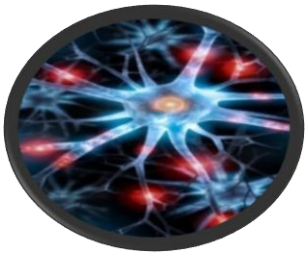
Taxonomy of Educational Skills

Volume-II



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PREFACE

The focus of this volume is scaling & implementation of the Taxonomy of Educational Skills.

An attempt is being made to deploy this volume to the Teacher Education Institutions Countrywide to facilitate implementation and integration of the Educational Skills.

Hope all the three studies conducted at the School of Science & Education, Navrachna University, Vadodara, School of Education, Devi Ahilya University, Indore, and the Power Point Presentation & Reflective Dialogue at the Department of Education, S.P. University, Vallabh Vidyanagar, Gujarat, India will facilitate integration of Taxonomy of Educational Skills in Teacher Education.

Date: 02.04.2016
Place: Vadodara, Gujarat, India

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ACKNOWLEDGEMENT

I am grateful to the University Grants Commission for providing me the Emeritus Fellowship on the Research Project- Evolving a Taxonomy of Educational Skills.

I am thankful to the administration of The Maharaja Sayajirao University of Baroda, Vadodara,Gujarat, India for providing me the facilities at CASE for conducting the Research Project.

I am thankful to all the Teacher Education Institutions, namely, School of Education, DAVV, Indore, School of Science & Education, Navracna University, Vadodara, Department of Education, S.P. University, Vallabh Vidyanagar, M.B. Patel College of Education, Vallabh Vidyanagar, and CASE, Department of Education, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India for their whole hearted support.

I am thankful to all the Research Scholars for their continuous support.
I feel proud of the Marvelous Support of Master Anshul Goel &Prof. Chhaya Goel.

Date: 02.04.2016
Place: Vadodara, Gujarat, India

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Scaling Educational Skills

Abstract

The paper takes off with a question that whether the Educational Skills are Universal. How to dissolve the democratic and totalitarian dichotomy in the institutionalization of Educational Skills? It tries to scale the status of Teacher Educators on a Taxonomy of Educational Skills developed by the investigators on a five point scale. The objectives of the study were to study the relative status of Teacher Educators on various skills and their comprehensive profiles on various skills. The Paper presents the relative status of Teacher Educators on various skills and their comprehensive profiles on various skills. The emerging questions are What should be the considerations for the institutionalization of skills? How these skills can be universalized? All the skills which are acceptable by a democratic State may not be accepted by a totalitarian State? Are there phases in the development of skills, such as, awareness, nascent, competence, internalization and precision & ease in application? Can the various skills be developed simultaneously? Do skills , competencies and styles vary from teacher to teacher? Can the skills be revived? Where will temprament come? How about the development of Listening Speaking Reading Writing Skills across Lexican, Grammar & Phonetics? How to do balancing of skills? How to realize heart & brain healthy entrainment ratio? Which are the facilitating & impeding factors for skill development? Are the skills infinite? Is there skill ultimacy? To what exten Education System can cater to the demands of the Skills? Are the facilities with the teachers available for nurturing all the skills? To what extent the various programs & courses nurture the various skills? How to integrate Taxonomy of Educational Skills in Teacher Education? The Paper concludes that There is an immediate need to integrate Educational Skills.

Scaling Educational Skills

Every skill for creation, construction, connection, peace & harmony has to be a universal skill. Democratic & totalitarian dichotomy needs to be dissolved to sense & appreciate the skills of the creator. India is a Sovereign, Socialist, Secular and Democratic Republic. These attributes of the Indian State ought to be emulated by every one. Such a State demands, nurtures and deploys all the skills. It is an age of skill, scale and speed in all the domains of life. The skills ought to be universal. The complex conditions of the 21st century demand universal skills in all. The emerging question is- are we really skilled people?

Dhodi Nayana (2011) has developed and implemented a program for Enhancing Info-Savvy Skills in Student Teachers. It 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 research volume experiencing various surfing skills, viz., skimming, scanning, authenticating, hyperlinking, switching, skipping culminating into Educational Immersion for seeking solutions.

Helaiya Sheetal (2010) developed and implemented a Life Skills Program for 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 numerous 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 paper attempts to evolve a taxonomy of Educational Skills & explore the status of Teacher Educators on various skills.

STATUS OF TEACHER EDUCATORS ON VARIOUS SKILLS

A skill scale was constructed to find out the status of Teacher Educators on various skills by the investigators as follows:

Scale on Educational Skills

Name: **Designation:** **email ID:**

SNO	SKILL	Very Good	Good	Average	Poor	Very Poor
1	**Self Development Skills**					
1.1	Monitoring one's own learning needs.					
1.2	Locating appropriate resources.					
1.3	Transferring learning from one domain to another.					
2	**SOCIAL SKILLS**					
2.1	**Interpersonal & Collaborative Skills**					
2.1.1	Demonstrating Networking					
2.1.2	Adapting to Varied Roles & Responsibilities					
2.1.3	Working Productively with others					
2.1.4	Exercising Empathy					
2.1.5	Respecting Diverse Perspectives					
2.2.	**Communication Skill**					
2.2.1	Who (Sender Analysis)					
2.2.2	Says What (Content Analysis)					
2.2.3	To whom(Receiver Analysis)					
2.2.4	Through which channel (Medium Analysis)					
2.2.5	With what Effect (Reach Analysis)					

2.3	**Resilience Skill**					
2.3.1	Critically sensing the deviant behaviour(s)					
2.3.2	Cause & Effect Analysis					
2.3.3	Marginal Analysis					
2.3.4	Functional Analysis					
2.3.5	Regression Efficiency					
2.4	**Social Responsibility Skill**					
2.4.1	Acting Responsibly					
2.4.2	Demonstrating Ethical Behavior in Personal Life					
2.4.3	Demonstrating Ethical Behavior in Workplace					
2.4.4	Demonstrating Ethical Behavior in Community					
2.5	**Human Relations Skill**					
2.5.1	Decency					
2.5.2	Decorum					
2.5.3	Discipline					
2.5.4	Empathy					
2.5.5	Sharing					
2.5.6	Fellow Feeling					
2.5.7	Politeness					
2.5.8	Peace & Harmony					
2.5.9	Healthy Competition					
2.6	**Emotional Skills**					
2.6.1	Self Awareness					
2.6.2	Self Management					
2.6.3	Social sensitivity					
2.6.4	Social Management					
2.7	**Adjustment Skills**					
2.7.1	Home Adjustment					
2.7.2	Institute adjustment					
2.7.3	Social Adjustment					
2.7.4	Emotional Adjustment					
2.7.5	Health Adjustment					
2.7.6	Symbiosis					

2.8	**Human Development Climate Skills**					
2.8.1	Trust					
2.8.2	Risk Taking					
2.8.3	Openness					
2.8.4	Reward					
2.8.5	Responsibility					
2.8.6	Support					
2.8.7	Feedback					
2.8.8	Team Spirit					
2.8.9	Collaboration					
2.9	**Citizenship Skills**					
2.9.1	Sovereign					
2.9.2	Social Sensitivity					
2.9.3	Learning about community					
2.9.4	Secularity					
2.9.5	Democratic					
2.9.6	Public & Republic					
2.9.7	Leadership					
2.9.8	Management					
2.9.9.	Cooperation & Collaboration					
2.9.10	Participation Skill					
2.10	**Accountability & Adaptability Skills**					
2.10.1	Personal Responsibility in Personal Context					
2.10.2	Personal Responsibility in Workplace Context					
2.10.3	Personal Responsibility in Community Context					
2.10.4	Setting High Standards					
2.10.5	Meeting High Standards					
3	**LIFE SKILLS**					
3.1	Self Awareness					
3.2	Empathy					
3.3	Interpersonal Relationship					
3.4	Effective Communication					
3.5	Critical Thinking					

3.6	Creative Thinking					
3.7	Decision Making					
3.8	Problem Solving					
3.9	Coping up with emotions					
3.10	Coping up with Stress					
4	**CRITICAL THINKING SKILLS**					
4.1	Analyzing					
4.2	Reflecting					
4.3	Querying Evidence					
4.4	Conjecturing Alternatives					
4.5	Drawing Conclusion					
4.6	Stating Results					
4.7	Justifying Procedures					
4.8	Presenting Arguments					
4.9	Self Regulation					
5	**REGULATING THINKING SKILLS**					
5.1	Depressive to Booming					
5.2	Non-Pathological to Pathological					
5.3	Invalid to Valid					
5.4	Polar to Null					
5.5	Ego-centric to Socio-centric					
5.6	Obsessive to Final					
5.7	Partistic to Wholistic					
5.8	Non-sensible to Sensible					
5.9	Traditional to Modern					
5.10	Pessimistic to Optimistic					
5.11	Crooked to Straight					
5.12	Rigid to Flexible					
5.13	Unsocial to Social					
5.14	Dependent to Autonomous					
5.15	Narrow to Broad					
5.16	Practical and Theoretical					
5.17	Non-Technical to Technical					
5.18	Non-Logical to Logical					
5.19	Non-Imaginative to Imaginative					
6	**RESEARCH SKILLS**					
6.1	Skill of identifying problem					

6.2	Developing Conceptual Framework					
6.3	Skill of Reviewing & implication					
6.4	Skill of Research Questioning					
6.5	Developing Rationale					
6.6	Constructing Statement					
6.7	Enunciating Objectives					
6.8	Formulating Hypotheses					
6.9	Operationlization and or Explanation of Terms					
6.10	Deciding Research Type					
6.11	Population & Sampling					
6.12	Specifying Delimitation					
6.13	Constructing/Selecting Tools & Techniques					
6.14	Laying down Data Collection Procedure					
6.15	Working out/ Deciding Data Analysis Techniques					
6.16	Interpreting Analyzed data					
6.17	Formulating Findings					
6.18	Discussion Mechanism					
6.19	Converging into Theses					
6.20	Theory Building					
7	**Constructivist Skills**					
7.1	Engagement					
7.2	Germination					
7.3	Incubation					
7.4	Innovation					
7.5	Creation					
8	**Connectionist Skills**					
8.1	Interpretation of units					
8.2	Activation of the network of units					
8.3	Learning Algorithm					
8.4	Recurrent Neural Networking					
8.5	Evolving continuous, dynamic systems approaches					
9	**Systems Thinking Skills**					
9.1	Cognizing all the parameters					
9.2	Establishing interrelation & interdependence					
9.3	Realizing Integrated Whole					

9.4	Ensuring Efficiency					
9.5	Ensuring Cost Effectiveness					
10	**Info-Savvy Skills**					
10.1	Asking					
10.2	**Accessing**					
10.3	**Analyzing**					
10.4	**Applying**					
10.5	**Assessing**					
11	**Techno-Pedagogic Skills**					
11.1	Media-Message Compatibility					
11.2	Media Designing					
11.3	Integration of message, media and modes					
11.4	Proximity of Message Forms					
11.5	Media Language Proficiency					
11.6	Media Choice					
11.7	Media Credibility & Message Authenticity					
12	**Digital Age Skills**					
12.1	Functional Literacy skills					
12.2	Scientific Literacy skills					
12.3	Technological Literacy skills					
12.4	Information Literacy skills					
12.5	Cultural Literacy skills					
12.6	Global Awareness skills					
13	**Open Education Resourcing**					
13.1	Learning-Content (geogebra, google earth)					
13.2	Creativity (hot potato, C map)					
13.3	Evaluation (R-campus & Mahara)					
13.4	Learning Management System (Moodle & Wiki spaces)					
13.5	Teacher-Managed Communication Platforms (Classroom 2.0 & Web Quest)					
13.6	Statistical Tools for data processing					
13.7	e-Journals					
13.8	e-books					
13.9	e-News Letters					
13.10	Webinars & Web Conferencing					

13.11	WBI					
14	**Creative Leadership Skills**					
14.1	Socio-centric rather than ego driven					
14.2	Empowers the people to make decisions rather than take decisions					
14.3	Listen oriented than tell oriented					
14.4	Pulls the organization towards a vision					
14.5	Listens to intuition					
14.6	Generates lasting commitment					
14.7	Open minded than opinionated					
14.8	Teaches importance of self responsibility rather than teaches subordinates to take directions					
14.9	Models self responsibility rather than in a self protect mode					
14.10	Knows, relaxing control yields results rather than is afraid of losing control					
14.11	Focuses on building on strengths rather than finding & fixing problems					
14.12	Teaches how to learn from mistakes rather than quick to fire those that fail.					
15	**Administration Skills**					
15.1	Planning					
15.2	Organizing					
15.3	Staffing					
15.4	Coordinating					
15.5	Budgeting					

16	**TIME MANAGEMENT**					
16.2	Spacing Things Out; Do not procrastinate					
16.3	Using Social Time Wisely					
16.4	Prioritizing and Reprioritizing constantly					
16.5	Keeping your health/sleep/exercise in check					
17	**Spiritual Development Skills**					
17.1	Religiosity					
17.2	Knowledge of the soul					
17.3	Quest for life values					
17.4	Conviction, Commitment & Character					
17.5	Happiness & Distress					
17.6	Brotherhood					
17.7	Equality					
17.8	Acceptance & Empathy					
17.9	Love & Compassion					
17.10	Flexibility					
17.11	Leadership in Educational Change					
18	**YOGA Skills**					
18.1	Yama or Eternal Vows: Ahimsa, Satya, Astey, Aprigraha & Brahmacharya					
18.2	Niyama or Observances: Saucha, Santosha, Tapas, Savdhyaya, Ishvarapranidhana					
18.3	Asana: Firm, Comfortable Meditative Posture					
18.4	Pranayama: Regulation of the Vital Force					
18.5	Pratyahara					
18.6	Dharna					
18.7	Dhyana					
18.8	Samadhi					

19	**Wholistic Development Skills**					
19.1	Cognitive					
19.2	Affective					
19.3	Psychomotor					
19.4	Physical Health					
19.5	Spiritual					

Rationale of the Study

Educational Skills emerge scientifically through problem specific theorization, instantaneously. Now the question is have 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 socio-cultural-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 Teacher Educators on various skills.

Objectives of the Study

1. To study the relative status of Teacher Educators on various skills.
2. To study the comprehensive profile of Teacher Educators on various skills.

Sample for the study

Sample for the study is constituted of 18 Teacher Educators of the School of Science & Education, Navrachana University, Vadodara, Gujarat, India (2015-16).

Tools & Techniques Employed

A Self Tracker on Taxonomy of Educational Skills was constructed by the investigators as presented above. Also FGD was conducted with the Teacher Educators post-administration of the Skill Tracker.

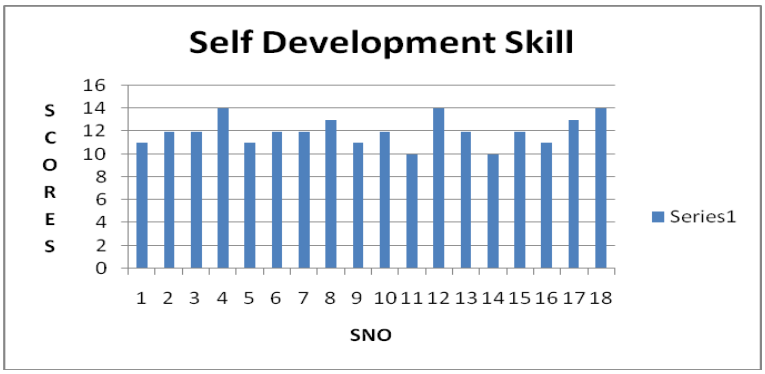
Data Collection

The Skill Tracker was administered on the 18 Teacher Educators. They registered their responses against a five point scale. It was followed by the FGD.

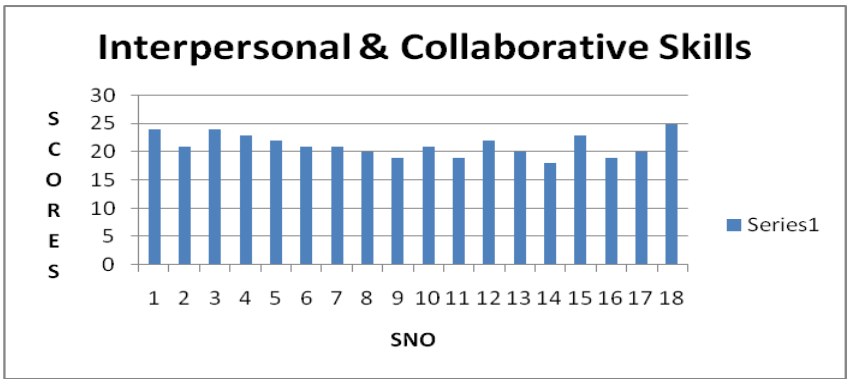
Data Analysis

The data were analyzed in terms of frequencies, skill-wise and over all. Data analysis is presented as follows:

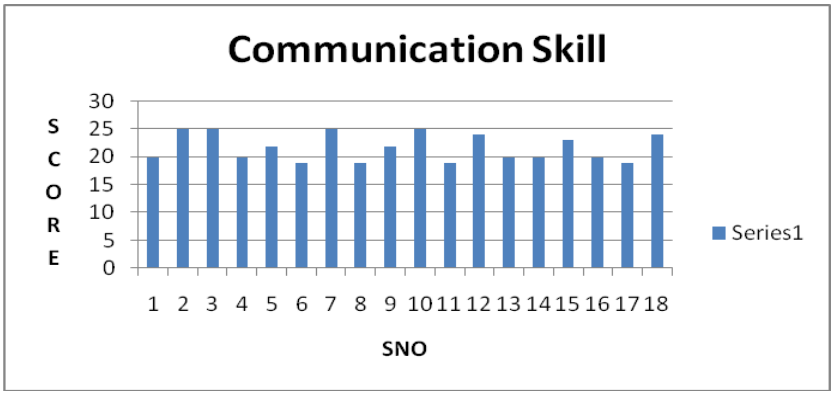
Relative Status of the Teacher Educators on various Skills



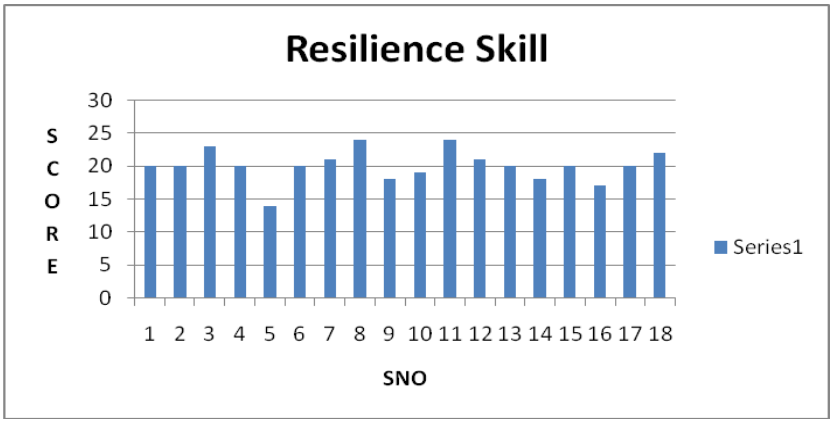
The maximum score obtained on Self Development Skills is 14 out of 15, whereas, minimum score obtained is 10, whereas, the mean score is 12.



The maximum score obtained on Interpersonal & Collaborative Skills is 25 out of 25, whereas, minimum score obtained is 18, whereas, the mean score is 21.22.

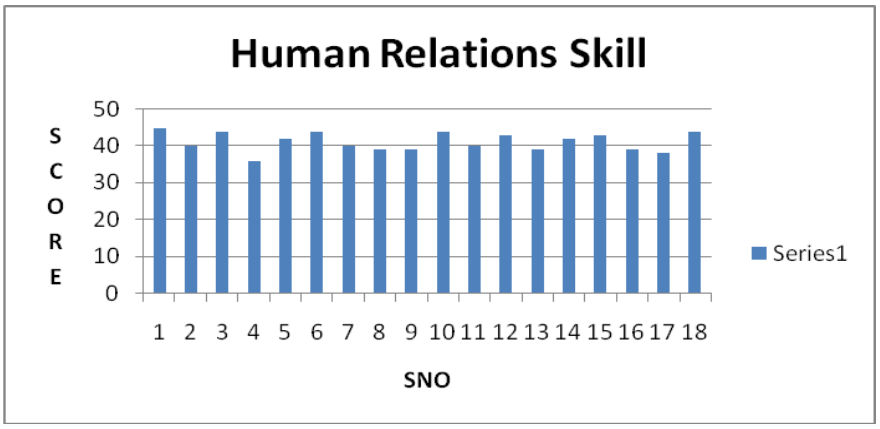


The maximum score obtained on Communication Skills is 25 out of 25, whereas, minimum score obtained is 19. THe mean score is 21.72.

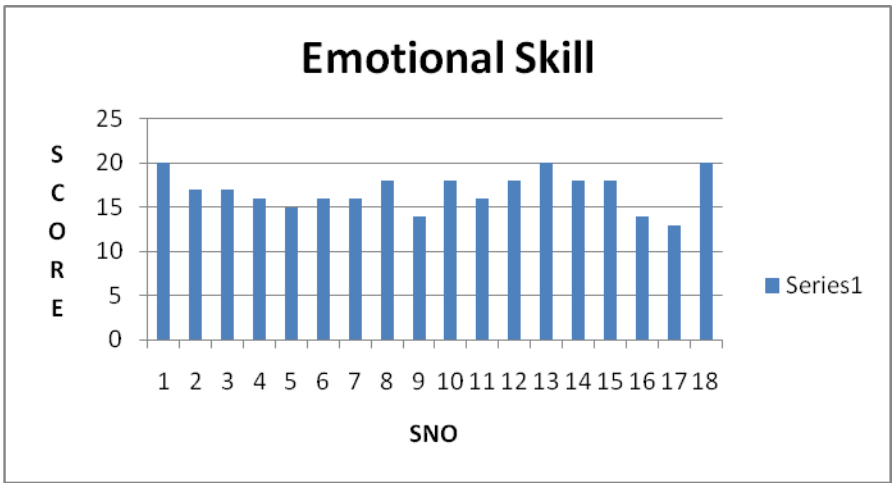


The maximum score obtained on Resilience Skill is 24 out of 25, whereas, minimum score obtained is 19. The mean score is 20.05.

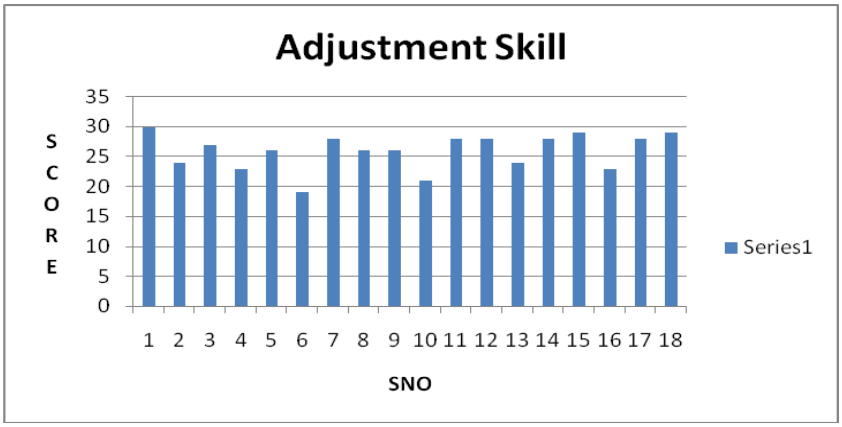
The maximum score obtained on Social Responsibility Skills is 20 out of 20, whereas, minimum score obtained is 14. THe the mean score is 18.33.



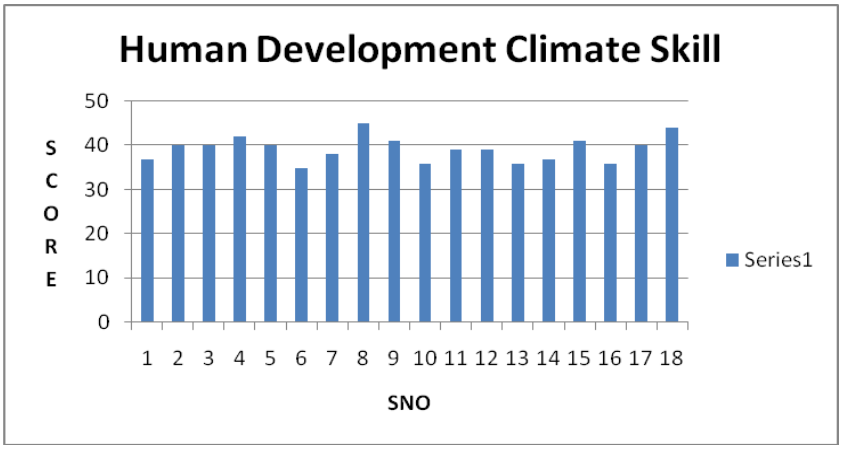
The maximum score obtained on Human Relations Skills is 45 out of 45, whereas, minimum score obtained is 36. The mean score is 41.17.



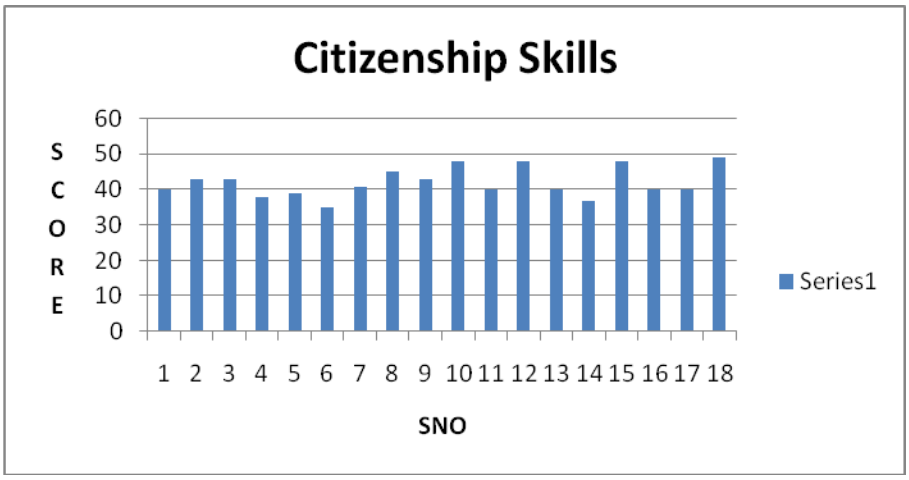
The maximum score obtained on Emotional Skills is 20 out of 20, whereas, minimum score obtained is 13. The mean score is 16.89.



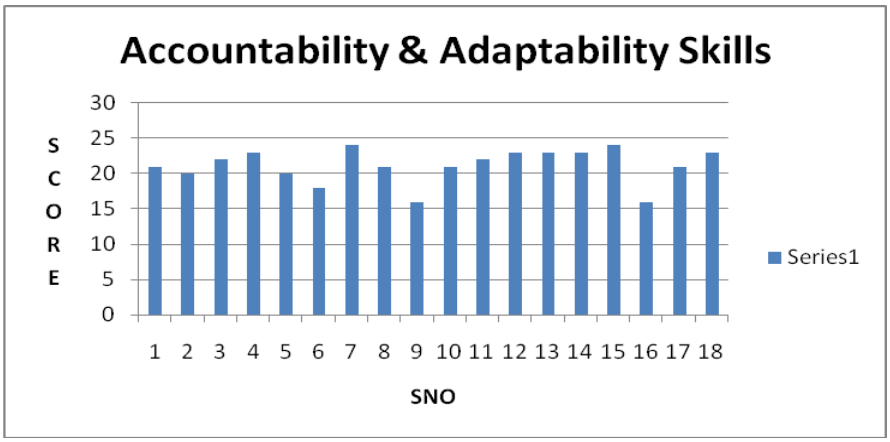
The maximum score obtained on Adjustment Skills is 30 out of 30, whereas, minimum score obtained is 19. The mean score is 25.94.



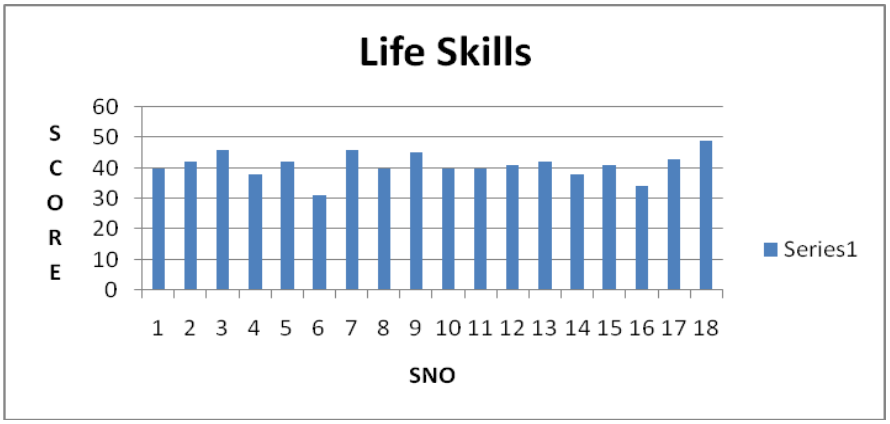
The maximum score obtained on Human Development Climate Skills is 45 out of 45, whereas, minimum score obtained is 35. The mean score is 39.22.



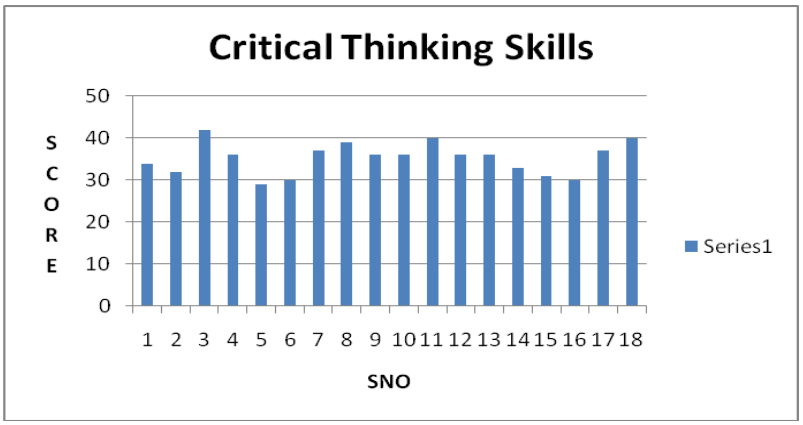
The maximum score obtained on Citizenship Skills is 49 out of 50, whereas, minimum score obtained is 35. The mean score is 42.06.



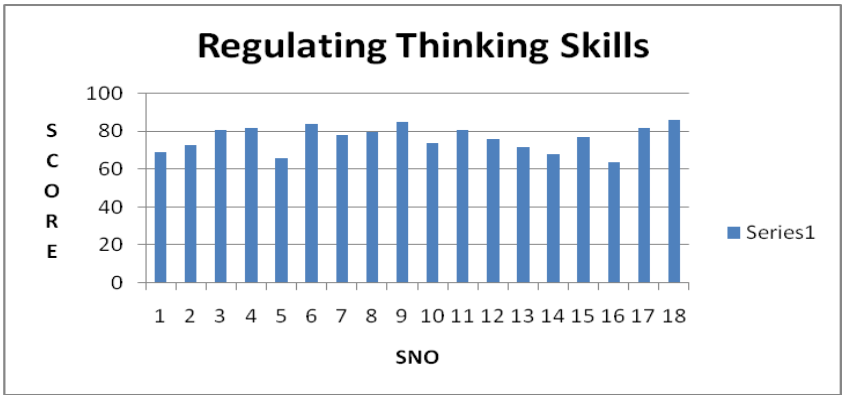
The maximum score obtained on Accountability & Adaptability Skills is 24 out of 25, whereas, minimum score obtained is 16. The mean score is 21.17.



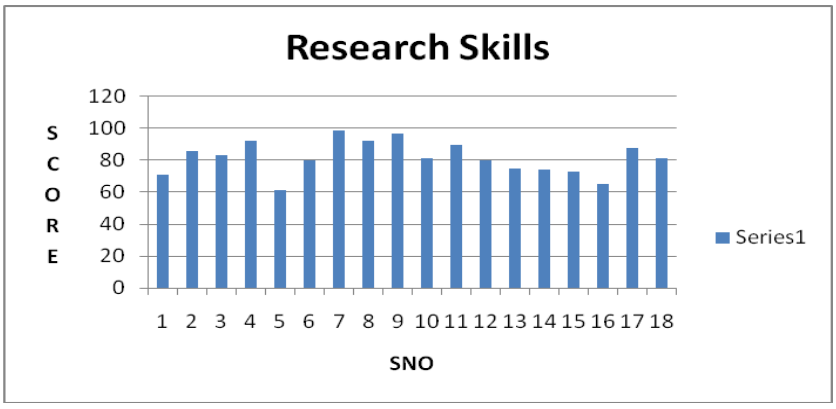
The maximum score obtained on Life Skills is 49 out of 50, whereas, minimum score obtained is 31. The mean score is 41.



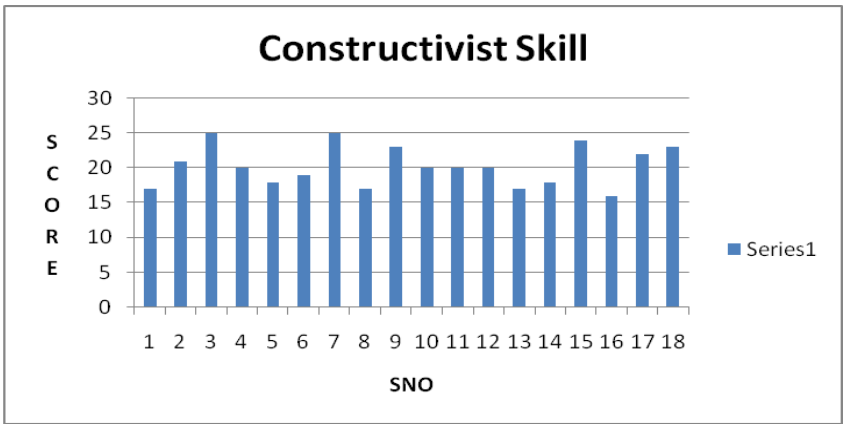
The maximum score obtained on Critical Thinking Skills is 42 out of 45, whereas, minimum score obtained is 29. The mean score is 35.22.



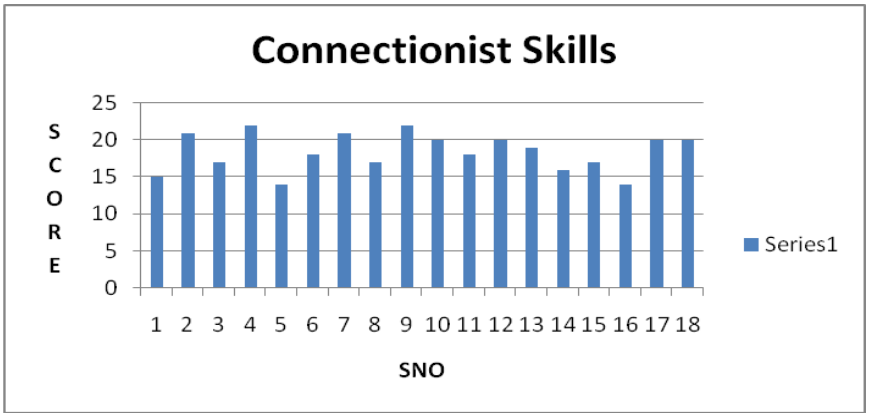
The maximum score obtained on Regulating Thinking Skills is 86 out of 95, whereas, minimum score obtained is 64. The mean score is 76.56.



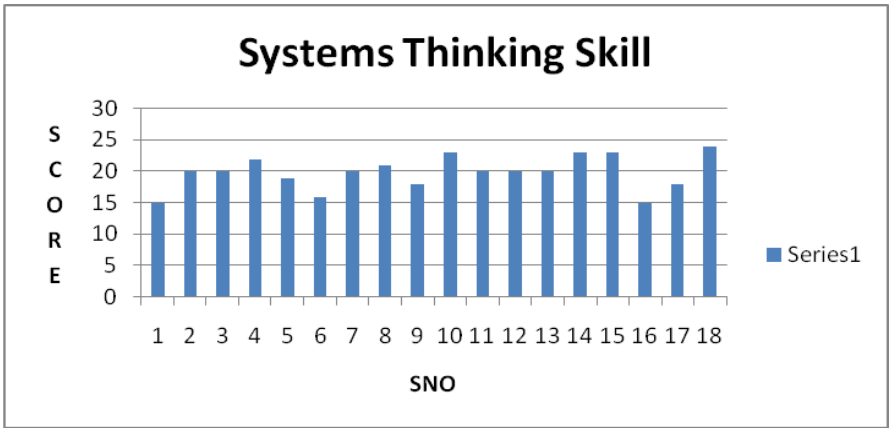
The maximum score obtained on Research Skills is 99 out of 100, whereas, minimum score obtained is 61. The mean score is 81.56.



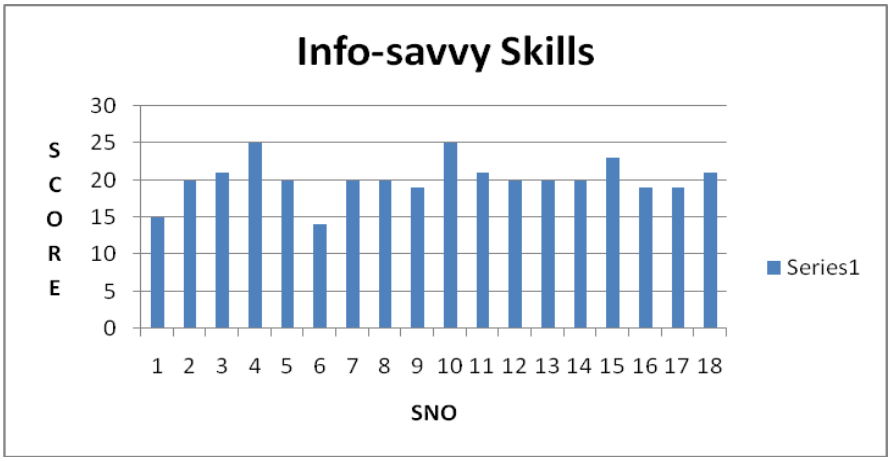
The maximum score obtained on Constructivist Skills is 25 out of 25, whereas, minimum score obtained is 16. THe mean score is 20.28.



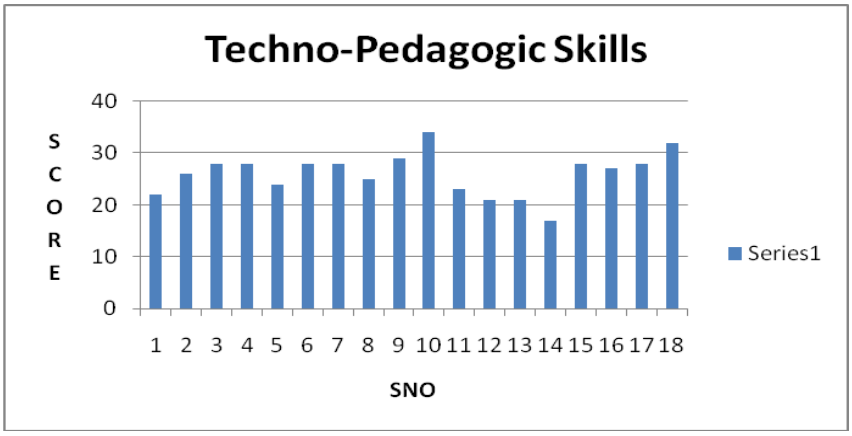
The maximum score obtained on Connectivist Skills is 22 out of 25, whereas, minimum score obtained is 14. The mean score is 18.39.



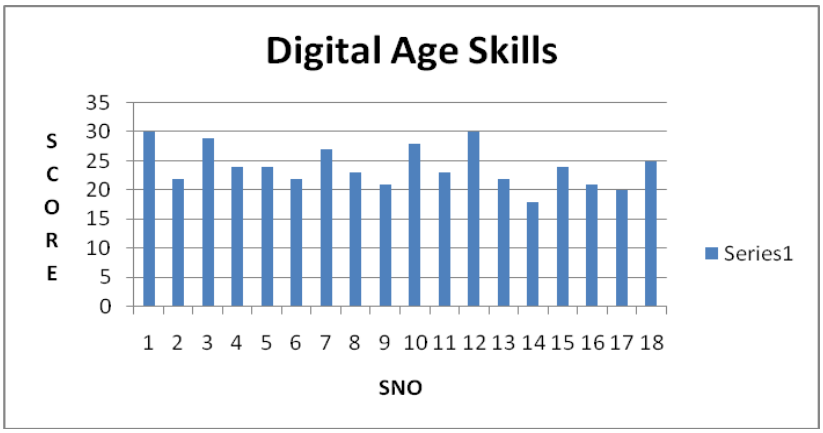
The maximum score obtained on Systems Thinking Skills is 24 out of 25, whereas, minimum score obtained is 15. The mean score is 19.83.



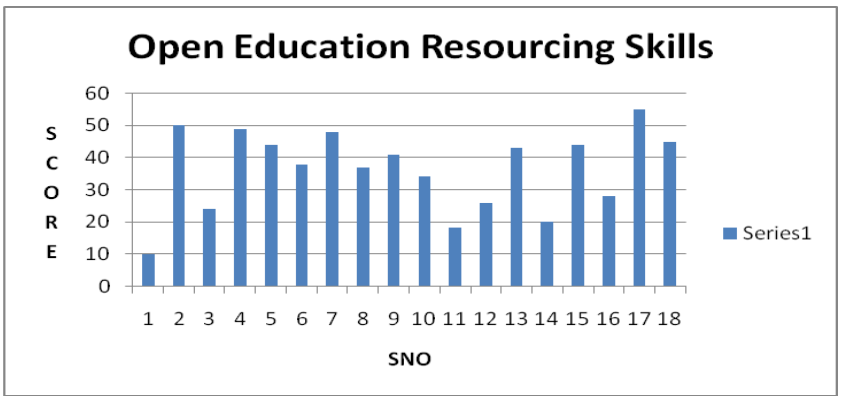
The maximum score obtained on Info-savvy Skills is 25 out of 25, whereas, minimum score obtained is 14. The mean score is 20.11.



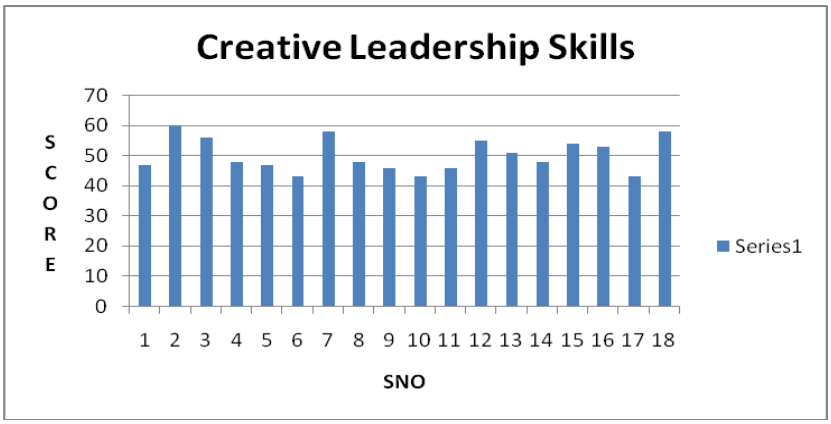
The maximum score obtained on Techno-Pedagogic Skills is 34 out of 35, whereas, minimum score obtained is 17. The mean score is 26.06.



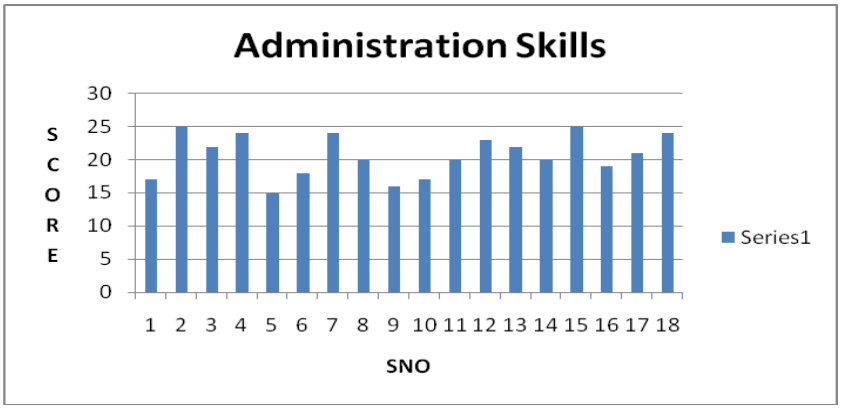
The maximum score obtained on Digital Age Skills is 30 out of 30, whereas, minimum score obtained is 18. The mean score is 24.06.



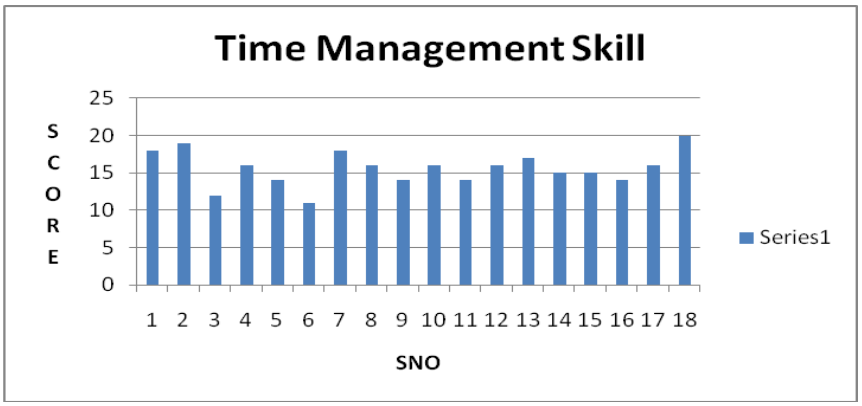
The maximum score obtained on Open Education Resourcing Skills is 55 out of 55, whereas, minimum score obtained is 10. THe mean score is 36.33.



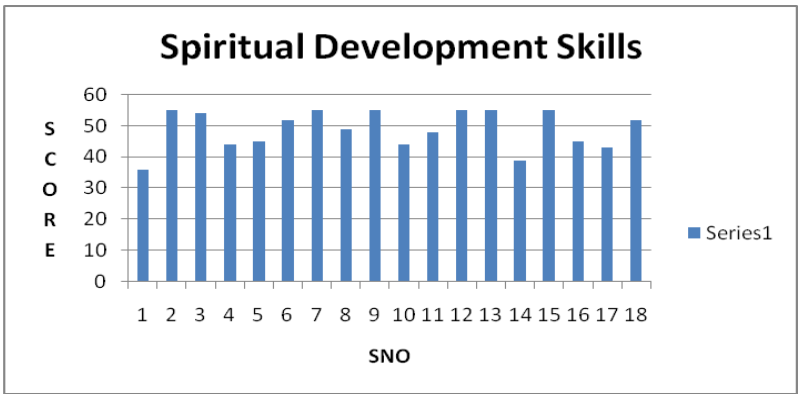
The maximum score obtained on Creative Leadership Skills is 60 out of 60, whereas, minimum score obtained is 43. The mean score is 50.22.



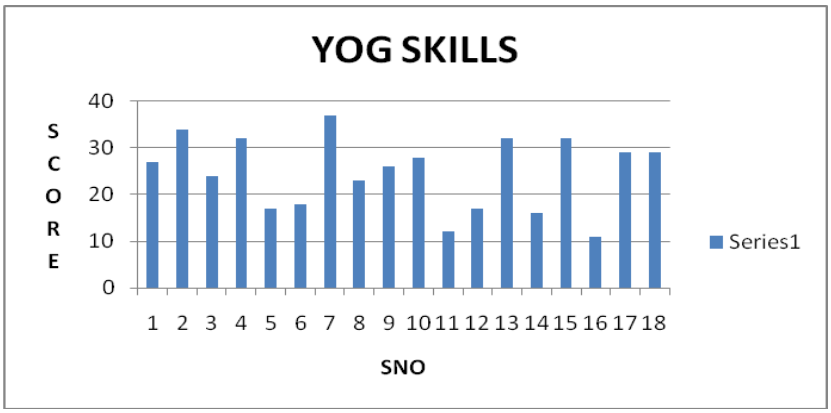
The maximum score obtained on Administration Skills is 25 out of25, whereas, minimum score obtained is 15. The mean score is 20.67.



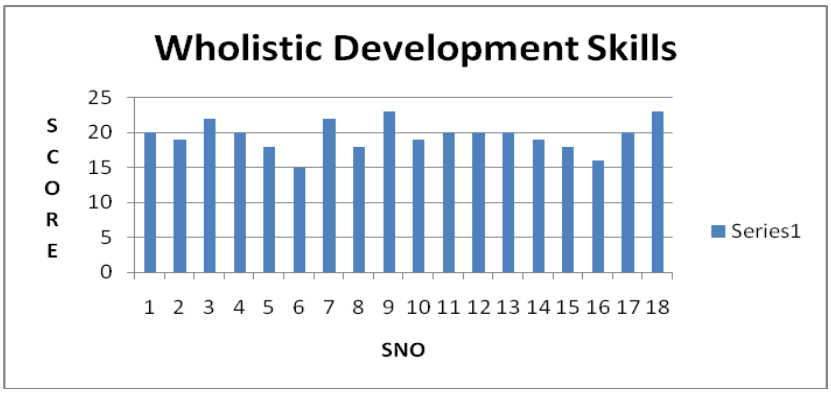
The maximum score obtained on Time Management Skills is 20 out of 20, whereas, minimum score obtained is 11. The mean score is 15.62.



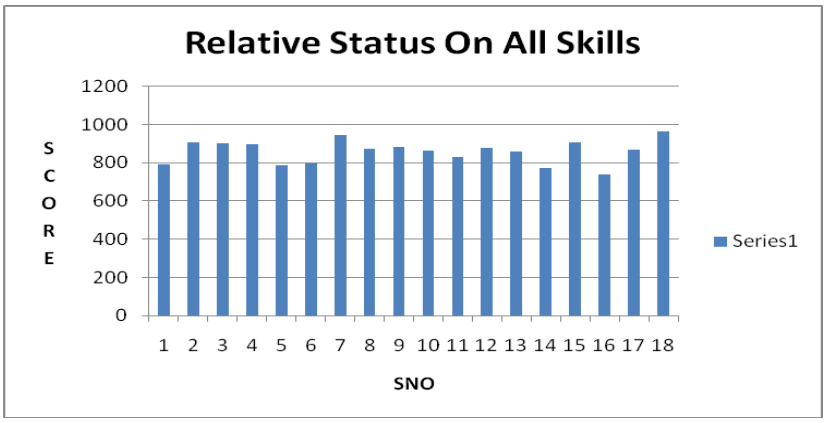
The maximum score obtained on Spiritual Development Skills is 55 out of 55, whereas, minimum score obtained is 36. The mean score is 48.94.



The maximum score obtained on Yog Skills is 37 out of 40, whereas, minimum score obtained is 11. The mean score is 24.67.



The maximum score obtained on Wholistic Development Skills is 23 out of 25, whereas, minimum score obtained is 15. The mean score is 19.56.



The maximum score obtained on the Skills as a Whole is 965 out of 1060, whereas, minimum score obtained is 741. The mean score is 858.83.

Emerging Questions through FGD

- What should be the considerations for the institutionalization of skills?
- How these skills can be universalized?
- All the skills which are acceptable by a democratic State may not be accepted by a totalitarian State?
- Are there phases in the development of skills, such as, awareness, nascent, competence, internalization and precision & ease in application?
- Can the various skills be developed simultaneously?
- How to develop info-savvy skills?
- Do skills , competencies and styles vary from teacher to teacher?
- Can the skills be revived?
- Where will temprament come?
- How about the development of Listening Speaking Reading Writing Skills across Lexican, Grammar & Phonetics?
- How to do balancing of skills?
- How to realize heart & brain healthy entrainment ratio?
- Which are the facilitating & impeding factors for skill development?
- Are the skills infinite?
- Is there skill ultimacy?
- To what exten Education System can cater to the demands of the Skills?
- Are the facilities with the teachers available for nurturing all the skills?
- To what extent the various programs & courses nurture the various skills?
- Why there is added focus on skills in 21st Century than on knowledge?
- How to reduce anger, stress & strain?
- How to live full, meaningful, healthy, hilarious and resonating life?
- How to integrate Taxonomy of Educational Skills in Teacher Education?

Concluding Remarks

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 has to be added focus on Healthy Relationship Skills realizing trust, transparency, cleanliness, honesty, patience, tolerance, truthfulness, compassion, forbearance, respect, controlling emotions and expression. Also we need to observe decency, decorum, discipline in every meeting by viewing wisely, listening deeply and speaking analytically and critically, also, agreeing to disagree at times

The scope of skills is infinite. The skills ought to be universal. There ought not to be any disclaim or disclaimer. When will we learn to adore the biosphere which is full of life, energy and wonderful skills? When will the Teacher Education rise above the ritual of microteaching and Teach us the wholistic skills, the balancing skills, the resonating skills, the immersion skills, the production skills, the consumption skills, the prosumption skills, the transcendence skills, the life skills? There is an immediate need to integrate Educational Skills.

References:

Dhodi, N. (2011). *Development and Implementation of a Programme for enhancing Info-Savvy Skills in Student-Teachers*, Ph.D. Thesis, CASE, The M.S. University of Baroda, Vadodara.

Helaiya S. (2010). *Development and Implementation of a Life Skills Programme for Student-Teachers*, Ph.D. Thesis, CASE, The M.S. University of Baroda, Vadodara.

Vaidehi P. Gupta (2013). *Role of ICT for Wholistic Development of the Student Teachers*, M.Ed. Dissertation, CASE, The M.S. University of Baroda, India

Thinking Patterns of Student- Teachers

Abstract

The focus of the present Paper is on the thinking patterns of Student-Teachers. It reports a study which was conducted on the thinking background and patters of student teachers and their reflections on thinking .It focuses on Human Brain Memory, **Number of Nerve Cells in Human Brain, Mechanism of animals reaching their habitats after days work, Relatively sharp & permanent memory, Obsessive neurosis of Human Beings, Causes of Schizophrenia amongst Human Beings, Causes of Being Psychotic, and Chronic Memory loss (Dementia). Further it attempts to study the following thinking patterns of the student teachers- primitive, progressive, futurological, self-centric, socio-centric, controlled thinking, endless recursive thinking, round the clock thinking, inductive, deductive, inducto-deductive- deducto-inductive, creative thinking, critical thinking, zooming out & zooming in , Constructivist thinking, Connectionist thinking, Constructivist & Connectionist thinking, Manic Thinking, depressive thinking, free thinking, biased thinking, destructive thinking , resonating thinking and recreational thinking. Reflections of the student teachers on thinking have been reported. It concludes that** ***Healthy thinking is a pre-requisite for leading healthy life. Thinking should be free, creative, constructive and connective. We ought to learn to zoom out and zoom in. We ought to learn to regulate thinking. Mind has a tendency of wandering. There should be inbuilt thinking regulators. Deviant thinking patterns could be identified and corrected through clinical sessions. Yoga & Spiritual Control help regulate thinking. We can realize joyful mind by resonating with the nature. Hostile environment instigates to be aggressive. We should try to realize peaceful ambience which demands constructive immersion. Our passions, possessions and obsessions are very often damaging .***

Thinking Patterns of Student- Teachers

Many a questions emerge in the realm of thinking-what to think? When to think? How to think? Why to think? How much to think? When not to think? Man is the most evolved thinking organism yet most sick. 21st century has brought many a thinking related problems, such as, stress & strain, anxiety & tension, depression and aggression, indifference & obsessive neurosis, brain-hammerage and dementia, schizophrenia & psychosis, heart & brain in-equation and above all headache & blood pressure. Progressively there is a problem of identification with the self. There are many a questions, such as, how much is the brain memory, what is the number of nerve cells in the human brain and their interconnections, how the animals return to their habitat after days work, whose memory is relatively more sharp and permanent, why do we develop obsessive neurosis and what causes brain hammerage and dementia?

Most of the people are over thinkers, some under thinkers, whereas, rarely optimum thinkers. Some have the habit of always thinking negatively. Some think just opposite of what they are. There is a kernel of congruence of what we think we are, what others think of us, and what we actually are. We ought to learn to be realistic. The struggle against wrong habit of thinking and false thoughts is very necessary. By developing proper way of thinking we can predict and control the behaviour. There is a dire need to overcome bad thinking with good and winning the thought process to get happiness, success, peace of mind and self confidence. What to do when the motor muscles work and the mind almost stops? What to do when the mind works and the motor muscles almost rest? Should we act when the thinking is unstable and the mind wanders? Goel & Joseph (1994) conducted a computer based study on Training Thinking. Data were collected by administering a computer aided thinking pattern Test on various Thinking Patterns, such as , Booming-Depressive, Pathological-Non-Pathological, Valid-Invalid, Null-Polar, Egocentric-Ethnocentric, Obsessive-Final, Wholistic Partistic, Sensible-Non-Sensible, Traditional-Humur, Optimistic-Pessimistic, Straight-Crooked, Flexible-Rigid, Social-Un-Social, Autonomous-Dependent, Narrow-Broad, Practical-Theoretical, Technical-Non-Technical, Logical-Non-Logical and Imaginative-Non-Imaginative on a B.C.Ed. Student (1993-94) of the School of Education DAVV, Indore. After testing the treatment was given to the client in areas wherein she was found to have poor thinking. The study revealed that thinking patterns can change through counseling in a relatively short period of time and cognitive counseling technique is useful in the acquisition of desirable thinking.

The present study attempts to find out the thinking patterns of the Student-Teachers for Secondary School level.

Objectives of the Study:

1. To study the thinking background & patterns of the Student-Teachers.
2. To seek reflections of the Student-Teachers on Thinking.

Sample for the Study:

A sample of 30 B.Ed. Students (2015-16) was selected purposively from the School of Education, Devi Ahilya University, Indore.

Tool for the Study:

A Thinking Pattern Test was constructed by the investigators having 10 items on brain memory capacity, brain nerve cells and their inter-connections, relative memory of organisms, thinking patterns and reflections on thinking.

Data Analysis & interpretation:

The data were analyzed by computing frequencies and through content analysis. The data analysis and interpretations are presented as follows:

1. **Human Brain Memory**

According to 17 respondents out of 30 the human memory capacity is not known, 2 have responded that it is in giga bytes, according to 5 tera bytes, whereas, according to 6 peta bytes.

2. **Number of Nerve Cells in Human Brain**

Seven Student- Teachers out of 30 have responded that the nerve cells in human brain are in millions, according to eleven student-teachers in billions, according to five in trillions, whereas, according to seven it is not known.

3. **Mechanism of animals reaching their habitats after days work**

According to a large majority of the respondents the animals return to their habitats through arrays of contiguity or through sensing the trails of chemicals.

4. **Relatively sharp & permanent memory**

According to two respondents out of the 30 the memory of ants is relatively more sharp & permanent, according to two that of elephants, according to 1 that of sparrows, whereas, according to 25 that of human beings.

5. **Obsessive neurosis of Human Beings**

According to a large majority of the respondents (17 out of 30) the human beings develop obsessive neurosis because of diffidence, mind wandering, divided attention on many things and all such factors.

6. **Causes of Schizophrenia amongst Human Beings**

According to a large majority of the respondents (21 out of 30) human beings become schizophrenics due to divided self, excessive loads, fickleness and all such factors.

7. **Causes of Being Psychotic**

According to a large majority of the respondents (22 out of 30) people go psychotic because of burnout, rust-out, excessive self aspiration, excessive environmental hostility and all such factors.

8. **Chronic Memory loss (Dementia)**

According to a large majority of the respondents (21 out of 30), chronic memory loss is due to excessive thinking, recursive thinking, excessive stress & strain, aggression & tension and all such factors.

9. **Thinking Patterns of the Student-Teachers (Total 30)**

a. **Primitive Thinking**

13 of the 30 student teachers were found to have primitive thinking patterns sometimes, 10 rarely, 1 never, 4 always and 2 often.

b. **Progressive Thinking**

A majority of the student teachers (16 out of 30) responded to have progressive thinking always, 5 often, 7 sometimes, 1 rarely, whereas, 1 never.

c. Futurological Thinking

A majority of the student teachers (19 out of 30) responded to have futurological thinking always, 3 often, 6 sometimes, 2 rarely, whereas, none never.

d. Self Centred Thinking

Four of the 30 student teachers responded to have self centred thinking always, 5 often, 12 sometimes, 5 rarely, whereas, 4 never.

e. Socio-Centric Thinking

Thirteen of the 30 student teachers responded to think of others always, 2 often, 12 sometimes, 3 rarely, whereas, none never.

f. Controlled Thinking

8 of the 30 student teachers responded to have controlled thinking always, 5 often, 7 sometimes, 4 rarely, whereas, 6 never.

g. Endless Recursive Thinking

Four of the 30 student teachers responded to have endless recursive thinking always, 3 often, 7 sometimes, 10 rarely, whereas, 6 never.

h. Round the clock thinking

Three of the 30 student teachers responded to have round the clock thinking always, 3 often, 11 sometimes, 7 rarely, whereas, 6 never.

i. Inductive thinking

Six of the 30 student teachers responded to have very often inductive thinking always, 7 often, 11 sometimes, 5 rarely, whereas, 1 never.

j. Deductive thinking

5 of the 30 student teachers responded to have very often deductive thinking always, 8 often, 15 sometimes, 1 rarely, whereas, 1never.

k. Inducto-deductive thinking

5 of the 30 student teachers responded to have inducto- deductive thinking always, 5 often, 15 sometimes, 2 rarely, whereas, 3 never.

l. Deducto-inductive thinking

10 of the 30 student teachers responded to have deducto-inductive thinking always, 5 often, 10 sometimes, 3 rarely, whereas, 2 never.

m. Creative Thinking

13 of the 30 student teachers responded to have creative thinking always, 5 often, 7 sometimes, 5 rarely, whereas, none never.

n. Critical Thinking

8 of the 30 student teachers responded to have critical thinking always, 7 often, 7 sometimes, 4rarely, whereas, 4 never.

o. Zooming out & in

4 of the 30 student teachers responded to zoom out & in always, 4 often, 13 sometimes, 5 rarely, whereas, 4 never.

p. Constructivist Thinking

6 of the 30 student teachers responded to have constructivist thinking always, 6 often, 12 sometimes, 3rarely, whereas, 3 never.

q. Connectionist Thinking

12 of the 30 student teachers responded to have connectionist thinking always, 7 often, 7 sometimes, 2 rarely, whereas, 2 never.

r. Constructivist & Connectionist Thinking

11 of the 30 student teachers responded to have constructivist & connectionist thinking always, 5 often, 11 sometimes, 2 rarely, whereas, 1 never.

s. Manic thinking

7 of the 30 student teachers responded to have manic thinking always, 6 often, 8 sometimes, 5 rarely, whereas, 4 never.

t. Depressive Thinking

One of the 30 student teachers responded to have depressive thinking always, 4 often, 13 sometimes, 10 rarely, whereas, 2 never.

u. Free Thinking

10 of the 30 student teachers responded to have free thinking always, 5 often, 11 sometimes, 1 rarely, whereas, 3 never.

v. Biased Thinking

4 of the 30 student teachers responded to have biased thinking always, 1 often, 6 sometimes, 9 rarely, whereas, 10 never.

w. Destructive Thinking

4 of the 30 student teachers responded to have destructive thinking always, 1 often, 6 sometimes, 9 rarely, whereas, 10 never.

x. Resonating Thinking

7 of the 30 student teachers responded to have resonating thinking always, 8 often, 10 sometimes, 3 rarely, whereas, 2 never.

y. Recreational Thinking

9 of the 30 student teachers responded to have recreational thinking always, 7 often, 12 sometimes, 1 rarely, whereas, 1 never.

10 Reflections of the Student Teachers on Thinking

Reflections of the Student Teachers on Thinking are presented as follows:

1. Thinking is affected through Social interaction.
2. Thinking may be affected due to some casualty.
3. Environmental conditions affect thinking.
4. Try not to be self centered.
5. Always think positive.
6. Try to transcend your mind.
7. Thinking should be with multiple perspectives.
8. Thinking should enhance problem solving ability.
9. Thinking should always be for development.
10. Our thinking should be decisive.
11. Thinking should be creative & dynamic.
12. Thinking & action are interrelated.
13. Healthy thinking is a condition for leading healthy life.
14. Thinking can be educated with the help of moral stories.
15. Thinking is personal & self guided.
16. Thinking is an inborn ability.
17. Our character is based on our thinking.
18. Thinking sustains hope.
19. Thinking is spontaneous.
20. Excessive thinking can be controlled through meditation.
21. Thinking depends upon the environment.
22. We should be positivists.
23. Thinking is independent. But, it can be regulated.
24. Education is the best discipline for developing thinking.

25. Thinking can be developed by
- being positive.
- being creative.
- being with people who have positive attitude towards life.
- enjoying each moment.
- spending time alone close to the nature.
- playing.
- spending time with family.
- evaluating what we have and then thinking what we do not have.

26. Thinking of the welfare of all.
27. Always think constructive.
28. Work out the priorities.
29. Thinking should be need based.
30. Do empathize.
31. Always think good.
32. We should never laugh at others.
33. We should have pioneer thoughts.
34. Thinking should be disciplined.
35. We need to renew our thinking as per the living conditions & culture of the new generation.
36. Effective teaching develops meaningful thinking.
37. Deviant thinking can be corrected.
38. We should have broad thinking.
39. Thinking ought to be new & creative.
40. Change thyself & the Society, both.
41. Interaction facilitates thinking.
42. Always think unique & creative.
43. Thinking should be positive & effective.
44. There should be quality thinking.
45. Positive attitude should be developed, because, thinking is affected by our bent of mind.
46. We can educate thinking by
- Motivating.
- Inspiring.
- Directing.
- Conditioning.
- Restricting.
- Punishing.
- Praising.

- Prize/Gift.

47. Thinking demands free self.
48. Thinking may vary .
49. Our thinking emanates out of our functions.
50. After an age a person becomes free thinker.
51. Proper environment can transform a person.
52. Thinking demands concentration.
53. Thinking demands peaceful ambience.
54. Thinking demands congenial environment.
55. Teacher can direct thinking in desirable ways.
56. Think creative.
57. Think optimistic.
58. Think object centered.
59. Parents & Teachers can contribute significantly in training thinking.
60. Thinking should be judicial & ideal.
61. Thinking is eternal, but, it can be controlled.
62. Thinking training can contribute to development of conscience.
63. Thinking can change our nature.
64. Thinking ought to be goal centred.
65. We should control our thinking.
66. Thinking should be wholistic.
67. Thinking round the clock is damaging.
68. Thinking should be dynamic.
69. Thinking contributes to concentration.
70. Thinking enhances intellectual capability.
71. We should have free thinking
72. We should zoom out & in.
73. We should have control on communication.
74. Share ideas, but, do not superimpose.
75. Congenial environment shapes right type of thinking.
76. Let us be futuristic & not brood over the past.
77. Thinking speed can be moderated.
78. Thinking is continuous.
79. We should have strong determination & action.
80. We should have wholistic thinking.
81. We should have inducto-deductive thinking.
82. Critically analyze and apply thinking.
83. Listen actively.

84. Speak freely.
85. Employ music therapy.
86. Laughing channelizes thinking.
87. There should be free thinking.
88. We should share our thoughts.
89. Learn from the situations.
90. Connect the things with each other.
91. Think & apply.

Findings:

1. There are varied thinking backgrounds & patterns.
2. Student Teachers have made promising reflections on Thinking.

Concluding Remarks

Healthy thinking is a pre-requisite for leading healthy life. Thinking should be free, creative, constructive and connective. We ought to learn to zoom out and zoom in. We ought to learn to regulate thinking. Mind has a tendency of wandering. There should be inbuilt thinking regulators. Deviant thinking patterns could be identified and corrected through clinical sessions. Yoga & Spiritual Control help regulate thinking. We can realize joyful mind by resonating with the nature. Hostile environment instigates to be aggressive. We should try to realize peaceful ambience which demands constructive immersion. Our passions, possessions and obsessions are very often damaging .

There are varied thinking backgrounds & patterns. The growing complexities demand healthy & peaceful personalities. We ought to realize free & pioneer thinking.

Reference:

Goel D.R. & Joseph S. (1994), *Training Thinking,* University News, AIU, New Delhi, India, Vol. XXXII, No. 42, Oct. 17, 1994, pp:6-15.

TAXONOMY OF EDUCATIONAL SKILLS

Taxonomy of Educational Skills evolved by the investigator has been presented under the following 14 Domains:

1. Self Development Skills
2. Social 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
13. Inclusive Education Skills
14. Universal Becoming 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. Sender Analysis
b. Message Analysis
c. Receiver Analysis
d. Medium Analysis
e. Communication Analysis

Category-IV: Social Responsibility

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

Category- V: 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 VI: Emotional Skills

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

Category VII: 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- VIII: Human Development Climate

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

Category IX: 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- X: Accountability & Adaptability

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

3. LIFE SKILLS

Category-XI: 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- XII: 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 XIII: 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-XIV: 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-XV: Constructivist Skills

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

Category-XVI: 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-XVII: 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-XVIII: Info-Savvy Skills

- Asking
- Accessing
- Analyzing
- Applying
- Assessing

Category-XIX: 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-XX: 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 – XXI : 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 XXII: 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.
l. Teaches how to learn from mistakes rather than quick to fire those that fail

Category: XXIII: Administration Skills

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

Category XXIV: 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 Re-prioritizing constantly

e. Keeping your health/sleep/exercise in check

Category- XXV: 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 XXVI: 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 XXVII: 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 XXVIII: Wholistic Education Skills

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

13. Inclusive Education Skills

Category XXIX: Inclusive Education Skills

Various sets of Skills are required for realizing inclusive Education including all the children, such as:-

a. Attention Deficit Hyperactive
b. Compulsive Obsessive Neurotic
c. Visually Challenged
d. Hearing Impaired
e. Mentally Retarded
f. Deaf, Dumb & Autistic
g. Beta Thal Major & Sickle Celled
h. Gifted
i. General

14. Universal Becoming Skills

Category XXX: Universal Becoming Skills

a. Relating Self with all the entities
b. Treating Nature as a Source
c. Realizing Resonance amongst all Entities
d. Realizing Universal Development Index (UDI)

REFLECTIVE DIALOGUE ON THE TAXONOMY OF EDUCATIONAL SKILLS

1. *21st century demands skilled human beings than merely with knowledge base.*
2. *Feelings should find expression through Action.*
3. *Taxonomy of Educational Skiils needs to be introduced at different Levels of Teacher Education-ECCE, D.El.Ed., B.Ed., M.Ed., B.P.Ed., M.P.Ed, PGDCE, PDEM & M.Ed.M.*
4. *Educational Skills need to be integrated at all levels of Education- Pre-Primary, Primary, Elementary, Middle, Secondary, Higher Secondary & Higher.*
5. *All sorts of skills have their own place in Education.*
6. *Wholistic development demands development of skills in all the domains.*
7. *Integration of Taxonomy of Educational Skills demands strategic action plan as follow:*

a. *Skill identification*
b. *Skill Orientation/Training*
c. *Skill implementation.*

8. *All the Human Resource Development Centres should offer programs on Taxonomy of Educational Skills.*
9. *All the EMRCs should produce and transmit Programs on Taxonomy of Educational Skills.*
10. *Integration of Educational Skills demands interelation and interdependence of vaious institutions, such as, NCERT, NCTE, UGC, CIIL, EFLU, HBCSE, CEE, and Centres of Special Education.*
11. *All the Educational Skills ought to be universal. Each & every agency ought to contribute to the integratioon of Educational Skills.*
12. *Development of Life Skills should be integrated with every Program.*
13. *Concerted efforts are required for the development of various skills, such as,*

a. *Self Development Skills*
b. *Social Skills*
c. *Life Skills*
d. *Critical Thinking & Training Thinking Skills*
e. *Research Skills*
f. *Constructivist & Connectionist Skills*

g. *Systems Thinking Skills*

h. *Information Age Skills*

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

Resourcing Skills

i. *Leadership, Administration & Management Skills*

Creative Leadership Skills, Administration Skills, Time management Skills, Key

Skills for Every Manager

j. *Spiritual Development Skills*
k. *Yoga Skills*
l. *Wholistic Development Skills*
m. *Inclusive Education Skills*

14. *How to realize resilience?*
15. *Are the facilities with the teachers available for nurturing all the skills?*
16. *To what extent the various programs & courses nurture the various skills?*
17. *How to reduce anger, stress & strain?*
18. *How to live full, meaningful, healthy, hilarious and resonating life?*
19. *How to integrate Skills in every action?*
20. *How to realize entrainment of Heart, Head & Hands?*
21. *How to realize Skill, Scale & Speed?*
22. *How to develop fully functional Guidance & Counseling Centres?*