills. She has been found lowest on the yoga skills. Next in the series are digital age skills and wholistic education skills.

Scholar-3 has been found highest on the Information and Media Skills. Next in the series are info-savvy skills and social responsibility skills. He has been found lowest on the Yoga Skills. Next in the series are digital age skills and management skills.

Scholar-4 has been found highest on the Techno-Special Skills. Next in the series are Information & Media Skills, Interpersonal & Communication Skills, Problem Solving Skills, Self Direction Skills, Emotional Skills, Life Skills and Wholistic Education Skills. She has been found lowest on the techno-management skills. Next in the series are communication skills, adjustment skills, and yoga skills.



Scholar-5 has been found highest on Techno-Special Skills, Information and Media Skills, Problem Solving Skill, Social Responsibility Skill, Emotional Skills, Human Development Climate Skills, and Management Skills. He has been found lowest on communication skills and Yoga Skills.

Scholar-6 has been found highest on Communication Skill. Next in the series are, Human Resource Development Climate, and Adaptability & Accountability. She is lowest on the Techno-Management Skill. Next in the series are Techno-Special Skills, Digital Age Skills and Self-Direction Skills.

Scholar-7 is highest on Critical Thinking & Systems Thinking and Information & Media Skills, Whereas, he is lowest on Techno-Management Skills and Research & Construct Skills.

Scholar-8 is highest on Communication Skills, Problem Solving, Social Responsibility, Emotional Skill and Human Development Climate Skill. She has been found lowest on Yoga Skill and Critical Thinking & Systems Thinking Skill.

Scholar-9 has been found highest on Critical Thinking & Systems Thinking Skill, Information & Media Skill, Problem Solving Skill, Self Direction Skill, Social Responsibility Skill, Emotional Skill, Life Skill, Adjustment Skill, Human Development Climate Skill, Spiritual Intelligence Skill and Management Skill. He has been found lowest on Wholistic Education Skill, Yoga Skill, Techno-Pedagogic Skill and Techno-Special Skill.

Scholar-10 has been found highest on Adaptability & Accountablity Skill, Communication Skill, Information & Media Skill, Problem Solving Skill, Self Direction Skill, Social Responsibility Skill, Human Relations Skill, Emotional Skill, Life Skill, Adjustment Skill, Human Development Climate Skill, Research & Construct Skill and Citizenship Skill. She has been found lowest on Wholistic Education Skill, Yoga Skill, Techno-Special Skill & Techno-Living Skill.



Scholar-11 has been found highest on Social Responsibility Skill and SIS. He has been found lowest on Yoga Skill, Digital Age Skills, Information & Media Skill, Critical Thinking & Systems Thinking Skill and Citizenship Skills.

Scholar-12 has been found highest on (HRS) Human Relationship skill, SIS and he has been found lowest on Techno Special Skills, Techno-Management Skills and Yoga Skills.

Scholar-13 has been found highest on Inter-personal & Community Skills.Next skills in the series are social responsibility skills and Human Relations Skill. She has been found lowest on Techno-Special Skills. Next skills in the series are Yoga Skills and Techno-Management Skills.

Scholar-14 has been found highest on Human Development Climate Skills and Spiritual Intelligence Skills, whereas, lowest on Techno-Management Skills and Techno-Special Skills.

Scholar-15 has been found highest on Wholistic Education Skills. Next in the series are Human Development Climate Skills and Research & Construct Skills. She has been found lowest on Techno-Special Skills and Techno-Management Skills.

Epilogue

The Scholars have made very meaningful perceptions on the Educational Skills. There is no mode on the over all status of the skills of the Scholars, that is, no two Scholars were found to have same overall skill level. Scholar-10 has been found highest on the Educational Skills. Next in the sequence are Scholars-9, 11, 13, 2, 7, 15, 3, 1, 8, 4, 5, 14, 12 and 6. Scholar-10 thinks that he/she is highest on Adaptability & Accountability and Communication, whereas, relatively low on Wholistic Education and Techno-Special Skills. Scholar-9 finds hisself/herself highest on Critical Thinking & Systems Thinking, whereas, relatively low on Yoga Skills and Wholistic Education. Scholar-11 is highest on Social Responsibility Skills and Spiritual Intelligence, whereas, relatively low on Digital Age Skills and Yoga Skills. Scholar-13 thinks that she/he is highest on Interpersonal & Community Skills and Social Responsibility Skills, whereas, relatively low on Techo-Special Skills and Yoga Skills. Scholar-2 has been found highest on Information & Media Skills and Info-Savvy Skills,



whereas, low on Yoga and Management skills. Scholar-7 has been found highest on Critical Thinking & Systems Thinking and Information & Media skills, whereas, relatively low on Techno-Management and Research & Construct Skills. Scholar-15 has been found highest on Wholistic Education and Human Development Climate Skills, whereas, relatively low on Techno-Special Skills and Techno-Management Skills. Scholar-3 has been found highest on Information & Media Skills and Info-Savvy Skills, whereas, lowest on Yoga Skill and Digital Age Skills. Scholar-1 has been found highest on Self Direction and Social Responsibility skills, whereas, relatively low on Techno-Living & Techno-Management skills. Scholar-8 has been found highest on Communication and Problem Solving, whereas, relatively low on Yoga and Critical Thinking & Systems Thinking. Schlar-4 has been found highest on Techno-Special Skills and Information & Media Skills, wheras, relatively low on Techno-Management and Communication Skills. Scholar-5 has been found highest on Techno-Special Skills and Information & Media Skills, whereas, relatively low on Communication Skills and Yoga Skills. Scholar-14 has been found highest on Human Development Climate Skills and Spiritual Intelligence Skills, whereas, relatively low on Techno-Management and Techno-Special Skills. Scholar-12 has been found highest on Human Relations Skills and Spiritual Intelligence Skills, whereas, relatively low on Techno-Management and Techno-Special skills. Scholar-6 has been found highest on Communication Skills and Human Resource Development Climate, whereas, relatively low on Techno-Management and Techno-Special Skills. The Scholars have been found to have varied profiles on educational skills. On some skills higher, on some lower, whereas, on the other skills in between.

The scholars who philosophise at doctoral level in various disciplines ought to immerse themselves in their realm fully. Education Scholars by virtue of their discipline have to be wholistic. It is evident from the idiographs that some scholars are higher on Information & Media Skills, Info-Savvy Skills, Technopedagogic skills, but lower on Yoga Skills, and Techno-Management Skills. Some scholars who are higher at Self Direction Skill and Social Responsibility Skills are lower on Techno-Living Skill. The scholar who has been found highest over all and on Adaptability & Accountability Skill, Communication Skill, Information & Media Skill, Problem Solving Skill, Self Direction Skill, Social Responsibility Skill, Human Relations Skill, Emotional Skill, Life Skill, Adjustment Skill, Human Development Climate Skill, Research & Construct Skill and Citizenship Skill, has been found relatively low on Wholistic Education Skill, Yoga Skill, Techno-Special Skill & Techno-Living Skill and inbetween on crirtical thinking & systems thinking and life skills. It is



desirable that all the scholars have all the educational skills at the optimum level. As, a whole the skill scenario of the scholars has been found to be promising. But, there is always scope for perfection. We should be in a position to employ any skill timely, easily, precisely and joyfully. But, how to realize this vision?

The complexities of the living conditions demand skillful persons in various dimensions of life. All the skills have their on significance. Info-Savvy & Digital Skills are as important as Spiritual Intelligence and Yoga Skills. Self Awareness Skills are as important as Systems Thinking Skills. Production Skills are as important as Consumption Skills. Zooming out is as important as Zooming in. Personal Skills are as significant as Citizenship Skills. General as well as Special Skills have their own value. Research is as important as Construction. Downloading is as important as uploading. How can life be a network of arrays of innumerous skills, where, ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the sphere in this digital age? Dancing crops, flowing wisdom, enchanting music, touching songs, resonating dance, immersing verses, speaking sculptures, enlightened learners, innovative researchers, skillful scholars and creative constructors are the wonderful springs of nature.

India ought to have skill, scale & speed to realize sustainable development. We need to be proficient on hard skills & soft skills, Science Process Skills & Digital Age Skills, Research Skills & Constructivist Skills, Laboratory Skills & Connectionist Skills, Self-Direction Skills & Social Development Skills, Digital Age Skills & Spiritual Development Skills, Cognitive Skills & Emotional Development Skills, Micro-Specialist Skills & Wholistic Development Skills, Time-Space-Personnel Management Skills & Spiritual Development Skills, Production Skills and Marketing Skills, Human Development Skills & Universal Becoming Skills, Production-cum- Consumption Skills, Downloading Skills & Uploading Skills, becoming skills & debecoming skills, and above all Skills for living and leading full meaningful, happy & healthy life. There is an immediate need to evolve & integrate Taxonomy of Educational Skills in Teacher Education.