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**PHILOSOPHICAL OBJECTIVES AND  
ITS IMPACT ON LEARNING STYLE  
AND ACADEMIC ACHIEVEMENT**

**A thesis submitted to the  
University of Kalyani for the  
fulfilment of Degree of Doctor  
of Philosophy in Education**

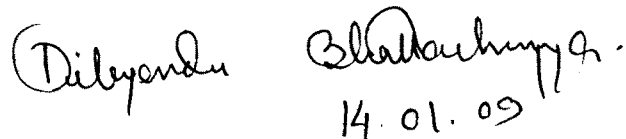
**by  
RUMA DAS SARMA**

**Supervisor : Dr. Dibyendu Bhattacharyya**  
Reader, University of Kalyani

**DEPARTMENT OF EDUCATION  
UNIVERSITY OF KALYANI  
KALYANI, NADIA  
WEST BENGAL, INDIA  
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# CERTIFICATE

This is to certify that the research work entitled “Philosophical Objectives and its impact on Learning Style and Academic Achievement” submitted by Smt. Ruma Das Sarma in fulfilment of the requirements for the award of Ph.D. degree in Education under the Department of Education, University of Kalyani is based on the results of an important research work accomplished by her. No part of this work has been sybmitted for any other degree. She has completed the research work under my guidance.

  
14.01.09

(Dr. Dibyendu Bhattacharyya)

Reader

Department of Education

University of Kalyani

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(Ruma Das Sarma)<sup>14.01.09</sup>  
Research Scholar

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# **CHAPTER – I**

## **1.1 INTRODUCTION**

### **What are philosophical objectives?**

Every human being and society are guided by some philosophical objectives. A person cannot move his / her targeted destination without having philosophy of its own. In this study we are basically highlighting philosophical dimensions on Indian Perspectives. Traditionally India has its glorious past and have had its influence on contemporary education too. Man is structured not only by psychological disposition but also guided by philosophical truths. From Indian schools of philosophy it is clear that six epistemological components that may be considered as philosophical objectives mentioned below :

1. Perception
2. Inference
3. Comparison
4. Postulates
5. Non perception
6. Verbal Communication

So it may be a taxonomy of educational objectives coming from philosophical dimensions specially discussed & focused in our study.

Therefore from our analysis & observation it is found that we are guided by six epistemological components for their learning situation. These philosophical objectives and learning style have had its relation expressed in our study. Similarly in our study it has been observed that how philosophical objectives and achievement are related. Different aspects of philosophical objectives are highly related to the academic achievement.

Moreover cognitive skills are influenced by learning style reflected from

the study of Sabine Graf, Taiyulin & Kinshuk; are as follows :

The results of the paper show that the identification process of both learning styles and cognitive traits, can be supported by each other. If the learning style of a learner is already detected, it gives indications of cognitive traits and if cognitive traits of a learner are available, we can draw conclusions to his / her learning style. Therefore, these interactions can be used to improve the process of student achievement.

Future work includes further investigations concerning other cognitive traits, such as inductive reasoning skills, associative learning skills, and information processing speed. Another open issue is how strong each cognitive trait influences each learning style dimension and the other way around. Therefore, a study will be performed where learners are tested for their learning style and cognitive traits. Analysing these test results will deliver a detailed insight into the interrelatings of cognitive traits and learning styles.

Some social values are expressed through philosophical objectives. It includes our educational system a value oriented pattern. We see in our evaluation system through which achievement is possible by the learners are misguided in different ways. It is because lacking of philosophical objectives are accepted by the learners and other involved persons. Even our education system is not all time based on quality approach rather guided by quantification denying the values & objective of life.

The national policy on education 1986 and the National Curriculum Framework for elementary and secondary education have referred the following components of value orientation for enreaching philosophical objectives :

1. Our Cultural Heritage
2. The Democratic Way of Life
3. Social Equality
4. Scientific Temper
5. Secularism
6. Our Environment
7. Gender Equality

8. Social Cohesion
9. National Unity
10. Work Culture
11. Population and Quality of Life

The purpose of the intellectual analysis of these values is to raise the consciousness and the betterment of quality of life & society for the fulfilment of objectives on educations.

Educational objectives is reflected through the national interest of any country. Like in a democratic country, democratic rights and responsibilities are the value. In 1994 from the Declaration of Human Rights of United Nations highlighted the following points :

1. Liberty
2. Equality
3. Property
4. Wellbeing
5. Peace
6. Tolerance
7. Reason

In education system to develop these values we should have a democratic set up so that there should be a balance between rights & responsibilities as being prescribed in our constitution through national philosophy.

According to the classical Indian philosophical thought, “attainment of purushartha is the ultimate value. Purushartha explain what constitutes the right way of living or what is generally referred to as 'the good life'. Literally purusartha means. "What man live for" and that attainment is the higher values of life.”

David Durpel (1998) observed that philosophical objectives reflected as — "The situation as far as values education in the U.S.A. in the mid – 1990s is concerned can be described as swirling and confused. In some ways, this

would seem to be a time at great energy & creativity in the area even though this is also a time when the term moral education has less cachet than it did just a few years ago.”

According to Andrews Gedo Contemporary crisis being reasoned from philosophy — “Crisis consciousness grips contemporary bourgeois philosophy in two senses as an experience of the crisis of philosophy and as a reflection of philosophy of crisis.”

According to Mortimer J. Adder (1999) pointed out the conflict between crisis & philosophic truths — “Crisis is a turning point .... we have reached an extreme in the swing of the pendulum. ... philosophic truth is not a private intuition. It is capable of such explication and demonstration that it becomes the public property of all minds free enough from prejudice to be convince by evidence and reasons.”

In 1980 D.S.N. sastry conducted a research 'A study of the classroom behaviour of teachers in Their Philosophic Beliefs in Education' which reveals the following conclusions :

Professional qualifications, age, sex, professional status or urban-rural location did not influence the relationship between teachers' philosophic beliefs & their classroom behaves. And that is why philosophical objectives should be nurtered and included in the academic endeavour.

## **1.2 What is learning style?**

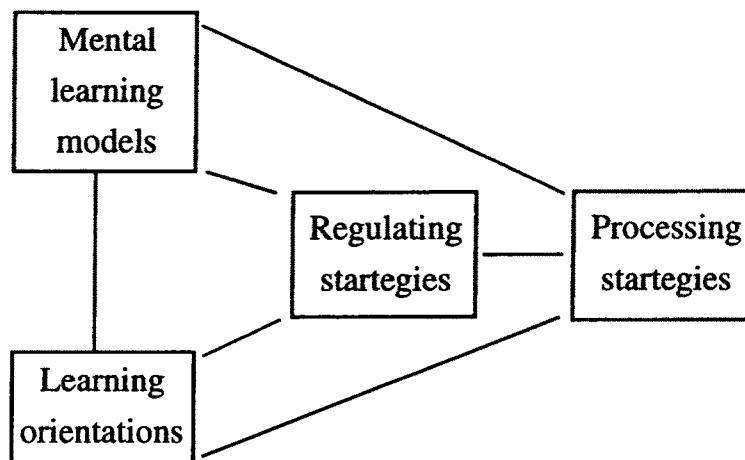
“A learning style as the manner in which a learner takes in and processes information or an individuals preferred and consistent set of behaviours or approaches to learning.” (Felder, 1996; Greenagel)

“... the different ways in which children and adults think and learn.” (Litzinger & Osif, 1992)

“Perceiving the way we absorb information around us, and processing — how we understand the information that is absorbed.” (Ally & Fahy 2002)

## Vermunt's model of learning styles (1998)

Source : Price and Richardson 2003



## Families of learning styles

Learning styles and preferences are largely constitutionally based including the four modalities : VAKI	Learning styles reflect deep-seated features of the cognitive structure including patterns of ability	Learning styles are one component of a relatively stable personality type	Learning styles are flexibly stable learning preferences	Move on from learning styles to learning approaches strategies orientations and conceptions of learning
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<b>Dunn and Dunn</b> <b>Gregore</b> Bartien Betts Gordon Marks Paivio Richardson Sheehan Torrance	<b>Riding</b> Broverman Cooper Gardener ef al. Guilford Holzman & Klein Hudson Hunt Kagan Kogan Messick Pettigrew Witkin	<b>Apter</b> <b>Jackson</b> <b>Myers-Briggs</b> Epstein & Meier Harrison- Branson Miller	<b>Affinson &amp; Hayes</b> <b>Herrmann</b> <b>Honey &amp; Mumford</b> <b>Kolb</b> Felder & Silverman Hermanssem, Wierstre, de Jong & Thijssen Kaufmann Mirton McCarthy	<b>Entwistle</b> <b>Sternberg</b> <b>Vermunt</b> Biggs Conti & Kolody Grasha- Riechmann, Hill Marron & Saijo McKerney & Keen Pask, Pintrich, Smith, Garcis & McCeachie Schmock, Weinstein., Zimmerman & Paimer Whetton & Cameron
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## **Influential models of learning styles**

Coffield et al. 2004 provided most influential models and instruments of learning styles and their accompanying literatures, with a particular focus on validity, reliability and practical application. The main models chosen for detailed study are as follows :

- \* Allinson and Hayes 'Cognitive Style Index (CSI)
- \* Dunn and Dunn's model and instruments of learning styles
- \* Entwistle's Approaches and Study skills Inventory for Students (ASSIST)
- \* Gregore's Mind Styles Model and Style Definerator (GSD)
- \* Herrmann's Brain Dominance instrument (HBDI)
- \* Honey and Mumford's Learning Styles Questionnaire (LSQ)
- \* Jackson's Learning Styles Profiler (LSP)
- \* Kolb's Learning Style Inventory (LSI)
- \* Myers-Briggs Type Indicator (MBTI)
- \* Riding's Cognitive Styles Analysis (CSA)
- \* Sternberg's Thinking Styles Inventory (TSI)
- \* Vermunt's Inventory of Learning Styles (ILS)

It is suggested that learners have a preferred mode in which they will most effectively develop learning. For many their first introduction to learning styles was via the Honey and Mumford model based on Kolb's work.

Kolb, Stitt-Gohdes 2001, Brown 2003 mentioned following points to correlate objectives of educations & learning styles :

1. Any student whose learning style does not match the teacher's learning style, especially if the teacher is inflexible in style or unaware of style differences.

2. Any student whose learning style does not match the orientation of the curriculum.
3. Any student who does not match the class profile (the set of predominant learning styles amongst any given group of students).
4. Any student who is misplaced in the educational system from a mismatch between the student's learning style and the style of the placement test" (Leaver cited by Stiff-Gohdes 2001)

Burns et al (1998) consider the preferences of high academic achievers, reaching the conclusion that "learning style preference differences within an academic achievement group may be as great as the differences between the groups" and "all style preferences may be equally appropriate". More interestingly there is some evidence for an association of learning style preference with subject discipline in Higher Education (Nulty and Barrett 1996).

A serious criticism of the reporting on the individual testing and development of methods and items is the lack of consideration of the socio-economic and cultural context from the literature (Coffield et al, 2004a)

## **The range of learning style inventories**

A variety of authors have set out to provide a critical review of learning styles (Klein 2003, Cassidy 2004, Melis and Monthienvichienchai, 2004), from both the psychological and curricular perspectives. Some of the models are based on theories about the functioning of the brain whilst others focus on psychological ideas such as personality traits, Both of these areas based on to accurate and reliable testing mechanisms.

It needs to be noted that learning styles have appeal as simple solutions to raising attainment. Not in the least, because it might be seen to change the focus from the management process needed to enhance the quality of learning, to the individual learning styles of the teachers and learners. A cynic might suggest that this is one of the main reasons that they appear so uncritically in the Pedagogy and Practice stand for developing objectives guided broadly by philosophy.

According to Coffield et al 2004 described Learning style as

*"It is hard to imagine teachers routinely changing their teaching style to accommodate up to 30 different learning styles in each class, or even to accommodate (from the learning cycle).*

Learning style preferences must not be used to label people; self-development is most likely to occur when the learner can be introduced to the particular strengths of different learning models. Learning style preferences should be seen as a potential agent of change, offering opportunity for learners to learn how to learn more effectively and with more variety.

*"A knowledge of learning styles can be used to increase the self-awareness of students and tutors about their strengths and weaknesses as learners. In other words, all the advantages for metacognition (ie being aware of one's own thought and learning processes) can be gained by encouraging all learners to be knowledgeable about their own learning and that of others" (Coffield et al 2004).*

- \* identify their own styles;*

- \* become aware of any bias or imbalance in the training and learning methods which they employ;*

- \* design and develop learning events which accommodate, or at least acknowledge, the personal styles of the learners. (Sadler-Smith 1996)*

Loo also concludes :

*"It is recommended that educators use a variety of learning methods, and encourage students to be receptive to different learning methods, rather than to try to link specific learning methods to specific learning styles." (Loo 2004)*

It is further suggested that

*"Does personalised learning mean identifying pupils' preferred learning styles?"*

*Personalised learning depends on knowing pupils better as individuals and as learners, but this does not mean labelling them in a particular*

*style of learning. Personalised learning means matching teaching and learning more closely to the needs and aspirations of pupils so that they become better learners, broadening the range of learning skills and strategies which pupils can use in order to become independent learners. The learning styles idea is unhelpful when used to limit pupils' scope as learners, but it can be a helpful reminder to teachers to ensure that pupils are fully engaged in their learning by providing a range of different learning experiences and opportunities in which all pupils are emotionally, physically and intellectually involved."*

So it can be seen from this that this agenda has a less didactic approach to the concept of learning styles and how they are used, than the original *Pedagogy and Practice* materials (DfES 2004).

## **Learning Style preference in the class-room**

Felder and Solomon, 2005 and Intel, 2005 have identified ideas for accommodating and encouraging a wide variety of learning style preferences in the classroom. These are summarised in the tables below :

### **Visual**

<i>Can be helped by planning learning that</i>	<i>Can help their own learning by</i>
Uses diagrams, video, graphics, pictures and models.	Using visual tools to help them summarise what they need to learn. Trying mindmapping as a means to re-author and record material to be learnt.

### **Auditory**

<i>Can be helped by planning learning that</i>	<i>Can help their own learning by</i>
--	---------------------------------------

Uses lectures, storytelling, music, and questioning.

Summarising what they need to learn in an audible form (recordings).

### **Kinaesthetic**

*Can be helped by planning learning that*

*Can help their own learning by*

Involves role-play, acting and physical modelling

Moving around as they learn and revise. Working through problems physically (shuffling papers or cards). Using exercise time to mentally review what they've been studying.

### **Serialist / Left Brain**

*Can be helped by planning learning that*

*Can help their own learning by*

Uses stepped activities or algorithms to solve problems.

Looking at problems as a series of steps or as a flow diagram.

### **Holist / Right Brain**

*Can be helped by planning learning that*

*Can help their own learning by*

Clearly shows the big picture, what we are trying to achieve.

A top down approach to problems, starting with the desired outcome.

### **Active learners**

*Can be helped by planning learning that*

*Can help their own learning by*

Involves discussion or explanation to others.

Working in groups to support others. Putting ideas into their own words.

## **Reflective learners**

*Can be helped by planning learning that*      *Can help their own learning by*

Gives them an opportunity to think before they have to do something with information.

Putting time into study periods to reflect upon the learning and what questions might be asked.

## **Extrovert**

*Can be helped by planning learning that*      *Can help their own learning by*

Involves team and group work.

Putting together small a small group to study together.

## **Introvert**

*Can be helped by planning learning that*      *Can help their own learning by*

Involves individual work.

Setting up a quiet space for them to do their studying in.

## **Sensing**

*Can be helped by planning learning that*      *Can help their own learning by*

Considers details and facts. Provides material that can be learnt directly.

Placing new knowledge into real world contexts they may have experienced themselves.

## **Intuitive**

*Can be helped by planning learning that*      *Can help their own learning by*

Involves discovery, exploration or experiment. Being offered a variety of strategies.

Re-representing things to be learnt as a pattern of interconnections.

## Thinking

<i>Can be helped by planning learning that</i>	<i>Can help their own learning by</i>
Is objective and rational.	Looking for the rules that govern the situation they are considering.

## Feeling

<i>Can be helped by planning learning that</i>	<i>Can help their own learning by</i>
Is placed into an emotional or human context.	Considering how the material to be learnt affects them or other people.

## Judging

<i>Can be helped by planning learning that</i>	<i>Can help their own learning by</i>
Has clear tasks with deadlines.	Careful time management, setting themselves personal deadlines. Using Gant charts and dealing with learning as a sequence of projects.

## Pereciving

<i>Can be helped by planning learning that</i>	<i>Can help their own learning by</i>
Enables individual strategy for discovering solutions or ideas. The learning might be useful.	Looking for other ways in which

Fctors that encourage this intrinsic motivation to learn include :

- \* A connection with real world problems,
- \* The incorporation of, and building on, of students' prior and current experiences,

- \* Elements of student choice and independent learning,
- \* The idea that all knowledge is valued,
- \* Opportunities for collaborative learning,
- \* Learner interaction,
- \* Opportunities for reflection,
- \* Clear and realistic tasks and timescales.

Everyone learns in all these styles; however there is typically one (or possibly two) preferred or stronger styles(s). In order to begin to teach more effectively, you need to know what it means to be a visual, auditory or kinesthetic learner. The following are brief descriptions of each learning style.

### **Visual learners**

- \* Visual learners learn best by seeing information.
- \* Visual learners often have poor auditory skills and weak verbal abilities.
- \* Visual learners often have difficulty blending sounds and discriminating short vowel sounds.
- \* Visual learners are often poor spellers.
- \* Visual learners easily remember information presented in pictures, charts, or diagrams.
- \* Visual learners can make "movies in their minds" of information they are reading. Their movies are often vivid and detailed.
- \* Visual learners often pay close attention to the body language of others (facial expressions, eyes, stance, etc.) Be aware of your body language and use it to emphasize important points you wish to make during class.
- \* Use videos and overheads as part of your lectures.
- \* Visual learners may tune out spoken directions.



## **Auditory Learners**

- \* Auditory learners learn best by hearing information. They can usually remember information more accurately when it has been explained to them orally.
- \* Auditory learners can remember quite accurately details of information they hear during conversations or lectures. (Don't be annoyed if the student isn't taking notes from your lectures).
- \* Auditory learners have strong language skills, which include a well-developed vocabulary and an appreciation for words.
- \* Strong language skills often lead to strong oral communication skills. They are usually talented at giving speeches, oral reports, and articulating their ideas.
- \* Auditory learners may find learning a foreign language to be relatively easy. They also may have musical talents.
- \* Auditory learners tend to have poor visual skills, so graphs, maps and charts may present a challenge to the auditory learner. They do best with oral directions and assignments.
- \* Auditory learners often reverse words, for example : from, for, form and was, saw.
- \* Auditory learners tend to have poor handwriting and small motor skills.

## **Kinesthetic or Tactile Learners**

- \* Kinesthetic learners learn best by moving their bodies, activating their large or small muscles as they learn. They are "hands-on learners" or "doers" who actually concentrate better and learn more easily when movement is involved.
- \* Kinesthetic learners often wiggle, tap their feet or move their legs when they sit. Many were labeled "hyperactive" as children.
- \* Kinesthetic learners work well with their hands. They may be good at art, sculpting, working with various tools, learning in lab situations or learning by computer.

- \* Kinesthetic learners need to take notes and highlight important information. They are using their small muscles to remember information.
- \* Kinesthetic learners need information broken into steps; like a systematic process : step 1, step 2, and step 3. They can remember historical dates, mathematical equations, and scientific information if it is presented in a sequential manner.
- \* Kinesthetic learners may have difficulty learning abstract symbols like letters and numbers.

Now that it is identified and learned about learning styles, that can incorporate that information into which tutoring covers suggested aids that address learning styles and tutoring strategies for each learning style.

#### Suggested Aids that Address Learning Styles

<b>Visual</b>	<b>Auditory</b>	<b>Kinesthetic / Tactile</b>
Guided imagery	Tapes/CDs	Having student pace or walk
Color codes	Film and television	during lessons
Study cards	Music	Items to "play with" like
Photographic pictures	Verbal directions	koosh ball, play-dough
Film and television	Rhymes / poems	Having student physically
Charts and graphs	Reading aloud	"act out" a lesson
Maps	Repeating things orally	Role playing
Demonstrations	Rhythmic sounds	Having student trace a word
Drawings	Having discussions	with their finger
	Sounding out words	Having student take notes
	Saying words in syllable	Giving student breaks to get up, stretch, etc.

# **Tutoring Strategies for To Correlate Learning Style & Objectives of Education**

## **Visual Learners**

1. Use overhead transparencies
2. Use flash cards for key concepts
3. Allow time for student to write down notes
4. Use as many visuals as possible : pictures, diagrams, charts, etc.
5. Use demonstrations whenever possible
6. Write out all key phrases, words, terms, etc.
7. Create outlines for lessons, leaving blanks for student to complete
8. Encourage student to chart out information using maps, diagrams, etc.
9. Have student copy problems and examples
10. Present lesson objective at the beginning of lesson and summary at the end
11. Provide additional worksheets for later practice and reinforcement
12. Write on blackboard when presenting key concepts, etc.
13. Encourage students to keep a notebook / folder of all written work for each lesson / unit

## **Tutoring Strategies for Auditory Learners**

1. Always present material orally
2. Encourage discussion
3. Use a tape recorder to tape session for student review
4. Have student read aloud

5. Ask for oral response to oral questions
6. Ask student to repeat directions, key concepts, etc.
7. Ask student to summarize main points
8. Try to maintain eye contact
9. Encourage student to think out loud
10. Vary the tone and intensity of your voice
11. Plan sessions that are organized in sequential order
12. Give directions orally with only two or three steps at a time
13. Have taped materials available for reference
14. Encourage student to speak answers aloud before writing

### **Tutoring Strategies for Tactile / Kinesthetic Learners**

1. Have student try out a problem on a chalkboard or lab center
2. Encourage student to make their own flashcards
3. Give demonstrations while allowing student to perform, step by step
4. Plan ways for the student to manipulate the materials
5. Use concrete examples to help the student use the skills gained
6. Involve the student in the planning of the tutoring session
7. Use association techniques to link new learning with past experiences
8. Use association techniques to link new learning with past experiences
9. Allow student to stand, move, etc. during session

By now we can determine our student's learning style, understand the three learning styles, and determined ways to teach student more effectively.

## **Characteristics of Learning Styles**

Three senses are primarily used in learning, storing, remembering and recalling information. Our eyes, ears, and sense of touch play essential roles in the way you communicate, perceive reality and relate to others. Because we learn from and communicate best with someone who shares your dominant modality, it is a great advantage for you to know the characteristics of visual, auditory and kinesthetic styles and to be able to identify them in others.

### **Visual**

- \* Mind sometimes strays during verbal activities
- \* Observe rather than acts or talks
- \* Likes to read
- \* Usually a good speller
- \* Memorizes by seeing graphics or pictures
- \* Not too distractible
- \* Finds verbal instruction difficult
- \* Has good handwriting
- \* Remembers faces
- \* Uses advanced planning
- \* Doodles
- \* Quiet by nature
- \* Meticulous, neat in appearance
- \* Notices details

### **Auditory**

- \* Talks to self aloud
- \* Enjoys talking
- \* Easily distracted
- \* Has difficulty with written directions
- \* Likes to be read to
- \* Memorizes sequentially

- \* Enjoys music
- \* Whispers to self while reading
- \* Distracted by noise
- \* Hums or sings
- \* Outgoing by nature
- \* Enjoys listening activities

### **Kinesthetic**

- \* Likes physical rewards
- \* In motion most of the time
- \* Likes to touch people when talking
- \* Taps pencil or foot when studying
- \* Enjoys doing activities
- \* Reading not a priority
- \* Poor speller
- \* Likes to solve problems by physically working through them
- \* Will try new things
- \* Outgoing by nature; expresses emotions by physical means
- \* Uses hands while talking
- \* Dresses for comfort

## **SOUND : Hints for the Auditory Learner**

### **General**

1. Aloud the information to be learned and have someone record the information to a tape recorder and replay it.
2. Read and work out loud. Summarize what we have read on tape.
3. To say words inside our head silently.
4. Brainstorm ideas with others. Form study groups.
5. When possible, learn information through tapes, television, oral reports, rhymes and songs, radio, lectures, book reviews, panel and group discussions, guest lectures, and oral questions and answers.

6. Use a straight-edge marker or guide to assist in keeping our place while we are reading or working with printed materials.
7. Tape class lectures (Ask instructor for permission).
8. Meet with classmates before and / or after class to discuss material.

### **Writing**

1. Plan each sentence we want to write by saying it out loud or silently in our head.
2. Say each sentence several times.
3. Write each sentence as say it, or talk into a tape recorder, dictating each sentence of we paragraph; then play the tape back – one sentence at a time – and record the paragraph in writing.

### **Spelling**

1. Listen to the spelling of the word.
2. Say the word – then say each letter out loud.
3. Close our eyes and spell the word out loud; check the spelling.
4. Close your eyes and spell the word out loud again; check the spelling.
5. Now write the word, trying to hear it in mind.
6. Verbally review spelling words and lectures with a friend.

### **Mathematics**

1. Learn math while saying the concept, fact, theorem, etc., aloud.
2. Explain math problems, concepts, facts, etc., to yourself, relating the information out loud.
3. Use a tape recorder and replay the information.

## **SIGHT : Hints for the Visual Learner**

### **General**

1. Take notes, make pictures, graphs, and charts. Use flashcards and highlight key details.
2. Sit close to the teacher so that one can watch his / her face and gestures.
3. Take notes or make lists as it listen to directions.
4. Carefully check instructions written on the chalkboard and on handouts.
5. As the teacher lectures, pay attention to visual aids such as the following :
  - Drawing, maps, graphs, charts
  - Transparencies, posters, films, books.
6. Imagine pictures of the information we are suppose to remember.
7. Use color coding as cues to important information to study.
8. When possible, read assignments silently.
9. Maintain class notes and outlines of important information to study.
10. Try to read and study in well lit, quiet place.
11. Record homework assignments in a date book, on a note pad, or a specially designed assignment sheet.
12. Keep a note pad with all times. Write out everything for frequent and quick visual review.

### **Reading**

1. Use sight words, flashcards, note cards and experience stories; not to try to sound words out, but try to determine if the new word or words already know. For example, the "systematic" has the word "system", "stem" and "mat" within it.
2. You are a "look-and-ay" learner. Look at a word carefully; then say it.

### **Writing**

1. Jot down ideas as they form in our mind.
2. Outline our ideas.
3. Make a rough draft, skipping lines. Correct / revise our work.



4. Re-coy paper.
5. ESSAY TEST : Make quick outlines on scratch paper or in the margin of the test before writing answer.

### **Spelling**

1. See the word – close eyes.
2. Make a picture – then read from picture.
3. Write the word – match the picture.
4. Check work immediately.

### **Mathematics**

1. Visualize the problem.
2. Make pictures or tallies of the problem on scratch paper.
3. Write the problem.

### **TOUCH : Hints for the Tactile / Kinaesthetic Learner**

1. Keep desk clear of distracting objects.
2. Cover the page which are not reading.
3. Distracted by noise, turn off the radio; wear earplugs or wear an earphone in the learning center to block out the noise. To want sound, listen to soft music.
4. Divide into short study sessions. Get a timer. After 20 minutes or when a task is completed, give a reward, a cookie, a walk around the block, listen to one song, etc.
5. Sit as close to the teacher as possible, or sit in the center of the room by quiet students.
6. When studying, use a multi-sensory approach (hearing, seeing, touching and doing) as much as possible.
7. Get plenty of sleep.

8. Eat a nutritious breakfast and lunch. Snack on fruit or nutritional food if you need extra energy.
9. Study in a carrel or in an office where there is a desk for text books and notebook.
10. Use models, real objects, and materials that can be touched and moved. For example, learn geography through handling and studying a globe.
11. When possible draw what are learning.
12. Trace spelling words as practice them.
13. Record in writing information learned. Keep a supply of paper on hand.
14. When possible, role play, type, take notes, or construct models to learn the information.

There are many definitions of the term "learning styles". Pedagogically, learning styles are the recognition that different people learn in different ways; that while some people learn more readily by reading books, others have more success with pictures and diagrams; that while some people prefer to learn in groups, others like working on their own.

Linguistically, the terms "Multiple Intelligences" and "Learning Styles" are different. However as you begin to look through materials, we will find that the descriptions provided are similar, with the two terms often used interchangeably. To a large extent, the confusion arises from the fact that while there is a linguistic distinction between the two terms, there is no clear logical or methodological distinction.

- \* The learning styles identified in most schemes tend to be based on sensory and social factors.
- \* Individuals have more than one learning style. In most schemes, they will show measurable preferences across all of the styles identified in the scheme. Their final learning style will take the form of a profile showing their preferences across the range.
- \* Learning styles appear to change over time, with strong indications that they are affected by the learner's social context. Some researchers argue that learning styles are socially determined.
- \* Pedagogically, the important point about Learning Styles is not seeing

how many you can identify, or entering into a debate on the finer points of definition, but rather to raise awareness in both teacher and learner that people learn in different ways, and that those differences are needs which must be addressed as a part of learning and teaching.

## According to Gardner Learning Style Profiles :

Learning Style	Preferences	Approach
Linguistic Learner	<p>Likes to : read, write and tell stories.</p> <p>Is good at : memorizing names, places, dates and trivia.</p> <p>Learns best by : saying, hearing and seeing words.</p>	<p>Provide written materials and read to the learner</p> <p>Listen to the learners questions, concerns and experiences</p> <p>Encourage the learner to tell you about the story they have read of to share something they have written</p> <p>Introduce the learner to word processing</p> <p>Provide opportunities to visit libraries and bookshops</p> <p>Provide word games and such as Scrabble and crossword puzzles.</p>
Logical / Mathematical Learner	<p>Likes to : do experiments, figure things out, work with numbers, ask questions and explore patterns and relationships.</p> <p>Is good at : maths, reasoning, logic and problem solving.</p> <p>Learns best by : categorizing classifying and working with abstract patterns/relationships.</p>	<p>Encourage the learner to experiment, invite them to help you try things out introduce the learner to spreadsheets and modelling software.</p> <p>Spreadsheets and modelling software.</p> <p>Invite the learner to help you organise classroom resources.</p> <p>Provide strategy games such as chess and Age of Empires.</p>
Visual Learner	<p>Likes to : draw, build, design and create things, daydream, look at pictures/slides, watch</p>	<p>Provide visual alternatives to text and spoken word – graphs, illustrations multimedia.</p>

	<p>movies and play with machines. Provide arts and crafts materials.</p> <p>Is good at : imagining things, sensing changes, mazes / puzzles and reading maps, charts.</p> <p>Learns best by : visualizing, dreaming, using the mind's eye and working with colours / pictures.</p>	<p>Provide opportunities to visit art galleries, theatres and museums.</p> <p>Introduce the learner to digital media, graphics software and multimedia authoring tools.</p> <p>Provide graphical games such as Pictionary, Pharaoh and the Sim series.</p>
<b>Bodily / Kinaesthetic Learner</b>	<p>Likes to : move around, touch and talk and use body language.</p> <p>Is good at : physical activities and crafts.</p> <p>Learns best by : touching moving, interacting with space and processing knowledge through bodily sensations.</p>	<p>Encourage the learner to take part in dancing, acting or sport activities.</p> <p>Provide a variety of manipulatives for experimentation.</p> <p>Play games such as charades.</p>
<b>Musical Learner</b>	<p>Likes to : play musical instruments, sing, drum.</p> <p>Likes the sounds of the human voice.</p> <p>Is good at : listening, discriminating environmental other sounds.</p> <p>Learn best by : listening, especially if things are set to music or to a beat.</p>	<p>Provide spoken instructions (recorded, synthesised speech) as an alternative to text alone.</p> <p>Encourage the learner to take part in musical activities.</p> <p>Provide opportunities to attend concerts and musicals.</p> <p>Provide music composition software.</p>
<b>Interpersonal Learner</b>	<p>Likes to : have lots of friends, talk to people and join groups.</p> <p>Is good at : understanding people, leading others, organizing, communicating, manipulating and mediating conflicts.</p> <p>Learns best by : sharing, comparing, relating, cooperating and interviewing.</p>	<p>Provide opportunities for paired and group work.</p> <p>Encourage discussions and problems solving activity.</p> <p>Provide access to online discussion forums.</p>

Intrapersonal Learner	<p>Likes to : work alone and pursue own interests.</p> <p>Is goods at : understanding self, focusing inward on feelings / dreams, following instincts, pursuing interests / goats and being original.</p> <p>Learns best by : working alone, individualized projects, self-paced instruction and having own space.</p>	<p>Give the learner time to work and experiment alone.</p> <p>Invite the learner to share what they do on their own with the class something for the whole to enjoy.</p> <p>Encourage the learner to keep a diary or journal.</p>
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## According to Felder learning styles are on five dimensions

1. What type of information does the student preferentially perceive :
 

sensory	sights, sounds, physical sensations, or
intuitive	memories, ideas, insight?
  
2. Through which modality is sensory information most effectively previewed:
 

visual	pictures, diagrams, graphs demonstrations, or
verbal	written and spoken words, and formulas?
  
3. How does the student prefer to process information :
 

actively	through engagement in physical activity or discussion, or
reflectively	through introspection?
  
4. How does the student progress toward understanding :
 

sequentially	in a logical progression of small incremental steps, or
globally	in large jumps, holistically?

5. With which organization of information is the student most comfortable :
- |           |   |
|-----------|---|
| inductive | facts and observation are given, underlying principles are inferred, or |
| deductive | principles are given, consequence and application are deduced?          |

### **1.3 DEFINITION AND MEANING ACHIEVEMENT TEST**

Thorndike and Hagen (1969), "The type of ability test that describes what a person has learned to do is called an achievement test."

Gronlund (1977) an achievement test as "a systematic procedure for determining the amount a student has learned through instruction."

Popham (1981) "The achievement test focuses upon an examinee's attainments at a given point in time."

Gronlund, N.E. and Linn, R.L. in their book *Measurement and Evaluation in Teaching* (1990), "There typically have been norm-referenced tests that measure the pupil's level of achievement in various content and skill areas by comparing their test performance with the performance of other pupils in some general reference group."

In the words of Wiersma, W. and Jurs, S.G. (1990) achievement test "is a measure of knowledge and skills in a content area."

Popham, W. James, in his book *Modern Educational Measurement* (1990) provides the description of achievement tests in these words, "Tests in the cognitive or psychomotor realm are often focused on an examinee's attainment at a given time; these tests are usually referred to as achievement tests."

Shipman, M. in his book *School Evaluation* (1979) suggests the following stage which can be helpful in planning an achievement test:

1. Stating the objectives in such a form that it will enable their achievements to be verified.
2. Spelling out the actions that are necessary for the attainment of objectives.
3. Spelling out the criteria by which the attainment of objectives is to be assessed.
4. Spelling out personnel whose judgments are involved in each component of the plan.
5. Stating the arrangements for any standardization procedure and the forms of reports and records which are to be maintained.

Wiersma, W. and Jurs, S. G. (1990) have identified the following stages for planning an achievement test:

1. Deciding purposes of the test.
2. Listing educational objectives of different areas of knowledge.
3. Preparing table of specifications.
4. Determining practical considerations.

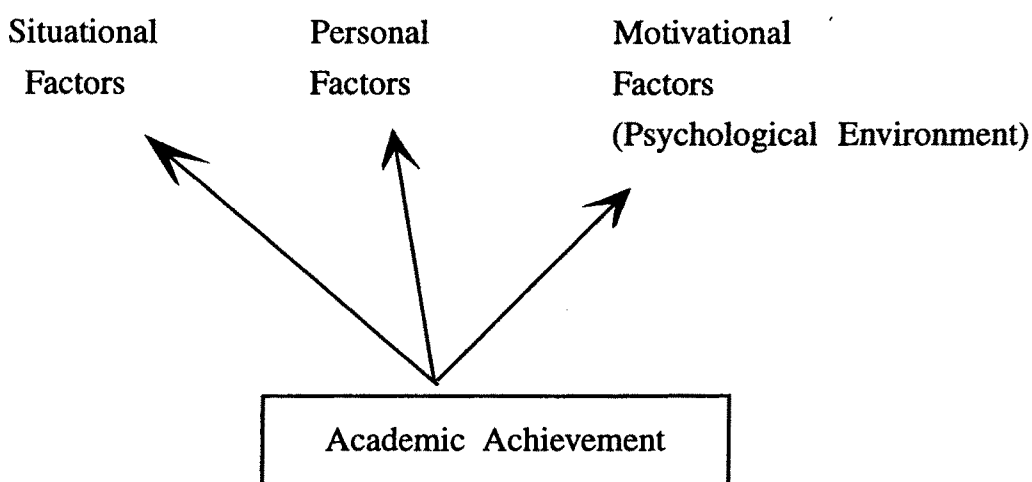
Gronlund and Linn (1990) discuss in detail the following steps in classroom testing:

1. Determining the purposes of testing.
2. Developing the test specifications.
3. Selecting appropriate type of items.
4. Preparing relevant test items.
5. Assembling the test.
6. Administering the test.
7. Scoring the test.

8. Appraising the test.

9. Using the test results.

Conceptual Model for Understanding Academic achievement by Klug (1989) for developing classroom Learning is mentionable :



Philosophical objectives in this regard is very much related to Academic Achievement as because we cannot control Achievement without considering situational factors, personal ability & other material factors available in a learning situation.

The report, Raising Academic Achievement, focus to what the programme evaluation had to say about one set of outcomes. Within this academic achievement category, the focus is deep seeking outcomes along an optimal pathway of academic achievement with the following dimensions :

- \* attend school, arrive on time, go to all classes
- \* read at grade level or above
- \* do well in the sciences, mathematics and technology
- \* persist to high school graduation
- \* be appropriately identified and served for any special needs
- \* obtain good grades



- \* have access to and do well in academically challenging courses
- \* have opportunities to apply their knowledge while in school through work-based learning or service-learning
- \* follow a coherent course sequence leading to postsecondary education.
- \* take standardized and college entrance exams and obtain competitive scores
- \* make thoughtful guided decisions about college attendance and financing
- \* enroll in college
- \* have not need for remedial education in college
- \* sustain academic achievement and good grades in college
- \* sustain financial support
- \* sustain college enrollment
- \* and successfully pursue the vocational guidance

(Ref. Raising Academic Achievement :  
A Study of 20 successful programmes (2000) U.S.A.

Academic Achievement is multifaceted for fulfilling objectives of education. Role & responsibility of teacher does a serious matter in this aspect reflected from the following studies :

1. Differences in Academic achievement of 50 percentile points were observed as a result of teacher sequence after only three years.
2. The effects of teachers on Academic achievement are both additive and cumulative with little evidence of compensatory effects.
3. As teacher effectiveness increases, lower achieving students are the first to benefit. Teachers facilitate appropriate measures to excellent gains for students of all achievement levels.

4. Students of different levels respond equivalently within the same way of teacher effectiveness.

(Reff : William L. Sanders and June C. Rivers. November 1996

In the present investigation we consider Academic Achievement is the qualitative aspects of academic environment and individual potentiality through which achievement is feasible. In this study we consciously avoiding obtaining marks of examination in teaching learning system rather to Judge the positive and negative aspects of examination system through which marks is obtained. Here the examination system is to be considered as a qualitative tools for explaining Academic Achievement. Moreover the present strategy helps the researcher to have a correlation between philosophical objectives & learning style with Academic Achievement.

## **Objectives of the study :**

1. To find out philosophic objectives from Indian context.
2. To relate philosophical objectives with learning style.
3. To study diffent aspects of learning style.
4. To investigate the influence of philosophical objectives on academic achievement.

**1.5 Tools :** A standardized Questionnaire is used for data gathering device.

**Population :** Eleven grade students of our study considered as population in West Bengal.

**1.6 Sample :** Selected schools of eleventh grade are considered as sample.

## **1.7 Limitations :**

1. Philosophical objectives are limited only within six Indian schools of philosophy. Though it may be extended wide large of philosophical schools considering other Indian schools of philosophy and western schools of philosophy.
2. Application of tools also may be enhanced.
3. Achievement is basically explained on the basis of objectives of education not only the marks obtained by the students.

### 2.1 PHILOSOPHICAL OBJECTIVES : AN OVERVIEW FROM INDIAN CONTEXT

In India we have observed that the diversity in philosophical stances are integrated in ancient Vedic systems, Buddhism Jainism, etc but the paradigm shifts are to some extent observed in many occasions. Those changing nature has undergone even in the eternal British India too. All these changing orders are reflections of the great thinkers in their attempt to solve in-coming problems as time passes on and cultural transformation undergoes but what is surprising that we cannot come out from those ancient bruths.

Both theory and activity in philosophy striving towards the systematic clarification of thoughts, problems, and emerging issues concerning life but it is never detected from life. Hence, we may consider philosophy is a valid tool aiming at solving problems concerning knowledge, reality and values on the main and takes into consideration of induction, deduction, dialectic, analysis and synthesis as methods. Bergson rightly observes that philosophy “does not only facilitate speculation, it gives us also more power to act and live” which is never isolated from humanity and the Nature and both reason and intuition are equally necessary. Further, Sri Aurobindo puts : “Reason is not the supreme light and yet it is always a necessary light bringer and unless it has been given its rights and allowed to judge and purify our first irrational instincts, impulses, rash favours, crude beliefs and blind prejudices, we are not altogether ready for the full unveiling of a greater inner illumination.” Thus, philosophy loves a continuous journey for exploring riddles of changing life.

## **2.2 PERSPECTIVES FOR PHILOSOPHY OF EDUCATION IN INDIAN CONTEXT**

Concerned philosophy of education is generally towards understanding and dealing with problems and issues in context rather than a return to the idea that the individual, society and education can be understood in an overriding system of thought for developing objectives. The assumption that a set of universal principles or a system of thought can explain the multitude of variables that pervade personal and social relations in education is a non-entity. The new trend is not only system development but rather in human contexts. But there are others who find ground in developing philosophy of education. Broudy, for example, emphasized certain things that educators have a right to expect from philosophy of education, including attention to the problems of education in general and schooling in particular, clarification of educational concepts and issues, and rational discourse and freedom of inquiry.

Philosophy of education cannot be viewed in societal context and must be seen in the interplay with other forces. May be today a single philosophy of education suitable at any particular moment as philosophies have had their values depend on particular needs of the times. This means striking out in a new philosophical direction, critical examination of the older philosophies, or even going to philosophy outside our own cultural traditions. Whatever may be the case, some vantage points from which to view education call for inclusion.

## **2.3 PRACTICING PHILOSOPHY IN INDIA**

1. Education is more than School or other academic activities. Any philosophy of education as a branch of social philosophy must not mean education as only classroom activities, it embraces whole of life of a person from womb to tomb. Education is interrelated with holistic development and direction a society takes and both the teacher and the

learner must become aware of. In the broadest sense education involves minimally two things; (i) passing on the cultural heritage from one generation to the next so that essential social and cultural continuity exist and (ii) providing the skills, abilities and understanding to develop new ways of doing things in light of changing conditions. Becoming aware of education in these terms is a necessary ingredient for developing a philosophical perspective.

2. Philosophy provides an integrated view of Education. Philosophy as a disciplined study is concerned with developing a coherent, logical, and comprehensive outlook. It also embraces within it a wide range of issues and problems, and education has been important to most philosophers. When education becomes aware that philosophy embodies comprehensive perspectives and tools for developing organized and structured views, the basic groundwork for a philosophical perspective on education has been laid.
3. Historical development of Philosophical Ideas and their relation to Education must provide a chronological and systematic body of knowledge one can find helpful in understanding what has happened in educational thought up to the present. It must depict and explain how aims, objectives, and practices of education have evolved and what departures in aspects of education came in and how those were reconciled. It may also help one to develop an appreciation of educational traditions and offer more intelligent and critical evaluation of such traditions. Further, it does give us continuity; it provides a basis for developing new ideas and a vantage point from which to evaluate new aims and practices.
4. Philosophical Treatment and Analysis of specific issues in Education and Concerned problems and issues may focus on particular problems like equality of educational opportunity, moral education, inclusive education, professionalism, from various standpoints of psychology, economics, management etc. But it may look at such problems in a critical, holistic, and ethical fashion. It extends to the wholeness of life in a civic society. Philosophy helps us to identify and express problems in clear

and logical language Derivatively, a philosophy of education must attempt to explain and solve various broad and narrow problems and issues in education both logically and without ambiguity.

5. Personal Research, reading and study in Philosophy of Education, must appreciate in using philosophical thinking and must be a committed in continuing study. Such doing may involve creating new outlook through combining, interrelating, and drawing conclusions from philosophical ideas. Likewise, an educator must have scope and doing motto to enhance educational perspective. Philosophy of education should not be a self-contained body of knowledge; rather it shall be open to criticism, experimentation and renovation.

Ref. : Charles Marler (1975)

## **2.4 COMPONENTS OF A PHILOSOPHY OF EDUCATION**

Harry S. Broudy in his famous book, *Building a Philosophy of Education* observed the strength of philosophy and structural on education, philosophy of education as an applied from which gives the philosophical treatment. Naturally, building philosophy of education must includes metaphysics, epistemology, logic, ethics and aesthetic of its' classical dimension. Therefore, Broudy has expounded an approach of classical realism in the sense that it accepts regulative principles, the idea of truth pertaining to it is independent of the knower, the idea of structure in the universe and society that are normative for man's striving toward the good life and for these education will help him to achieve it. This normative approach may not be understood as single one and eternal. The norm should be directed by and grounded in various "isms" of philosophy.

Structuring a philosophy of education means, "dealing with educational problems philosophically rather than acquiring a philosophy as the primary goal". Broudy has raised his philosophy of education building taking three

vital stands: Man, Society, and the School, Values in the `Educational Enterprise and The good Life and the School which hold as the three broad frameworks in which the educational problems lie and the solutions can be envisioned.

### **Man, Society and the School**

1. A philosophy of education must embody definition and the nature of philosophy of education. It should consider education as control of learning and offer definition of philosophy of education minimally at emotional level, informational level theoretical or explanatory level and also philosophical level.
2. It should deal with aims of education, attempts to explain ultimately the good life as the aims of education and must give meaning of a good life –subjectively and objectively.
3. It must go on exploring education with proper elaboration of the structure and dynamics of personality. This means the strength, limitation of the learner, his appetite for learning, his abilities, etc... In this way the evolving philosophy of education would deal with natural and reflective freedom, self-realization and self-integration of the educand.
4. It must take into consideration and also attempts to highlight education and its social perspectives including autonomy for freedom in education Hence, It is imperative that philosophy of education and sociology of life of man should come together for sharpening education as a tool for comprehensive human development.
5. Any philosophy of education can not overlook the theme- Reality and Knowledge. The emerging philosophy of education must attempt to hints on solutions to the adopted meanings of ‘being’ and ‘becoming. How far knowledge is stable? What is the relationship between science and metaphysics? What is valid knowledge? Relative importance of sensation and perception, and intuition.



## **Values in the Educational Practices**

As because philosophy of education is a branch of social philosophy at its operation level, the problem pertaining to human values has been the central concern in education throughout the ages.

1. The Philosophy of education must deals with human values and take cues from General value theory : experimentalist theory of values, emotive theories of values, values as objective, the value areas, intrinsic and instrumental aspects of values, positive and negative values, higher and lower values. It must tackle the problems and difficulties of values in education.
2. The envisioned philosophy of education must embrace problems and their solutions related to the economic, health, accociational values, recreational values and aesthetic values very critically.
3. Further, the philosophy of education should be concerned in the moral and religious (if admissible). It must set the criteria of Moral values, and Moral Education and Moral Development

## **The Good Life and the School**

1. In this aspect the philosophy of education must look critically the curricular issues, contexts, and concerns; curriculum approach, curriculum modalities, and subject matters in great details so that their successful operationalization modes lead to ultimately the envisioned good life.
2. Another problem in education is what method of instruction is to be used for curriculum transaction. This issue is strongly related to the theory of knowledge- epistemological arm of philosophy. Hence, a good philosophy of education must be straightforward to solve the problems of knowing and it should relate method and the theory of knowing.
3. The organization of an educational system is another area. It embraces several issues and also faces many headed problems concerning grouping

in formal schooling, progressive development of the structure of education and institutions for learning, adult continuing education, professional education of teachers, in-formal education, role of mass-media in education, etc Socio-political ideology related organizational problems etc. A good philosophy of education must understand those issues and problems and strives to give solutions.

With this framework in mind Broudy in his long critical intellectual journey toward building a philosophy of education has selected some definite inns which gives specific meanings of philosophy of education to be built as education is not a haphazard enterprise, rather it has purpose, goal or aims and objectives. For an intelligent talk about aims of education, we have to specify on what level of generality the discussion will take place. As education is a value-laden enterprise or a kind of positive science, education enterprise promotes good life for its beneficiaries, though we have to define a good life in variant terms. In fact the good life has two correlative subdivisions- the good individual and the good society. Weights to any one of these two or to the both depending upon other determining factors, issues, beliefs of the society.

The task for philosophy of education to outline and also to transcribe the good life, the good individual, the good society into learning that presumably contribute to their productions. The subjective estimates of good life are based for the most part on how pleasant or satisfactory our own lives seem to us. Objectives estimates also insist on pleasantness, but they are subordinate it to duty to the common welfare, quality of character, and a rough notion as to what we have a right to expect from life in an average set of circumstances. These two when combined we can suggest that perfect functioning of any human capacity is accompanied by pleasure. For education the good life as an aim translates itself into a programme of helping each individual lay the groundwork for such cultivation. However, the good life is too general a notion to be directing education and it cannot be defended on rational grounds.

A good life means a good life of Man who is describable by his personality, the most general feature of human life. Four major principles seem to describe the essential working of the human personality – these are appetitive principle, self-determination, self-realization and self-integration. For education, each of these principles implies acquisition and use of knowledge. Knowledge of Self, knowledge of society, and knowledge of nature are gymnasia where we practise the skills and perfect the habits needed for self-determination, self-realization and self-integration.

A philosophy of education must look forward for solutions of issues, problems and concerns relating to education and values in great details. The aspect is of utmost important as the very nature of education is charged with affectivity, sensitivity, whole some personality grounded with certain norms – may be either relative or stable over time – and also held important by some “isms” accepted by the social orders. Naturally, different theories of values, various kinds of values, concern about negative and positive values must come forward in determining aims and objectives of education. Specifically, economic, health, recreational, affection values, moral values, democratic / humanistic values, secularism, aesthetics and education etc must be dealt in the emerging philosophy of education for a particular nation.

For the inculcation of value-laden good life in the formal school and solving problems pertaining to it must be effected with curriculum development, curriculum re-design and curriculum transaction. Curriculum may take many approaches. It may find rationale in subject matter centric curriculum, problem centered curriculum, or any type of curriculum grounded on the contemporary paradigmshifts in learning, instruction or pedagogy. Curricular issues and contents are always problematic as much of these are both philosophy and social philosophy grounded. And the nature of knowledge to be integrated in a curriculum differs from philosophical ‘ism’ to ‘ism’. For example, to Dewey curriculum is a process as much as a distinct body of subject matter; while the Reconstructionists favour ‘world’ curriculum with emphasis on truth, brotherhood and justice effecting multicultural education. Naturally, a philosophy of education in its emerging state must take hold of general skills, competences, efficiencies etc to be developed and inculcated in the individuals

taking cues from the metaphysical, epistemological, axiological views which are held important, for a nation or a society. From an appropriate deduction of the foundations of the curriculum specific cognitive, psycho-motor, meta-cognitive, affective tasks to be included as the subject matters or activities which have high probability for the attainment of attributes, characteristics, qualities, role-playing, etc – all contributing to the journey towards good life. Not only, these, other aspects of education should be integrated in the curriculum structure, such as methods of teaching, learning styles, mode of assessment, principles of placement and classroom organization administration management etc.

Consequently, the philosophy of education must give clues, directions, through curriculum grounded on metaphysics, epistemology and axiology to the advancement to good life – personal, vocational, social, and even spiritual. Not only these, this philosophy should be powerful and functional enough to solve even-emerging changes in the waves of human life and to adjust curriculum accordingly. It must be ever vigil to help the ship to reach its destination even though the young learners become usually perturbed in the sea of existential anxiety and identity crises in the rapid changing world orders. The matter of discipline in classroom or in the campus is some giant issues. This philosophy of education must look deeply the facts and would be potentially enable to suggest solutions or prescribing remedial measures.

Further, there are problems relating to teachers, their education, professional advancement, professional code of conducts, or ethics, academic and professional freedom etc.

## **2.5 OBJECTIVES OF PHILOSOPHY OF EDUCATION THROUGH INDIAN LENSES**

Indian education means our national system of education. The central idea of a system of education to be really Indian in nature must hold the attire of Indian-ness. It should highly regard “education and life are inseparable and coterminous. To live is to undergo education. Education is in a way, like music in which two discernible notes keep sounding and, as they alternate in varying rhythm, reflect how the powers potential in a person grow – powers of the body and mind, of intellect and imagination, of creativity and intuition. In our education, freedom of imagination and self-control; dissent and discipline take turn and appear in myriad form in the play of education. It is also a fact what you have already been acquainted with after your long journey to the other Units of this course of study that the very aim of Indian philosophy is not the disinterested pursuit of truth and resolution of doubt (samasya) but to serve as practical aid (prayojana) to show the right way of living. Or, it aims at not just to unravel the mystery of life but to discover a way-out of its misery. Spiritual liberation (moksha) became the highest goal of life both in orthodox and heterodox schools of Indian philosophy. For attaining both the practical and liberal goals of life education has been regarded as the only tool.

Education is basically considered as a natural process wherein three basic native urges growth of the student. The first is urge to the free. Freedom means a continuous initiative from within to fullness and harmony; to aspiration and creativeness, i.e., self-realization – the human spirit endeavours to have its limitations to experience a moment of boundlessness. The second urge is urge to grow more and more... This urge goes on and on to discover oneself. Management of this urge according to our ancient masters as brahamacharya. Herbert Marcuse observed that methodological sacrifice of the libido, its rightly enforced deflection to socially useful activities and expressions is culture; one cannot be a human being without cultural experience. The third urge inherent in a growing person is the urge to fashion for himself a philosophy of life, namely his understanding of himself as well as of his environment in which he is both actor and spectator. He must learn to appreciate how parts are

related to the whole and how to value each part as it is in itself and in its relationship to the whole.

Purushartha and Panchakosha are two concepts in Indian philosophy that throw light on the nature and status of values. Literally purushartha means “what men live for”. It is based on the realization that desires constitute the source of human action. The ancient Indian teachers recognized four supreme ends- artha (wealth, the economic value material in nature), kama (physical well-being, pleasure both physical and psychological), dharma (righteousness, orientation to discriminate between bad and good) and moksha (spiritual liberation leading to spiritual bliss). That is the central point of the purushartha teaching is that man ought to distinguish between the lower and higher ends of life and pursue the higher values. This does not mean that the lower values of life are to be abandoned altogether but that should be pursued only as means to the realization of a higher aim in life. Panchakosha commonly means five sheaths or koshas. The Upanishadic meaning of the term constitutes five sheaths of ‘self’ which are being annamaya, prannamaya, manomaya, vijñanamaya and anandamaya referring to the physical, physiological, psychological, intellectual and spiritual aspects. These five sheaths constitute a hierarchy. Cultivation of the five koshas is the cultivation for self-realization. The first two are referred to as ‘sat’; the third and the fourth as ‘cit’ and the fifth one ananda. The proper and full development of all the aspects of sat, cit and ananda is the highest end of personality through the process of education for all irrespective of castes, creeds, and gender. This concept regards – educational development in man is progressive and ceaseless.

The function of education from Indian lenses is to help the pupil to carve out for himself a philosophy of life by which he must live. He needs to have a vision of his destiny and a clear view of the role he must play in life. Even in the circumstance of modern life there is no reason for despair, if education in the proper sense is allowed to play its role – awakening the pupil to an appreciation of freedom and responsibility in making choices in accordance with his own philosophy of life (pearled with value systems) which blossoms in many petals indicating what he thinks, speaks, moves and works. Education from the Indian perspectives fails if it does not help the

individual to cultivate the hardest of all hard arts – the art of life, namely, the art of self-determination inspired and guided by elevated thoughts, humane values and refined tastes.

Two main characteristics of an educated mind in our ancient teacher like Krishna is detachment and humility. The ancients in India used to say: Knowledge begets humility [vidyadadativinaya]. Arrogance, on the contrary, is associated with dogmatic beliefs. Freedom to speak and act in accordance with one's conception of truth is associated with the state of mind which is free from fear. Fear is associated with ignorance and there is no happiness where there is fear. True liberty is attained by self-discipline propelled to conquest by the mind particularly of six enemies – desire (kam), anger (krodh), greed (lobh), attachment (moha), intemperance (mada) and covetousness and jealousy (matsar).

Another equally essential and enduring gain of education was regarded as vivek – skill in discriminating and forming sophisticated and dispassionate judgments. Vivek embraces the entire realm of thought and action and all fields of knowledge. It helps to keep the spirit of inquiry alive. Yet another characteristic of an educated mind is what our ancient gurus called equality (samya bhava) – a commitment to equality of all. Equality was considered native to the dignity of man. It is essentially an ethical quality far more real and profound than the popular political principle of equality. Man's freedom and even his control over himself presuppose his regard for the equality of all human beings. Ishopanished advocated : He who has learnt to regard other beings in the someway as he regards himself cannot hate any one. He who has true knowledge and has experienced sameness with other beings can have no attachment, no sorrow. Then good education enables a person to understand other men, their thinking and actions.

Last but not least important gain expected of good education, in accordance with the Indian tradition, is cultivation of a clear view of one's dharma (not popularly called religion or creed). The term connoted many concepts at a time, including eternal laws, justice, duty, practical morality and sometimes even customs. Literally, dharma means what holds in the midst of

change. Each person must work out for himself his concept of dharma and his commitment to his inner self as well as to the world outside... This is the necessary part of his education as it determines what he is expected to do in life in view of his personal attainments and his position.

Moreover, you have already gleaned that Philosophy of Education, a branch of philosophy, or some calls of social philosophy, is concerned with the problem of education in its entirety. It is an activity, especially in giving meaning and new meaning to the educative process saddled with problems or incompleteness of individual as well as collective life. You have also already learnt that these problems are general as well as specific. In this sense philosophy of education is an important branch of applied philosophy, of course normative in nature as by education we mean that it is value-laden. The criteria may be either rigid or flexible, visibly defined in the social matrix of values and aesthetics. Further, it as a process takes hold of methods of enquiry which is held functional and hence functionally viable, reliable and valid in theorizing education as a system.

The educational system which we attempt to set up “must depend on the kind of society we mean to live in, on the qualities in men and women on which we set the highest value, and on the estimates which we make of the educability of both of those who are endowed with the higher intellectual or aesthetic capacities and of ordinary people.” - Cole. Whatever is the role of society in education system; every nation feels to set up its own education system and looks forward attainment of its aspirations and hopes, different from those of other nations in details through its operational mechanisms. We have left behind our ancient, mediaeval and colonial past and India achieved her independence about sixty years ago. We most solemnly resolve to build a democratic society and most ardently pledge to be the effective members of a civil society and aspire for an education system that will be strong enough to make democracy as a way of life. As a democratic way of life implies flexibility, rationality, justice, creativity, freedom of various kinds, and many more qualities of life, we cannot close our windows and hinder emerging changes what humanity witness in other cultures to come in.



That is to say in the changing order of the contemporary world we need to have our unique philosophy of education which will be truly Indian so that our education can serve developing and safeguarding Indian identity in both individual as well as collective life. Certain axiological directions of the Indian philosophy may be cited as : Reverence for Life, Unity of all life and being, and tolerance. Other directions to life from our Constitution are: Justice-social, economic and political; Liberty – of thought, expression, beliefs, faith and worship; Equality – of status, and opportunity; Fraternity – assuring dignity of the individual and the unity of the Nation. Further, the concern for the well-being and happiness of all mankind (Sarvajana Sukhino bhavantu) is also mention-worthy and our philosophy of education must utmost care of these directions to life.

Building the Indian philosophy of education, thus, does not mean the resultant philosophy to emerge will be alienated from our culture, heritage, values systems etc of Indian origin. We know that development of a civilization is a cumulative development. Similarly building a philosophy of education must take note of the old day's goods to sustain in this system. For examples, we have got creative formulations of Swami Vivekananda, Gandhi, Rabindranath, Sri Aurobindo etc, each addresses to educational problems and provide their solutions mainly from the classical Indian philosophical stances, though each of them advocates for inclusion of new knowledge and wisdom in educational systems.

Each of the above philosophy of educational ideas differ in some respects and each has been thought of in pre-independent India as marks of protests against the colonial systems of education set in India by the British rulers. Each of the above educational thinkers has given us directions towards which our National philosophy of education should go and help the national systems of education. Indeed, after independence emphasis has been laid on formulating the national philosophy of Indian education. Practically, we notice a shift-from religio-philosophic ethos to democratic-humanistic-eclectic model in the Indian philosophy of education to operate now, though it is not so explicitly cartographer. Some traces of that philosophy may be visualized in the National Education of Sri Aurobindo, Basic Education of Gandhiji, Kothari Commission

Report, Indian Constitution, reports of five-year plans, National Policy on Education, 1986, 1992 (revised), etc. But for a student of education a task remains how to build a philosophy of our national education.

## **2.6 PHILISOPHICAL OBJECTIVES ACCORDING TO INDIAN PERSPECTIVES THROUGH GREAT EDUCATORS**

### **PHILOSOPHY OF SWAMI VIVEKANANDA**

Swami Vivekananda (1863-1902) is known to the world as the patriot-saint of India, as the symbol of vigour, as a social reformer, as a religious leader, as a philosopher and so on. But he was an educationist who propounded original ideas on education, for ensuring an educational renovation from the height of his unquestioned love for country and humanity. He developed his ideas on education after Vedantic philosophical stances and ardently visualized the full manifestation of perfection endowed in man.

According to Vedanta, man's real nature is pure consciousness, known as the Atman, which is beyond body and mind. To Swamiji, the Atman is the ultimate source of not only all knowledge and happiness, but also of all noble qualities and capacities inherent in man. Education is the process by which this innate perfection is manifested. Vivekananda's concept of 'potential divinity of the soul' gives a new, ennobling concept of man and that concept of potential divinity of the soul prevents this degradation, divinizes human relationships and makes life meaningful and worth living. Thus, Swamiji has laid the foundation for 'spiritual humanism', which is manifesting itself through several neo-humanistic movements and the current interest in meditation, Zen, etc. all over the world.

In order for awaking his countrymen Swamiji attempted to do the following :

- to rouse the religious consciousness of the people and create in them pride in their cultural heritage;
- to bring about unification of Hinduism by pointing out the common bases of its sects;
- to focus the attention of educated people on the plight of the downtrodden masses, and to expound his plan for their uplift by the application of the principles of Practical Vedanta.

But his formulation is not a revival of the ancient educational system, but its readjustment with the changed modern scenario. Netaji Subhas Chandra Bose wrote : “Swamiji harmonized the East and the West, religion and science, past and present. And that is why he is great. Our countrymen have gained unprecedented self-respect, self-reliance and self-assertion from his teachings.” Long before the ideas of Karl Marx were known in India, Swamiji spoke about the role of the labouring classes in the production of the country’s wealth.

In brief his philosophical ideas may be summarized as :

Let us discuss the educational philosophy of Swami Vivekananda. First let us concentrate on the life philosophy of Swami Vivekananda in a summarized form :

- 1) Swami Vivekananda was greatly influenced by the classical Indian philosophy being a student of philosophy as a subject and tried to apply those concepts for the good of the common people.
- 2) The Philosophical thoughts of Vivekananda were shaped by Vedanta and these are generally called Neo-Vedantic.
- 3) Service and Renunciation were the two key words which he believed most and tried to apply for the development of our society
- 4) The foundations of Vivekananda’s Neo-Vedanta are the Upanishadas and their interpretations from his personal illumination.
- 5) Vivekananda tried to socialize the essence of his philosophy for the common people of India.
- 6) Thus, he was an idealist, nationalist as well as a humanist.

## **2.7 EDUCATIONAL PHILOSOPHY OF VIVEKANANDA**

From Swami Vivekananda's writings, speeches and practices of his own life the following ideas on education can be deduced.

- 1) Education is based on development of inner potentiality.
- 2) Education is man making.
- 3) Education is "by which character is formed, mind of strength is increased and by which one can stand one's leg."
- 4) Education is a tool for social development.
- 5) Upliftment of masses is also an emergent dimension of education.
- 6) Education is the training of the intellect and spiritual training for the learners.
- 7) Democracy is the best form of Government implying freedom which is inseparable from responsibility, the sources of which are morality, philosophy, law and other social factors.
- 8) The social progress is possible through mass education and woman's education.
- 9) He believes in the Universal brotherhood of man, and upliftment of man kind.

### **Meaning of Education :**

Education according to Swami Vivekananda is self-realization which takes place from within. It brings perfection through the manifestation of one's potentialities. In his inimitable words – 'Education is the manifestation of the perfection already in man'. He states it more clearly – 'knowledge is inherent in man, no knowledge comes from outside; it is all inside'. What is learning? Vivekananda answers – "what a man 'learns' is really what he 'discovers' by taking the cover off his own soul, which is a mine of infinite knowledge. Man manifests knowledge, discovers it within himself, which is pre-existing,

through eternity. 'Education is nothing but the manifestation of the infinite power lying within the soul which involves the only question of being conscious of it. Every man is born with a light divine.' Thus education is self revelation.

### **Freedom in Education :**

Swami Vivekananda was a staunch supporter of freedom in education because he believed it the first requisite of development. Education must be based on the needs of the child. The task of education is to nurse the process with every care and assistance, but never through any force, artificial manipulation and interference. Education should provide the child ample scope for his free growth according to his nature. When freedom in education is given to a child, it is sure to say that the child will develop positive ideas, deep self-confidence and the spirit of independence. Self-activity is the pre-condition to realize one's freedom i.e., self-discovery.

### **Teachers' Responsibility :**

Teacher plays an important role in the task of educating the child. According to Vivekananda a true teacher is one who can come down, immediately; to the level of the student and can "transfer his soul to the students soul", and see through the student's eyes, hear through his ears, and understand through his understanding. A teacher, in its truest senses is a friend, philosopher and guide capable of providing proper direction and guidance to his pupils. He has to understand the needs of the pupil and to guide his learning and activities accordingly. The teacher, according to him, should be a 'role model' to his pupil.

Guru Grahayasa is recommended by Swami Vivekananda, and is one of the best ways a teacher can help the pupil. So we can say that teacher's responsibility is to show the pupil light in order to lead a brighter future.

## **Aims of Education :**

Swami Vivekananda says – “The end of all education, all training, should be man-making. The end and aim of all training is to make the man grow.” Education he maintains, should help people to build up self-confidence and self reliance, based on balanced human relationships. The ultimate goal of all educational effort is to strive towards character development characterized by the development of will-power, leading to courage, stamina and fearlessness. Through education the individual should develop adaptability and be able to meet the challenge of a changing society, and this can be able to meet the challenge of a changing society, and this can be able through education and training that he or she receives from his parents and teachers. Education should lead to a feeling of brotherhood and the unity of mankind.

Education should teach us to serve humanity the hungry, the ignorant and the suffering masses. According to Swami Vivekananda, work is worship, so to serve the masses is to serve God, so education should lead us to recognize this and to fulfil this end. Education should lead us to acquire the spirit of renunciation.

In India, he maintains, the important aim of education is self-sufficiency, each individual should be given practical and vocational training along with traditional, religious and cultural subjects. There should be workshops regarding pupil in order to train them in crafts and trades. Students must be given education in Western Science and technology, in order to advance our country in the field of science, technology and productivity for improving quality of life.

## **Curriculum :**

Swami Vivekananda did not prescribe any specific curriculum, but some general instructions were given by him on the type of the subjects which the students would learn. According to him children should include cultural heritage in terms of history, geography, poetry, grammar and language. He also prescribed for every pupil to study various branches of modern science

and equally gave importance in Western technology and engineering and said that it should be included in the curricula of schools and colleges, and it would aim at the economic development of the country. Education must be life-skills building process.

Vocational subjects should be included in the curriculum for every child. He also gave stressed on skills, crafts, etc. along with others studies which would enable pupils to learn al living at the end of their studies and to make them self supporting. He included cookery, needle-craft, child-rearing, economics and psychology should be included in the curriculum for girls.

He laid special emphasis on physical education in the sense that a good physique beholds good mind. He not only asserted for Brahmacharya but also prescribed practice of yoga for the students. Moral and religious education were other dimensions of curriculum according to Swami Vivekananda. However, he advised that this part of curriculum should be free from any particular dogma or secretarion philosophy or theology. On the contrary, the subject matter of moral and religious education must be a synthesis of religion and science. It would help inculcation of universal values in all human beings. Thus, he pleaded for the education of unity of unity of world's religion what his great master Sri Ramakrishna testified in his life.

### **The Method of Instruction**

The method of instruction what Swami Vivekananda proposed, is based an ancient Indian tradition but still it has a great value. Swami Vivekananda gave more importance on Guru-pupil relationship, so that the pupil learns by example and precept rather than through books and lectures alone. According to him "The practice of meditation leads to mental concentration." He holds that there is only one method which helps to attain knowledge that is concentration. He asserted that the more the power of concentration, the greater amount of knowledge an individual can acquire. Lack of concentration leads to wastage of power.

Discussion among teacher and pupil is an effective method of instruction. The teacher should invite questions and stimulate the spirit of enquiry in the pupil. For Vivekananda, travel was an ideal method of learning because he wished the teachers and pupil to go out and learn from outside, not only within India but to other countries too, so that they can communicate with each other and be able to share our knowledge and philosophy with people of other countries.

### **Medium of Instruction :**

As regards to medium of instruction, Vivekananda strongly advocated for mother-tongue. He a true nationalist, and a champion of national education argued instruction through mother-tongue. He visualized to Indianise Indian education. He also wanted to spread mass education through mother-tongue so that it will reach to everyone.

### **Students :**

Swamiji pleaded : One who solve own problems efficiently is the best students. So the development of our nation lies on the hands of the students. The characteristics of best students according to him are :

- 1) In his own word – “Faith in our self and faith in God – this is the secret of greatness” so each student must have faith in themselves and in God in order to reach their destiny.
- 2) Students must always have a will power and they should have self confidence within them in order to move forward in life.
- 3) Students must have a disciplined conduct and a good character and should be polite, humble, truthful, and follow what is good; have a motivation for learning and cultivation of knowledge, cooperation and fellow feeling.
- 4) Each student must develop love for their country.
- 5) Students should always practise religion and should not perform any kind of evil deeds.



In conclusion, Swami Vivekananda was the most eminent great educator who contributed his life for the welfare of the masses. So R. C. Majumder has rightly said : 'Swami Vivekananda combined in himself the role of a great saint and nationalist. He placed Indian nationalism on the high pedestal of past glory, and it embraced the teeming millions of India both high and low, rich and poor. He devoted his life to the awakening of national consciousness and many of his eloquent appeals would stir the national sentiments of India even today to their very depths .....'. Vivekananda advocated for a positive system of education in which he synthesized spiritual and material values.

## **2.8 PHILOSOPHICAL OBJECTIVES AND SRI AUROBINDO**

- 1) According to Sri Aurobindo, "The world knows three kinds of revolution. The material has strong results, the moral and intellectual are infinitely larger in their scope and richer in their fruits, but the spiritual and the great sowings." It is therefore the spiritual force through which universe can be explained.

Knowledge according to Aurobindo is nothing but to develop spiritual consciousness. Knowledge here communicates significantly between material world and spiritual consciousness.

- 2) The evolution of human mind and life according to Sri aurobindo, must necessarily lead towards in increasing Universality.
- 3) In his theory of evolution, he observed that the history of the world is the history of development, both material & nonmaterial world. Therefore, development is sourced from evolution. In the same fashion homosapiens have been evolved from the one-cell animal – both evolution and progress are proportionally related and they obviously follow the continuous process. If the evolution is continuous, then it's

a natural question: What next after human being? The answer, according to Aurobindo, is the more developed human being or the concept of Super-man will be resulted. The Superman does not mean the imaginary person but he will be the Suparamental strength of mind.

- 4) Sri Aurobindo believed in the all round development of human being. Mostly he gave importance on vital education. According to him, "The soul is something of the divine that descends into the evolution as a divine principle within it to support the evolution of the individual out of the ignorance into the light". He further added :-

"It is the whole consciousness, mental, vital, physical also, that has to rise and join the higher consciousness and, once the joining is made, the higher has to descend into them. The psychic is behind all that and support it".

## **2.9 EDUCATIONAL PHILOSOPHY OF SRI AUROBINDO**

### **The Training of the Senses :**

Sri Aurobindo gave most importance on the training of sense organs. We everybody see or hear in our surroundings. But is there any difference between see and look or hear and listen. Where lies the difference? The answer is given by Aurobindo himself :-

"Perhaps in a little more 'presence', a little extra consciousness that transmutes everything, adds a new dimension to our ordinary perceptions and gives them a freshness, a penetrating force, a comprehensiveness, an intuitive 'something'."

Sensations are an excellent instrument for attaining knowledge by seeing, observing and hearing. 'Studies develop our sensation, the mind receives things through sensation.' By the education of the sense organs one's education and knowledge may be enhanced. If any person can distinguish different odours,

yes! It's a means of education is possible.

Actually without sensation nothing is possible to perceive through which knowledge is possible. Informations do nothing. So education should be developed on the basis of training of senses. It is explained nicely by Aurobindo – “In fact, they should be used for this, as instruments of observation, control and knowledge. If one is sufficiently developed, one can know the nature of things through sight; through the sense of smell one may also know the value, the different nature of things; by touch one can recognize things, It is a question of education; that is, one must work for it”.

### **Development of Artistic Faculties :**

He has felt urgency of general education to add and function of some cultural and aesthetic education, to add artistic taste and refinement to power and precision that is the aesthetic culture which will protect learners from degrading influences.

In our society performing art and education is not highly related. We some what neglecting performing and creating art in our education system, so according to Aurobindo. “This supreme intellectual value of Art has never been sufficiently recognized. Men have made language, poetry, history, philosophy agents for the training of this side of intellectuality, necessary parts of liberal education, but the immense educative force of music, painting and sculpture has not been duly recognized.”

### **Enlightment of the Inner Movements :**

It means to be consciousness about oneself conscious of the different part of one being and their respective functions – we have to enlighten ourselves through education. The Mother said :- “To perfect oneself, one must first become conscious of oneself”.

Therefore, by education, Sri Aurobindo upholds to improve the inner potentiality of human being through the right operation of the educational system.

## **Aims of Education :**

If we synthesize the above fundamentals of Sri Aurobindo's philosophical formations, we can arrive at aims of education. The aim of education according to Sri Aurobindo is the integral development of learners. Education to be fulfilled if it embraces five principal activities of the human being – (i) The physical, (ii) The vital, (iii) The mental, (iv) The psychic and (v) The spiritual.

- i. Development of physical culture is another aim of education according to him. Besides cognitive and mental development, physical development is also well placed in his education system. "If our seeking is for a total perfection of the being, the physical part of it cannot be left aside, for the body is the material basis, the body is the instrument which we have to use."
- ii. Sri Aurobindo used to offer vital education for the learners at Pondichery. He maintains in the vital education – "The vital is the life-nature made up of desires, sensations, feelings, passions, energies of action, will of desire, reactions of the desire. Soul in man and of all that play of possessive and other related instincts, anger, fear, greed, lust, etc. that belong to this field of nature."

But the basic target of vital education in his views, is to organize and training "of this complex of forces, is of the utmost importance for the building up of character."

- iii. He criticizes the present quantitative aspect of our educational system and thinks that the improvement of the quality of oneself should be the ultimate target of our education system. About the present situation he rightly points out –

"The greatest mistake is to make an accumulation of factual knowledge, i.e., erudition, the crowning end of the education. Instead of learning how to acquire knowledge, the student is asked to store in his memory the knowledge gained by others, so as to keep it ready at hand – at last for the time of the examination".

In this way, he rationalizes the essentiality of the mental education for the child.

- iv. "Psychic" means "belonging to the soul or psychic. The psychic being is a conscious form of the divine growing in the evolution." Mother adds: With psychic education we come to problem of the true motive of life, the reason of our existence upon earth, the discovery to which life must lead and the result of that discovery: the consecration of the individual to his eternal principle." That is 'I am the master of my destiny'.
- v. Spiritual aim of education is mixed up with the psychic education and both are given the generic name "yogic discipline" although each has different goal to attain. Simply, psychic education implies a higher realization upon earth, while the spiritual education implies an escape from all earthy manifestation, even far away from the whole universe, a return to unmanifest. Psychic life is the life immortal, ever progressive change, on the other hand, spiritual consciousness means to live the infinite and eternal, to throw oneself outside the creation, beyond time and space.

This five fold aims of education proposed by Sri Aurobindo speaks for a new education which is known as 'supramental education'. According to him, it will progress from above downward, a continuous transformation from one state of being to another, till the final state, the physical is reached. This education advocates for a new ascent of specils above and beyond man toward superman.

### **Teaching and Learning :**

Sri Aurobindo in his A Preface on National Education (1920-21) prescribed three principles of teaching and learning as pointed out below :-

- I. "The first principle of true teaching is that nothing can be taught. The teacher is not an instructor or task master, he is a helper and

a guide. His business is to suggest and not to impose. He does not actually train the pupil's mind, he only shows him how to perfect his instruments of knowledge and helps and encourages him in the process. He does not impart knowledge to him, he shows him how to acquire knowledge for himself."

- II. "The second principle is that the mind has to be consulted in its own growth. The idea of hammering the child into the shape desired by the parent or teacher is a barbarous and ignorant superstition." A child must be induced to expand according to his own natural dharma. The teacher's task is to find child's dharma, develop it and use it, "to help growing soul to draw out in itself" to make it perfect.
- III. "The third principle of education is to work from the near to the far, from that which is to that which shall be." That is, the teacher and his teaching must foster a free and natural growth for facilitating the child to have the condition of genuine development. Learning is, then, growing, discovery of self.

### **The Teacher :**

- 1) The first duty of the teacher is to help the student to know himself and to discover what he is capable of doing.
- 2) According to Aurobindo the relation between teacher and student should be a relation of soul to soul. Familiarity is not required, not even advisable, but consideration and respect, as well as patience, understanding and love to be considered.
- 3) The teacher should be punctual, calm, methodical, orderly, sympathetic, courteous and will have a good personality. Nothing should be imposed from outside but suggestions will come from the inner part.
- 4) The attitude of the teacher must be one of a constant will to

progress, not only in order to know always better what he wants to teach the students but above all in order to be a living example to show them what they can.

Thus, a successful teacher is expected to have :-

- a) "Complete self-control not only to the extent of not showing any anger but remaining absolutely quiet & undisturbed under all circumstances." (Mother)
- b) "Must know that all are equal spiritually and instead of mere tolerance must have a global comprehension or understanding." (Mother)
- c) "The business of both parent and teacher is to enable and to help the child to educate himself, to develop his own intellectual, moral, aesthetic and practical capacities and to grow freely as an organic being, not to be kneaded and pressured into from like an inert plastic material (Aurobindo).

### **Physical and Moral Education :**

To Sri Aurobindo physical education, the base of the total curriculum, means not only the proper functioning of the various organs of the body but also the development of strength, balance and a sense of beauty, something akin to conceptualization of Plato. "If our seeking is for a total perfection of the being", says Aurobindo, "the physical part of it cannot be left aside; for the body is the material basis, the body is the instrument which we have to use." Therefore, a development of the physical consciousness must always be a considerable part of the complete aim of education.

The education of the intellect divorced from the perfection of the moral and emotional nature, is injurious to human progress, says Sri Aurobindo and he admits the difficulties involved in providing a suitable moral training for the school and college. He finds reasons to distinguish the heart from the mind and opines, that to instruct the mind is not to instruct the heart. Further,

he points out pertinently that “the attempt to make boys moral and religious by the teaching of moral and religious text-books is a vanity and a delusion, precisely because the heart is not the mind and to instruct the mind does not necessarily improve the heart.” The best kind of moral training for a man, that Sri Aurobindo conceives of is, “to habituate himself to the right emotions, the noblest associations, the best mental, emotional and physical habits and the following out in right action of the fundamental impulses of his essential in moral training. Sri Aurobindo stresses the value of suggestion and deprecates imposition.

### **Integral Education :**

Sri Aurobindo conceived of education as an instrument for the real working of the spirit in the mind and body of the individual and the nation. He thought of education that for the individual will make its one central object the growth of the soul and its powers and possibilities, for the nation will keep first in view the preservation, strengthening and enrichment of the nation – soul and its Dharma (virtue) and raise both into powers of the life and ascending mind and soul of humanity. And at no time will it lose sight of man’s highest object, the awakening and development of his spiritual being. This underlies the true and living integral education of him... Integrality of education is conceived as a process of organic growth and the way in which various faculties could be developed and integrated, is dependent upon each child’s inclination, rhythm of progression and law of development, swabhava (inherent disposition) and Swadharma (inner nature). Integral education is not conceived as a juxtaposition of a number of subjects and even juxtaposition of varieties of faculties. The idea is to provide facilities for varieties of faculties, varieties of subjects and various combinations of pursuits of Knowledge, power, Harmony and Skill in works.

“The system of Integral Education as being experimented at the Ashram accepts the truth and values underlying all the systems of education, but it is identical with none of them. It does stree harmonious development of the physical, the vital



and the mental, but the harmony is sought to be achieved not by any mental or moral or religious ideas or system, but by an uncompromising stress on an inner seeking and discovery of the psychic and spiritual principles in the personality” [Exploration in Education, p.3.]. Again, “An Integral education which could with some variations, be adapted to all nations of the World, must bring back the legitimate authority of the spirit over a matter fully developed and utilized”. Mother.

Mother maintains, “To pursue an integral education that leads to supramental realization a fourfold austerity is necessary and also a fourfold liberation’, and their practice will constitute the fourfold discipline or Tapasya which can be defined as: Tapasya of Love; Tapasya of knowledge; Tapasya of Power and Tapasya of Beauty.

Sri Aurobindo visualized the true National System of Education and formulated in its model that appeared in the Karma Yogin for the first time long before the proposition of basic education given by Gandhiji himself. His formulation of national education perfectly reflects his deep sense of patriotism and burning passion for education of the Indian children and youths where “They (students) should be the children of the past, possessors of the present, creators of the future. The past is our foundation, the present our materials and the future our aim and summit” (Sri Aurobindo). Latter, this formulation culminated fully into his Integral Education which is being practised till the date at Sri Aurobindo Ashram, Pondicherry.

## **2.10 PHILOSOPHY OF RABINDRANATH TAGORE**

- 1) Rabindranath’s philosophy is rooted from the Upanishadas. He tries to take fragrance from the world of infinite to realize Satchidananda to his life and writings too. But mostly he applied the concept of ‘Ananda’ in his life philosophy, defined as Anandabad.

- 2) Tagore is greatly influenced by naturalistic philosophy. For him the inclusive and ultimate target of human life is to natural development of the individual. He promotes that nature should have freedom to educate the child through direct and personal experience from the nature itself. Tagore was naturalist but like a pragmatist he works on a vast canvas beyond the frontiers of a single individual to the universal human society.
- 3) Tagore's philosophy is keenly related to the concept of God and nature. Man is the highest creation of God in the universe. Man is, therefore, originated from his internationalism and humanism. Human being can be expressed through the creative activities like poetry, literature, different arts like painting, music, dramatics etc., Aesthetics and the science of beauty are the link between human and divine. To him the art of music which almost directly bridged the gulf between the man and divine.
- 4) Consciousness is the greatest gift of God according to Tagore. From his Consciousness ethics on morality which awakened the values of truth, beauty, goodness, love etc.

## **2.11 PHILOSOPHICAL OBJECTIVES AND RABINDRANATH TAGORE :**

Now we are going to discuss educational philosophy of Tagore –

- 1) Tagore's idea about education is to cultivate human being through Communion with nature mingled with freedom and Joy and Cultural Collaboration with other people'.
- 2) Creative selfexpression is one of the prominent educational philosophy of Tagore. He considered cultural practices as part and parcel of Curricula. To him dance, drama, recitation, singing and other performing arts are integral part of the education system.

- 3) Tagore's concept of national integration, international understanding leading to globalised world have been used in education as a tool for developing oneself.
- 4) Tagore's emphasis on the development of socialization, social awareness, skillfulness, productive ability and social usefulness through education is relevant in present day's context.
- 5) The basic principle of Tagore's educational philosophy are freedom and harmony with natural and human sunng.
- 6) The objective of education according to Tagore is to the all-round development of learners reflected through his words –

“The ideal education must combine in himself the gifts of a philosopher, a poet, a mystic, a social reformer, a scientist and a veritable man action, because he has to take into account all types of men and their aspiration, all facts of human personality, all levels of man's experience, all fields of endeavour and achievement”.

### **Aims of Education :**

Aims of education, according to Tagore, can be deduced from his philosophical standing and thought on education. He has presented aims of education in multitude dimensions, all embracing life which vibrates with the hymn of Satyam, Sivam and Sundaram... The supreme aim of education is harmony of all existence.

Education aims at the creation of Universal Man (Vishvamanav).

Education aims at initiating and sustaining harmony and love between man and nature...

Education objects to offer man the unity of truth.

Education aims at developing full man.

Education is living, not alien from realities and cultural contexts.” “True education consists in knowing the use of any useful materials that has been collected, to know its real nature and build along with life a real shelter for life.”

Education must appreciate both the liberal and utilitarian aspects of human life.

Education must aim at developing men and women who may be able to fulfil the needs of the country.

Education aims at fostering physical, intellectual and emotional development of the child.

Education, what he calls ‘total or natural education’, consists of cultivation of knowledge together with the performance of manual labour in the natural surroundings.

Education aims at developing the spirit of nationalism as well internationalism education.

### **Curriculum :**

The Santiniketan and Visvabharati introduced music, art, craft, dance, drama and mainly aesthetic approach in the mist of nature. He emphasized the vocational education also. At Sreeniketon he established the Vocational unit on the basis of work oriented education system. Other than Vocational and creative subjects, academic subjects are also given importance for imparting education. Tagore wished to equip his strength with the help of curricular and co-curricular activities for ensuring balanced education of the child.

The curriculum consists of not only traditional subjects which can develop intelligence but also subjects like music and dance which helped to realize the all sided development of a learner. Tagore felt the need for introduction of modern sciences and technologies in curriculum of the students though he

emphasized on the cultivation of the past treasure of India in child. In this way, he was an Indian Pragmatist.

### **Methods of Instruction :**

There was a lot of novelty in his methods. According to Tagore Nature is a great book as well as a great teacher. Children should learn from direct experience of nature. The teacher and the pupil used to sit in the shade of a tree and the act of learning was executed in the open contact with nature. The students can enjoy full freedom. Children are also evaluated through examination but in a free and pressureless atmosphere.

Mostly activity based education system have been followed. The activities are –

- 1) Academic enhancement related to individuals enrichment of life.
- 2) Activities related to Community development programmes.
- 3) Activities related to Vocational programmes.

The medium of instruction is the mother tongue. Tagore's views that reward and punishment do not provide any effect but for teachers' initiation, inspiration and encouragement no material reward was needed to motivate the students, whereas punishment only deteriorated motivation. Here, the teachers role is an initiator and maintainer.

### **Role of the Teacher :**

A teacher can not teach well unless he himself continues to learn just as "a lamp can never light another lamp unless it continues burn its own flame." A teacher does not merely inform but inspire his pupils. A real teacher is benevolent mentor-co-learner, co-discoverer as well as task master. He envisioned a true constructivist teacher devoted to flowering of the plant in pupil.

According to Tagore, education was not only imparting information but to develop himself by improving the personality and through formation of character. With all the advancement of science and technology quality and quantity can not move simultaneously resulting lacking of human progress. Tagore is the rare personality who tries to revive the ideals of ancient Indian culture and heritage. His approach is basically cultural upgradation. The ideas of Tapovan or the Gurukul system that he advocates is the natural reaction against the mechanical system of education. Rather Tagore introduced different creative subjects together with our cultural heritage is the unique implementation of his philosophy into practices. He experimented in education and learning for the balanced cultivation of the treasure within the child and his experiments were never unsuccessful in his days.

## **2.12 PHILOSOPHICAL OBJECTIVES AND GANDHIJI**

**According to Gandhi :**

- 1) Truth is the ultimate reality of life and non-violence is the way to achieve the goal. Gandhiji believes that truth is one and therefore, it is the ultimate target of human life. Non-violence is the process for attaining truth which is the basic target for upliftment of humanity.
- 2) He realizes no difference between Truth and God. God is the highest manifestation of Truth. The whole Universe is the expression of Truth itself. The supreme goal of life is searching truth.
- 3) As a significant political personality in India he wanted to establish a society based on truth, non-violence, equality, justice and other human qualities.
- 4) Gandhiji believed in democracy and socialism for developing and organizing a country guided by the moral and social values.
- 5) Gandhiji is one of the greatest humanists and he presented himself for the service of mankind. His concept of humanism and socio-political

philosophy are rooted in the Indian cultural heritage and values.

- 6) Secularism is a very much dominating factor of Gandhiji's philosophy. Throughout his political career Gandhiji exhibited himself as a symbol of secularism what lead to the shaping our constitution. When India attained independence.
- 7) Gandhiji believed that without the upliftment of masses no nation can be advanced. He pointed out "I would have mass education, not as we ordinarily understand it, but education of parents, so that they can undertake adequately the moulding, of their children and that is he philosophy of mass education for Gandhi".

## **2.13 EDUCATIONAL PHILOSOPHY OF GANDHI**

The true picture of his philosophy of education can be understood if you synthesize the following points which have been deduced from his philosophy of life.

- (1) Education should be self-supporting mechanism. Gandhiji believed that handcraft would make education more realistic, productive and self supporting.
- (1) Free and compulsory education should be provided between the age group 7 and 14 which was supported by the First Conference of National Education at Wardha in 1937.
- (1) Craft-centered education was his innovative ideas on education as a means for social transformation.

Gandhiji believed that the highest development of mind and body is possible only through handcraft. Self supporting and productive based education system is possible by craft centered education for improving quality of life of the masses.

(1) The medium of instruction should be mother tongue.

Gandhiji believed that only positive transfer of teaching-learning is possible through mother tongue. This concept is universally accepted.

(1) Non-Violence is the creed of life. Ahimsa is the best tool.

About non-violence in education Gandhiji uttered, "We cannot, will not think of exploitation, and we have no alternative but this plan of education which is based on non-violence."

Gandhiji's basic educational philosophy is to apply the concept of non-violence in the teaching and learning to develop basic human qualities and also to promote democratic citizenship among learners.

(1) Dignity of labour is an important value in life.

Gandhiji believed that education should be work oriented which can enable learner to appreciate the dignity of labour. Thus, education will be productive and it will help the society and nation to go ahead.

(1) Realistic or activity based education system is more convincing form of education. Activity is natural dharma.

Gandhiji will be better to view as pragmatist. Gandhiji advocated for productive education rather than bookish knowledge. His educational concept gives emphasis on productive efficiency and practical skills through craft. The selected activity – to be taught and applied to make the learners good craftsman and enable them to provide self supported education.



## **Aims of Education :**

Aims of Education according to Gandhi may be stated as :

1. To develop self realization, self confidence, morality and oneness with God is the ultimate aim of education.
2. According to Gandhiji "True education should result not in the material power but in spiritual force". Therefore, according to Gandhiji education should be based on spirituality which is the ultimate aim of his concept.
3. Gandhiji advocated the self-supporting education as its utilitarian aim as it can remove unemployment and it is need-based too.
4. By education Gandhiji meant all round development of mind, body and spirit. It is possible through a productive craft. It involves all round progress by hand, heart and head.
5. The end of all education according to Gandhiji 'should be the building up of character'. Moral development is held as the highest priority by Mahatma Gandhi.

The concept of Gandhiji's philosophy of education is unique, balanced and unquestionable. But its implemantion is rather weak. Therefore, Education Commission (1964-66) has rightly pointed out :-

"What is now needed is a reorientation of the basic education programme to the needs of a society that has to be transformed with the help of science and technology."

In spite of these criticisms, Gandhiji's contribution to our national systems of education is still remarkable minimally in the aspect of value education. Further, many of his ideas have been recognized by UNESCO.

"As you continue to philosophize, you will discover why the philosophic quest never ends in one big illumination. Each new era presents the same problems in a new setting; the old solution never quite fit, .... The philosophic

mind is the growing mind, and it therefore outgrows its own solution.” Dewey pointed out that a “philosophy of education” is not the application of ready-made ideas to everyday problems but rather the formation of right mental and moral attitudes to use in attacking contemporary problems. Hence, philosophy itself is the theory of education in its most general phases”. When fundamental changes occur in social life, we must reconstruct our educational programme to meet those challenges. In this way, education has a moral influence and has a vital part in helping us become the kind of moral persons who are interested in promoting not only our own growth but also in promoting the growth of others. Philosophy of India education at the present age can not be ornamented by merely an imitation of the past philosophic goods; rather it should be a synthesis of the noblest gems of all humanistic approaches to good life. Still it will ever-shine for its unique Indian-ness.

## **2.14 PHILOSOPHICAL OBJECTIVES : FROM INDIAN SCHOOLS OF PHILOSOPHY**

We know, philosophy and education is interrelated and interdependent. Education is sourced from philosophical truths. The people used to take education from different subjects like Kavya (literature), Nataka (drama), Alankara ( the poetic), Tarka (logic) and Vyakarna (grammar). The basic objective of this education system is to develop quality of life. Here the education system is life centric. Life have been exposed through philosophical principles for the attainment of highest truth where philosophy and education superimpose to each other. Indian schools of philosophy contributes to humanize their education system by their life long education process, where philosophy and education go hand in hand. Indian schools of philosophy are divided broadly in two categories, namely orthodox (astika) and heterodox (nastika). The astika believes in the authority of Vedas. The nastika does not consider the Vedas as infallible.

Form the Nyaya Philosophy it will be clear that how presentative cognition is possible through different sources of knowledge. Here knowledge is possible through the interaction of objects with sense organas.

Philosophy is a system. The systematic structure of philosophical though is unfold into three subsystems such as :

- (i) Epistemology – that is the theory of knowledge,
- (ii) Metaphysics – which deals with creation of the world, and
- (iii) Axiology – related to the values of different philosophical schools.

Education as a discipline we try to elaborate our ideas regarding the epistemological dimension of schools of philosophy as because it will help to extract educational objectives and other necessary principles.

## **2.15 THE NYAYA THEORY OF KNOWLEDGE**

The Nyaya Philosophy was founded by the great sage Goutama. It is primarily concerned with the conditions of correct thinking and the means of acquiring a true knowledge of reality. The ultimate reality of this philosophy deals with the objects through which knowledge is possible because all knowledge in any way related to objects but with an independent entity. In this reason Nyaya Philosophy described as pluralistic realism. Knowledge or Cognition is the manifestation of objects through our senses. In Nyaya Philosophy objects are nine —

(1) Prthibi (Earth), (2) Ap (Water), (3) Tejas (Fire), (4) Vayu (Air), (5) Akasa, (6) Kala (time), (7) Dik (Space), (8) Ataman (Self), (9) Manas (Mind). The different objects (dravyas) with their attributes can explain the universe and that is the fundamental aspects of acquiring true knowledge in Nyaya Philosophy.

The Nyaya theory of reality is based on the Nyaya theory of Knowlege. There are four distinct and separate sources of true knowledge. They are : (1) Perception, (2) Inference, (3) Comparison and (4) Testimony.

Philosophical objectives according to Nyaya Philosophy.

## **(1) PERCEPTION :**

Perception is immediate Cognition. It is a form of knowledge which manifests by contact of a sense organ with an object.

The ordinary or Laukika Perceptions are of six forms – Visual, auditory, tactual, gustatory, alfactory and the internal or mental.

The extraordinary or alaulika perception are of three kinds – Samanyalaksana, Janaalaksana, Yaogaja.

### **Three modes of ordinary Perceptions :**

- I. The First is Nirvikalpa or indeterminate which is cognition of things without any explicit interaction or characterization.
- II. The second is Savikalpaka or determinate in which the object is judged as passed by some characters.
- III. The third is Pratyabhijna i.e. recognition in its literacy meaning. It is a recognition of some object i.e. a cognition which was cognized before.

In another classification it is divided into three kinds of inference –

- 1) Kevalanuayi (Cause and effect positive relationship)
- 2) Kevalavyatireki (Besides causes and effect relationship)
- 3) Anavayavatireki (both Positive and Negative relationship present here)

## **(2) COMPARISON**

Comparison is the third source of valid knowledge which means to place things together to estimate their similarity and dissimilarity. It is the relationship between a name and things.

For example, a man who does not know what is a buffalo may be told that it is an animal like the cow. If the man meets faces such an animal in

a place and can able to recognize it as a buffalo will be due to comparison with his previous knowledge of analogy between two things.

### **(3) TESTIMONY (SABDA)**

Testimony or Sabda means Verbal knowledge which can communicate information to other. In Nyaya philosophy it is considered as a Pramana as an independent entry. The Nyaya admits verbal statement is valid when it works from a trustworthy person.

Verbal knowledge may be classified in two ways –

Testimony or Sabda are of two kinds according to another classification :

- 1) The scriptural – It is the words of GOD. It is thus perfect and infallible by its very nature.
- 2) The Secular – It is not valid knowledge. It is the testimony of human being and may be true or false. Only that which proceeds from trustworthy person is valued.

### **(4) INFERENCE**

The conception literary means a cognition or knowledge which follows another knowledge (anu means after and mana means knowledge). To explain the conception of inference we can consider the following syllogism :

The hill is fiery, because it smokes and whatever smokes is fiery. Here we pass from perception of smoke in the hill to the knowledge of the existence of the fire in it. On the ground of our previous knowledge of the universal relation between smoke and fire, it ascertains the presence of fire due to smoke as it confirms the presence of smoke is the medium through which attributes of fire is being confirmed.

The constituent of the above syllogism is given below :-

- 1) The hill is the minor term i.e. subject under consideration.
- 2) Fire is the major term i.e. which we have to prove.
- 3) Smoke is the middle term indicates the presence of fire.

The first step (The hill is fiery) in inference is the apprehension of the hetu (smoke) in the Prakasa.

The Second step (Because the hill is smokery) is recollection of the universal relation between hetu and Sadhya (Smoke and Fire). The last step is the cognition of Sashya (fire) as related to Pakasa.

Gautama suggests to three types of Inferences –

- 1) Puravat (Reasoning based on resemblance)
- 2) Sesavat (Reasoning based on elimination)
- 3) Samayatodrasta (Reasoning based on inner support)

Besides this, we have two kinds of classification for inference in Nyaya —

- 1) Svartha (Inference for self)
- 2) Paratha (Inference for others)

These are the four valid sources through which knowledge can be attained.

These are the four valid sources through which knowledge can be attained. The greatest contribution of Nyaya Philosophy is in its methodology which is almost accepted by the other systems.

The Nyaya view is undoubtedly a natural and necessary platform for the evolution of thought and its practice for humanizing the betterment of self and society.

## THE EDUCATIONAL IMPLICATIONS

**Aims :** Emphasis should be give on :

- 1) Development of perception.
- 2) Development of argumentations through cause and effect relationship.
- 3) To promote verbal knowledge through real objects.
- 4) To develop reasoning ability among learners.
- 5) Learners will be able to compare different sources of knowledge.
- 6) Development of creative thinking by applying the process of inference.
- 7) Development of values through proper cognition.
- 8) The Nyaya epistemology deals with the nature of valid knowledge, its instruments, extrinsic validity the invalidity of knowledge and the tests of truth.
- 9) The Nyaya definations of knowledge are realistic. Truth is correspondence of an apprehension with its object.

**Curriculum :** According to Nyaya Philosophy curriculum should be based on realistic approach. To know the world through the objects is the ultimate reality of this philosophy. So the curriculum must follow the basic principles of the realistic world and the values of life.

**Methodology :** Education is provided through discussion method. It helps learners to determine reasoning ability. Both inductive and deductive reasoning are used during argumentation to prove the logic of any particular topic.

## **2.16 SANKHYA THEORY OF KNOWLEDGE**

The Sankhya and Yoga philosophy admits the existence of Purusas and Prakriti. Dualistic purusa and prakriti are the ultimate reality in Sankhya and Yoga philosophy. The world manifests when purusa come in contact with Prakriti. The union of Purusa and Prakriti is the reason for the evolution of the wordly things.

Manas, sensory organs and other motor organs are, the instrument of attaining knowledge. Purusas is conscious part but not active being which is activated through the reflection of Mahat or buddhi. The different qualities of prakriti are unconscious objects which constitute the material environment of the Purusa. Purusa is the cause and prakriti is the effect through which different attributes of life are expressed.

### **Philosophical objectives from Sankhya Theory of Knowledge**

Now we are going to discuss the sources of knowledge in the Sankhya systems.

The Sankhya theory of knowledge which explains dualistic realism. The sankhya accepts only three independent sources of valid knowledge. These are perception, inference and scriptural testimony (sabda). The other sources of knowledge, like comparison, postulation and non-cognition, are included under these three, and not recognized as separate sources of knowledge.

Valid knowledge (Prama) is a definite and an unerring condition of some object through the modification buddhi or the intellect which reflects the consciousness of the self in it. Consciousness or intelligence really belongs to the self. But the self control immediately which apprehends the objects of the world. The self knows objects through the intellect the manas, and the senses. We have a true knowledge of objects when, through the activity of the senses and the manas, their forms are impressed on the intellect which, in its turn, reflects the high or, consciousness of the self.

In all valid knowledge three are three factors, namely, the subject



(Paramata) the object (Prameya) and the ground or source of knowledge (Pramana). The modification (vrotti) of the intellect, through which the self knows an object, is called Pramana. The object presented to the self through this modification is the Prameya. Prama or valid knowledge is the reflection of the self in the intellect as modified into the form of the object.

Perception is the direct cognition of an object through its contact with some senses. When an object like the table comes within the range of your vision, there is contact between the table and your eyes. The table produces impressions or modifications in the sense organ, which are analysed and synthesized by manas or the mind just as a mirror reflects the light of a lamp and thereby manifests other things, so the material principle of buddhi, being transparent and bright, reflects the consciousness of the self and illuminates or cognizes the objects of knowledge.

It is also called alocana or amere sensing of the object. The second kind of perception is the result or the analysis, synthesis and interpretation of sense-data by means or the mind. So it is called vivecana or a judgement of the object. It is the determinate cognition of an object as a particular kind of the thing having certain analysis and standing in certain relation to other things. The determinate perception of an object is expressed in the form of a subject-Predicate Propositionm, e.g. This is a cow, 'that rose is red'.

Inference is the knowledge of one term of a relation, which is not perceived through the other which is perceived and known to be invariable by related to the first.

Inference is first divided into two kinds, namely, vita and avita. It is called vita or affirmative when it is based on a universal negative proposition. The vita subdivided into the purvavat and the samanyato-drsta. A purvavat inference is that which is based on the observed uniformity of concomitance between two things. Samanyatodrsta inference on the other hand is not based on any observation of the concomitance between the middle with such facts as are uniformly related to the major. The other kinds of inference, namely avita is what some Naiyayikas call sesavat.

The third pramana is Sabda or testimony. It is constituted by authoritative

statements and gives the knowledge of objects which cannot be known by perception and inference. Sabda is generally said to be of two kinds, namely, laukika and vaidika. It is the testimony of sruti or the Vedas that is to be admitted as the third independent Parmana. The Vedas give us true knowledge about super sensus relatives which cannot be known by perception and inference.

## **THE EDUCATIONAL IMPLACATIONS**

Educational implications of the Sankhya systems are :

- 1) Self realization is the source of knowledge or cognition.
- 2) Intellectual development is a significant factor for self consciousness in Sankhya Philosophy to promote oneself for acquiring knowledge.
- 3) Development of Sense organs.
- 4) Mental development is also another important objective to attain quality of life.

## **2.17 THE YOGA THEORY OF KNOWLEDGE**

Patanjali was the founder of the yoga system. The yoga is closely allied to the Sankhya system. It is the application of the theory of the Sankhya in practical life. The yoga mostly accepts the Sankhya epistemology and admits the three Parmanas of perception, inference and testimony.

There are two kinds of perception, namely nirbikalpaka or the indeterminate and savikalpaka or the determinate. The first arises at the first moment of contact between a sense and its object, and its antecedent to all mental analysis and synthesis of the sense data.

The yoga philosophy admits the metaphysics of sankhya. In Sankhya we are discussing the twenty five principles including Prakriti, Mahat,

Ahamkara, Manas, Tenexternal sense organs, give tanmatras, five gross elements and purusas. In yoga the dualistic purusa and prakriti is connected by an another concept that is the concept of God besides twenty five principles mentioned above. The evolution system of yoga is given below :

There are two parallel evolution processes are observed. Manas, sense organs and motor organs are the instruments of attaining knowledge.

The modification of the self is the apprehending mental mode which is considered as valid knowledge. The self is the knower and the object apprehended through the mental mode is the reflection of valid knowledge of an object. It admits external objects are real by which mental modes are modified and reflected through valid knowledge.

Valid Knowledge (Prama) is a definite and an unerring cognition of some object through the modification of buddhi or the intellect which reflects the consciousness of the self in it. Consciousness or intelligence really belongs to the self. But the self cannot immediately apprehend the objects of the world. The self knows objects through the intellect, the manas and the senses. We have a true knowledge of objects when, through the activity of the senses and the manas, their forms are impressed on the intellect which, in its turn, reflects the light or consiousness of the self.

In all valid knowledge there are three factors, namely, the subject (Pramata), the object (Pramaya), and the ground or source knowledge (pramana). The modification (vritti) of the intellect, through which the self knows an object, is called Pramana. The object Presented to the self through the modification is the prameya. Prama or valid knowledge is the reflections of the self in the intellect as modified into the form of the object.

Perception is the direct cognition of an object its contact with some sense. Just as a mirror reflects the light of a lamp and thereby manifests their things, so the material principle of buddhi, being transparent and bright, reflects the consciousness of the self and illuminates or cognizes, the objects of knowledge.

There are two kinds of 'Perception' namely, nirvikalpaka or the indeterminate and savikalpaka or determinate. The first arises at the first moment of contact between a sense and its object, and is antecedent to all mental analysis and synthesized of the sense-data. It is accordingly called alocana or sensing of the object. The second kind of perception is the result of the analysis, synthesis and interpretation of sense-data by manas or the mind. So it is called vivecana or a judgement of the object.

Inference is the knowledge of one term of a relation, which is not perceived, through the other which is perceived and known to be invariably related to the first.

## **EDUCATIONAL IMPLICATIONS ACCORDING TO YOGA PHILOSOPHY**

Some educational implications of the Yoga systems are :

- Pragmatic views of life is supported by yoga philosophy. Educational objectives should be application based and activity oriented.
- Physical development is given priority for concentrating oneself for gathering knowledge.
- Moral development is being given highest priority in yoga philosophy reflected through the eightfold path to be followed in educational measures.
- Self realization is the ultimate target in Yoga Philosophy. So educational objectives are also based on to develop self potentiality.

**Methodology :** Moral training will be given for mental and physical development for awakening cognition. Methodology should be activity based.

## **2.18 THE CHARVAKA THEORY OF KNOWLEDGE**

In Indian Philosophy the word 'Charvaka' means a materialist. The entire philosophy of the Charvaka may be said to depend logically on their epistemology or the theory of knowledge. The main problems of epistemology are : How far can we know reality? How does knowledge originate and develops. This last question involves the problem : What are the different sources of knowledge? This problem forms one of the chief topics of Indian epistemology. Knowledge of reality or valid cognition is called Prama and the source of such holds that perception is the only pramana or dependable source of knowledge. For establishing this position it criticizes the possibility of other sources of knowledge like inference and testimony which are regarded as valid pramanas by many philosophers. Let us now its basic tenets in the following sub-units.

### **INFERENCE IS NOT CERTAIN**

If inference is to be regarded as a Pramana, it must yield knowledge about which we can have no doubt and which must be true to reality. But inference cannot fulfil these conditions, because when we infer, for example, the existence of fire in a mountain from the perception of smoke in it, we take a leap in the dark, from the perceived smoke to the unperceived fire.

The Charvaka points out that this conception would be acceptable only if the major Premises, stating the invariable relation between the middle term (smoke) and the major (fire), were beyond doubt. But this invariable relation can be established only if we have a knowledge of all cases of smoke and presence of fire. This, however, is not possible, as we cannot perceive ever all the cases of smoke and fire existing now in different parts of the world, to speak nothing of those which existed in the past or will exist in the future. No invariable, universal relation can, therefore, be established by perception. Neither can it be said to be based on another inference, since the validity of that inference has to be similarly proved.

Uniformities of experience are explained by the inherent nature of things, which also may change in future. Unfailing character of all inference, it is only an accident, and a separable one, that we find only in some inferences.

Inference cannot be regarded, therefore, as a Pramana – a sure source of valid cognition.

## **TESTIMONY IS NOT A SAFE SOURCE OF KNOWLEDGE**

The Charvaka says that testimony consists of words. So far as words are heard through our ears, they are perceived. Knowledge of words is, therefore, knowledge through perceptions and is quite valid. But in so far as these words suggest or mean, things not within our perception and aim at giving us knowledge of those unperceived objects, they are not free from error and doubt. Very often we are misled by so called authority.

The Charvaka says that in so far as we depend on any authority, because we think it to be reliable, the knowledge obtained is really based on inference, because our belief is generated by a mental process like this. This authority should be accepted because it is reliable, and all reliable authority should be accepted. Being based on inference, knowledge derived from verbal testimony or authority is as precarious as inference. And as in the case of inference, so here we often act on knowledge derived from authority on the wrong belief that it is. Sometimes this belief accidentally leads to successful results, sometimes it does not. Therefore, all theory or testimony cannot be regarded as a safe and valid source of knowledge.

Thus, neither inference nor authority can be proved to be reliable, Perception must be regarded as the only valid source of knowledge (Prama).

## 2.19 PHILOSOPHICAL OBJECTIVES ACCORDING TO THE VAISESIKA THEORY OF KNOWLEDGE

The Vaisesika system was founded by the sage Kanada also named Utuka. It is allied to the Nyaya system. They have the same end in view, namely, liberation of the individual self. According to Vaisesika, ignorance is the root cause of all pain and suffering and liberation which consists in their absolute cessation, is to be attained through a right knowledge of reality.

The Nyaya accepts four independent sources of knowledge, namely perception, inference, comparison and testimony, the Vaisesika recognizes only two, viz Perception and Inference.

(1) **Perception** : In logic perception is to be regarded as a form of true cognition. The perception of the table before me is due to the contact of my eye, with the table, and I am definite that the object is a table. The perception of a distant figure as either a man or a post is a doubtful and indefinite cognition, and therefore, not a true perception. The perception of a snake in a piece of rope is definite but false, and so it is different from valid perception.

**Classification of Perception** : There are different ways of classifying perception. First, we have the distinction between *laukika* or ordinary and *alaukika* or extraordinary perceptions.

*Laukika* perception when there is the usual sense – contact with objects present to sense. In *alaukika* perception, however, the object is such as is not ordinarily present to sense, but is conveyed to sense through an unusual medium.

Perception again is of two kinds, namely external and internal. The former is due to the external senses of sight hearing, touch, taste, and smell. The latter is brought about by the mind's contact with the psychical states and processes. Thus, we have six kinds of *laukika* or ordinary perceptions, viz, the visual, auditory, tactual, gustatory, alfactory, and the internal or mental perception. *Alaukika* or extraordinary perception is of three kinds, viz, *Samanyalaksana*, *Jñanalaksana* and *Yogaja*.

According to Vaisesika there are six organs of knowledge of these five are external and one is internal. The five external senses are the organs of smell, taste, sight, touch, and hearing. Mind is the internal organ which perceives such qualities of the soul as Desire, Aversion, Striving or Willing, Pleasure, Pain and Cognition.

There are three kinds of extraordinary perceptions. The first is Samanyalaksana and the second is Jnanalaksana, and third is called Yogaja.

There are three modes of ordinary perception, namely nirvikalpaka or the indeterminate and Savikalpaka or the determinate. To these two we may add recognition.

The first is nirvikalpaka, which is cognition of things without any explicit interrelation or characterization.

The second is Savikalpaka, in which the object is judged as possessed of some character.

The third is pratyabhtjha or recognition, which is the cognition of an object as what was cognized before.

(2) **Inference** : Inference is the process of knowledge something not by observation, but through the medium of a mark that is invariably related to it.

**For example** : “The hill is fiery, because it smokes and what ever smokes is fiery”. We pass from the Perception of smoke in the hill to the knowledge of the existence of fire in it, on the ground of our previous knowledge of the universal relation between smoke and fire.

**As Dr. B. N. Seal puts it** : “Anumana (Inference) is the process of ascertaining, not by Perception or direct observation, but through the instrumentality or medium of a mark, that a thing possesses a certain character.”



**The Constituents of inference :** Inference has three terms at least three propositions.

Paksa is the minor term, sadhya the major term and Sadhana the middle term of anumana or inference.

The three steps and propositions in an inference are – the first step in inference is the apprehension of the hetu (Smoke) in the Paksa (hill), the second, recollection of the universal relation between hetu and Sadhya (smoke and fire) and the last is the cognition of the Sadhya (fire) as related to the Paksa (hill).

### **The Grounds of Inference**

There are two conditions of an inference. In inference our knowledge of the Sadhya (fire) as related to the Paksa (hill) depends on the previous knowledge of the hetu (smoke) as connected with the Paksa on the one hand, and universally related to the Sadhya, on the other. We infer that there is fire in the hill, because we are that smoke is always accompanied by fire. It appears, therefore, that an inference has two conditions. The first is a cognition of the hetu or middle term (smoke) in the Paksa or minor term (the hill). The second is the relations of invariable concomitance between the middle and the major term.

Vyapti is the logical cognition of inference. There are two kinds of Vyapti, Vyapti is an invariable and unconditional relation of concomitance between the middle and the major term. According to the first classification, inference is of two kinds, namely, Svarth and Parartha.

## **2.20 THE ADVAITA VEDANTA OF SAMKARA**

Samkara distinguishes between the ontological reality and the empirical reality. The former is known by true knowledge (vidya) or higher knowledge (Para vidya). Brahmana is known by higher knowledge. It is trans-empirical subject-objectless consciousness. There is no distinction of the knower, the knowledge, and the known in it. It is not conditioned by space, time and causality which are empirical categories. The spatio-temporal world bound by causality is known by knower knowledge. It is known through the categories of space, time and causality by empirical knowledge. It involves the distinction of the knower and the known. True knowledge (vidya) is intuition (anubhava), which is super intellectual integral experience (samyag darsana). It is higher immediacy. False knowledge (avidya ) is discursive, intellectual knowledge. It is categorized, empirical and fragmentary knowledge. Higher knowledge is absolute knowledge of identity. Lower Knowledge is relative and pragmatic knowledge of different. Though they are opposed to each other, relative knowledge is a step to absolute knowledge. Intellect is a means to intuition.]

Brahman is the Atman. It is the external, universal, foundational knowledge. It is the reality underlying the empirical world and the empirical selves. It cannot be known by sense-perception and intellectual knowledge. It can be known by higher knowledge or intuition. Lower knowledge is inadequate to grasp it.

The Atman is the reality (satya). The empirical world including the body, the senses, and the internal organs, which is not self (anatman), is logically unreal. But avidya impels the empirical self organism. It leads to confusion of the Atman with the not self the witness (visayin) with the known object (visaya). Confusion consists in super imposition of the self (anatman) on the transcendentalself or Atman and super imposition of the Atman on the not self Avidhya is the false knowledge, of the self (Atman) in the mind body aggregate, which is not self Vidya is the true knowledge of the Atman as distinct from the mind body aggregate. The Atman is the witness of all. It illumines the internal organ, which is the object of self-consciousness. It is a known object or not self. It is super-imposed on the Atman. This

confusion is false knowledge. It is the cause of agency and enjoyment. It is evident to all. It is beginningless, endless, and natural. It is endless in the sense, that it continues till true knowledge of the Atman is attained. False knowledge Atman with Brahman. The Atman or Brahman is known by empirical knowledge.

## **2.21 THE PHILOSOPHY OF VISISTAADVAITA : THEORY OF KNOWLEDGE**

Srinivasa defines valid knowledge as the knowledge which apprehends an object as it really exists, and which prompts fruitful activity. Knowledge accords with a real object, and initiates action which leads to its practical use. Perfect knowledge is co-herent. It is in harmony with the reality as an organic whole. Ramanuja recognizes the realistic test of correspondence, the Pragmatic test of work ability, and the idealistic test of co-herece. These are the tests of truth. Pramana is the means of valid knowledge (Prama). Perception, Inference and Testimony are the true sources of knowledge.

Perception is the means of immediate valid knowledge. Perceptual knowledge is immediate. It is different from illusion which is produced by the sense organs. Perception is indeterminate (nirvikalpa) and determinate (savikalpaka). Indeterminate perception is perception of the first individual of a class, endowed with qualities and particular arrangement of parts. Determinate perception is perception of the second individual and the like, qualified by attributes and a particular configuration, which involves recollection. Indeterminate perception is a Presentative – representative process. Both apprehend qualified objects knowledge of an unqualified object is impossible. Perception, again, is sensuous or non-sensuous. Non sensuous perception is yogic intuition on intuition due to the graces of God. Perceptions as of the released souls, the eternally released souls, and God also are non-sensuous. Memory depends upon previous perception. It is knowledge produced by the sub-conscious impression of previous perception only. So it is not an independent source of knowledge. It is included in perception.

Inference is valid knowledge of a specific instance. A particular fire is inferred from the perfection of the smoke which is always pervaded by fire. The middle term is invariably accompanied by the major term. The major term is inseparable to co-relate of the middle term. Vyapti is the invariable concomitance of the middle term with the major term, not vitiated by conditions (Upadhi). For instance, wherever, there is smoke there is fire. Vyapti is known by observation of a large number of instances of their co-existence. The Nyaya syllogism consists of five members, proposition, reason, example, application and conclusion. Ramanuja maintains that the example or universal major premises and the application of minor or minor premise are enough for intelligent persons. All the five members are necessary for dull persons. Ramanuja recognizes the two kinds of inference, Kevalanuvayj, and Anvayavyalireki. He rejects Kevalavyalireki inference. He admits the five fallacies of Asiddha, viruddha, anaikanlika, Prakrasama and Kalalyayopadisha.

Comparison (upamana) is the knowledge of a coiled cow or similar to a cow perceived already on the statement of a forester. It is included in inference, since it depends upon the knowledge of invariable concomitance between words and objects denoted by them. It is included in Perception, since recollection of similarly or a wild cow with a cow depends upon previous perception of it. It is included in testimony since it is produced by the statement of a reliable person. So comparison is not an independent source of knowledge. Presumption also is included in inference. Testimony is either secular or scriptural. Secular testimony is knowledge produced by a sentence uttered by a reliable person. It is not vitiated by the defect of its cause and not reasoned by contradicting knowledge. Expectancy, mutual fitness and proximity of the constituent words are necessary for a sentence. Scriptural testimony is knowledge of supersensible objects, produced by sentences which are not uttered by God at the beginning of each cycle. The entire Vedas are valid. Brahmana is not perceived. He cannot be proved or disproved by reason. He is proved by the Vedas only. They are the only source of our knowledge of supersensible objects. Reasons may be employed to confirm which in accord with the Vedas, are sources of valid knowledge, and therefore authoritative. Both secular testimony and vedic testimony apprehend qualified objects possessed by distinctions.

All knowledge is true, and apprehends qualified objects are never apprehended. All knowledge apprehends the reality. Knowledge reveals a real object. It has intrinsic validity. It is valid in itself. Even illusions apprehends a real object Ramanuja advocates the doctrine of satkyat. A shell is perceived as silver. There is the elements of silver in a shell. So the perception is valid. But the element of silver is so scanty that it cannot be an object of practical use. So it is illusory. It is sublated by the knowledge of preponderance of the element of shell in it. Ramanuja harnesses the doctrine of quintuplication to the service of his theory of error or illusion. The five elements of earth, water, fire, air, and ether are present in various proportion in all material objects. This is the doctrine of quintuplication, Dreams also are true. God creates dream objects for the enjoyment and suffering of individuals in accordance with their merits and demerits. Ramanuja explains away error.

The subject and predicate of a judgement are distinct. But a judgement affirms the identity of them, though they are distinct. It implies identity in difference identity is a relation. It requires two terms to be related to each other. If the subject and predicates are not distinct, they cannot be related to each other. If the subject and predicates are not distinct, they cannot be related to each other. If there is no difference between them, identity between them cannot be established to identify pre-supposed difference. Ramanuja maintains that every judgement implies the identity in the through difference. In the judgement 'the lotus is blue' the lotus and blueness are not identical, nor are they entirely different. The quality of blueness is attributed to the subject, lotus, which is given in sense – perception. The predicate blue qualifies and amplifies the meaning of the subject 'lotus'. The substance 'lotus' and the attribute 'blue' are different from each other. Yet there is inseparable relation between them. They subsist together. Every judgement is affirmation of reality which is identity in and through difference. It is not apprehension of identity devoid of difference. Samkara maintains that in the judgement 'that thou art' there is real identity between the subject and the predicate, but that there is apparent difference between them. But Ramanuja maintains that there is real identity as well as difference between them.

Buddhism and Jainism. Both the philosophical systems do not admit

the authority of Vedas. Buddhism is against the traditional thought of Indian Philosophy. In Upanisadas the eternal Atman is considered to be alone real. It is identical with Brahma. It is the transcendental reality (Sat), Consciousness (Cit) and Bliss (Ananda). But Buddha teaches the opposite truth. Everything is impermanent (Ananda). But Buddha teaches the opposite truth. Everything is impermanent (anitya). There is no Permanent self (anataman). All is suffering. The self is an impermanent mind-body complex. The world is dynamic. The soul is fluid. It grows and develops. It is an impermanent self with no personal identity. Buddha believes to depend upon authority but gives no reason. He lays the foundation of the kingdom of righteousness.

The message of Buddha is guided by four noble truth : (1) there is suffering, (2) It has a cause, (3) It can be stopped, (4) There is a way to stop suffering.

Buddhism is a religion without GOD like Jainism. It believes in transmigration and future life, though it does not believe in the permanent self. It emphasizes the law of Karma or moral causation. It aims at the extinction of suffering by extinguishing desire. It aims at inner and outer purity of life, the purity of the heart, and the purity of external conduct. It rejects rites, ceremonies, sacrifices and penances. It stresses like Jainism the ethics of ahimsa, non injury in thought, word and deed. It enjoins extraction of egoism and ignorance. It aims at enlightenment and nirvana on earth. Nirvana is insight, peace and selfless will.

Buddhism is a religion of self help. Liberation does not depend on the grace of GOD. It has to be wrought by one's own moral efforts.

Basic principles of Buddhism are placed below :

- 1) Enlightenment is the goal of Buddhism. It aims at removal of ignorance and achievement through enlightenment.
- 2) The world is without beginning or end. All phenomenon are subject to the law of Causation. There is no first cause.
- 3) All is transitory, impermanent.

- 4) There is no being. There is only becoming.
- 5) There is no permanent ego or self. There is only an impermanent stream of consciousness.
- 6) Transmigration is due to Karma. Actions in empirical life produce Karma. Transmigration leads to suffering.
- 7) Ignorance is the cause of suffering.
- 8) Eightfold Noble Path and the perfections destroy ignorance.

## **2.22 THE BUDDHA THEORY OF KNOWLEDGE**

Gautam Buddha, the founder of Buddhism, used to teach by conversation, and his teachings were also handed down for a long time through oral instruction imparted by his disciples to successive generations.

Buddha says eight steps which he followed to reach a state free from misery. These eight steps are :

- 1) Right views of knowledge of the four noble truths.
- 2) Right resolve or firm determination to reform life in the light of truth.
- 3) Right speech or control of speech.
- 4) Right conduct or abstention from wrong action.
- 5) Right livelihood or maintaining life by honest means.
- 6) Right effort or constant endeavour to maintain moral progress by banishing evil thoughts and entertaining good ones.
- 7) Right mindfulness or constant remembrance of the perishable nature of things.
- 8) Right concentration, through four stages, is the last step in the path that leads to the goal-nirvana.

The above eight parths consist of conduct, concentration and knowledge harmoniously cultivated. In Indian philosophy knowledge and morality are thought inseparable simply because morality or doing of good, depends on the knowledge of what is good, about which all philosophers would agree, but also because perfection of knowledge is regarded as impossible without morality perfection, control of passions and prejudices. Buddha explicitly states in one of his discourses that virtue and wisdom purify each other and the two are inseparable. In the eight fold path one starts with 'right' views – a mere intellectual apprehension of the four fold truth. The mind is not yet purged of the previous wrong ideas and the passions or wrong-emotions arising therefore; moreover, old habits of thinking, speaking and acting also continue still.

In a word, conflicting forces the new good ones and the old bad ones – create; in terms of modern psychology, a divided personality. The seven steps beginning with right resolve furnish a continuous discipline for resolving this conflict by reforming the old personality. Repeated contemplation of what is true and good, training of the will and emotion accordingly, through steadfast determination and passionless behaviour, gradually achieve the harmonious personality in which thought and will and emotion are all thoroughly cultured and purified on the light of truth.

The last step of perfect concentration is thus made possible by the removal of all obstacles. The result of this unhampered concentration is perfect insight or wisdom, to which the riddle of existence stands, is clearly revealed once for all. Then ignorance and desire are cut out from their roots and source of misery vanishes. Perfect wisdom, perfect goodness and perfect equality and complete relief from suffering are simultaneously attained.

## **EDUCATIONAL IMPLICATIONS OF BUDDHISM**

- 1) According to Buddhism existence is impermanent. All things, mental and physical, are transitory. There is no being. There is only becoming. Education is the way to make oneself becoming.



- 2) The eightfold path consists of moral conduct, concentration and insight. Insight includes right belief and right resolve. Moral conduct comprises right speech, right conduct and right livelihood. Concentration comprehends right effort, right mindfulness and right Concentration. The eightfold Path is the best way to freedom from suffering. It leads to complete extinction of suffering. Buddhism is pessimism in so far as it looks upon life as suffering. But it is optimism in so far as it aims at extinction of suffering in this life. These are the basic aims of education as well as of life.
- 3) According to Buddhism Education is a developmental process as it believes in transient causation. Causation itself is development or transformation, education also being a dynamic process is the source of one's development technique. Education, then, facilitates individual development – continuous journey for attaining wisdom, perfect knowledge in all its entirety.

## **2.23 THE JAINA THEORY OF KNOWLEDGE**

Consciousness is the inseparable essence of every soul, according to the Jainas. Omniscience is a Potentiality inherent in every soul. As it is, however, we find that ordinary souls are more or less ignorant, their knowledge is limited. The Jainas hold that this limitation is due to the obstacle created by different Karmas which obstruct in different degrees the natural consciousness of the soul and thus deprive it of its omniscience. The body, the senses and the mind are all constituted by Karmas and the souls Power is limited by them.

The Jainas admit the twofold classification of knowledge – immediate and mediate. But they point out that what is ordinary regarded as immediate knowledge is only relatively immediate perception of external or internal object through the senses or mind is immediate as compared with inference. Still

such knowledge cannot be said to be absolutely immediate, because even here the soul knows through the medium of something else.

In addition to such ordinary or empirical immediate knowledge, there is also really or absolutely immediate knowledge, which a soul attains, by removing its Karma obstacles. In such knowledge the soul's consciousness becomes immediately related to objects, without the medium of senses, etc., simply by the removal of the Karmas that prevented it from reaching those objects.

There are three kinds of really immediate knowledge –

- 1) Avadhijana – When a person has partially destroyed and allayed the influences of Karmas, he acquires the power of knowing objects which have forms but are too distant or minute or obscure to be observed by the senses or manas. Such immediate knowledge by the unaided soul is, however, limited as its objects are limited and therefore, it is called avadhijana.
- 2) Manah-parayaya – When a person has overcome hatred, jealousy, etc, he can have direct access to the present and past thoughts of others. This knowledge is called manah-Parayaya (entering a mind).
- 3) Kevalajana – When all Karmas that obstructed knowledge are completely removed from the soul, there arises in it absolute knowledge or omnia science. This is called Kevalajana. Only the liberated souls have such knowledge.

There are two kinds of ordinary knowledge. These are called Mati and Sruta.

Mati includes ordinary immediate knowledge (internal and external perception), memory recognition and inference. Sruta is knowledge obtained from authority.

For ordinary purposes, the Jainas accept the general view that there are three Pramanas, namely perception, inference and testimony (i.e. authority).

Inference is not valid. Even the Carvaka Theory proposes inference. Carvaka Theory presupposes inference. Carvaka says that inference and testimony are sometimes misleading, then it is possible to point out that even perception is some times misleading. So the only reasonable conclusion is that any source of knowledge, be it perception or inference or testimony, should be regarded as valid in so far as it yields a knowledge that does not prove misleading. Then the harmony of knowledge with the practical consequences stands as criterion of validity of knowledge.

Moreover, when the Carvaka denies the existence of non-perceptible objects like life-after death, he goes beyond perception and infers the non-existence of the objects from the fact of their non-perception. The Carvaka views – that perception is the only valid source of knowledge, is not correct.

The Jainas point out that the different kinds of immediate and mediate knowledge that we possess about objects show that every object has innumerable characters. It is viewed that an omniscient person is capable to obtain an immediate knowledge of an object in all its aspects but an imperfect being can not do so. Such partial knowledge about someone is called 'naya'. Judgment based on such partial knowledge is also called a 'naya'. Judgment about any object is, therefore, true only in reference to the standpoint occupied and the aspect of the object considered

The Jainas insist that every judgment should be qualified by some word like 'somehow' or 'in some respect', so that limitations of his judgment and the possibility of other alternative judgments from other points of view may be always clearly borne in mind. It implies, then, a principle – certainty under some conditions, i.e. the judgmental approach is perhaps open or flexible.

The theory of the Jainas has come to be known as syadvada that asserts that every ordinary judgment holds good only for the particular aspect of the object judged and of the point of view from which the judgment is passed.

Ordinarily, logic distinguishes two kinds of judgment, affirmative and negative. The jainas distinguish seven kinds of Judgment including these two

and the Jaina logic recognizes the following seven kinds of conditional judgments:-

- 1) Somehow, S is P (Syat alsī)
- 2) Somehow, S is P, and is also not P (Syat astica, nastica)
- 3) Somehow, S is P, and is also not P (Syat astica, nastica)
- 4) Somehow, S is indescribable (Syat avaktavyam).
- 5) Somehow, S is P and is also indescribable (Syat asli ca, avaktavyamca).
- 6) Somehow, S is not P, and is also indescribable (Syat nastica, avklavyamca).
- 7) Somehow, S is P, and is also not P, and also indescribable (syat astica, nastica, avaktavyam ca)

Differential Judgements about an object in the Jaina systems do not speak for different subjective ideas of the object, but these independently reveal manifold real aspect of an object. That is, it addresses to a relativistic approach. The Jainas emphasize manifold nature of real things which are educated with infinite qualities, modes and relations to the other things. The Jainas emphasize manifoldness of interrelated real and deny pure identity. They are anti-absolutists. They are the advocates of relative pluralism.

## **2.24 PHILOSOPHICAL PERSPECTIVES OF JAINISM**

- 1) The Jainas contends that a cognition can apprehend an object, only when it apprehends itself. Knowledge like a lamp, illuminates itself as well as an external object.
- 2) Valid knowledge is of two kinds, immediate knowledge or perception and mediate or indirect knowledge. Education must lay stress on each of these two with due proportion.

- 3) The result of valid knowledge is cessation of ignorance, avoidance of evil, selection of good, and indifference. It is partly distinct and partly non-distinct from valid knowledge. The person who has valid knowledge removes his ignorance, avoids evil, selects good, and becomes indifferent on account of knowledge of truth. Attainment of valid knowledge is the aim of education.
- 4) Inference is the another source of valid knowledge. There are two kinds of inference – for ourself and inference for others. In inference for ourself a person perceives the reason, remembers the inseparable connection between the reason and the inferable object determined by induction. It should be one of the processes of learning about self and others.
- 5) Testimony is the knowledge of objects derived from the words of reliable persons. It is the verbal knowledge through which valid knowledge can be realized. Teachers' expertise is recognized and teachers are expected to be professionally up-dated.
- 6) Absolute judgments are possible in Ekanta or one-sided systems. But these are not possible in the Anekanta philosophy of the Jaina. All objects are multiform (Anikatana) according to it. From their many-sided nature, it follows that all judgments are relative. They are true under certain conditions. They are conditional or hypothetical. No Judgments are absolutely true. This is Syadvada or the doctrine of relativity of Judgment. The Jainas develop their educational system through this cause-effect relationship. The relativistic approach in understanding an object / concept in learning, speaks for radical pedagogy of modern era; it is driven by free thinking and an object is viewed from multiple perspectives.
- 7) The soul is actually united with Karma and entangled in bondage. All knowledge, feeling and volition are produced from within by removing the veil of Karma. It speaks for efforts and action in learning.
- 8) According to Jaina Philosophy matter is knowable, enjoyable and corporeal. This is friendly to the discipline-oriented curriculum and advocates for empiricism, etc.

## **2.25 ISLAMIC TRADITION AND EDUCATIONAL OBJECTIVES**

Your understanding about the cultural roots of Indian education will remain perhaps incomplete if you do not get acquaintance with the nature of Islamic education and tradition in this country. You, perhaps, learned in your school history textbook that the entire period of the mediaeval India was ruled by various muslim dynasties and thus, Islamic education was patronized by the then rulers, for about seven hundred years. This systems in some modified form is also still catering education for about some thousands of children and young adults in India parallel to the main stream systems. Definitely, Islam, a different religion from those originated earlier in India, historically transmitted in this country by non-Indian people. It is underpinned by a distinct Islamic philosophical thoughts and beliefs which became consequently, the bases ;not only of the Islamic systems of education in India but also helped creation of a new culture expressed in multiple forms like arts, designs, architecture, languages, literature, culture and ways of life. Eventually, a cultural integration has been effected not only in the populace but also in different fabrics of our ways of life, through Islamization in this Country.

## **2.26 A GLIMPSE TO ISLAMIC PHILOSOPHY**

You may start your journey to the present discourse just recalling the name of the West Bengal Board of Madrasah Education which is holding five public examinations like High Madrasah, Alim, Fazil, Kamil, and M.M.Examinations and administering Madrasah education in this State and in 2001 about 18,000 students appeared in all of the five examinations. Moreover, the famous Calcutta Madrasah is acting as Centre of Research in Arabic, Persian and Islamic studies under the patronage of this State Government. Similarly, in some other States of India there are Madrasah Boards of Education. All these academic activities are connectd with a common thread of thoughts which is Islamic philosophy.

The cardinal points of the Islamic education as well as tradition is based on the Islamic Philosophy which is illuminating thoughts and beliefs of Muhammad (AD 571-632) embodied in the holy book Quran which means "The Reading" Originally written in classical Arabic it tells the followers of this great prophet (Muslims) that each person will be tried in the Last Judgment, when Allah (one true God) will judge all souls. Those who have followed the will of Allah will be eternally rewarded Islam is a comprehensive way of life and "...after all, makes it a duty for everyone to seek knowledge and discover facts, and increase the welfare of mankind" (Sardar, 1989, p.25)

Some basic beliefs of the orthodox Islamic religion, according to Ozman & Craver consist of : One God ; Sacred ground (All the earth belongs to Allah, so wherever one prays becomes holy ground) ; Equality before God; A life hereafter; Truthfulness; The sinfulness of adultery; Charity; Duty to animals; etc.

In this connection the religious duties of Moslems are stated in the "Five Pillars" of Islam which govern the total life of its followers.

1. Belief: Moslems professes faith as, "I bear witness that there is no God but Allah, and that Muhammad is the prophet of Allah".
2. Prayer: Muhammad required formal prayer five times a day at sunrise, noon midafternoon, sunset, and nightfall.
3. Fasting: A fast during the month of Ramadan is required for all. During that time one cannot take food or drink between sunrise and sunset.
4. Almsgiving: One is encouraged to to share goods and money with the poor and to support Moslem schools and mosques.
5. Pilgrimage: Muhammad urged his followers to travel each year to the sacred city of Mecca At the very least, one should do this once during his lifetime.

Like many other religions of the world Islamic religion has also experienced great reform but its cardinal faiths are more or less stable. Let us now advance into understanding Islamic philosophy of education in the

lenses of Mohammad Iqbal, a renowned poet, thinker and philosopher of united India. In brief his reflections are presented in the next paragraphs.

Khudi (literally, Self hood or individuality) is a real and pre-eminently significant entity which is the centre and basis of the entire organization of human life. The negation of Self, or its absorption into the Eternal Self should not be man's moral or religious ideal, he should, instead, strive to retain his infinitely precious Individuality and to strengthen it by cultivating his originality and uniqueness. In the word of Quran, man is held as the "trustee of a free personality which he accepted at his peril" and his unceasing reward consists in his "gradual growth in self-possession, in uniqueness and intensity of his activity as an ego". The Self or individuality is not a datum but an achievement, the fruit of a constant, strenuous efforts in and against the forces of the external environment as well as the disruptive tendencies within man himself. The life of man 'is a kind of tension caused by the Ego invading the environment and the environment invading the Ego'. Through this give-and-take between the individual and his many-sided environment, through establishing as many intensive and fruitful contacts with the surrounding reality as possible, the individual evolves the inner richness of his being. Moreover, life cannot unfold all its possibilities, nor can the individual develop his talent powers, except in an atmosphere of freedom-learning by direct, personal, first hand experience.

Individuality is not divorced from community or culture. Readily equipped with a free personality (trust) and actively in contact with his environment, man sets his journey to unlimited development which, in its essence is the process of his education through reflective observation as revealed to one's sense perception, man grasps Reality piecemeal, temporal aspects, on the contrary, through intuition or Love or direct perception by the heart man apprehends and associates directly with Reality in its wholeness.

Purpose of life is to be a good man. Education aims at developing good character. The good life must be a life of active effort and struggle, not one of withdrawal or seclusion or slothful ease. Secondly, the good man must learn to apply his intelligence increasingly to the exploitation of the



forces of Nature, thus adding progressively his knowledge and power but it will be guided and controlled by Love (intuition). In order to develop such a good character exemplified by sensitiveness and strength-sensiveness to the good of humanity and to ideal values, strength in carrying one's purposes the appropriate education must inculcate Courage, Tolerance and Faqr (an inner attitude of detachment and superiority to man's material possession, a kind of intellectual and emotional asceticism which does not turn away man from the world as a source of evil and consumption but uses it for the pursuit of good and worthy end). "In power, it saves him from an attitude of arrogance and self-intoxication; in political subjection, it enables him to spurn the temptations, bribes, and snares with which the ruling power tries cynically to corrupt integrity and character of a subject people". (Saiyidain, 1965, 1988). From educational terms the character of the good man-the true Believer, the Momin. "He is a man who develops all his powers and strengthens individuality with contact with his material and cultural environment. His self-respect gives him courage, his tolerance and respect for the rights and personality of others make him sensitive to the claims which their common humanity makes on him" (Saiyidain, 1965, 1988). Iqbal puts it as : He is a flashing sword against untruth. And a protecting shield for truth!

## **2.27 AIMS AND OBJECTIVES OF ISLAMIC EDUCATION**

“ ‘Islamic’ in the phrase ‘Islamic education’ means that education is intimately related to Islam, which God completed and perfected over fourteen centuries ago” (Ould Bah, 1998).

Any concept including ‘education’ derives its meaning from the linguistic culture in which it emerges. As the Islamic doctrine originated in the Arabia its meaning has bearing on Arabic Language. The Arabic language has three terms for education, representing the various dimensions of the educational process as perceived by Islam.

1. The most widely used word for education in a formal sense is ta’lim,

from the root 'alima (to know, to be aware, to perceive, to learn), which is used to denote knowledge being sought or imparted through instruction and teaching.

2. Tarbiyah, from the root raba (to increase, to grow, to rear), implies a state of spiritual and ethical nurturing in accordance with the will of God.
3. Ta'dib, from the root aduba (to be cultured, refined, well-mannered), suggests a person's development of sound social behavior. What is meant by sound requires a deeper understanding of the Islamic conception of the human being what has been spelled out in the preceding sub-unit.

Education in the context of Islam is, then, regarded as a process that involves the complete person, including the rational, spiritual, and social dimensions. The comprehensive and integrated approach to education in Islam is directed toward the "balanced growth of the total personality ... through training Man's spirit, intellect, rational self, feelings and bodily senses...such that faith is infused into the whole of his personality" (Syed Muhammad al-Naquib al-Attas in 1979, p. 158). In Islamic educational theory, knowledge is gained in order to actualize and perfect all dimensions of the human being, hence, education is essential in every life. From the Islamic perspective the highest and most useful model of perfection is the prophet Muhammad, and the goal of Islamic education is that people be able to live as he lived. While education does prepare humankind for happiness in this life, "its ultimate goal is the abode of permanence and all education points to the permanent world of eternity" (Seyyed Hossein Nasr, 1984, p.7). To ascertain truth by reason alone is restrictive, according to Islam, because spiritual and temporal reality are two sides of the same sphere. Many Muslim educationists argue that favoring reason at the expense of spirituality interferes with balanced growth. Exclusive training of the intellect, for example, is inadequate in developing and refining elements of love, kindness, compassion, and selflessness, which have an altogether spiritual ambiance and can be engaged only by processes of spiritual training.

Mohammad Iqbal, according to Burney, views education as "in its full and

correct significant (meaning) must be visualized as the sum total of all the cultural forces which play on the life of the individual and the community”.

Education in Islam is twofold: acquiring intellectual knowledge (through the application of reason and logic) and developing spiritual knowledge (intuition or Love, derived from divine revelation and spiritual experience), education for all and acquiring knowledge is not intended as an end but as a means to stimulate a more elevated moral and spiritual consciousness, leading to faith and righteous action. Thus, in Islam education means a cultural transformation of man. Then education broadly means living. It is truly humanistic but here man is an active agent, a doer, a shaper of puposes who is not only engaged in the reconstruction of his world but also in the far more significant experiment of creativity unfolding and perfecting his own individuality.

## **2.28 ORGANIZATION OF ISLAMIC EDUCATIONAL OBJECTIVES AND CURRICULUM**

Madrassas / madrasah, or Islamic school, serve an important function in the lives of many Muslims in India even today. No reliable figures exist for the number of madrassas in India, but there are estimated to be several thousand. In West Bengal many of them are just mosque schools (maktabas) where Muslim children are taught to read the Quran and memorize parts of it and are also taught Urdu and the basic of the faith. Several large madrassas also exist, with smaller ones loosely affiliated to them. Some of these have exercised, and continue to exercise, an important influence on Muslims in other countires, especially (but not only) among the South Asian Diaspora.

Islamic education, originally tilted heavily towards religious education, rests upon “transmitted knowledge” (what is termed in Arabic al-ulum al-naqliyya), which consists primarily of the Quranic sciences, the hadith sciences,” (al-ulum al-aqliyya) or “the sciences of the ancient” (al-ulum al-awa’il) usually containing seven main components : logic (al-mantiq) which was the

foundation of all others; arithmetic (alarithmatiqi), including accounting (hisab); geometry (al-handasa); astronomy (al-hay'a); music (al-musiki) which dealt with the theory of tones and their definition by number, etc.); the natural sciences (al-tabi'yyat) which was concerned with the theory of bodies at rest and in motion – human, animal, plant, mineral and heavenly, important subdivisions of which were medicine (al-tibb) and agriculture (al-falaha); and, finally metaphysics ('ilm al-ilahiyyat).

The madrasa was typically funded by a waqf, a charitable foundation or trust, a form of institutional organization that was borrowed by the West from the Islamic world towards the end of the eleventh century. Waqf rendered a person's property safe from confiscation by the state by freezing it as a public asset but which could be passed on to the founder's descendants. Wealthy men and women thus served as benefactors of madrasas, which were sometimes named after them or their families, out of both pious interest and pragmatic concerns. Many had a genuine interest in furthering public education and women played a prominent role in this particular charitable activity. You may think of Sanskrit Education in Tols [In West Bengal, there are about 704 Tols].

The rationale for introducing modern disciplines in the madrassas is framed in principally three ways.

1. It is profitable to broaden the Islamic understanding of knowledge as all embracing, covering both 'ibadat (worship) as well as mu'amalat (social relations, worldly pursuits).
2. Introducing modern disciplines is valuable in order for Muslims to prosper in this world, in addition to the next.
3. It is seen as essential in order for the ulema to engage in tableeq, or Islamic missionary work.

Therefore, the ulema are no longer to remain restricted to teaching in the madrassas. Rather, they are to play an important role as leaders of the community...

Advocates for reform see the present syllabus used in the Indian madrassas is generally stagnant, in many respects and hence no longer in tune with the demands and needs of the times.

Presently the government's desire for the reform and modernization of madrassas to enable Muslims to enter the educational mainstream of the country puts the onus of Muslim educational backwardness largely on the madrassas themselves and to introduce modern subjects in the curriculum.

In India today, various State governments, e.g., West Bengal, Bihar, Orissa, Assam and Uttar Pradesh-have set up Boards of Madrassa Education that frame the syllabus of madrassas affiliated with them, consisting of both traditional Islamic as well as modern subjects. The boards also conduct the examinations, enabling the students to join secular schools after graduation. This has been welcomed by some, but others argue that in this way the religious content of the syllabus has been considerably watered down and that, burdened with the need to learn both religious as well as modern subjects, the students do well in neither. In recent years, the Government of India, as well as some State governments including West Bengal has launched some schemes ostensibly to assist some madrassas, such as providing them paid teachers to teach modern subjects.

These efforts have, however, failed to make much of an impact all over India and only a ripple effect is felt. Some apprehend that governmental interference and control, which they see-and probably rightly so-as aimed at weakening their Islamic identity by introducing the teaching of government-prescribed books appears motivated by other factors. If promoting Muslim education was indeed a primary concern of the government, it should have paid more attention to setting up more modern schools in Muslim localities...Promotion of alternative education of various kinds for lifelong learning opportunities for all-age groups both male and females are to be ensured. Some critics of this information Era considers that the learning gates of madrasah should be kept open for ease in entry of flux of contemporary information as well as data as media-driven cultural transformation in man is uncheckable by any means.

We have observed that Buddhism altogether repudiates the individual self as a permanent entity. But believes in Karma doctrine. The principle of impermanency and no-self are fundamental to the teaching of Buddha. Further, in his doctrine, ignorance (avidya) becomes the true source of all suffering and evils (similar to Upanisadic teaching) and the way to escape lies through right knowledge such as calculated to remove it. While Jainism, a pluralistic systems recognizes the individual self to be ultimate. Jainism is an ism of victory (ji-to conquer) implying one who has successfully subdued his passion and obtained mastery over himself. It strives for soul knowledge or knowledge in its pristine form or perception per excellence and man may venture into it with the aid of seven fold formula though precise nature of reality baffles all attempts. Jainism insists not on enlightenment alone or on conduct alone, but on both. Like Buddhism, Jainism also admits a twofold training –that of lay life and that of the monk and places the latter above the former. Jainism addresses to attainment of enlightenment or jiva through training of self discipline and spells out seven principles. – indicating how the jiva comes to be associated with karma and how it escapes from it. From this stand educational implications of Jainism are explicit. Both the above systems look education is a must for good living and for being.

In the last spell we have been acquainted with the Islamic philosophy and its educational derivatives very meticulously and of course some problems relating to madrasah education of our country. Herein also the most precious aim of education is human well-being for all with the aid of two categories of knowledge: acquiring intellectual knowledge (through the application of reason and logic) and developing spiritual knowledge (intuition or Love). Moreover, its curriculum is open to both theology and sciences – although from these two divisions controversy has originated to give momentum for incorporating necessary changes in curricula and methods of teaching. Finally, we have realised that the Islamic education is advocating equality, brotherhood and international understanding.

The National Curriculum Framework for School Education asserts that education has been the torch bearer of humanity's most noble ideals, as such it must aims at encouraging pupil for the cultivation of tolerance, humanism,

unity in diversity under India's vast goldmine of her traditions, philosophy, and beliefs in good life, and its meaningful curriculum shall be responsive to the socio-cultural context of the country. The concept of good life and hence for attaining it through education as an instrument for achieving goals of action and establishing social cohesion underpinned by secularism, democracy, equality, liberty, fraternity, justice, national integration and love for the country... It must ensure total development of the child reflecting all round development of body, mind and spirit According to The International Symposium and round table UNESCO, 1990, we now envisage for a desirable national education system which will better fit all people, not just a few people, to be active participants in creating a more equitable, fairer and more livable world in the twenty first century. For which we need to pay attention to many aspects of caring for –

- ★ oneself including one's health
- ★ one's family, friends and peers
- ★ other people
- ★ the social, economic, and ecological welfare of one's society and nation
- ★ human rights
- ★ the other species
- ★ livability of the earth
- ★ truth, knowledge and learning.

## **2.29 INTEGRATION OF PHILOSOPHICAL OBJECTIVES IN INDIAN CONTEXT**

The perspectives of Indian philosophy of education to be built so far discussed, are leaned to axiology and to some extent to its metaphysics. The perspective does contain epistemological bearings. We might be able to understand that attainment of purushatha is possible to man and it is attained by knowledge gathering or experiencing. Indian schools of philosophy give us direction to six knowing paradigms. A synopsis depicting relationship between objectives and related activities may be drawn as :

<b>Objectives</b>	<b>Activities</b>
Perception –action of senses on the sensible objects	Development of sense organs or training of senses
Inference-anumans / induction	Cause-effect relationship
Comparison –analogy	Comparing subject matters
Non-perception-immediate cognition of non-sensible objects.	Conception of non-perceptible objects
Postulation – necessary supposition of an unperceived fact to explain conflicting	Problem solving
Testimony-hold as valid as stated by some trustworthy person or script	Verbal knowledge

Philosophical architectures maintain some commonality, as each is solidly grounded on the Indian philosophical systems, though these differ in many aspects what they have emphasized on. Some of these national philosophers of Indian education, for example, are — Swami Vivekananda, Shri Aurobindo, Rabindra Nath Tagore and Mahatma Gandhi – who have offered their best in building Indian philosophy of education and Islamic Tradition too.

Ref. : Modern Concept of Philosophy : by Dr. D. Bhattacharyya :  
Open & Distance Learning, University of Kalyani,



Therefore, an Indian philosophy of education should take into consideration of the above taxonomy of cognitive objectives in the matters of curriculum development and its transaction thoroughly to inculcate philosophical objectives. However, a careful temper of eclecticism should be kept always in mind so that the evolving system of philosophy of India education does not incorporate incompatible or inconsistent theorization.

## CHAPTER – III

### Philosophical Objectives and Learning Style : An Integrated approach

#### 3.1 WHAT ARE LEARNING STYLES?

The terminology associated with this area includes :

- \* Learning style – a distinctive and habitual manner of acquiring knowledge, skills through study or experience an individual learner's style tends to be more stable across different learning tasks and contexts.
- \* Learning preference – the favouring of one particular mode of teaching over another; an individual learner's preferences vary across different learning tasks and contexts.
- \* Learning strategies – the plan of action adopted when acquiring knowledge, skills or attitudes through study or experience; learners choose according to how they believe a learning task can be successfully completed (Sadler Smith in Smith & Dalton, 2005)

#### Learning styles

- \* Field dependence / independence : Witkin et.al. (1954) developed this early theory of perception, it proposed that some people were able to analyse and learn things in isolation from surrounding issues, while others needed to learn on a more holistic basis which included the surrounding matters as well.
- \* Serialists / holists : Pask (1976) suggested that some people learn by taking individual items in turn, learning each of them, and then putting them together to form the whole; while others like to learn the whole right from the start.
- \* Deep / surface processors : Marton and Salio (1976) generated the idea

that 'deep processors' generally look for meaning, underlying concepts and theories, and connect their new concepts to what they already know. 'Surface processors' want to know the facts or techniques without necessarily developing an understanding.

- \* Four-stage cycle : Kolb (1976) suggested that individuals learn and solve problems by progressing through a four-stage cycle :

concrete experience

reflective observation

abstract concepts

active experimentation

Kolb viewed concrete experience and abstract concepts as two ends of a single continuum, and active experimentation and reflective observation as two ends of a second continuum. These two continuums intersect and result in four quadrants or learning styles – the accommodator, the assimilator, the divergent and the converger. Accommodators for example, learn by concrete experience and active experimentation, relying on intuition and trial and error methods of problem solving.

- \* Mc Carthy (1976) developed a system of matching teaching to learning styles, which was based on Kolb's theory and integrated with left brain right brain research.
- \* Multiple intelligences : Gardner (1983, 1999) Proposed that there are eight intelligences-linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, intrapersonal, interpersonal, naturalistic.

Individuals possess these intelligences in different quantities and their learning style is expressed as their combination of the intelligences, with their interests and talents being strongly related to the pattern of their intelligences.

## **Learning preferences**

Coffield Learning Styles Inventory : Coffield (1980) developed an inventory of 16 learning preferences in three major categories-conditions of learning, content, mode.

The inventory provides a measure for each of these preferences to create a preference profile for any individual learner.

## **Learning Strategies**

Domains of learning strategy : Smith (2003), Billef (1996) and Marland, Patching and Putt (1992), have identified sets of strategies around the following three domains :

- \* metacognitive strategies involving planning, monitoring or evaluating the success of a learning activity.
- \* cognitive strategies that are used to operate directly on information presented, and to organise and process it to effect learning.
- \* social / affective strategies that represent interactions with others.

These strategies are used in different combinations and are selected according to the learning task and context.

## **3.2 LEARNING STYLE FAMILIES**

Coffield, et.al. (2004) devised a classification system to impose some order on the particularly confusing and endlessly expanding field of learning styles. They categorised some of the main learning styles into five broad families.

1. Learning style and preferences based on four modalities : Visual, Auditory, Kinaesthetic & Tactile (Dunn & Dunn & others)
2. Learning style based on cognitive structure. (Riding & others)
3. Learning style including personality type. (Apter, Jackson, Myers-Briggs and others)
4. Flexibly stable learning preferences. (Atkinson & Heyes, Honey & Mumford & Kolb and Felder)
5. Learning approaches & strategies and Conception of learning. (Entwistle & others)

## **What are the issues in learning styles research?**

Research into learning styles can be characterised as small-scale, non-cumulative, uncritical and inward-looking. It has been carried out largely by cognitive and educational psychologists, and by researchers in business schools and has not benefited from much Interdisciplinary research (Coffield, et.al., 2004-2-53)

In their report, Coffield et.al. point out many issues that converted research into learning styles :

- \* The endlessly expanding body of theoretical and empirical research on learning styles.
- \* Learning style researchers are from the diverse fields of psychology, sociology, business studies, management and education; They value and interpret their research in different ways and from different perspectives.
- \* No direct or easy comparability between approaches and no agreed core technical vocabulary.
- \* The increasing number of learning style models of variable quality.
- \* A lack of dialogue between the leading components of individual models.
- \* The overblown claims of some learning style developers.
- \* The commercial industry that has grown around particular models has inhibited independent critical analysis of these models.

## **3.3 EVALUATING LEARNING STYLES**

Coffield, et.al.'s report (2004) identified 71 models of learning styles and evaluated 13 of the most influential models to better understand their merits and deficiencies. The models were evaluated in terms of their design, reliability, validity, implications for pedagogy, evidence of pedagogical impact and overall assessment. Some of the findings on specific models were :

- \* Allinson and Hayes : internal consistency and test-retest reliability are high, according to both internal and external evaluations.

- \* Dunn and Griggs : there is a serious lack of independent evaluation of the learning styles instrument.
- \* Gregore : theoetically and psychometrically flawed; not suitable for the assessment of individuals.
- \* Honey and Mumford : danger of labelling people as 'theorists' or 'pragmatists', when most people exhibit more than one strong preference.
- \* Myers Briggs : there is no evidence to suggest that matching teacher and learner types has any positive effects on achievement.
- \* Vermunt : It provides a common language for teachers and learners to discuss and promote changes in learning and teaching.

The concept of learning styles is rooted in the classification of psychological types. The learning styles theory is based on research demonstrating that, as the result of heredity, upbringing, and current environmental demands, different individuals have a tendency to both perceive and process information differently. The different ways of doing so are generally classified as :

1. *Concrete and abstract perceivers* — Concrete perceivers absorb information through direct experience, by doing, acting, sensing, and feeling. Abstract perceivers, however, take in information through analysis, observation, and thinking.
2. *Active and reflective processors* — Active processors make sense of an experience by immediately using the new information. Reflective processors make sense of an experience by reflecting on an thinking about it.

Traditional schooling tends to favor abstract perceiving and reflective processing. Other kinds of learning aren't rewarded and reflected in curriculum, instruction, and assessment nearly as much.

### 3.4 HOW THE LEARNING STYLES THEORY IMPACTS EDUCATION

*Curriculum* — Educators must place emphasis on intuition, feeling, sensing, and imagination, in addition to the traditional skills of analysis, reason, and sequential problem solving.

*Instruction* — Teachers should design their instruction methods to connect with all four learning styles, using various combinations of experience, reflection, conceptualization, and experimentation. Instructors can introduce a wide variety of experiential elements into the classroom, such as sound, music, visuals, movement, experience, and even talking.

*Assessment* — Teachers should employ a variety of assessment techniques, focusing on the development of "whole brain" capacity and each of the different learning styles.

#### **Visual Learners :**

- \* use visual materials such as pictures, charts, maps, graphs, etc.
- \* have a clear view about teachers when they are speaking to see their body language and facial expression
- \* use colour to highlight important points in text
- \* take notes to provide handouts
- \* illustrate ideas as a picture or brainstorming bubble before writing them down
- \* write a story and illustrate it
- \* use multi-media (e.g. computers, videos, and filmstrips)
- \* study in a quiet place away from verbal disturbances
- \* Read illustrated books
- \* visualize information as a picture to aid memorization

#### **Auditory Learners :**

- \* participate in class discussions / debates
- \* make speeches and presentations
- \* use a tape recorder during lectures instead of taking notes
- \* read text out aloud

- \* create musical jingles to aid memorization
- \* create ability to aid memorization
- \* discuss ideas verbally
- \* to dictate someone while they write down thoughts
- \* use verbal analogies, and story telling to demonstrate point

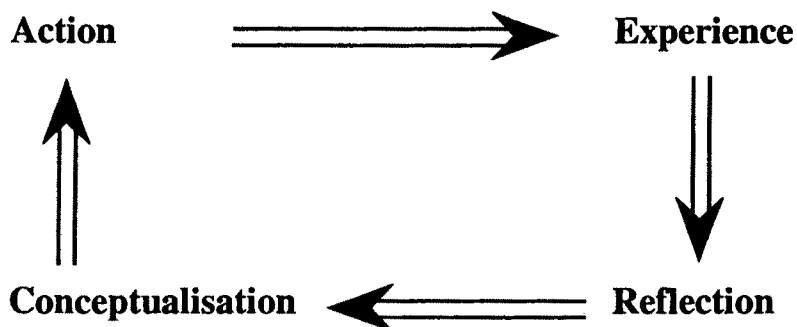
### **Tactile / Kinesthetic Learners**

- \* Take frequent study breaks
- \* move around to learn new things (e.g. read while on an exercise bike, mold a piece of clay to learn a new concept)
- \* work at a standing position
- \* chew gum while studying
- \* use bright colors to highlight reading material
- \* dress up to work space with posters
- \* listen to music while study
- \* skim through reading material to get a rough idea what it is about before setting down to read it in detail.

## **3.5 LEARNING CYCLE**

Our learning can't be measured on a scale like a fuel gauge which runs from 'empty' to 'full'. We learn by 're-visiting' all that we have learned previously and re-thinking our ideas and plans for future learning. There is always more to learn.

The most quoted learning cycle is Kolb's Cycle which identifies four phases of learning :





This model provides a way of thinking about how we can learn from experience through comparing our experiences with others', learning how to analyse them and planning new courses of action.

We don't all learn in the same way. We tend to adopt those styles we feel most comfortable with at the expense of other styles with which we are not so comfortable. It is important that we become aware of our learning styles preferences so that we can :

1. Use our learning styles to suit the particular learning that we are undertaking.
2. Improve our learning in our 'weaker' styles.

It is important to realise that learning styles are not 'personality traits' and we all adopt different styles in different contexts. However, we usually favour one or two styles above the others. According to Honey and Mumford (1986), we need to adopt four styles in order to complete any cycle of learning. A weakness or reluctance to adopt any single style will 'block' our ability to learn effectively.

The four styles necessary for completing Kolb's cycle are :

- |            |   |
|------------|---|
| Activists  | learn by doing, rather than going to the instruction manual. To immerse yourself in as many experiences and activities as possible and often like to work in groups so that it can bounce ideas around and try out as many ideas as possible. Here strength is in being open-minded and enthusiastic.                                 |
| Reflectors | stand back and observe because it likes to gather as much information as possible before deciding how to proceed. Get the bigger picture, which will include past experiences and other people's perspectives, rather than jumping in. Strength is the meticulous collection of data and its analysis in order to reach a conclusion. |
| Theorists  | like to adapt and integrate all observations into theories or frameworks so that we can see how one observation links to  |

all the others. It attempts to insert new learning into theories and frameworks by asking 'how does this fit in?' Strengthen the attempt to solve problems, to use the links to take a step-by-step approach.

**Pragmatists** Lookout for new ideas to put them into operation. Main criterion for judging a theory is whether it has any practical implications. Confidently use new thinking and incorporate it into work.

### 3.6 MOTIVATION FOR STUDYING IN HIGHER EDUCATION

Learner motivation plays a vital role in the learning process. How motivated we are depends on who we are, what we want to learn and the contexts in which we attempt to learn. Studies with students in the Open University, carried out by Taylor (1983), suggested there are four broad orientations to student motivation in HE. Each of these orientations (not personality traits!) can be sub-divided between intrinsic interest in the process of learning and extrinsic interest in learning as a means to an end. The four orientations can be summarised as follows :

<u>Orientation</u>	<u>Aim</u>	<u>Interest</u>	<u>Concerns of student</u>
<b>Vocational</b>	Training	Intrinsic	Is my learning relevant to my chosen career?
	Qualification	Extrinsic	Is my course recognised by employers?
<b>Academic</b>	Intellectual interest	Intrinsic	Are my modules interesting? Are the lectures stimulating?
	Educational progression	Extrinsic	Do my grades suggest I am making good progress"

<b>Personal</b>	Self improvement and personal development	Intrinsic	Am I being challenged and is my experience broadened?
	Compensation for lack of earlier opportunity	Extrinsic	How good is the feedback? Will I pass?
<b>Social</b>	Having a good time	Extrinsic	Are there good facilities for sport and cultural activity?

### 3.7 APPROACHES TO LEARNING

How we go about our learning will depend on our prior knowledge and skills, our motivation for learning, our learning styles and the institutional context within which we learn. However, even more fundamentally, how we go about learning will be dependent on what we think learning is in the first place. Marton (1997) distinguished deep and surface approaches to learning which represent completely differing notions of what learning is all about. Deep learning is the preferred approach within higher education. Surface learning is associated with remembering formulae and trivial facts. It is important to realise two points about approaches to learning. Firstly, different people could undertake the same course, using different approaches. Secondly, one person may take different approaches over time and according to the learning they are undertaking. The approach to learning, therefore, is a function neither of the learner nor the task being undertaken.

**Deep Learning** is the converse of surface learning and is the desired approach in higher education. Those who adopt a deep approach will attempt to make sense of new learning by relating it to their previous knowledge. It is sometimes referred to as 'holistic' learning because learning is connected into a single understanding or worldview. Instead of trying to ask 'how does this fit in, what is the argument, are there alternative explanations?' Assessment becomes more of an active engagement with ideas, rather than a simple reproduction of course content.

**Surface learning** refers to the collection of unrelated facts such as the names of places and people or the dates of events. This approach sees learning as something that can be measured by a fuel gauge that starts at 'empty' and gradually increases to 'full'. It is sometimes referred to as 'atomistic' learning, because when we take a surface approach we view our learning as chunks of knowledge rather like bags of money which can be 'banked'. When the time comes for assessment, adopting this approach will call for 'revision' techniques such as memorising facts and routine procedures. The main problem for those adopting a surface approach is that it becomes difficult to cope with a growing collection of course content.

**Strategic Learning** entails placing more emphasis on the technique of learning. When adopting this approach, students organise their notes and attempt to anticipate the course criteria, gear their answers to what they think the lecturer wants. The strategic approach is an attempt to 'rationally' balance the effort required by studying for a degree and return of grades and classification. The management of time and resources will be a key concern.

The three approaches to learning can be summarised as follows :

<b>Approach</b>	<b>Purpose of effort</b>	<b>Features of the approach</b>	<b>intention of</b>
<b>Deep Approach</b>	Transforming by	Active engagement with new ideas. Linking with prior learning. Checking 'logic' of and evidence for arguments	making sense of ideas
<b>Surface Approach</b>	Reproducing by	Treating knowledge as unrelated facts.	Acquiring the necessary skills

		Memorising names, and knowledge dates and procedures.	
		Stress!	
<b>Strategi Approach</b>	<b>Organising by</b>	Clarifying course requirements.	Achieving the highest grades possible for a given amount of effort
		Good management or resources and workload. Giving what the tutors want.	

It is important to realise that these are not 'personality traits'. We adopt different approaches depending on the context. The challenge for institutions is to adopt course aims and content, styles of teaching, and types of assessment which facilitate deep learning. There is some evidence that, as students approach finals, they revert to surface learning approaches.

## **Experiential Learning**

The idea of learning from experience underpins several learning methodologies. Problem Based Learning and Action Learning are two examples (see below). Experiential learning became prominent in formal and informal educational circles, although the term came to mean different things in different contexts. Weil and McGill (1989) attempted to categorise those differences, using the analogy of four villages. In each village, the way in which experience leads to learning and the desired outcome of learning is different.

The four villages are summarised below :

	<u><b>Type of experience</b></u>	<u><b>Purpose of Learning</b></u>
<b>Village 1</b>	Experience gained in the workplace	Accreditation of prior and experiential learning
<b>Village 2</b>	Experience as first-hand alternative to books and theories	Reform of post-compulsory education and training

<b>Village 3</b>	Experience of issues as they affect local communities	Social change or community development
<b>Village 4</b>	Experience of life events and personal challenges	Personal growth and development

## **Problem-Based Learning**

PBL is best thought of as the learning which results from addressing a problem; its understanding and resolution. For example, students in environmental sciences might explore the problem of global warming, rather than traditional modules which they later 'apply' to a related problem. The approach is particularly useful for encouraging a critical and active approach to learning, because the students themselves must make decisions about the learning required. There is a strong value-base to the approach, which calls for collaboration between students and tutors in seeking out the learning required. It is challenging for those tutors who have traditionally worked with pre-defined 'content'. However, when done well, PBL 'is morally defensible in that it pays due respect both to student and teacher as persons with knowledge, understanding, feelings and interests who come together in a shared educational process.' (Margetson 1991).

Boud and Feletti (1997) alert us to the danger of confusing PBL, as an approach to curriculum design, with the teaching of 'problem-solving'. A number of related problems flow from this confusion such as insufficient staff development, lack of commitment to the approach, inappropriate assessment, poorly researched 'problem' and so on. For successful implementation, there is a need for investment in the design, preparation and resourcing of the approach.

## **Action Learning**

Originally developed by Reg Revans as an approach to learning at work, action learning stresses the importance of doing in the learning process. In higher education, 'action learning sets' of about six students can be used for specific projects such as finding resources, compiling portfolios, preparing

presentations or placement-related activity. Action learning sets stress the collaborative nature of learning by creating a spirit of support in which students can test out ideas (Bourner T, Cooper A & France L, 2000). The approach helps to redress the balance between the 'programme' of the course of study and the 'questions' raised by students in the course of their own learning.

## **Open and Distance Learning**

The idea of open learning is used as an antidote to the closed nature of traditional modes of delivery. 'Open', therefore refers to openness of :

- Admissions policies with respect to qualifications and ability to pay.
- Curriculum content and 'what counts' as learning.
- Patterns of delivery of course, for example the timing, location and assessment arrangements.

Power, in the open mode of learning, is meant to transfer from the traditional educational institutions to the learner. Flexibility in patterns of learning implies that at least some of the learning will take place at a distance from the institution and the tutors who inhabit them. However, it should be noted that distance does not guarantee openness.

Distance learning, to remain open, should have the following features :

- Easily accessible materials with a range of styles to suit individual learning
  - Opportunities to exchange views and opinions; both with fellow learners and tutors (e.g. through email, bulletin boards or good old telephone)
  - Clear structuring of learning material with explicit advice
  - Good tutoring to engage the learner emotionally
- (Jarvis P, Holford, J & Griffin C, 1998, p108)

## **Double-Loop Learning**

Dating back to the 1950s, 'double-loop learning' is a general term, which describes the transformational power of learning. 'Double-loop learning' involves challenging the context within which the problem arises. In 'single-loop learning', we tend to seek solutions to problems by addressing the 'given' aspects of the problem. Argyris (1978) argues that our actions are guided by 'theories-in-use, which are based on implicit assumptions and values. When we attempt to solve problems, we correct perceived errors in such a way as to maintain the assumptions and values that lie behind our theory-in-use. 'problem-solving' with single-loop learning.

For double-loop learning to occur, we need to examine the gap between our 'theories-in-use' and our 'espoused theories'. Espoused theories are those theories to which we would refer in order to explain our actions.

Although the term 'double-loop' is not always applied to that learning which transforms the assumptions and values that lie behind a problem, other writers have something similar in mind. Freire (1972) uses the term 'problem-posing education' for learning which challenges the status quo. In his work with the oppressed peoples of South America, he developed a distinctive approach to questioning the social and political context of problems. Instead of seeking more knowledge in order to become more like their well-educated oppressors (what he referred to as 'banking education'), Freire encouraged people to reflect on why such inequalities arise in the first place.

Mezirow (1991) uses the term 'emancipatory learning' for that learning which challenges distorted meanings. Like Freire, he is clearly thinking of the social and political contexts in which learning takes place. However, he is more of a 'constructivist' than Freire in that he is more concerned with the development of 'meaning'.

## **Networked Learning**

The Dearing Report suggested that Communication and Information Technology could improve the flexibility, quality and effectiveness of higher education. Moreover, the World Wide Web promised to be a means of sharing teaching



material and research findings across the academic community. The use of C & IT in teaching and learning does seem to hold intrinsic advantages over other institutionally based or distance-learning media :

- Hyperlinked information allows flexibility in the sequencing of learning experiences.
- Modern developments allow web-based material to be made available in multi-media formats to cater for differing learning styles.
- Learners can remain in contact with each other and with tutors outside of timetabled sessions (synchronous communication).
- They can leave messages with questions, observations or thoughts on discussion boards or email (asynchronous communication).
- Material produced specifically for a course can be supplemented with other resources on the WWW.
- Students can have rapid feedback and access to their course data such as registration status and grades.

This ability to network learners and teachers with each other and with a broad range of material holds out the promise of enhancing opportunities for 'deep learning', through encouraging a 'conversational model' of learning (Laurillard D, 1990, pp94-95 cited in Britain S & Liber O, p13). In order to bring all the capabilities of the technology together into a format with which learners can be comfortable, a 'virtual learning environment' (VLE) is constructed. This will be a 'browser' (like Internet Explorer or Netscape) which looks and feels similar to the learners irrespective of courses or modules studied. The browser will give access to all the learning material and communication devices referred to above. In addition, the tutor will have access to additional tools to make more resources available, track student progress or create new discussions.

## **Social Learning**

Although in western culture systems of education and accreditation offer stress individual achievements and responsibilities for learning, the social dimension has also been acknowledged. Sociologists argue that societal norms and values are re-produced through education and we, as individuals, internalise these norms and values in a process known as socialisation. In fact, one could say

that 'individual achievement' is, itself, a social value which is 'taught' by the education system.

However it would be wrong to assume that all these norms and values are absorbed passively. We are strongly influenced by the culture of the organisations in which we learn and such culture may enhance or inhibit particular avenues of inquiry. How we learn as part of a group, therefore, can either be more or less than how we learn as individuals; less if the culture of those around us devalues certain forms of learning, but more if the culture creates a climate for learning.

Social learning, therefore, has at least two dimensions. It consists of learning alongside others or learning in a social context. It also involves learning about the social context and our place in it. However, this prompts a rather intriguing question whether 'societies' or 'communities' can learn. Terms in current use, such as 'learning society', 'learning organisation' or 'learning culture', are not entirely clear on this and could be thought of as either weak or strong notions of social learning. A 'learning organisation', for example, may either be one which facilitates the exchange of ideas, dissemination of knowledge, collective application of principles to achieving clearly stated organisational goals. A stronger version of the learning organisation would be one in which a distinctive 'organisational learning cycle' interlocks with those of individuals so that one could say that the organisation learns, as well as the individuals within it!

## **Accelerated Learning**

This is an umbrella term for a number of techniques, which derive from diverse areas of research in psychology, social learning and brain science. The approach starts with establishing how the brain stores and processes information and how the environment we learn in affects this. Some accelerated learning programmes use baroque music to establish a calm atmosphere for learning in which the brain is relaxed but alert. Secondly, we are encouraged to understand how our own brain prefers sensory input either from visual, auditory or kinaesthetic sensations. We all operate in all three modalities, but we tend to prefer one or two.

## Modality

### **Visual**

If you prefer this modality, you tend to process information better when it is supplied in the form of pictures, diagrams, graphs and so on. You probably say I see or I get the picture, when you are at workshops or other learning environments. Visual people like handouts and often take good notes with mind maps of ideas and little diagrams.

### **Auditory**

If this is your preferred modality, it will catch yourself That sounds like a good idea it will learn best by listening to conversations or presentations. Taking notes will probably get in the way of learning.

## Some Characteristics

Neat and tidy  
Speak quickly  
Good planning and organisation  
Observant especially of environmental detail  
Appearance-orientated in dress and presentation  
Good speller can see the words in your mind  
Remember what has been seen rather than heard  
Memorise by visual association  
Not distracted by noise  
May forget verbal instructions  
Good, fast readers  
Prefer reading to being read to  
Make doodles during conversations  
Forget to relay messages  
Sometimes can't find the right words

Learn by listening  
Speak in rhythmic patterns  
Talk to yourself  
Easily distracted by noise  
Move their lips and say the words  
Enjoy reading aloud  
Good at repeating music  
Better at telling than writing down  
Eloquent speakers  
Talkative and enjoy discussions  
Can spell out loud rather than writing down

## **Kinaesthetic**

Kinaesthetic people learn by hands on activities and working within groups. It will probably catch yourself building models explain abstract concepts.

Learn by manipulating  
Want to act things out  
Speak slowly  
Touch people to get attention  
Stand close when talking to someone  
Are physically orientated and gesticulate  
Memorise by walking and seeing  
Cannot sit still!  
Cannot remember geographical location unless theyve been there  
Use action words  
Like books with a strong plot  
use body actions as they are reading  
May have messy handwriting  
Enjoy involved games

## **3.8 MULTIPLE INTELLIGENCE**

Traditional measurements of intelligence attempted to ascribe a single quotient on the basis of performance in a broad range of test elements. On the basis of developments in cognitive psychology and neurological science, Howard Gardner (1983) identified autonomous faculties, which may be more or less valued within any given culture. On the basis of his discoveries, he re-defined intelligence as the ability to create something which is valued by any culture. This pluralistic definition means that our particular complement of intelligences may not necessarily be valued by the culture we live in. For example, school culture may favour those who excel in linguistic or mathematical intelligence above those who excel in musical intelligence.

The implication for learning and teaching is that learning activities should cater for the whole range of intelligences or be tailored to the intelligences of specific learners.

<b><u>Type of Intelligence</u></b>	<b><u>A person with this type of intelligence</u></b>
<b>Musical Intelligence</b>	<ul style="list-style-type: none"> <li>* likes to : sing, hum tunes, listen to music, play an instrument and respond to music.</li> <li>* is good at : picking up sounds, remembering melodies, noticing pitches / rhythms and keeping time.</li> <li>* learns best by : rhythm, melody and music.</li> </ul>
<b>Bodily-Kinesthetic Intelligence</b>	<ul style="list-style-type: none"> <li>* likes to : move around, touch and talk and use body language.</li> <li>* is good at : physical activities (sports / dance / acting) and crafts.</li> <li>* learns best by : touching, moving, interacting with space and processing knowledge through bodily sensations.</li> </ul>
<b>Logical-Mathematical Intelligence</b>	<ul style="list-style-type: none"> <li>* likes to : do experiments, figure things out, work with numbers, ask questions and explore patterns and relationships.</li> <li>* is good at : math, reasoning, logic and problem solving.</li> <li>* learns best by : categorizing, classifying and working with abstract patterns / relationships.</li> </ul>
<b>Linguistic Intelligence</b>	<ul style="list-style-type: none"> <li>* likes to : read, write and tell stories.</li> <li>* is good at : memorizing names, places, dates and trivia.</li> <li>* learns best by : saying, hearing and seeing words.</li> </ul>

### **Spatial Intelligence**

- \* likes to : draw, build, design and create things, daydream, look at pictures / slides, watch movies and play with machines.
- \* is good at : imagining things, sensing changes, mazes / puzzles and reading maps, charts.
- \* learns best by : visualizing, dreaming, using the mind's eye and working with colors / pictures.

### **Interpersonal Intelligence**

- \* likes to : have lots of friends, talk to people and join groups.
- \* is good at : understanding people, leading others, organizing, communicating, manipulating and mediating conflicts.
- \* learns best by : sharing, comparing, relating, cooperating and interviewing

### **Intrapersonal Intelligence**

- \* likes to : work alone and pursue own interests.
- \* is good at : understanding self, focusing inward on feelings / dreams, following instincts, pursuing interests / goals and being original.
- \* learns best by : working alone, individualized projects, self-paced instruction and having own space.

### **Naturalistic Intelligence**

- \* likes to : go camping and hiking, gardenings, re-cycling
- \* is good at : environmental sciences, biology, botany and zoology
- \* learns best by : sorting things and

placing them in hierarchies, exploring environmental issues.

### **Existential Intelligence**

- \* likes to : discuss questions about life and religion, visit places with breathtaking scenery
- \* is good at : history, cultural studies, philosophy
- \* learns best by : understanding the value of new learning and seeing it fit into the bigger picture.

## **3.9 REACHING LEARNING BASED ON LEARNING STYLE**

More information on characteristics and study tips are available on the Learning Styles page. For the time being, we may proceed with this exercise after viewing the chart below :

<u>AUDITORY</u> <u>LEARNERS</u>	<u>TACTILE /</u> <u>KINESTHETIC</u>	<u>VISUAL</u> <u>LEARNERS</u>
Encourage them to explain the material to you, as if they were the tutor.	Encourage them to pick up the book as they are reading or talking.	Let them take notes during the tutoring session.
Ask them to read explanations out loud.	Have them write while they are reading or talking.	Use a blackboard or notepaper for both of you to write questions and answers.
Ask the student to make up a song using the subject material. The 'crazier' the better.	Encourage them to walk around the LRC for appropriate books and other resources.	Encourage the use of colourcoded highlighting.

Tell the students they can review audio tapes while they drive.	Advise them to sit near the front of their classroom and to take notes. This will keep the student focused.	Use graph paper to help them create charts and diagrams that demonstrate key points.
Advise them that when they are learning new information, state the problem out loud. Reason through solutions out loud.	Advise them to spend extra time in any labs offered.	Have them use mnemonics, acronyms, visual chains, and mind maps.
Ask the student to say words in syllables.	Encourage them to use the computer to reinforce learning using their sense of touch.	Advise them to use the computer to organize materials and to create graphs, tables, charts, and spreadsheets.
Refer them to our study skills videotapes.	Advise them to write with their fingers in sand.	Ask the student to organize the material.
Encourage them to make up and repeat rhymes to remember facts, dates, names, etc.  Make sure they go over all important facts aloud.	Have them write lists repeatedly.	Use visual analogies. Use photographs.
Advise the student to join or create a study group, or to get a study partner.	Advise them to exaggerate lip movements in front of a mirror.	use visual metaphors.
To learn a sequence of steps, write them out in sentence form, then	Ask them to stand while they explain something about that.	When ask them to explain something, suggest they do so by writing the



read them out loud.

explanation down.

Ask the student to use mnemonics and word links.

Ask them to use rhythm (beats) to memorize or explain something.

Ask them to make flashcards, then use them during the sessions's. The act of writing (the cards) and viewing them doubles their comprehension.

Involve the student in a discussion of the material.

As the student is explaining something, have the student point to the subject matter in the book, on the board, etc. while reading it out loud.

Encourage them to visualize the scene, formula, words, charts, etc.

Refer them to the study skills videotapes.

Ask them to use gestures when giving explanations.

Refer them to computer software.

Advise them to make models that demonstrate the key concept. (The purpose here is the act of making the model.)

Use illustrations.

Advise students to use hands-on experience when possible.

Refer them to the Study Skills videotapes.

Make flashcards for each step in the procedure. Put the cards in order until the sequence becomes automatic.

Use audio tapes from classes. Play them while they walk or exercise.

Ask them to stretch and

move in the chairs.

Refer them to the Study  
Skills videotapes.

### **3.10 PREFERRED LEARNING STYLES**

Preferred Learning Styles can help to study more effectively by using techniques that can really improve the way of learning —

- (a) perceive information;
- (b) process information and;
- (c) organise and present information.

#### **Why tell me now?**

Studying at university makes very different demands for comparing with school and college.

#### **Scope**

The scope of study at university is much wider than it have been used to. We won't be able to read everything there is to read on any subject.

#### **Focus**

In higher education the focus is expected to study on its own choice.

#### **Schedule**

Much more responsibility is at university for organising your own giving schedule.

#### **Reading**

It is expected to do much more reading at university than we have been used to — especially if it has been on a gap year or are a mature student. It's not called 'reading for a degree' for nothing.

## **Lectures**

A lot of university teaching happens through lectures where any learner can attend — and learn anything there.

## **Essays**

Essays at university are longer, it need to write in an objective academic style and give references.

## **Time scale**

They often set essays and assignments weeks before one have to hand them in. and there won't be anybody to remind that they are due in.

## **Evaluation**

There are many subjects in which it's impossible to get 100%. First Class Honours Degrees are awarded for a 'high level of critical and analytical ability' and 'originality of thought' rather than for just getting the answers right.

All of this means that the ways of studying which helped you get to university may not be enough now that we are here. So, although it probably seems perverse to offer advice about learning styles at this point in academic career, that's just what we're going to do.

To organise Learning Styles and converting its output to education following points to be considered well :

- (a) perceiving information
- (b) processing information
- (c) organising and presenting information

### **(a) Perceiving information**

When we gather information about the world around us including the information we need in order to study, we employ all our senses. But some of us employ one sense more than others. The VARK system assesses how much people rely on :

- \* sight (Visual),
- \* hearing (Auditory),

- \* Reading / Writing, and
- \* other sensation (Kinaesthetic, which includes touch and temperature as well as movement).

People say things like, 'I'm an auditory learner' meaning that they are comfortable absorbing information which they've heard or discussed; or 'I'm a kinaesthetic learner' if they prefer to learn through practical classes and hands-on activities, rather than by reading books and listening to lectures. In fact, each of us uses all available senses to absorb information.

## **(b) Processing information**

Once acquired information by listening, reading, etc., is processed it will have a natural preference for how it can be :

### **Grasp information :**

- \* abstract concepts and generalisations, or
- \* concrete, practical examples?

### **Receiving facts :**

- \* in a logical, sequential way to build up a picture one step at a time, or
- \* with an overview straight away to show the big picture first, then the details?

### **Preference of information :**

- \* active experimentation or
- \* reflective observation?

## **(c) Organising and presenting information**

Finally, there is how to share information with others. It will have a preference for its accommodation :

- \* organise information — with a holistic overview, or with detailed and logical analysis

- \* present information — verbally or using images.

We haven't found a website where it can match against these criteria, but its probably getting the idea.

This is not just a matter of intellectual curiosity; it affects every student at university. Most academics have stayed in higher education because they possess these characteristics :

- \* VARK : visual, auditory, reader / writer, kineasthetic
- \* Processing information : abstract, logical, sequential, reflective
- \* Organising and presenting information : analytic, verbal.

Although the university does not analyse its students, it seems likely that only a minority share these characteristics. And that means it will probably need to translate the style of university teaching into something which to find more congenial.

## Seeing

- \* Like a stimulating and orderly environment.
- \* Like to use diagrams and charts.
- \* Like reading, and may be a good speller.

Suggestion to help people who are visual learners

## Write things down to learn them :

- \* Draw pictures, charts and maps to understand things
- \* Use mind-mapping
- \* Use planners, organisers or goal-setting charts
- \* Highlight important points with colour (but not in books which you've borrowed!)
- \* Try visualising ideas and facts
- \* Try changing places in the room while studying, to get a different perspective
- \* Use models if they're available

## **Hearing**

An **Auditory Learner**, will learn best when listening (for example, in a lecture) and when it involved in discussion. It will remember things best when we heard them.

Study tips to help people who are auditory learners

### **The key thing is to make use of sound :**

- \* Talk things through learn to them, with a friend or tutorial group.
- \* Get a friend to read aloud.
- \* To learn facts, try reciting them to ourself, or even singing them aloud.
- \* Find out to study best in silence, or with music playing in the background.
- \* Realise that some people aren't as good as it remembering what they are told.

## **Reading / Writing**

University education is ideal. It is comfortable reading text and writing notes and essays. When studying graphs, charts and diagrams, convert them into words.

## **Doing**

If it is called a kinaesthetic learner, it will learn best when we moving around. Remembering things are best when we done them rather than just read about them. Learners may have trouble with spelling. In lectures it makes lots of notes but tend never to look at them again.

Study tips to help people who are kinaesthetic learners

- \* Move around to learn and revise
- \* Work through problems physically
- \* Mentally review about studying, swimming and jogging

- \* Use models and machines
- \* Take plenty of breaks

### **3.11 IDENTIFYING PUPILS' PREFERRED LEARNING STYLES**

**Visual, auditory and kinaesthetic learning :** Accelerated learning in the classroom, Alistair Smith.

**Multiple intelligences :** Accelerated learning in the classroom, Alistair Smith.

**Gregorc's four thinking styles :** The learning revolution, Dryden and Vos (this may need some mediation for younger learners) and The teacher's toolkit, Ginnis (a more pupil-friendly learning styles questionnaire, based partly on the work of Gregorc). Whilst many schools use such questionnaires, others prefer to generate their own. A further example is provided in appendix.

#### **Teacher observation**

Observing and talking to learners will give you results as reliable as questionnaires. Some of the indicators of different learning styles include :

#### **A visual learner :**

- \* prefers to read, to see the words, illustrations and diagrams;
- \* talks quite fast, using lots of images;
- \* memorises by writing repeatedly;
- \* when inactive, looks around, doodles or watches something;
- \* when starting to understand something says, 'that looks right';
- \* is most distracted by untidiness

#### **An auditory learner :**

- \* likes to be told, to listen to the teacher, to talk it out;
- \* talks fluently, in a logical order, and with few hesitations;

- \* memorises by repeating words aloud;
- \* when inactive, talks to self or others;
- \* when starting to understand something says, 'that sounds right';
- \* is most distracted by noises.

#### **A kinesthetic learner :**

- \* likes to get involved, hands on, to try it out;
- \* uses lots of hand movements;
- \* talks about actions and feelings; speaks more slowly;
- \* memorises by doing something repeatedly;
- \* when inactive, fidgets, walks around;
- \* when starting to understand something says, 'that feels right';
- \* is most distracted by movement or physical disturbance.

Talking to pupils about their favourite learning activities and curriculum subjects can provide an insight into learning preferences, multiple intelligences and thinking styles.

### **3.12 PRINCIPLES FOR DEVELOPING LESSONS THAT TAKE ACCOUNT OF LEARNING-STYLE PREFERENCES**

In many classrooms there is a mismatch between the learning opportunities presented to pupils and their preferred learning styles. Research evidence suggests that the reasons for this include :

- \* lack of understanding of the range of learning styles within the classroom;
- \* the impossibility of providing sufficient learning opportunities to address the full range of preferred learning styles within any one classroom;



- \* the tendency for teachers to create learning opportunities in keeping with their own preferred learning styles, believing that if it works for them it should work for the majority of their pupils;
- \* unwillingness to provide a choice of outcomes because they are difficult to standardise;
- \* the likelihood of pupils making inappropriate choices from a range of tasks so that the mismatch persists;
- \* concern about behaviour management when using kinaesthetic activities;
- \* time constraints in producing resources.

## **Reflection**

Consider the list of factors that limit the range of learning opportunities. Would any of these inhibit to accommodate a variety of learning styles?

Having identified pupils' preferred learning styles, teachers face the challenge of planning lessons to accommodate them. It is clearly unrealistic to expect that every lesson will cater equally for visual, auditory and kinaesthetic learners. However, it is possible to ensure that each unit of work includes opportunities for all pupils to learn using their preferred learning style. Planning for a range over time is the key.

## **Lesson planning for preferred learning styles**

Look at the principles for planning for different learning styles below. It is reflected on factors that might inhibit in accommodating differing learning styles and planning.

### **3.13 PRACTICAL TIPS FOR PLANNING FOR DIFFERENT LEARNING STYLES**

- \* Research the range of learning styles in classroom.
- \* Make sure that pupils understand their own learning preferences. This will enable them to make informed choices when selecting from alternative tasks.
- \* Take account of the needs of learners who have a very strong preference for one learning style : for example, the visual-only learners.
- \* Make sure that it does not overlook planning for kinaesthetic learning opportunities. The needs of kinaesthetic learners are the most neglected, particularly in the secondary sector.
- \* Accept the fact that cannot accommodate all learning styles every lesson. Make sure, however, that the schemes of work provide regular opportunities for all types of learners to use their preferred styles. A good rule of thumb is that no pupil should have to go through three consecutive lessons without some opportunity to use his or her preferred style. If the opportunity is not provided, there is a danger that it will lose that pupil.
- \* Don't allow pupils to work only within their preferred learning style. Providing opportunities to work in a variety of ways will help them to become more flexible learners. Research suggests that the most successful pupils are those who can access and process information in a variety of ways.
- \* Visual and kinaesthetic activities are often resource-dependent. Work collaboratively as a department to generate and share such resources to avoid duplication of effort.
- \* Provide a choice of activities and / or outcomes where possible so that pupils can opt to use their preferred learning styles.
- \* Prompt pupils to think about different ways of achieving the same outcome. Ask successful pupils to share with the whole class their approaches to the same task and avoid being prescriptive about a single approach. A particular approach might be helpful for some learners, but will not suit all.

- \* It is concerned about the behaviour management of kinaesthetic activities, keep them brief, keep to tight timings, always explain how they relate to the lesson objectives and take account of group dynamics when pairing individuals.
- \* Use gardner's multiple intelligence framework we have to plan choices of outcome in units of work. Coming up with a comprehensive selection can be challenging, but it is much easier to do collaboratively than on our own. We tend to think first of learning opportunities that match our own preferred styles, so plan in teams where there is a range of learning styles, where possible.
- \* We have to be conscious of our own preferred learning style and monitor our planning to ensure that it is not creating an unbalanced diet of learning opportunities for your pupils.
- \* Meet as a team to agree success criteria for different types of outcome and to standardise assessments.
- \* Plan to secure the engagement of pupils with multisensory starter activities in the first 5 minutes of a lesson.

### 3.14 LEARNING STYLES & LEARNING TASKS

Visual, auditory, kinaesthetic	Multiple intelligence	Four styles of thinking	Learning tasks
Visual	Visual-spatial		Diagrams, charts, videos, films, graphs, posters, concept maps, pamphlets, textbooks, drawing, visualisation (creating mental pictures), collages, colour highlighting
Auditory	Linguistic		Discussion, group work, pair work, debates, interviewing, expositions, presentations, improvisations, listening to

Kinaesthetic			guest speakers, writing notes and essays, poems, sketches, stories, reading
	Bodily- kinaesthetic		Role-play, dance, model making, simulations, 'show me' cards, freeze-frames, improvisation, associating ideas with movements, human graphs, human sentences or timelines, field trips, games, competitions
	Logical- mathematical	Abstract sequential	Puzzles, problem-solving tasks, predicting or hypothesising tasks, investigations, sequential tasks, summaries, pattern spotting
	Musical		Chants, rhymes, songs, mnemonics, raps, poems, musical interpretations
	Interpersonal		Collaborative group work, pair or team work, interviewing, teaching or coaching others
	Intrapersonal		Individual research, learning journals, reflecting on own learning, identifying own questions, self-evaluation, diaries
	Naturalistic		Multisensory experiences, collecting and classifying data, analogies with natural world, observation, experiments, investigations
	Abstract random		Open-ended tasks, improvisation, creative or imaginative responses, personal responses, narrative responses, brainstorming activities

Concrete sequential	Sequential tasks, use of checklists, concept maps, overview of tasks, closed tasks, individualised learning programmes
Concrete random	Specific outcomes to tasks, practical tasks, problem solving, investigations, open-ended tasks, experiments, trial-and-error opportunities, competitions

### **3.15 CREATING ENVIRONMENTS TO SUPPORT A RANGE OF LEARNING STYLES**

Accommodating a range of learning styles not only affects lesson planning, but also has implications for classroom design and management. The checklist below can be used to audit classroom to determine how well it supports a variety of learning styles.

- \* The seating arrangement is flexible, allowing for movement around the room and for a variety of working contexts such as pair work, group work, whole-class work and performance.
- \* Display supports learning through the use of charts, posters, key words etc.
- \* Pupils have ready access to a range of learning resources that support different learning styles, for example writing and reading resources, drawing and modelling equipment, simple musical equipment, ICT hardware and software, puzzles, games, reference materials, audio and video equipment, PHP, and rules for group work.
- \* Displays of pupils' work celebrate and validate a variety of outcomes, for example photographs showing work from kinaesthetic activities, models, drawings, and tape recordings or spoken or musical products.

- \* Displays model thinking processes, for example storyboards into writing, reading into tableaux, data into analysis, and discussion into key principles.
- \* Displays make explicit reference to learning and learning styles and encourage pupils to reflect on the 'how' of learning as well as on the 'what'.
- \* Classrooms are multisensory : they contain elements that stimulate all the senses, for example images and eye-catching displays, opportunities to hear appropriate music, plants and mobiles.
- \* Elements of the displays are frequently changed (at least once per half-term) to maintain the levels of stimulation.

### 3.16 GREGORE'S THINKING STYLES

Anthony Gregore provides a different account of the ways in which different learners access and organise information. He identifies four preferences.

**Concrete sequential :** These learners are more comfortable thinking in the concrete. They access new ideas through tangible examples and they like to be physically involved in their learning. They learn most effectively when learning is broken down into incremental steps and are content to follow instructions.

**Concrete random :** These learners also like to work with tangible examples, but are more disposed to an experiential approach to learning. They like to consider problems from different angles and create personal solutions or approaches. Their preferred learning tasks are open-ended, though they do like to have a specific, practical outcome at the end of a learning experience.

**Abstract sequential :** These learners are logical and linear in their thinking. They prefer to think in the abstract and follow a sequence of activities which enables them to explore the relationship between ideas or arrive at the underpinning principles or concepts. They enjoy activities which ask them to identify core ideas or the reasons for a specific phenomenon, but welcome a structure to their work provided by the teacher.

**Abstract random :** These learners like to be personally engaged in their learning. They learn most effectively when they are able to give their learning some personal significance. They process information holistically and then organise it through a process of reflection. They prefer learning opportunities which enable them to follow their personal inclinations and to explore those with others through group discussion. They will often want to explore their ideas through visual or kinaesthetic means.

Learning styles are broadly described as "cognitive, affective, and physiological traits that are relatively stable indicators of how learners perceive, interact with and respond to the learning environment (Keefe, 1979, p. 4). More specifically, style refers to a pervasive quality in the learning strategies or the learning behavior of an individual, "a quality that persists though content may change" (Fischer & Fischer, 1979, p. 245). Also, learning style is a biological and developmental set of personal characteristics that makes the identical instruction effective for some students and ineffective for others (Dunn & Dunn, 1993, p. 5). Dunn and Dunn (1979) found that only 20 to 30 percent of the school-age children they studied were auditory learners, that 40 percent of the students they studied were visual, and that the remaining 30 to 40 percent were tactile and kinesthetic, visual and tactile, or some other combination.

Previous research also indicated that students' learning styles were significantly related to their achievement level. Park (1997a) found that among high, middle, and low achievers, high achievers were the most visual and low achievers were the least visual, and that middle and low achievers had minor preferences and high achievers had a negative preference for group learning. Suh and Price (1993) also found that gifted Korean students in Korea were more persistent and expressed greater preference for learning visually and kinesthetically and with more structure than academically non-gifted peers. The gifted students were also less parent motivated and less desirous of having an authority figure present than the academically non-gifted. They preferred to learn in several ways and less socially than did United States students. Other research also indicated a significant relationship between student achievement level and their learning style preferences (Ingham & Price, 1993; Park, 1997b).

Slavin (1983) and Kagan (1986) observed that cooperative group learning produced gains in academic achievement. It also helped all participating students develop social skills and better race relations. In her study of sociocultural influence on classroom interactional styles in different countries, Kinsells (1996) observed that despite the merits of pairing and grouping strategies, not all students in high school or college classrooms embraced collaborative classroom learning with the same zeal as their instructors. In fact, such well-intended instructional efforts as group strategies may be met with reluctance and disorientation.

Other research about learning styles identified gender differences. In his study of young children, Restak (1979) documented various gender differences between boys and girls. He observed that girls were both more sensitive to sounds and more proficient at fine motor performance than boys. Boys, in contrast, showed an early visual superiority to girls. They were, however, clumsier, performing poorly at a detailed activity such as arranging a row of beads, but excelled at other activities requiring total body coordination. Dunn, Griggs, and Price (1993) also found gender differences in their study of the learning styles of Mexican and Anglo-American children in elementary schools and concluded that both Mexican and Anglo female students were more persistent than males; male Mexican and Anglo female students had the strongest tactile learning preferences whereas both groups of females in general preferred the least amount of tactile learning; the least auditory were the male Anglo-American children.

LEARNING STYLE	ACTIVITY FOR LECTURE TYPE MATERIAL	ACTIVITY FOR TEACHING DRAWING
	* Give students specific reading assignments	* Give students readings
	* Hand out lecture outlines	* Hand out lecture outlines
	* Write outlines, key words and concepts on the blackboard	* Write outlines, key words and concepts on the blackboard



- \* Leave space in lecture outlines for students to take notes
- \* Have students write down observations of paintings – forcing them to make their own judgments
- \* Have students take notes in notebooks for on tracing paper laid over their work
- \* Lecturel (only for 20 minutes at a time)
- \* Play music from the appropriate time period
- \* Use videos
- \* Lecturel (only for 20 minutes at a line)
- \* Talk students through the processes while they are drawing
- \* Have students work in pairs or small groups to complete a task (e.g., find information in a book, fill in blanks on a lecture outline, fill in a graph of information)
- \* Encourage formation of study groups
- \* Have open discussion time in class
- \* Ask students direct questions to encourage them to make their own observations
- \* Pair students up and have them explain difficult points to one another
- \* Use mind maps, charts, graphs to present information
- \* Use slides, videos
- \* Do demos
- \* Use slides
- \* Post pictures around the classroom and have students walk around to look at them or complete a task
- \* Have students improvise — acting out carefully chosen historical scenes as you narrate
- \* Get students to draw
- \* Have them initiate poses of models to feel which muscles are tense, which are relaxed

## **According to Felder :**

The proposed learning style dimensions may be defined in terms of the answers to the following five questions :

1. What type of information does the student preferentially perceive. sensory—sights, sounds, physical sensations, or intuitive—memories, ideas, insights?
2. Through which modality is sensory information most effectively perceived : Visual—pictures, diagrams, graphs, demonstrations, or verbal—written and spoken words and formulas?
3. How does the student prefer to process information : actively—through engagement in physical activity or discussion, or reflectively—through introspection?
4. How does the student progress toward understanding : sequentially—in a logical progression of small incremental steps, or globally—in large jumps, holistically?
5. With which organization of information is the student most comfortable : inductive—facts and observations are given, underlying principles are inferred, or deductive—principles are given, consequences and applications are deduced?

Sensors tend to be concrete and methodical, intuitors to be abstract and imaginative. Sensors like facts, data, and experimentation; intuitors deal better with principles, concepts, and theories. Sensors are patient with detail but do not like complications; intuitors are bored by detail and welcome complications. Sensors are more inclined than intuitors to rely on memorization as a learning strategy and are more comfortable learning and following rules and standard procedures. Intuitors like variety, dislike repetition, and tend to be better equipped than sensors to accommodate new concepts and exceptions to rules. Sensors are careful but may be slow, intuitors are quick but may be careless.

Effective instruction reaches out to all students, not just those with one particular learning style. Students taught entirely with methods antithetical to their learning style may be made too uncomfortable to learn effectively, but

they should have at least some exposure to those methods to develop a full range of learning skills and strategies (Smith & Renzulli 1984). To be effective, language instruction should therefore contain elements that appeal to sensors and other elements that appeal to intuitors. The material presented in every class should be a blend of concrete information (word definitions, grammatical rules) and concepts (syntactical and semantic information, linguistic and cultural background information), with the percentage of each being chosen to fit the level of the course (beginning, intermediate, or advanced) and the age and level of sophistication of the students.

### **Visual and Verbal Learners**

It proposes to classify the ways people receive sensory information as visual, verbal, and other (tactile, gustatory, olfactory). Visual learners prefer that information be presented visually—in pictures, diagrams, flow charts, timelines, films, and demonstrations—rather than in spoken or written words. Verbal learners prefer spoken or written explanations to visual presentations. The third category (touch, taste, smell) plays at most a marginal role in language instruction and will not be addressed further.

This categorization is somewhat unconventional in the context of the learning style literature (e.g., Barbe & Swassing 1979; Dunn, Dunn, & Price 1978), in which sensory modalities are classified as visual, auditory, and kinesthetic. Since the five human senses are seeing, hearing, touching, tasting, and smelling, we suggest that "kinesthetic" does not properly belong on a list of sensory input modalities. A student's preference for motion or physical activity of some sort during the learning process belongs in a separate learning style category : our proposed system and Kolb's (1984) model place it in the active / reflective dimension, and the familiar model based on Jung's typology (Lawrence 1993) includes it in the extrovert-introvert dimension.

The distinction between the visual-auditory and visual-verbal classifications has to do with whether reading prose is more closely related to seeing pictures (which leads to the visual-auditory contrast) or to hearing speech (visual-verbal). Three mechanisms have been proposed for the process of extracting lexical significance from written words (Martin 1978) : direct access (the

reader jumps directly from the printed form of the word to its lexical meaning), indirect access (the printed words are translated internally into sounds before information about their meaning can be located in lexical memory), and dual encoding (Lexical memory can be reached either directly or indirectly). An extensive body of research supports a form of the dual encoding hypothesis. Direct access is possible when words are familiar or when artificial conditions imposed in a research setting make speech encoding inefficient; however, when material is unfamiliar or difficult, lexical memory is speech accessed (Crowder & Wagner 1992). The implication is that expository prose of the sort one finds in books and on classroom chalkboards is much more likely to be speech-mediated than directly accessed when silently read, and so belongs in the verbal rather than the visual category.

## **Active and Reflective Learners**

The complex mental processes by which perceived information is converted into knowledge can be conveniently grouped into two categories: active experimentation and reflective observation (Kolb 1984). Active processing involves doing something in the external world with the information—discussing it or explaining it or testing it in some way—and reflective processing involves examining and manipulating the information introspectively. An active learner is someone with more of a natural tendency toward active experimentation than toward reflective observation, and conversely for a reflective observation, and conversely for a reflective learner.

Active learners learn well in situations that enable them to do something physical and reflective learners learn well in situations that provide them with opportunities to think about the information being presented. The more opportunities students have to both participate and reflect in class, the better they will learn new material and the longer they are likely to retain it (Kolb 1984; McCarthy 1987). Language classes in which all students are relegated to passive roles, listening to and observing the instructor and taking notes, do little to promote learning for either active or reflective learners. Language classes should therefore include a variety of active learning experiences, such as conversations, enactment of dialogues and minidramas, and team

competitions, and reflective experiences, such as brief writing exercises and question formulation exercises.

Small-group exercises can be extremely effective for both active and effective learners (Johnson et al. 1991). Pose a question or problem ("Translate this sentence". "What's wrong with what I just wrote?" "How many synonyms for 'happy' can you think of in 30 seconds?" "What question do you have about what we covered today?") and have students come up with answers working in groups of three, with one group member acting as recorder. Such exercises engage all the students, not just the small minority who typically participate in class, and are a rich source of responses and material for subsequent discussion. The exercises also relieve the monotony of continuous lectures. In our experience, as little as five minutes of group work in a 50-minute period can be enough to maintain the students' attention for the entire class.

Group work must be used with care, however : simply telling students to work together on problems or projects can do more harm than good. Most references on cooperative learning (e.g., Johnson et al. 1991) point out that students often respond negatively to group work at first, and that the benefits of the approach are fully realized when the group work is structured to assure such features as positive interdependence, individual accountability, and appropriate uses of teamwork and interpersonal skills. Reid (1987) studied students from a variety of ethnic backgrounds and found that every background expressed a minor or negative preference for group work, with English speakers giving it the lowest rating. When language students have been taught cooperative skills, however, they showed positive results in both language skill and altruism (Gunderson & Johnson 1980; Jacob & Mattson 1987).

## **Sequential and Global Learners**

Sequential learners absorb information and acquire understanding of material in small connected chunks, and global learners take information in seemingly unconnected fragments and achieve understanding in large holistic leaps. Before global learners can master the details of a subject they need to understand how the material being presented relates to their prior knowledge and

experience, a perspective that relatively few instructors routinely provide. Consequently, strongly global learners may appear slow and do poorly on homework and tests until they grasp the total picture, but once they have it they can often see connections that escape sequential learners. On the other hand, sequential learners can function with incomplete understanding of course material, but they may lack a grasp of the broad context of a body of knowledge and its interrelationships with other subjects and disciplines

### **Inductive and Deductive Learners :**

#### **A Perspective on the Language Learning / Acquisition Dichotomy**

Induction is a reasoning progression that proceeds from particulars (observations, measurements, data) to generalities (rules, laws theories). Deduction proceeds in the opposite direction. In inductive presentation of classroom material, one makes observations and infers governing or correlating principles; in deductive presentation one starts with axioms, principles, or rules, deduces consequences, and formulates applications. As with the previous dimensions, students may have moderate or strong preferences for one or the other presentation mode; in particular, they may prefer deductive presentation because of its relatively high level of structure.

A large percentage of classroom teaching in every subject is primarily or exclusively deductive, probably because deduction is an efficient and elegant way to organize and present material that is already understood. However, there is considerable evidence that incorporating a substantial inductive component into teaching promotes effective learning. Inductive reasoning is thought to be an important component in academic achievement (Ropo 1987). Current cognitive research emphasizes the importance of prior knowledge in learning (Glaser 1984); introducing new material by linking it to observed or previously known material is essentially inductive. The benefits claimed for inductive instructional approaches (e.g., discovery or inquiry learning) include increased academic achievement and enhanced abstract reasoning skills (Taba 1966), longer retention of information (McConnell 1934; Swenson 1949), and improved ability to apply principles (Lahti 1986).

The third approach is the audio-oral method, according to which language is a set of habits with vocabulary being of secondary concern. In this method, which was influenced by behavioral psychology and structural linguistics, students learn by repeating structural patterns and eventually automatize the structures, aided by positive reinforcement provided by the teacher. This approach combines acquired verbal skills (inductive) with learned reading and writing skills (deductive), with emphasis on the former. As Allen and Corder point out, "Advocates of the oral method have assumed that language learning is an inductive rather than a deductive process." (Allen & Corder 1975, 46). Many common instructional techniques (e.g., the silent way, suggestopaedia, community language learning, the total physical response, the communicative approach) essentially fall into this category, although all may involve some deductive elements.

### **3.17 A MULTISTYLE APPROACH IN LEARNING STYLE**

Studies show that matching teaching styles to learning styles can significantly enhance academic achievement, student attitudes, and student behavior at the primary and secondary school level (Griggs & Dunn 1984; Smith & Rengulli 1984), at the college level (Brown 1978; Charkins et al. 1985), and specifically in foreign language instruction (Oxford et al. 1991; Wallace & Oxford 1992). This is not to say that one can do for one's students is to use their preferred modes of instruction exclusively. Students will inevitably given practice in the use of those modes (Hunt 1971; Friedman and Alley 1984; Cox 1988). However, Smith and Rengulli (1984) caution that stress, frustration, and Rengulli (1984) caution that stress, frustration, and burnout may occur when students are subjected over extended periods of time to teaching styles inconsistent with their learning style preferences.

A point no educational psychologist would dispute is that students learn more when information is presented in a variety of modes than when only a single mode is used. The point is supported by a research study carried out several decades ago, which concluded that students retain 10 percent of what

they read, 26 percent of what they hear, 30 percent of what they see, 50 percent of what they see and hear, 70 percent of what they say, and 90 percent of what they say as they do something (Stice 1987). What must be done to achieve effective foreign language learning is to balance instructional methods, somehow structuring the class so that all learning styles are simultaneously—or at least sequentially—accommodated (Oxford 1990). The approach recommended in this paper is designed to meet this goal.

Fortunately, instructors who wish to address a wide variety of learning styles need not make drastic changes in their instructional approach. The way they normally teach addresses the needs of at least five of the specified learning style categories : regular use of at least some of the instructional techniques given below to integrate the learning style.

- \* Motivate learning. As much as possible, teach new material (vocabulary, rules of grammar) in the context of situations to which the students can relate in terms of their personal and career experiences, past and anticipated, rather than simply as more material to memorize (intuitive, global, inductive).
- \* Balance concrete information (word definitions, rules for verb conjugation and adjective-noun agreement) (sensing) and conceptual information (syntactical and semantic patterns, comparisons and contrasts with the students' native language) (intuition) in every lesson at every level. The balance does not have to be equal, and in elementary courses it may be shifted heavily toward the sensing side, but there should periodically be something to capture the students' interest.
- \* Balance structured teaching approaches that emphasize formal training (deductive, sequential) with more open-ended unstructured activities that emphasize conversation and cultural contexts of the target language (inductive, global).
- \* Make liberal use of visual. Use photographs, drawings, sketches, and cartoons to illustrate and reinforce the meanings of vocabulary words. Show films, videotapes, and live dramatizations to illustrate lessons in texts (visual, global.)



### **3.18 A MULTISTYLE APPROACH IN LEARNING STYLE BASED ON PHILOSOPHICAL OBJECTIVES**

- 1) Perception
- 2) Inference
- 3) Comparison
- 4) Postulation
- 5) Non perception
- 6) Verbal Communication

Here preference is replaced by integration. It is acceptable that practising for learning demands unification of the perceptual styles & other conceptual & situational learning.

A learner considering is visual in nature. That does not demand that the learner is indifferent about auditory and other effect. Most of the teaching reinforcement coming to the student on the basis of different perceptual dimensions and the learners are greatly reinforced by that processes. A popular example of observing Television may be mentioned here is a combinations of different perceptual dimensions. Presently the audio system is almost replaced by the Audiovisual system leading to the integration of the system. That is the combination of both the auditory & visual styles.

Preferences of learning styles do not demand of independent style of any particularity rather to have a multidimensional approach leading to integration of styles. Here we use Six philosophical objectives that are explained by the classical Indian Philosophies and applied those objectives for gaining knowledge to their learning dimensions.

“Inductive reasoning is thought to be an important component in academic achievement current cognitive research emphasizes the importance of prior knowledge in learning, introducing new material by linking it to observe or previously known material is essentially inductive. The benefits claimed for inductive instructional approaches include increased academic achievement and

enhanced abstract reasoning skills, longer retention of information and improved ability to apply principles.”

Another important dimension here also mentionable that is only perception or the related sense organs are not medium of accepting knowledge. But also different other objectives may also use the source of knowledge.

It is recommended that educators use a variety of learning methods, and encourage students to be receptive to different learning methods, rather than to try to link specific learning methods to specific learning styles.

It can be a helpful reminder to teachers to ensure that pupils are fully engaged in their learning by providing a range of different learning experiences and opportunities in which all pupils are emotionally, physically and intellectually involved.

Therefore we are interested to correlate philosophical objectives & learning style. It is interesting to note that epistemologically Indian philosophical objectives include multiple dimensions for searching truth. Here the ends of education are the same but the route for attaining education is multiple.

Certainly visual learners learn better if they see and hear words in the target language, but so do auditory learners : presenting the same material in different ways invariably has a reinforcing effect on retention.

Therefore it can be concluded that in Indian perspective for attaining knowledge it demands multiple factors for receiving knowledge suggesting an integrated learning style.

### **3.19 INTEGRATED LEARNING STYLE**

- |                 |  |
|-----------------|--|
| 1. Perception — | Development of sense organs or training of senses. |
| 2. Inference —  | Cause – effect relationship                        |
| 3. Comparison — | Comparing subject matters.                         |
| 4. Postulates — | Problem solving                                    |

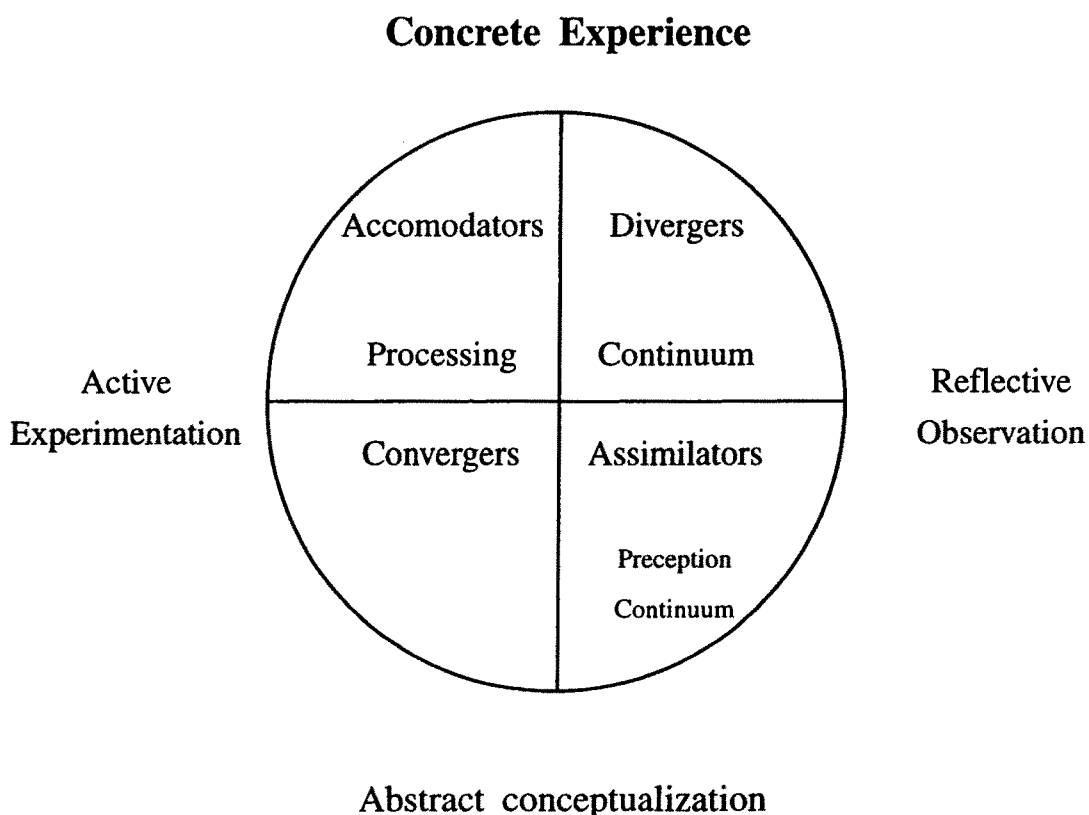
5. Non perception — Conception of Non perceptible objects.
6. Verbal Communication — Verbal knowledge

Rayner & Riding in 1977 while descriptions of style dimensions integrating both the wholist-analytic & verbal imagery dimensions through the “tendency for the individual to process information in parts or as a whole and think in words or pictures.”

So we cannot apply philosophical objectives in any education system in a preferential way rather to a combination as a whole leading to the integrated style suggested from the study.

In Kolb's Learning style concrete experience is going to be Abstract conceptualization through developing theories in a linear mode in two opposite points. Similarly reflective observation which involves observation of self experience leading to active experimentation where theories come into practice.

Healey & Jenkins (2000) identified the relationship between learning style and learning conditions when interpreting Kolb's learning style :



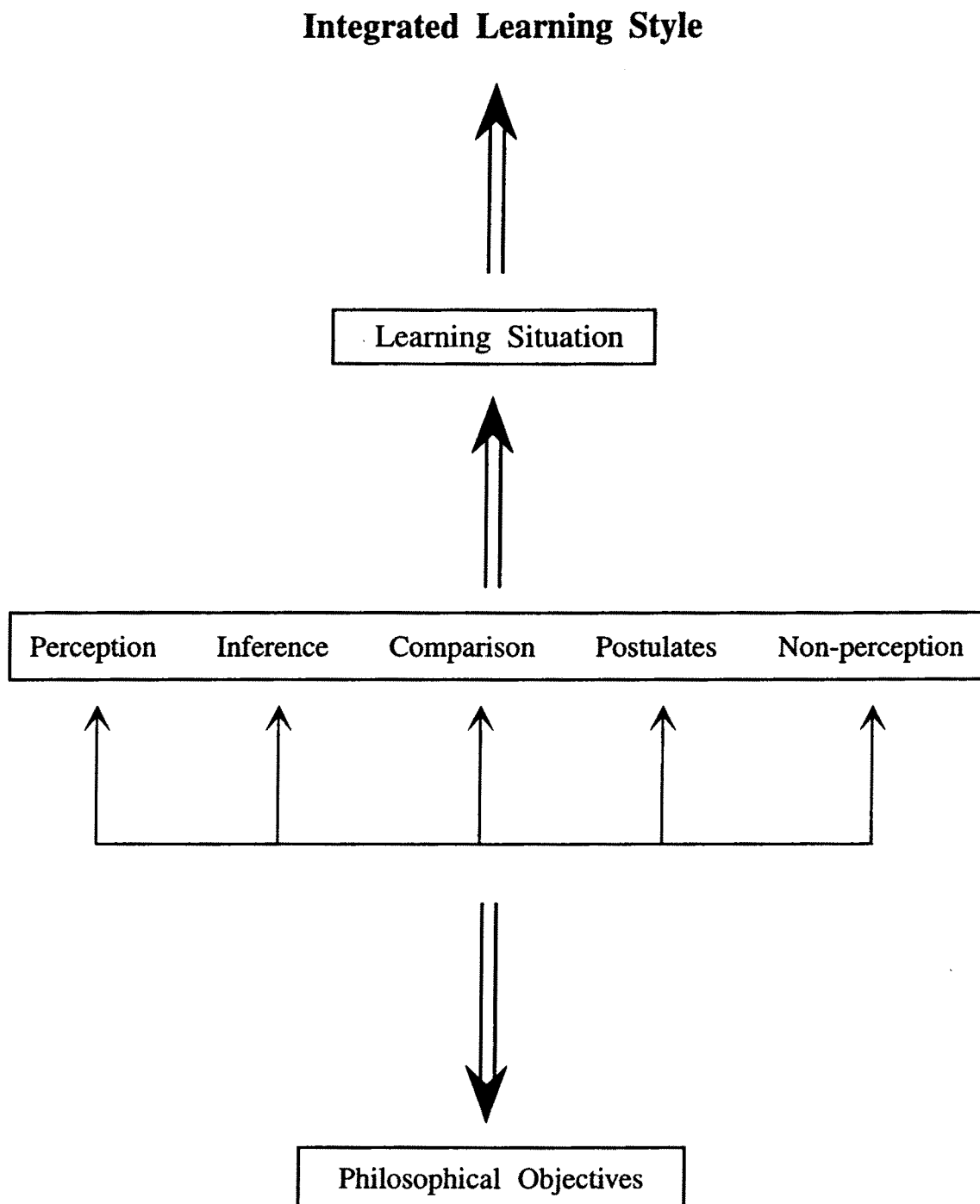
Further it is pointed out in the following way :

Learning style	Conditions underwhich Learners learn best
Assimilator	When presented with sound logical theories to consider
Convergers	When provided with practical applications of concepts and theories
Accommodators	When allowed to gain 'hands' on experience
Divergers	When allowed to observe and gather wide range of information.

In most of the learning styles knowledge is sourced from perception by developing senses. But knowledge is also possible to extract from nonperceptual objects also extraordinarily expressed in Indian philosophy. Then what is the learning style on that occasion.

In Felder also Learning styles being influenced from sensory perception to active contemplation either in inductive or in deductive way. What is then the preferential style? The reality is for effective instruction different dimentions of style should be blended reffered by Smith & Renzulli in 1984.

Therefore it can be concluded that Learning style may be developed from philosophical objectives leading to academic achievement furnished below :



### **METHODOLOGY : ANALYSIS & INTERPRETATION**

#### **4.1 Methodology :**

The research is based on descriptive type survey research

#### **4.2 Tools Used :**

A standardised Questionnaire regarding philosophical objectives, learning style & Academic Achievement have been used as a device for collecting data.

#### **4.3 Standardisation :**

A pilot study has been conducted for selecting items. Initially 90 items have been taken out of which 66 items have been finally selected from the 10 experts view. Item analysis through 't' test from high & low group has been avoided so that some important items regarding any particular objective may be discarded.

#### **4.4 Reliability :**

Items are considered to be highly reliable from referential opinion of experts.

#### **4.5 Validity :**

Content validity has been highly maintained during study.

#### **4.6 Population :**

11th grade students in West Bengal are considered as population.

#### **4.7 Sample :**

Some selected schools of 11th grade students are used as sample.

#### **4.8 Sample Size :**

200 students have been selected as sample from six higher secondary schools.

#### **4.9 Rationale for Non-parametric statistics**

As most of the learning styles are selective in nature and also philosophical objectives are matched with learning styles and academic achievement it is better to apply statistics in terms of counted data leading to non-parametric statistics. Academic Achievement is also viewed in terms of philosophical objectives guided by 3 dimensions (1) Situational (2) personal and (3) Motivational factors.

## 4.10 Calculation & Interpretation

**Table 1. Philosophical objectives accelerates achievement**

	SA	A	UN	DA	SDA
Observed (fo)	34	57	—	16	13
Expected (fe)	24	24	24	24	24
(fo-fe)	10	33	-24	-8	-11
(fo-fe) <sup>2</sup>	100	1089	576	64	121
$\frac{(fo-fe)^2}{fe}$	4.17	45.38	24.00	2.67	5.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	81.26				

$$X^2 = 81.26 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 1 shows that the value of  $X^2$  was found to be 81.26 which is greater than the table value. Hence, the result is significant at 0.05 level, Therefore, the statement is accepted. Philosophical objectives accelerates achievement.



**Table 2. Learning styles improves the teaching-learning process.**

	SA	A	UN	DA	SDA
Observed (fo)	26	61	5	14	14
Expected (fe)	24	24	24	24	24
(fo-fe)	2	37	-19	-10	-10
(fo-fe) <sup>2</sup>	4	1369	361	100	100
$\frac{(fo-fe)^2}{fe}$	0.17	57.04	15.04	4.17	4.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	80.59				

$$X^2 = 80.59$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 2 shows that the value of  $X^2$  (calculated) is 80.59 which is greater than the table value. Hence, the result is significant at 0.05 level, Therefore, the statement is accepted. It means learning styles improves the teaching learning process.

**Table 3. Philosophical Objectives gives feedback to the teachers for their improvement.**

	SA	A	UN	DA	SDA
Observed (fo)	35	56	3	16	10
Expected (fe)	24	24	24	24	24
(fo-fe)	11	32	-21	-8	-14
(fo-fe) <sup>2</sup>	121	1024	441	64	196
$\frac{(fo-fe)^2}{fe}$	5.04	42.67	18.38	2.67	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	76.93				

$$X^2 = 76.93 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 3 shows that the value of  $X^2$  (calculated) is 76.93 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It can concluded that teacher can improve his performance on the basis of feedback received from the students.

**Table 4. Kinaesthetics encourages the teachers and students to become more hard worker and studious.**

	SA	A	UN	DA	SDA
Observed (fo)	37	65	5	10	3
Expected (fe)	24	24	24	24	24
(fo-fe)	13	41	-19	-14	-21
(fo-fe) <sup>2</sup>	169	1681	361	196	441
$\frac{(fo-fe)^2}{fe}$	7.04	70.04	15.04	8.17	18.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	118.67				

$$X^2 = 118.67 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 4 shows that the value of  $X^2$  (calculated) is 118.67 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted kinesthetics encourages the teachers and students to become productive work.

**Table 5. Achievement encourage to guess paper, supporting material, notes instead of valuing the subjects.**

	SA	A	UN	DA	SDA
Observed (fo)	41	58	4	12	5
Expected (fe)	24	24	24	24	24
(fo-fe)	17	34	-20	-12	-19
(fo-fe) <sup>2</sup>	189	1136	400	144	361
$\frac{(fo-fe)^2}{fe}$	12.04	48.17	16.67	6.00	15.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	97.92				

$$X^2 = 97.92 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 5 shows that the value of  $X^2$  was found 97.92 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement, Achievement encourages and guess paper, supporting material, notes instead of valueing the subjects. Examination system encourages the other supporting material for the students and teachers which includes the guess paper, notes and guidebooks. Due to this teachers and students prefer selective study.

**Table 6. Examination is not helpful entirely for attaining the cognitive, affective and psychomotor skills.**

	SA	A	UN	DA	SDA
Observed (fo)	45	51	—	14	10
Expected (fe)	24	24	24	24	24
(fo-fe)	21	27	-24	-10	-24
(fo-fe) <sup>2</sup>	441	729	576	100	196
$\frac{(fo-fe)^2}{fe}$	18.38	30.38	24.00	4.17	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	85.10				

$$X^2 = 85.10$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 6 shows that the value of  $X^2$  was found 85.10 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 7. Existing Examination system just labels the pass and fail and not to follow the objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	47	49	4	15	5
Expected (fe)	24	24	24	24	24
(fo-fe)	23	25	-20	-9	-19
(fo-fe) <sup>2</sup>	529	625	400	81	361
$\frac{(fo-fe)^2}{fe}$	22.04	26.04	16.67	3.38	15.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	83.17				

$$X^2 = 83.17$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 7 shows that the value of  $X^2$  came to 83.17 when calculated which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. Now a days the examination system is only a lable for the students to pass or fail. The student of failure is so dangerous for the young students that they commit crimes of various types.

**Table 8. Examination focouses on the preparation for examination instead of giving true knowledge.**

	SA	A	UN	DA	SDA
Observed (fo)	21	28	1	58	12
Expected (fe)	24	24	24	24	24
(fo-fe)	-3	4	-23	-34	-12
(fo-fe) <sup>2</sup>	9	16	529	1156	144
$\frac{(fo-fe)^2}{fe}$	0.38	0.67	22.04	48.17	6.00
$\Sigma = \frac{(fo-fe)^2}{fe}$	77.26				

$$X^2 = 77.26 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 8 shows that the value of  $X^2$  when calculated came to 77.26 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected. Examination confirms students in the preparation to get good marks by adopting different means. It does encourage students to widen the limit of knowledge. It can be concluded that students not only prepare for examination but also widen their knowledge.

**Table 9. Achievement promotes for getting more marks avoiding any kinds of philosophical objectives reflecting through values.**

	SA	A	UN	DA	SDA
Observed (fo)	45	61	—	10	4
Expected (fe)	24	24	24	24	24
(fo-fe)	21	37	-24	-14	-20
(fo-fe) <sup>2</sup>	441	1369	576	196	400
$\frac{(fo-fe)^2}{fe}$	18.38	57.04	24.00	9.17	16.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	124.26				

$$X^2 = 124.26 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 9 shows that the value of  $X^2$  (calculated) was found 124.26 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. Our examination system is so weak that the influential people manipulate different types of unfair means for obtaining more marks. As the examination system moves around marks instead of getting knowledge, the candidates use unfair means for obtaining more marks avoiding morality and lacking of philosophical objectives from the system.



**Table 10. Learning style should be integrated.**

	SA	A	UN	DA	SDA
Observed (fo)	39	66	1	11	3
Expected (fe)	24	24	24	24	24
(fo-fe)	15	42	-23	-13	-21
(fo-fe) <sup>2</sup>	225	1764	529	169	441
$\frac{(fo-fe)^2}{fe}$	9.38	73.50	22.04	7.04	18.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	130.34				

$$X^2 = 130.34 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 10 shows that the value of  $X^2$  (calculated) is 130.34 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 11. Secrecy arrangements about papers are ineffective and sometimes not properly valued.**

	SA	A	UN	DA	SDA
Observed (fo)	41	58	2	14	5
Expected (fe)	24	24	24	24	24
(fo-fe)	17	34	-22	-10	-19
(fo-fe) <sup>2</sup>	189	1156	484	100	361
$\frac{(fo-fe)^2}{fe}$	12.04	48.17	10.17	4.17	15.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	99.59				

$$X^2 = 99.59$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 11 shows that the value of  $X^2$  (calculated) is 99.59 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that the secrecy arrangements about the papers are ineffective.

**Table 12. Non-Perception is also an important dimension for attaining conceptual ability.**

	SA	A	UN	DA	SDA
Observed (fo)	21	19	3	58	19
Expected (fe)	24	24	24	24	24
(fo-fe)	-3	-5	-21	34	-5
(fo-fe) <sup>2</sup>	9	25	441	1156	25
$\frac{(fo-fe)^2}{fe}$	0.38	1.04	18.38	48.17	1.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	69.01				

$$X^2 = 69.01$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 12 shows that the value of  $X^2$  was found to be 69.01 is greater than the table value and the result is significant at 0.05 level against the statement is rejected. The study concluded that the Non perception is also an ability to improve conceptual Quality.

**Table 13. Examination systems are not related to objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	39	57	2	17	5
Expected (fe)	24	24	24	24	24
(fo-fe)	15	33	-22	-7	-19
(fo-fe) <sup>2</sup>	225	1089	484	49	361
$\frac{(fo-fe)^2}{fe}$	9.38	45.38	10.17	2.04	15.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	92.01				

$$X^2 = 92.01$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 13 shows that the value of  $X^2$  was found 92.01 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 14. Curriculum do not satisfy the whole objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	37	58	4	13	7
Expected (fe)	24	24	24	24	24
(fo-fe)	13	34	-20	-11	-17
(fo-fe) <sup>2</sup>	169	1156	400	121	289
$\frac{(fo-fe)^2}{fe}$	7.04	48.17	16.67	5.04	12.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	88.96				

$$X^2 = 88.96$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 14 shows that the value of  $X^2$  (calculated) is 88.96 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It can be concluded that curriculum do not satisfy the whole objectives.

**Table 15. Development of perception is the key factor for attaining success.**

	SA	A	UN	DA	SDA
Observed (fo)	36	39	4	21	20
Expected (fe)	24	24	24	24	24
(fo-fe)	12	15	-20	-3	-4
(fo-fe) <sup>2</sup>	144	225	400	9	16
$\frac{(fo-fe)^2}{fe}$	6.00	9.38	16.67	0.38	0.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	33.10				

$$X^2 = 130.34 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 15 shows that the value of  $X^2$  (calculated) is 33.10 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that development of perception is the key factor for attaining success.

**Table 16. Postulates enables the learners to develop problem solving skill.**

	SA	A	UN	DA	SDA
Observed (fo)	42	61	—	11	6
Expected (fe)	24	24	24	24	24
(fo-fe)	18	37	-24	-13	-18
(fo-fe) <sup>2</sup>	324	1369	576	169	324
$\frac{(fo-fe)^2}{fe}$	13.50	57.04	24.00	7.04	13.50
$\Sigma = \frac{(fo-fe)^2}{fe}$	115.08				

$$X^2 = 115.08 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 16 shows that the value of  $X^2$  (calculated) is 115.08 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that education system should be modified likely to enable learners to develop problem solving ability.

**Table 17. Weaknesses of teachers are also measured more effectively by observing their professional attitude.**

	SA	A	UN	DA	SDA
Observed (fo)	38	43	3	23	13
Expected (fe)	24	24	24	24	24
(fo-fe)	14	19	-21	-1	-11
(fo-fe) <sup>2</sup>	196	361	441	1	121
$\frac{(fo-fe)^2}{fe}$	8.17	15.04	18.38	0.04	5.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	46.67				

$$X^2 = 130.34 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 17 shows that the value of  $X^2$  (calculated) is 46.67 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded the statement because in this system the weaknesses of teachers come soon, so teachers cover their weaknesses soon.



**Table 18. Achievement mode is more reliable and valid with reference to content and fulfilment of objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	41	46	—	20	13
Expected (fe)	24	24	24	24	24
(fo-fe)	17	22	-24	-4	-11
(fo-fe) <sup>2</sup>	289	484	576	16	121
$\frac{(fo-fe)^2}{fe}$	12.04	20.17	24.00	0.67	5.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	61.92				

$$X^2 = 61.92 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 18 shows that the value of  $X^2$  (calculated) is 61.92 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study proved that the Internal Examination mode is more reliable and valid with reference to content and fulfilment of objectives.

**Table 19. Education system follows the institutional objectives effectively.**

	SA	A	UN	DA	SDA
Observed (fo)	45	39	3	19	14
Expected (fe)	24	24	24	24	24
(fo-fe)	21	15	-21	-5	-10
(fo-fe) <sup>2</sup>	441	225	441	25	100
$\frac{(fo-fe)^2}{fe}$	18.38	9.38	18.38	1.04	4.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	51.35				

$$X^2 = 51.35 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 19 shows that the value of  $X^2$  (calculated) is 51.35 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 20. Philosophical objectives fosters quality of life among the students and teachers.**

	SA	A	UN	DA	SDA
Observed (fo)	47	43	—	17	13
Expected (fe)	24	24	24	24	24
(fo-fe)	23	19	-24	-7	-11
(fo-fe) <sup>2</sup>	529	361	576	49	121
$\frac{(fo-fe)^2}{fe}$	22.04	15.04	24.00	2.04	5.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	68.16				

$$X^2 = 68.16$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 20 shows that the value of  $X^2$  (calculated) is 68.16 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. Philosophical objectives fosters quality of life.

**Table 21. Instructional procedure is given only by lecture method to fulfil the objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	39	47	7	19	8
Expected (fe)	24	24	24	24	24
(fo-fe)	15	23	-17	-5	-16
(fo-fe) <sup>2</sup>	225	529	289	25	256
$\frac{(fo-fe)^2}{fe}$	9.38	22.04	12.04	1.04	10.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	55.17				

$$X^2 = 55.17 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 21 shows that the value of  $X^2$  (calculated) is 55.17 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 22. Teachers are influenced in traditional system, rather to improve the all round development of learners.**

	SA	A	UN	DA	SDA
Observed (fo)	21	26	5	41	27
Expected (fe)	24	24	24	24	24
(fo-fe)	-3	2	-19	-17	3
(fo-fe) <sup>2</sup>	9	4	361	189	9
$\frac{(fo-fe)^2}{fe}$	0.38	0.17	15.04	712.04	,038
$\Sigma = \frac{(fo-fe)^2}{fe}$	28.01				

$$X^2 = 28.01 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 22 shows that the value of  $X^2$  (calculated) is 28.01 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 23. Some teachers may not cover the prescribed syllabus and just teach limited parts which are asked in examination.**

	SA	A	UN	DA	SDA
Observed (fo)	47	42	5	16	10
Expected (fe)	24	24	24	24	24
(fo-fe)	23	18	-19	-8	-14
(fo-fe) <sup>2</sup>	529	324	361	64	196
$\frac{(fo-fe)^2}{fe}$	22.04	13.50	15.04	2.67	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	61.42				

$$X^2 = 61.42$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 23 shows that the value of  $X^2$  (calculated) is 61.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study approved that some teacher teach only some portions of topics or teach limit parts of syllabus / content.

**Table 24. Learning through comparison is very much effective in classroom teaching.**

	SA	A	UN	DA	SDA
Observed (fo)	43	48	3	18	8
Expected (fe)	24	24	24	24	24
(fo-fe)	19	24	-21	-6	-16
(fo-fe) <sup>2</sup>	361	576	441	36	256
$\frac{(fo-fe)^2}{fe}$	15.04	24.00	18.38	1.50	10.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	69.59				

$$X^2 = 69.59$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 24 shows that the value of  $X^2$  (calculated) is 69.59 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that learning through comparison is very much effective in classroom teaching.

**Table 25. Integrated style of learning is more effective.**

	SA	A	UN	DA	SDA
Observed (fo)	49	47	—	13	11
Expected (fe)	24	24	24	24	24
(fo-fe)	25	23	-24	-11	-13
(fo-fe) <sup>2</sup>	625	529	576	121	169
$\frac{(fo-fe)^2}{fe}$	26.04	22.04	24.00	5.04	7.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	84.16				

$$X^2 = 84.16 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 25 shows that the value of  $X^2$  (calculated) is 84.16 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that the integrated style of learning is more effective. Because the person who develop / make the question papers.



**Table 26. Value based education promotes healthy atmosphere in the institution.**

	SA	A	UN	DA	SDA
Observed (fo)	41	52	2	16	9
Expected (fe)	24	24	24	24	24
(fo-fe)	17	28	-22	-8	-15
(fo-fe) <sup>2</sup>	289	784	484	64	225
$\frac{(fo-fe)^2}{fe}$	12.04	32.67	20.17	2.67	9.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	76.93				

$$X^2 = 76.93 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 26 shows that the value of  $X^2$  (calculated) is 76.93 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement value based education promotes healthy competition and comparison among the institutions is accepted. The healthy competition and comparison among the institutions which promotes the same of more hard work and labour. It also has an effective impact on the accreditation of institutional results. The institutions utilize maximum available resources in novel ways to increase their credibility.

**Table 27. Mostly styles are not separately identified rather to have an intigration among the styles**

	SA	A	UN	DA	SDA
Observed (fo)	37	44	6	18	15
Expected (fe)	24	24	24	24	24
(fo-fe)	13	20	-18	-6	-9
(fo-fe) <sup>2</sup>	169	400	324	36	81
$\frac{(fo-fe)^2}{fe}$	7.04	16.67	13.50	1.50	3.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	42.09				

$$X^2 = 42.09$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 27 shows that the value of  $X^2$  (calculated) is 42.09 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 28. Learning style should be more carefully observed in Education**

	SA	A	UN	DA	SDA
Observed (fo)	48	43	5	13	10
Expected (fe)	24	24	24	24	24
(fo-fe)	24	19	-19	-10	-14
(fo-fe) <sup>2</sup>	576	361	361	100	196
$\frac{(fo-fe)^2}{fe}$	24.00	15.04	15.04	4.17	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	66.42				

$$X^2 = 66.42 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 28 shows that the value of  $X^2$  (calculated) is 66.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 29. Only cognitive domain is measured and the rest of personality traits of students are not judged through the academic achievement.**

	SA	A	UN	DA	SDA
Observed (fo)	53	48	4	9	6
Expected (fe)	24	24	24	24	24
(fo-fe)	29	24	-20	-13	-18
(fo-fe) <sup>2</sup>	841	576	400	225	324
$\frac{(fo-fe)^2}{fe}$	35.04	24.00	16.67	9.38	13.50
$\Sigma = \frac{(fo-fe)^2}{fe}$	98.59				

$$X^2 = 98.59 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 29 shows that the value of  $X^2$  (calculated) is 98.59 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that existing mode of examination does not promote the idea of around development of personality. It just measures the cognitive skills of the students and rest of the personality traits are ignored.

**Table 30. Achievement system is time consuming mode and from starting to announcement of result it takes much time.**

	SA	A	UN	DA	SDA
Observed (fo)	49	43	5	10	13
Expected (fe)	24	24	24	24	24
(fo-fe)	25	19	-19	-14	-11
(fo-fe) <sup>2</sup>	625	361	361	196	121
$\frac{(fo-fe)^2}{fe}$	26.04	15.04	15.04	8.17	5.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	69.33				

$$X^2 = 69.33 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 30 shows that the value of  $X^2$  (calculated) is 69.33 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that much time is consumed in our universities due to preailing system of examination. Because there is an internal of about three to four months from its conduct to the announcement of result. On this ground existing mode may be named as time wasting process.

**Table 31. Achievement mode is expensive in conducting and marking based on person concerned**

	SA	A	UN	DA	SDA
Observed (fo)	44	49	3	13	11
Expected (fe)	24	24	24	24	24
(fo-fe)	20	25	-21	-11	-13
(fo-fe) <sup>2</sup>	400	625	441	121	169
$\frac{(fo-fe)^2}{fe}$	16.67	26.04	18.38	5.04	7.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	73.17				

$$X^2 = 73.17 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 31 shows that the value of  $X^2$  (calculated) is 73.17 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted, leading to have a decision is that examination system is not always neutral.

**Table 32. I require explanations of diagram graphs, or visual direction.**

	SA	A	UN	DA	SDA
Observed (fo)	41	45	6	12	16
Expected (fe)	24	24	24	24	24
(fo-fe)	17	21	-18	-12	-8
(fo-fe) <sup>2</sup>	289	441	324	144	64
$\frac{(fo-fe)^2}{fe}$	12.04	18.38	13.50	6.00	2.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	52.59				

$$X^2 = 52.59$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 32 shows that the value of  $X^2$  (calculated) is 62.59 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It indicates that the learners are guided by visual learning style.

**Table 33. I can understand a news article better by reading about it in a newspaper than by listening to a report about it on the radio.**

	SA	A	UN	DA	SDA
Observed (fo)	38	41	4	22	15
Expected (fe)	24	24	24	24	24
(fo-fe)	14	17	-20	-2	-9
(fo-fe) <sup>2</sup>	196	289	400	4	81
$\frac{(fo-fe)^2}{fe}$	8.17	12.04	16.67	0.17	3.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	40.43				

$$X^2 = 40.43 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 33 shows that the value of  $X^2$  (calculated) is 40.43 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. Acceptability of visual style is reflected from the results.



**Table 34. Verbal communication is an effective instructional system.**

	SA	A	UN	DA	SDA
Observed (fo)	13	34	1	37	35
Expected (fe)	24	24	24	24	24
(fo-fe)	-11	10	-23	13	11
(fo-fe) <sup>2</sup>	121	100	529	169	121
$\frac{(fo-fe)^2}{fe}$	5.04	4.17	22.04	7.04	5.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	43.33				

$$X^2 = 43.33 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 34 shows that the value of  $X^2$  (calculated) is 43.33 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected.

**Table 35. Learning style should be given more importance on achieveing objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	48	43	2	17	10
Expected (fe)	24	24	24	24	24
(fo-fe)	24	19	-22	-7	-14
(fo-fe) <sup>2</sup>	576	361	484	49	196
$\frac{(fo-fe)^2}{fe}$	24.00	15.04	20.17	2.04	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	69.42				

$$X^2 = 69.42$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 35 shows that the value of  $X^2$  (calculated) is 69.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It means learning style should be given more importance on achieveing objectives.

**Table 36. I like to write things down or to take notes for visual review.**

	SA	A	UN	DA	SDA
Observed (fo)	4	48	—	37	31
Expected (fe)	24	24	24	24	24
(fo-fe)	-20	24	-24	13	7
(fo-fe) <sup>2</sup>	400	576	576	169	49
$\frac{(fo-fe)^2}{fe}$	16.67	24.00	24.00	7.04	2.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	73.75				

$$X^2 = 73.75$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 36 shows that the value of  $X^2$  (calculated) is 73.75 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected.

**Table 37. I can remember best about a subject by listening to a lecture that includes information, explanations and discussions.**

	SA	A	UN	DA	SDA
Observed (fo)	49	43	2	17	9
Expected (fe)	24	24	24	24	24
(fo-fe)	25	19	-22	-7	-15
(fo-fe) <sup>2</sup>	625	361	484	49	225
$\frac{(fo-fe)^2}{fe}$	26.04	15.04	20.17	2.04	9.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	72.67				

$$X^2 = 72.67$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 37 shows that the value of  $X^2$  (calculated) is 72.67 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted which shows that auditory learning style is accepted.

**Table 38. Broader area of subject matter can be covered for developing skills on achievement.**

	SA	A	UN	DA	SDA
Observed (fo)	38	13	1	37	31
Expected (fe)	24	24	24	24	24
(fo-fe)	14	11	-23	-13	7
(fo-fe) <sup>2</sup>	196	121	529	169	49
$\frac{(fo-fe)^2}{fe}$	8.17	5.04	24.04	7.04	2.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	44.33				

$$X^2 = 44.33 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 38 shows that the value of  $X^2$  (calculated) is 44.33 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected. It means Broader area of subject matter does not covered for developing skills on achievement.

**Table 39. I prefer to use posters, models, or actual practice and other activities in class.**

	SA	A	UN	DA	SDA
Observed (fo)	48	44	3	16	9
Expected (fe)	24	24	24	24	24
(fo-fe)	24	20	-21	-8	-15
(fo-fe) <sup>2</sup>	576	400	441	64	225
$\frac{(fo-fe)^2}{fe}$	24.00	16.67	18.38	2.67	9.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	71.1				

$$X^2 = 71.1 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 39 shows that the value of  $X^2$  (calculated) is 71.1 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted, preferentially visual learning style being accepted.

**Table 40. I enjoy working with my hands or things.**

	SA	A	UN	DA	SDA
Observed (fo)	47	49	6	12	6
Expected (fe)	24	24	24	24	24
(fo-fe)	23	25	-18	-12	-18
(fo-fe) <sup>2</sup>	529	625	324	144	324
$\frac{(fo-fe)^2}{fe}$	22.04	26.04	13.50	6.00	13.50
$\Sigma = \frac{(fo-fe)^2}{fe}$	81.08				

$$X^2 = 81.08$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 40 shows that the value of  $X^2$  (calculated) is 81.08 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The most of the respondents opined that kinesthetics are more acceptable learning style.

**Table 41. Academic Achievement measures just cognitive domains.**

	SA	A	UN	DA	SDA
Observed (fo)	43	47	5	16	9
Expected (fe)	24	24	24	24	24
(fo-fe)	19	23	-19	-8	-15
(fo-fe) <sup>2</sup>	361	529	361	64	225
$\frac{(fo-fe)^2}{fe}$	15.04	22.04	15.04	2.67	9.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	64.17				

$$X^2 = 64.17 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 41 shows that the value of  $X^2$  (calculated) is 64.17 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It means that academic achievement measures only cognitive domain.



**Table 42. I can easily understand and follow direction on a map.**

	SA	A	UN	DA	SDA
Observed (fo)	31	38	3	33	15
Expected (fe)	24	24	24	24	24
(fo-fe)	27	14	-21	-9	-9
(fo-fe) <sup>2</sup>	49	196	441	81	81
$\frac{(fo-fe)^2}{fe}$	2.04	8.17	18.38	3.38	3.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	35.35				

$$X^2 = 35.35$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 42 shows that the value of  $X^2$  (calculated) is 35.35 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted exposing visual styles.

**Table 43. I prefer obtaining information about an interesting subject by reading about it.**

	SA	A	UN	DA	SDA
Observed (fo)	47	43	3	17	10
Expected (fe)	24	24	24	24	24
(fo-fe)	23	19	-21	-7	-14
(fo-fe) <sup>2</sup>	529	361	441	49	196
$\frac{(fo-fe)^2}{fe}$	22.04	15.04	18.38	2.04	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	65.67				

$$X^2 = 65.67 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 43 shows that the value of  $X^2$  (calculated) is 65.67 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted, promoting visual styles.

**Table 44. I would rather listen to a good lecture or speech than read about the same matter in a textbook.**

	SA	A	UN	DA	SDA
Observed (fo)	48	53	4	7	8
Expected (fe)	24	24	24	24	24
(fo-fe)	24	29	-20	-17	-16
(fo-fe) <sup>2</sup>	576	841	400	289	256
$\frac{(fo-fe)^2}{fe}$	24.00	35.04	16.67	12.04	10.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	98.42				

$$X^2 = 98.42$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 44 shows that the value of  $X^2$  (calculated) is 98.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The majority gave their opinion that listening a lecture is better for them.

**Table 45. I learn to spell better by repeating words loudly than by writing the words on paper.**

	SA	A	UN	DA	SDA
Observed (fo)	41	47	4	18	10
Expected (fe)	24	24	24	24	24
(fo-fe)	17	23	-20	-6	-4
(fo-fe) <sup>2</sup>	289	529	400	36	196
$\frac{(fo-fe)^2}{fe}$	12.04	22.04	16.67	1.50	8.17
$\Sigma = \frac{(fo-fe)^2}{fe}$	60.42				

$$X^2 = 60.42$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 45 shows that the value of  $X^2$  (calculated) is 60.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The respondents agreed in majority that kinesthetics are better mode of learning.

**Table 46. I think the best way to remember something is to going through the picture.**

	SA	A	UN	DA	SDA
Observed (fo)	47	44	5	16	8
Expected (fe)	24	24	24	24	24
(fo-fe)	23	20	-19	-8	-16
(fo-fe) <sup>2</sup>	529	400	361	64	256
$\frac{(fo-fe)^2}{fe}$	12.04	16.67	15.04	2.67	10.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	67.09				

$$X^2 = 67.09$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 46 shows that the value of  $X^2$  (calculated) is 67.09 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. In the opinion of the majority is that visual learning style more preferable.

**Table 47. I learn the spelling of words by "fingar spelling" them.**

	SA	A	UN	DA	SDA
Observed (fo)	31	37	6	46	—
Expected (fe)	24	24	24	24	24
(fo-fe)	7	13	-18	22	-24
(fo-fe) <sup>2</sup>	49	169	324	484	576
$\frac{(fo-fe)^2}{fe}$	2.04	7.04	13.50	20.17	24.00
$\Sigma = \frac{(fo-fe)^2}{fe}$	66.75				

$$X^2 = 66.75 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 47 shows that the value of  $X^2$  (calculated) is 66.75 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The majority stated that kinesthetic approach is accepted.

**Table 48. I Can remember best by writing things down.**

	SA	A	UN	DA	SDA
Observed (fo)	41	44	—	20	15
Expected (fe)	24	24	24	24	24
(fo-fe)	17	20	24	-4	-9
(fo-fe) <sup>2</sup>	289	400	576	16	81
$\frac{(fo-fe)^2}{fe}$	12.04	16.67	24.00	0.67	3.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	56.76				

$$X^2 = 56.76$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 48 shows that the value of  $X^2$  (calculated) is 56.76 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted, showing visual learning style.

**Table 49. I prefer listening to the news on the radio rather than reading the paper.**

	SA	A	UN	DA	SDA
Observed (fo)	19	9	3	48	41
Expected (fe)	24	24	24	24	24
(fo-fe)	-5	-15	-21	24	17
(fo-fe) <sup>2</sup>	25	225	441	576	289
$\frac{(fo-fe)^2}{fe}$	1.04	9.38	18.38	24.00	12.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	64.84				

$$X^2 = 64.84 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 49 shows that the value of  $X^2$  (calculated) is 64.84 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected. Majority stated that auditory learning style is accepted.



**Table 50. I follow oral direction better than written ones.**

	SA	A	UN	DA	SDA
Observed (fo)	48	42	5	16	9
Expected (fe)	24	24	24	24	24
(fo-fe)	24	18	-19	-8	-15
(fo-fe) <sup>2</sup>	576	324	361	64	225
$\frac{(fo-fe)^2}{fe}$	24.00	13.50	15.04	2.67	9.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	64.59				

$$X^2 = 64.59$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 50 shows that the value of  $X^2$  (calculated) is 64.59 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It means that majority agreed for auditory style.

**Table 51. I can tell if sounds match where presented with pairs of sounds.**

	SA	A	UN	DA	SDA
Observed (fo)	36	37	4	35	8
Expected (fe)	24	24	24	24	24
(fo-fe)	12	13	-20	11	-16
(fo-fe) <sup>2</sup>	144	169	400	121	256
$\frac{(fo-fe)^2}{fe}$	6.00	7.04	16.67	5.04	10.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	45.42				

$$X^2 = 45.42$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### Interpretation :

Table 51 shows that the value of  $X^2$  (calculated) is 45.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected.

**Table 52. I feel very comfortable by touching others or doing something through activity.**

	SA	A	UN	DA	SDA
Observed (fo)	48	41	7	16	8
Expected (fe)	24	24	24	24	24
(fo-fe)	24	17	-17	-8	-16
(fo-fe) <sup>2</sup>	576	289	289	64	256
$\frac{(fo-fe)^2}{fe}$	24.00	12.04	12.04	2.67	10.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	61.42				

$$X^2 = 61.42 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 52 shows that the value of  $X^2$  (calculated) is 61.42 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 53. Evaluation system is not based on philosophical objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	38	47	3	21	11
Expected (fe)	24	24	24	24	24
(fo-fe)	11	23	-21	-3	-13
(fo-fe) <sup>2</sup>	196	529	441	9	169
$\frac{(fo-fe)^2}{fe}$	8.17	22.04	18.38	0.38	7.04
$\Sigma = \frac{(fo-fe)^2}{fe}$	56.01				

$$X^2 = 56.01 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 53 shows that the value of  $X^2$  (calculated) is 56.01 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The majority of the respondents stated that the evaluation system should have reflection of philosophical objectives.

**Table 54. I prefer to see information written on Blackboard and supplemented by visual aids assigned readings.**

	SA	A	UN	DA	SDA
Observed (fo)	34	27	4	37	18
Expected (fe)	24	24	24	24	24
(fo-fe)	10	3	-20	13	6
(fo-fe) <sup>2</sup>	100	9	400	169	36
$\frac{(fo-fe)^2}{fe}$	4.17	0.38	16.67	7.04	1.50
$\Sigma = \frac{(fo-fe)^2}{fe}$	29.76				

$$X^2 = 29.76 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### Interpretation :

Table 54 shows that the value of  $X^2$  (calculated) is 29.76 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It suggests that information be provided visually.

**Table 55. I am skillful with and enjoy developing and making graphs and charts.**

	SA	A	UN	DA	SDA
Observed (fo)	41	48	6	16	9
Expected (fe)	24	24	24	24	24
(fo-fe)	17	24	18	8	15
(fo-fe) <sup>2</sup>	289	576	324	64	225
$\frac{(fo-fe)^2}{fe}$	12.04	24.00	13.50	2.67	9.38
$\Sigma = \frac{(fo-fe)^2}{fe}$	61.59				

$$X^2 = 61.59$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 55 shows that the value of  $X^2$  (calculated) is 61.59 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted the learners prefer to do something and suggesting the kinesthtic learning style.

**Table 56. I do best in academic subjects by listening to lectures and tapes.**

	SA	A	UN	DA	SDA
Observed (fo)	44	41	4	27	4
Expected (fe)	24	24	24	24	24
(fo-fe)	20	17	-20	3	-20
(fo-fe) <sup>2</sup>	400	289	400	9	400
$\frac{(fo-fe)^2}{fe}$	16.67	12.04	16.67	0.38	16.67
$\Sigma = \frac{(fo-fe)^2}{fe}$	62.43				

$$X^2 = 62.43$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 56 shows that the value of  $X^2$  (calculated) is 62.43 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted.

**Table 57. Examination measures the cognitive, affective and psychomotor domains of the students.**

	SA	A	UN	DA	SDA
Observed (fo)	46	71	3	22	18
Expected (fe)	32	32	32	32	32
(fo-fe)	14	39	-29	-10	-14
(fo-fe) <sup>2</sup>	196	1521	841	100	196
$\frac{(fo-fe)^2}{fe}$	6.13	47.53	26.28	3.12	6.12
$\Sigma = \frac{(fo-fe)^2}{fe}$	89.18				

$$X^2 = 89.18$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 57 shows that the value of  $X^2$  (calculated) is 89.18 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It means that due to the preparation for examination the students develop their cognition especially and other domains generally. The observations of the researcher and findings of the other studies also confirm this aspect of examination.



**Table 58. I grip objects in my hands during learning periods.**

	SA	A	UN	DA	SDA
Observed (fo)	52	63	7	20	18
Expected (fe)	32	32	32	32	32
(fo-fe)	20	31	-25	-12	-14
(fo-fe) <sup>2</sup>	400	961	625	144	196
$\frac{(fo-fe)^2}{fe}$	12.50	30.03	19.53	4.50	6.13
$\Sigma = \frac{(fo-fe)^2}{fe}$	72.69				

$$X^2 = 72.69$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 58 shows that the value of  $X^2$  (calculated) is 72.69 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. It shows the bodily movement and style of learning is kinesthetics.

**Table 59. Examination gives feedback to the students for their promotion.**

	SA	A	UN	DA	SDA
Observed (fo)	66	71	2	15	6
Expected (fe)	32	32	32	32	32
(fo-fe)	34	39	-30	-17	-26
(fo-fe) <sup>2</sup>	1156	1521	900	289	676
$\frac{(fo-fe)^2}{fe}$	36.13	47.53	28.13	9.03	21.12
$\Sigma = \frac{(fo-fe)^2}{fe}$	141.94				

$$X^2 = 141.94 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 59 shows that the value of  $X^2$  (calculated) is 141.94 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. Feed back in teaching learning process works as hidden force which motivate and students for further improvement. So this study proved that existing system of examination provides the feed back to students about knowing their achievement performance and promotion.

**Table 60. Examination helps for attaining the aims of educational objectives.**

	SA	A	UN	DA	SDA
Observed (fo)	57	64	6	30	3
Expected (fe)	32	32	32	32	32
(fo-fe)	25	32	-26	-2	-29
(fo-fe) <sup>2</sup>	625	1024	676	4	841
$\frac{(fo-fe)^2}{fe}$	19.53	32.00	21.13	0.13	26.28
$\Sigma = \frac{(fo-fe)^2}{fe}$	99.07				

$$X^2 = 99.07$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 60 shows that the value of  $X^2$  (calculated) is 99.07 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The main purpose of examination system to obtain the targets so this study agreed that existing system of examination is working as a tool for obtaining the aims of education at national level.

**Table 61. Examination system is not objective based.**

	SA	A	UN	DA	SDA
Observed (fo)	76	49	6	15	14
Expected (fe)	32	32	32	32	32
(fo-fe)	44	17	-26	-17	-18
(fo-fe) <sup>2</sup>	1936	289	676	289	324
$\frac{(fo-fe)^2}{fe}$	60.5	9.03	21.13	9.03	10.13
$\Sigma = \frac{(fo-fe)^2}{fe}$	109.82				

$$X^2 = 109.82 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 61 shows that the value of  $X^2$  (calculated) is 109.82 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study justified that supporting material notes and guess papers are not objectives based which guided the education system as a whole.

**Table 62. I chew gum, smoke or snack while studying.**

	SA	A	UN	DA	SDA
Observed (fo)	20	14	5	71	50
Expected (fe)	32	32	32	32	32
(fo-fe)	-12	-18	-27	39	18
(fo-fe) <sup>2</sup>	144	324	729	1521	324
$\frac{(fo-fe)^2}{fe}$	4.5	10.13	22.78	47.53	10.13
$\Sigma = \frac{(fo-fe)^2}{fe}$	95.07				

$$X^2 = 95.07 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 62 shows that the value of  $X^2$  (calculated) is 95.07 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is rejected. The study proved that kinesthetic is advantaged condition on learning.

**Table 63. Statement promotes the unfair means for becoming successful.**

	SA	A	UN	DA	SDA
Observed (fo)	48	77	10	17	8
Expected (fe)	32	32	32	32	32
(fo-fe)	16	45	-22	-15	-24
(fo-fe) <sup>2</sup>	256	2025	484	225	576
$\frac{(fo-fe)^2}{fe}$	8.00	63.28	15.13	7.03	18.00
$\Sigma = \frac{(fo-fe)^2}{fe}$	111.44				

$$X^2 = 95.07$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 63 shows that the value of  $X^2$  (calculated) is 111.44 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study agreed that this system to examination works as a look for using the unfair means for securing the success. Studenta adopt the easy approaches for becoming successful in their examination.

**Table 64. Examination discourages the studious students.**

	SA	A	UN	DA	SDA
Observed (fo)	9	30	7	66	48
Expected (fe)	32	32	32	32	32
(fo-fe)	-23	-2	-25	34	16
(fo-fe) <sup>2</sup>	529	4	625	1156	256
$\frac{(fo-fe)^2}{fe}$	16.53	0.13	19.53	36.13	8.00
$\Sigma = \frac{(fo-fe)^2}{fe}$	80.32				

$$X^2 = 80.32 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

**Interpretation :**

Table 64 shows that the value of  $X^2$  (calculated) is 80.32 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The majority of the students agreed that hardworking students get less marks than the poor students who adopt unfair means in the examination or those who do selective study.

**Table 65. Integral teaching learning style is effective for attaining goals of education.**

	SA	A	UN	DA	SDA
Observed (fo)	58	66	6	17	13
Expected (fe)	32	32	32	32	32
(fo-fe)	26	34	-26	-15	-19
(fo-fe) <sup>2</sup>	676	1156	676	225	361
$\frac{(fo-fe)^2}{fe}$	21.13	36.13	21.13	7.03	11.28
$\Sigma = \frac{(fo-fe)^2}{fe}$	96.70				

$$X^2 = 96.70$$

$$df = 4$$

$$P = 0.05$$

$$\text{Table Value} = 9.49$$

### **Interpretation :**

Table 65 shows that the value of  $X^2$  (calculated) is 96.70 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study concluded that an integral learning style be imposed for attaining academic goals.



**Table 66. Objectives and achievements are highly related in an integrated way.**

	SA	A	UN	DA	SDA
Observed (fo)	61	67	4	16	12
Expected (fe)	32	32	32	32	32
(fo-fe)	29	35	-28	-16	-20
(fo-fe) <sup>2</sup>	841	1225	784	256	400
$\frac{(fo-fe)^2}{fe}$	26.28	38.28	24.50	8.00	12.50
$\Sigma = \frac{(fo-fe)^2}{fe}$	109.56				

$$X^2 = 109.56 \quad df = 4 \quad P = 0.05 \quad \text{Table Value} = 9.49$$

### **Interpretation :**

Table 66 shows that the value of  $X^2$  (calculated) is 109.56 which is greater than the table value and the result is significant at 0.05 level. Therefore, the statement is accepted. The study shows the positive correlation between objectives & achievements.

### SUMMARY AND CONCLUSION

#### 5.1 Introduction :

Every human being and society are guided by some philosophical objectives. A person cannot move his / her targeted destination without having philosophy of its own. In this study we are basically highlighting philosophical dimensions on Indian Perspectives. Traditionally India has its glorious past and have had its influence on contemporary education too. Man is structured not only by psychological disposition but also guided by philosophical truths. From Indian schools of philosophy it is clear that six epistemological components that may be considered as philosophical objectives mentioned below :

1. Perception
2. Inference
3. Comparison
4. Postulates
5. Non perception
6. Verbal Communication

So it may be a taxonomy of educational objectives coming from philosophical dimensions specially discussed & focused in our study.

Therefore from our analysis & observation it is found that we are guided by six epistemological components for their learning situation. These philosophical objectives and learning style have had its relation expressed in our study. Similarly in our study it has been observed that how philosophical objectives and achievement are related. Different aspects of philosophical objectives are highly related to the academic achievement.

Moreover cognitive skills are influenced by learning style reflected from the study of Sabine Graf, Taiyulin & Kinshuk; are as follows :

The results of the paper show that the identification process of both learning styles and cognitive traits, can be supported by each other. If the learning style of a learner is already detected, it gives indications of cognitive traits and if cognitive traits of a learner are available, we can draw conclusions to his / her learning style. Therefore, these interactions can be used to improve the process of student achievement.

Future work includes further investigations concerning other cognitive traits, such as inductive reasoning skills, associative learning skills, and information processing speed. Another open issue is how strong each cognitive trait influences each learning style dimension and the other way around. Therefore, a study will be performed where learners are tested for their learning style and cognitive traits. Analysing these test results will deliver a detailed insight into the interrelatings of cognitive traits and learning styles.

Some social values are expressed through philosophical objectives. It includes our educational system a value oriented pattern. We see in our evaluation system through which achievement is possible by the learners are misguided in different ways. It is because lacking of philosophical objectives are accepted by the learners and other involved persons. Even our education system is not all time based on quality approach rather guided by quantification denying the values & objective of life.

## **5.2 What is learning style?**

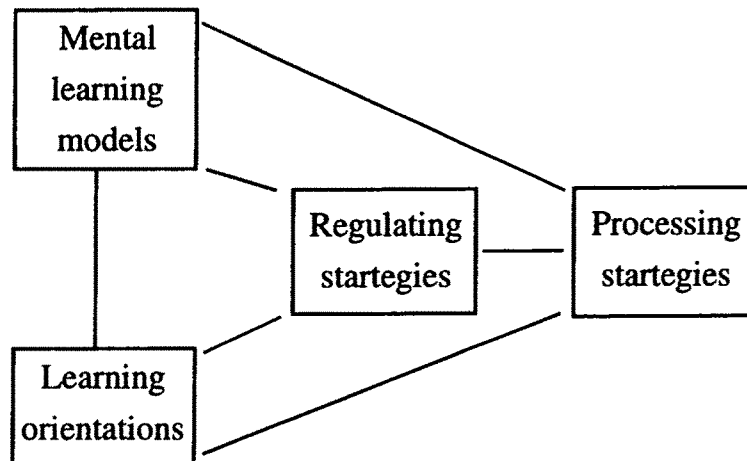
“A learning style as the manner in which a learner takes in and processes information or an individuals preferred and consistent set of behaviours or approaches to learning.” (Felder, 1996; Greenagel)

“... the different ways in which children and adults think and learn.” (Litzinger & Osif, 1992)

“Perceiving the way we absorb information around us, and processing — how we understand the information that is absorbed.” (Ally & Fahy 2002)

## Vermunt's model of learning styles (1998)

Source : Price and Richardson 2003



## Families of learning styles

Learning styles and preferences are largely constitutionally based including the four modalities : VAKI	Learning styles reflect deep-seated features of the cognitive structure including patterns of ability	Learning styles are one component of a relatively stable personality type	Learning styles are flexibly stable learning preferences	Move on from learning styles to learning approaches strategies orientations and conceptions of learning
<b>Dunn and Dunn</b> <b>Gregore</b> Bartien Betts Gordon Marks Paivio Richardson Sheehan Torrance	<b>Riding</b> Broverman Cooper Gardener ef al. Guilford Holzman & Klein Hudson Hunt Kagan Kogan Messick Pettigrew Witkin	<b>Apter</b> <b>Jackson</b> <b>Myers-Briggs</b> Epstein & Meier Harrison- Branson Miller	<b>Affinson &amp; Hayes</b> <b>Herrmann</b> <b>Honey &amp; Mumford</b> <b>Kolb</b> Felder & Silverman Hermanssem, Wierstre, de Jong & Thijssen Kaufmann Mirton McCarthy	<b>Entwistle</b> <b>Sternberg</b> <b>Vermunt</b> Biggs Conti & Kolody Grasha- Riechmann, Hill Marron & Saijo McKerney & Keen Pask, Pintrich, Smith, Garcis & McCeachie Schmock, Weinstein., Zimmerman & Paimer Whetton & Cameron

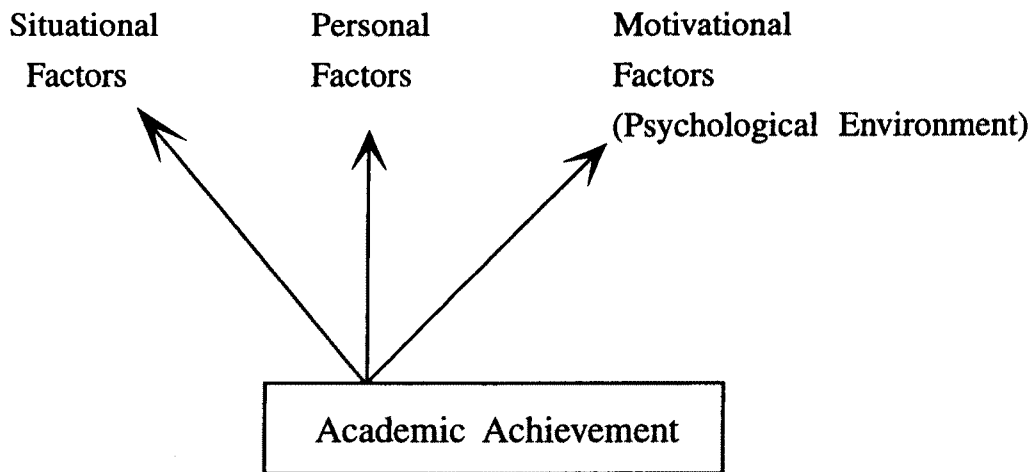
## **Influential models of learning styles**

Coffield et al. 2004 provided most influential models and instruments of learning styles and their accompanying literatures, with a particular focus on validity, reliability and practical application. The main models chosen for detailed study are as follows :

- \* Allinson and Hayes 'Cognitive Style Index (CSI)
- \* Dunn and Dunn's model and instruments of learning styles
- \* Entwistle's Approaches and Study skills Inventory for Students (ASSIST)
- \* Gregore's Mind Styles Model and Style Definerator (GSD)
- \* Herrmann's Brain Dominance instrument (HBDI)
- \* Honey and Mumford's Learning Styles Questionnaire (LSQ)
- \* Jackson's Learning Styles Profiler (LSP)
- \* Kolb's Learning Style Inventory (LSI)
- \* Myers-Briggs Type Indicator (MBTI)
- \* Riding's Cognitive Styles Analysis (CSA)
- \* Sternberg's Thinking Styles Inventory (TSI)
- \* Vermunt's Inventory of Learning Styles (ILS)

### 5.3 Academic Achievement

Conceptual Model for Understanding Academic achievement by Klug (1989) for developing classroom Learning is mentionable :



Philosophical objectives in this regard is very much related to Academic Achievement as because we cannot control Achievement without considering situational factors, personal ability & other material factors available in a learning situation.

The report, Raising Academic Achievement, focus to what the programme evaluation had to say about one set of outcomes. Within this academic achievement category, the focus is deep seeking outcomes along an optimal pathway of academic achievement with the following dimensions :

- \* attend school, arrive on time, go to all classes
- \* read at grade level or above
- \* do well in the sciences, mathematics and technology
- \* persist to high school graduation
- \* be appropriately identified and served for any special needs
- \* obtain good grades

- \* have access to and do well in academically challenging courses
- \* have opportunities to apply their knowledge while in school through work-based learning or service-learning
- \* follow a coherent course sequence leading to postsecondary education.
- \* take standardized and college entrance exams and obtain competitive scores
- \* make thoughtful guided decisions about college attendance and financing
- \* enroll in college
- \* have not need for remedial education in college
- \* sustain academic achievement and good grades in college
- \* sustain financial support
- \* sustain college enrollment
- \* and successfully pursue the vocational guidance

(Ref. Raising Academic Achievement :  
A Study of 20 successful programmes (2000) U.S.A.

Academic Achievement is multifaceted for fulfilling objectives of education. Role & responsibility of teacher does a serious matter in this aspect reflected from the following studies :

1. Differences in Academic achievement of 50 percentile points were observed as a result of teacher sequence after only three years.
2. The effects of teachers on Academic achievement are both additive and cumulative with little evidence of compensatory effects.
3. As teacher effectiveness increases, lower achieving students are the first to benefit. Teachers facilitate appropriate measures to excellent gains for students of all achievement levels.

4. Students of different levels respond equivalently within the same way of teacher effectiveness.

(Reff : William L. Sanders and June C. Rivers. November 1996

In the present investigation we consider Academic Achievement is the qualitative aspects of academic environment and individual potentiality through which achievement is feasible. In this study we consciously avoiding obtaining marks of examination in teaching learning system rather to Judge the positive and negative aspects of examination system through which marks is obtained. Here the examination system is to be considered as a qualitative tools for explaining Academic Achievement. Moreover the present strategy helps the researcher to have a correlation between philosophical objectives & learning style with Academic Achievement.

#### **5.4 Objectives of the study :**

1. To find out philosophic objectives from Indian context.
2. To relate philosophical objectives with learning style.
3. To study diffent aspects of learning style.
4. To investigate the influence of philosophical objectives on academic achievement.

#### **5.5 Tools :**

A standardized Questionnaire is used for data gathering device.

#### **5.6 Population :**

Eleven grade students of our study considered as population in West Bengal.



### **5.7 Sample :**

Selected schools of eleventh grade are considered as sample.

### **5.8 Limitations :**

1. Philosophical objectives are limited only within six Indian schools of philosophy. Though it may be extended wide large of philosophical schools considering other Indian schools of philosophy and western schools of philosophy.
2. Application of tools also may be enhanced.
3. Achievement is basically explained on the basis of objectives of education not only the marks obtained by the students.

### **5.9 Philosophical objectives : An Overview from Indian Context**

In India we have observed that the diversity in philosophical stances are integrated in ancient Vedic systems, Buddhism Jainism, etc but the paradigm shifts are to some extent observed in many occasions. Those changing nature has undergone even in the eternal British India too. All these changing orders are reflections of the great thinkers in their attempt to solve in-coming problems as time passes on and cultural transformation undergoes but what is surprising that we cannot come out from those ancient bruths.

Both theory and activity in philosophy striving towards the systematic clarification of thoughts, problems, and emerging issues concerning life but it is never detected from life. Hence, we may consider philosophy is a valid tool aiming at solving problems concerning knowledge, reality and values on the main and takes into consideration of induction, deduction, dialectic, analysis and synthesis as methods. Bergson rightly observes that philosophy “does not only facilitate speculation, it gives us also more power to act and live” which is never isolated from humanity and the Nature and both reason and intuition are equally necessary. Further, Sri Aurobindo puts : “Reason is not

the supreme light and yet it is always a necessary light bringer and unless it has been given its rights and allowed to judge and purify our first irrational instincts, impulses, rash favours, crude beliefs and blind prejudices, we are not altogether ready for the full unveiling of a greater inner illumination.” Thus, philosophy loves a continuous journey for exploring riddles of changing life.

## **5.10 Perspectives for philosophy of education In indian context**

Concerned philosophy of education is generally towards understanding and dealing with problems and issues in context rather than a return to the idea that the individual, society and education can be understood in an overriding system of thought for developing objectives. The assumption that a set of universal principles or a system of thought can explain the multitude of variables that pervade personal and social relations in education is a non-entity. The new trend is not only system development but rather in human contexts. But there are others who find ground in developing philosophy of education. Broudy, for example, emphasized certain things that educators have a right to expect from philosophy of education, including attention to the problems of education in general and schooling in particular, clarification of educational concepts and issues, and rational discourse and freedom of inquiry.

Philosophy of education cannot be viewed in societal context and must be seen in the interplay with other forces. May be today a single philosophy of education suitable at any particular moment as philosophies have had their values depend on particular needs of the times. This means striking out in a new philosophical direction, critical examination of the older philosophies, or even going to philosophy outside our own cultural traditions. Whatever may be the case, some vantage points from which to view education call for inclusion.

## **5.11 Practicing Philosophy in India**

1. Education is more than School or other academic activities. Any philosophy of education as a branch of social philosophy must not mean education as only classroom activities, it embraces whole of life of a person from womb to tomb. Education is interrelated with holistic development and direction a society takes and both the teacher and the learner must become aware of. In the broadest sense education involves minimally two things; (i) passing on the cultural heritage from one generation to the next so that essential social and cultural continuity exist and (ii) providing the skills, abilities and understanding to develop new ways of doing things in light of changing conditions. Becoming aware of education in these terms is a necessary ingredient for developing a philosophical perspective.
2. Philosophy provides an integrated view of Education. Philosophy as a disciplined study is concerned with developing a coherent, logical, and comprehensive outlook. It also embraces within it a wide range of issues and problems, and education has been important to most philosophers. When education becomes aware that philosophy embodies comprehensive perspectives and tools for developing organized and structured views, the basic groundwork for a philosophical perspective on education has been laid.
3. Historical development of Philosophical Ideas and their relation to Education must provide a chronological and systematic body of knowledge one can find helpful in understanding what has happened in educational thought up to the present. It must depict and explain how aims, objectives, and practices of education have evolved and what departures in aspects of education came in and how those were reconciled. It may also help one to develop an appreciation of educational traditions and offer more intelligent and critical evaluation of such traditions. Further, it does give us continuity; it provides a basis for developing new ideas and a vantage point from which to evaluate new aims and practices.

4. **Philosophical Treatment and Analysis of specific issues in Education and Concerned problems and issues** may focus on particular problems like equality of educational opportunity, moral education, inclusive education, professionalism, from various standpoints of psychology, economics, management etc. But it may look at such problems in a critical, holistic, and ethical fashion. It extends to the wholeness of life in a civic society. Philosophy helps us to identify and express problems in clear and logical language Derivatively, a philosophy of education must attempt to explain and solve various broad and narrow problems and issues in education both logically and without ambiguity.
5. **Personal Research, reading and study in Philosophy of Education**, must appreciate in using philosophical thinking and must be a committed in continuing study. Such doing may involve creating new outlook through combining, interrelating, and drawing conclusions from philosophical ideas. Likewise, an educator must have scope and doing motto to enhance educational perspective. Philosophy of education should not be a self-contained body of knowledge; rather it shall be open to criticism, experimentation and renovation.

Ref. : Charles Marler (1975)

## **5.12 Components of a philosophy of education**

Harry S. Broudy in his famous book, *Building a Philosophy of Education* observed the strength of philosophy and structural on education, philosophy of education as an applied from which gives the philosophical treatment. Naturally, building philosophy of education must includes metaphysics, epistemology, logic, ethics and aesthetic of its' classical dimension. Therefore, Broudy has expounded an approach of classical realism in the sense that it accepts regulative principles, the idea of truth pertaining to it is independent of the knower, the idea of structure in the universe and society that are normative for man's striving toward the good life and for these education will

help him to achieve it. This normative approach may not be understood as single one and eternal. The norm should be directed by and grounded in various “isms” of philosophy.

### **5.13 Integration of Philosophical objectives in Indian context**

The perspectives of Indian philosophy of education to be built so far discussed, are leaned to axiology and to some extent to its metaphysics. The perspective does contain epistemological bearings. We might be able to understand that attainment of purushatha is possible to man and it is attained by knowledge gathering or experiencing. Indian schools of philosophy give us direction to six knowing paradigms. A synopsis depicting relationship between objectives and related activities may be drawn as :

<b>Objectives</b>	<b>Activities</b>
Perception –action of senses on the sensible objects	Development of sense organs or training of senses
Inference-anumans / induction	Cause-effect relationship
Comparison –analogy	Comparing subject matters
Non-perception-immediate cognition of non-sensible objects.	Conception of non-perceptible objects
Postulation – necessary supposition of an unperceived fact to explain conflicting	Problem solving
Testimony-hold as valid as stated by some trustworthy person or script	Verbal knowledge

Philosophical architectures maintain some commonality, as each is solidly grounded on the Indian philosophical systems, though these differ in many aspects what they have emphasized on. Some of these national philosophers

of Indian education, for example, are — Swami Vivekananda, Shri Aurobindo, Rabindra Nath Tagore and Mahatma Gandhi – who have offered their best in building Indian philosophy of education and Islamic Tradition too.

Ref. : Modern Concept of Philosophy : by Dr. D. Bhattacharyya :  
Open & Distance Learning, University of Kalyani,

Therefore, an Indian philosophy of education should take into consideration of the above taxonomy of cognitive objectives in the matters of curriculum development and its transaction thoroughly to inculcate philosophical objectives. However, a careful temper of eclecticism should be kept always in mind so that the evolving system of philosophy of India education does not incorporate incompatible or inconsistent theorization.

## **5.14 Philosophical Objectives and Learning Style : An Integrated approach**

### **What are learning styles?**

The terminology associated with this area includes :

- \* Learning style – a distinctive and habitual manner of acquiring knowledge, skills through study or experience an individual learner's style tends to be more stable across different learning tasks and contexts.
- \* Learning preference – the favouring of one particular mode of teaching over another; an individual learner's preferences vary across different learning tasks and contexts.
- \* Learning strategies – the plan of action adopted when acquiring knowledges, skills or attitudes through study or experience; learners choose according to how they believe a learning task can be successfully completed (Sadler Smith in Smith & Dalton, 2005)

## Learning styles

- \* Field dependence / independence : Witkin et.al. (1954) developed this early theory of perception, it proposed that some people were able to analyse and learn things in isolation from surrounding issues, while others needed to learn on a more holistic basis which included the surrounding matters as well.
- \* Serialists / holists : Pask (1976) suggested that some people learn by taking individual items in turn, learning each of them, and then putting them together to form the whole; while others like to learn the whole right from the start.
- \* Deep / surface processors : Marton and Salio (1976) generated the idea that 'deep processors' generally look for meaning, underlying concepts and theories, and connect their new concepts to what they already know. 'Surface processors' want to know the facts or techniques without necessarily developing an understanding.
- \* Four-stage cycle : Kolb (1976) suggested that individuals learn and solve problems by progressing through a four-stage cycle :
  - concrete experience
  - reflective observation
  - abstract concepts
  - active experimentation

Kolb viewed concrete experience and abstract concepts as two ends of a single continuum, and active experimentation and reflective observation as two ends of a second continuum. These two continuums intersect and result in four quadrants or learning styles – the accommodator, the assimilator, the divergent and the converger. Accommodators for example, learn by concrete experience and active experimentation, relying on intuition and trial and error methods of problem solving.

- \* Mc Carthy (1976) developed a system of matching teaching to learning styles, which was based on Kolb's theory and integrated with left brain right brain research.

- \* **Multiple intelligences** : Gardner (193, 1999) Proposed that there are eight intelligences-linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, intrapersonal, interpersonal, naturalistic.

Individuals possess these intelligences in different quantities and their learning style is expressed as their combination of the intelligences, with their interests and talents being strongly related to the pattern of their intelligences.

## **Learning preferences**

**Coffield Learning Styles Inventory** : Coffield (1980) developed an inventory of 16 learning preferences in three major categories-conditions of learning, content, mode.

The inventory provides a measure for each of these preferences to create a preference profile for any individual learner.

## **Learning Strategies**

**Domains of learning strategy** : Smith (2003), Billef (1996) and Marland, Patching and Putt (1992), have identified sets of strategies around the following three domains :

- \* metacognitive strategies involving planning, monitoring or evaluating the success of a learning activity.
- \* cognitive strategies that are used to operate directly on information presented, and to organise and process it to effect learning.
- \* social / affective strategies that represent interactions with others.

These strategies are used in different combinations and are selected according to the learning task and context.

## **5.15 Learning style families**

Coffield, et.al. (2004) devised a classification system to impose some order on the particularly confusing and endlessly expanding field of learning styles. They categorised some of the main learning styles into five broad families.



1. Learning style and preferences based on four modalities : Visual, Auditory, Kinaesthetic & Tactile (Dunn & Dunn & others)
2. Learning style based on cognitive structure. (Riding & others)
3. Learning style including personality type. (Apter, Jackson, Myers-Briggs and others)
4. Flexibly stable learning preferences. (Atkinson & Heyes, Honey & Mumford & Kolb and Felder)
5. Learning approaches & strategies and Conception of learning. (Entwistle & others)

### **What are the issues in learning styles research?**

Research into learning styles can be characterised as small-scale, non-cumulative, uncritical and inward-looking. It has been carried out largely by cognitive and educational psychologists, and by researchers in business schools and has not benefited from much Interdisciplinary research (Coffield, et.al., 2004-2-53)

In their report, Coffield et.al. point out many issues that converted research into learning styles :

- \* The endlessly expanding body of theoretical and empirical research on learning styles.
- \* Learning style researchers are from the diverse fields of psychology, sociology, business studies, management and education; They value and interpret their research in different ways and from different perspectives.
- \* No direct or easy comparability between approaches and no agreed core technical vocabulary.
- \* The increasing number of learning style models of variable quality.
- \* A lack of dialogue between the leading components of individual models.
- \* The overblown claims of some learning style developers.
- \* The commercial industry that has grown around particular models has inhibited independent critical analysis of these models.

## 5.16 Evaluating learning styles

Coffield, et.al.'s report (2004) identified 71 models of learning styles and evaluated 13 of the most influential models to better understand their merits and deficiencies. The models were evaluated in terms of their design, reliability, validity, implications for pedagogy, evidence of pedagogical impact and overall assessment. Some of the findings on specific models were :

- \* Allinson and Hayes : internal consistency and test-retest reliability are high, according to both internal and external evaluations.
- \* Dunn and Griggs : there is a serious lack of independent evaluation of the learning styles instrument.
- \* Gregore : theoretically and psychometrically flawed; not suitable for the assessment of individuals.
- \* Honey and Mumford : danger of labelling people as 'theorists' or 'pragmatists', when most people exhibit more than one strong preference.
- \* Myers Briggs : there is no evidence to suggest that matching teacher and learner types has any positive effects on achievement.
- \* Vermunt : It provides a common language for teachers and learners to discuss and promote changes in learning and teaching.

The concept of learning styles is rooted in the classification of psychological types. The learning styles theory is based on research demonstrating that, as the result of heredity, upbringing, and current environmental demands, different individuals have a tendency to both perceive and process information differently. The different ways of doing so are generally classified as :

1. ***Concrete and abstract perceivers*** — Concrete perceivers absorb information through direct experience, by doing, acting, sensing, and feeling. Abstract perceivers, however, take in information through analysis, observation, and thinking.
2. ***Active and reflective processors*** — Active processors make sense of an experience by immediately using the new information. Reflective processors make sense of an experience by reflecting on an thinking about it.

Traditional schooling tends to favor abstract perceiving and reflective processing. Other kinds of learning aren't rewarded and reflected in curriculum, instruction, and assessment nearly as much.

## **5.17 How the Learning Styles Theory Impacts Education**

*Curriculum* — Educators must place emphasis on intuition, feeling, sensing, and imagination, in addition to the traditional skills of analysis, reason, and sequential problem solving.

*Instruction* — Teachers should design their instruction methods to connect with all four learning styles, using various combinations of experience, reflection, conceptualization, and experimentation. Instructors can introduce a wide variety of experiential elements into the classroom, such as sound, music, visuals, movement, experience, and even talking.

*Assessment* — Teachers should employ a variety of assessment techniques, focusing on the development of "whole brain" capacity and each of the different learning styles.

### **Visual Learners :**

- \* use visual materials such as pictures, charts, maps, graphs, etc.
- \* have a clear view about teachers when they are speaking to see their body language and facial expression
- \* use colour to highlight important points in text
- \* take notes to provide handouts
- \* illustrate ideas as a picture or brainstorming bubble before writing them down
- \* write a story and illustrate it
- \* use multi-media (e.g. computers, videos, and filmstrips)
- \* study in a quiet place away from verbal disturbances
- \* Read illustrated books
- \* visualize information as a picture to aid memorization

### **Auditory Learners :**

- \* participate in class discussions / debates
- \* make speeches and presentations
- \* use a tape recorder during lectures instead of taking notes
- \* read text out aloud
- \* create musical jingles to aid memorization
- \* create ability to aid memorization
- \* discuss ideas verbally
- \* to dictate someone while they write down thoughts
- \* use verbal analogies, and story telling to demonstrate point

### **Tactile / Kinesthetic Learners**

- \* Take frequent study breaks
- \* move around to learn new things (e.g. read while on an exercise bike, mold a piece of clay to learn a new concept)
- \* work at a standing position
- \* chew gum while studying
- \* use bright colors to highlight reading material
- \* dress up to work space with posters
- \* listen to music while study
- \* skim through reading material to get a rough idea what it is about before setting down to read it in detail.

## **5.18 A Multistyle Approach In Learning Style**

Studies show that matching teaching styles to learning styles can significantly enhance academic achievement, student attitudes, and student behavior at the primary and secondary school level (Griggs & Dunn 1984; Smith & Rengulli 1984), at the college level (Brown 1978; Charkins et al. 1985), and specifically in foreign language instruction (Oxford et al. 1991; Wallace & Oxford 1992). This is not to say that one can do for one's students is to use their preferred modes of instruction exclusively. Students will

inevitably given practice in the use of those modes (Hunt 1971; Friedman and Alley 1984; Cox 1988). However, Smith and Renzulli (1984) caution that stress, frustration, and Renzulli (1984) caution that stress, frustration, and burnout may occur when students are subjected over extended periods of time to teaching styles inconsistent with their learning style preferences.

A point no educational psychologist would dispute is that students learn more when information is presented in a variety of modes than when only a single mode is used. The point is supported by a research study carried out several decades ago, which concluded that students retain 10 percent of what they read, 26 percent of what they hear, 30 percent of what they see, 50 percent of what they see and hear, 70 percent of what they say, and 90 percent of what they say as they do something (Stice 1987). What must be done to achieve effective foreign language learning is to balance instructional methods, somehow structuring the class so that all learning styles are simultaneously—or at least sequentially—accommodated (Oxford 1990). The approach recommended in this paper is designed to meet this goal.

Fortunately, instructors who wish to address a wide variety of learning styles need not make drastic changes in their instructional approach. The way they normally teach addresses the needs of at least five of the specified learning style categories : regular use of at least some of the instructional techniques given below to integrate the learning style.

- \* Motivate learning. As much as possible, teach new material (vocabulary, rules of grammar) in the context of situations to which the students can relate in terms of their personal and career experiences, past and anticipated, rather than simply as more material to memorize (intuitive, global, inductive).
- \* Balance concrete information (word definitions, rules for verb conjugation and adjective-noun agreement) (sensing) and conceptual information (syntactical and semantic patterns, comparisons and contrasts with the students' native language) (intuition) in every lesson at every level. The balance does not have to be equal, and in elementary courses it may be shifted heavily toward the sensing side, but there should periodically be something to capture the intuitors' interest.

- \* Balance structured teaching approaches that emphasize formal training (deductive, sequential) with more open-ended unstructured activities that emphasis conversation and cultural contexts of the target language (inductive, global).
- \* Make liberal use of visual. Use photographs, drawings, sketches, and cartoons to illustrate and reinforce the meanings of vocabulary words. Show films, videotapes, and live dramatizations to illustrate lessons in texts (visual, global.)

### **5.19 A Multistyle Approach In learning style BASED ON PHILOSOPHICAL OBJECTIVES**

- 1) Perception
- 2) Inference
- 3) Comparison
- 4) Postulation
- 5) Non perception
- 6) Verbal Communication

Here preference is replaced by integration. It is acceptable that practising for learning demands unification of the perceptual styles & other conceptual & situational learning.

A learner considering is visual in nature. That does not demand that the learner is indifferent about auditory and other effect. Most of the teaching reinforcement comming to the student on the basis of different perceptual dimensions and the learners are greatly reinforced by that processes. A popular example of observing Television may be mentioned here is a combinations of different perceptual dimensions. Presently the audio system is almost replaced by the Audiovisual system leading to the integration of the system. That is the combination of both the auditory & visual styles.

Preferences of learning styles do not demand of independent style of any

particularity rather to have a multidimensional approach leading to integration of styles. Here we use Six philosophical objectives that are explained by the classical Indian Philosophies and applied those objectives for gaining knowledge to their learning dimensions.

“Inductive reasoning is thought to be an important component in academic achievement current cognitive research emphasizes the importance of prior knowledge in learning, introducing new material by linking it to observe or previously known material is essentially inductive. The benefits claimed for inductive instructional approaches include increased academic achievement and enhanced abstract reasoning skills, longer retention of information and improved ability to apply principles.”

Another important dimension here also mentionable that is only perception or the related sense organs are not medium of accepting knowledge. But also different other objectives may also use the source of knowledge.

It is recommended that educators use a variety of learning methods, and encourage students to be receptive to different learning methods, rather than to try to link specific learning methods to specific learning styles.

It can be a helpful reminder to teachers to ensure that pupils are fully engaged in their learning by providing a range of different learning experiences and opportunities in which all pupils are emotionally, physically and intellectually involved.

Therefore we are interested to correlate philosophical objectives & learning style. It is interesting to note that epistemologically Indian philosophical objectives include multiple dimension for searching truth. Here the ends of education is same but the route for attaining education is multiple.

Certainly visual learners learn better if they see and hear words in the target language, but so do auditory learners : presenting the same material in different ways invariably has a reinforcing effect on retention.

Therefore it can be concluded that in Indian perspective for attaining knowledge it demands multiple factor for receiving knowledge suggesting an integrated learning style.

## **5.20 Integrated learning style**

- |                           |  |
|---------------------------|--|
| 1. Perception —           | Development of sense organs or training of senses. |
| 2. Inference —            | Cause – effect relationship                        |
| 3. Comparison —           | Comparing subject matters.                         |
| 4. Postulates —           | Problem solving                                    |
| 5. Non perception —       | Conception of Non perceptible objects.             |
| 6. Verbal Communication — | Verbal knowledge                                   |

Rayner & Riding in 1977 while descriptions of style dimensions integrating both the wholist-analytic & verbal imagery dimensions through the “tendency for the individual to process information in parts or as a whole and think in words or pictures.”

So we cannot apply philosophical objectives in any education system in a preferential way rather to a combination as a whole leading to the integrated style suggested from the study.

## **5.21 Methodology :**

The research is based on descriptive type survey research

### **Tools Used :**

A standardised Questionnaire regarding philosophical objectives, learning style & Academic Achievement have been used as a device for collecting data.

### **Standardisation :**

A pilot study has been conducted for selecting items. Initially 90 items have been taken out of which 66 items have been finally selected from the 10 experts view. Item analysis through 't' test from high & low group has been avoided so that some important items regarding any particular objective may be discarded.



**Reliability :**

Items are considered to be highly reliable from refferential opinion of experts.

**Validity :**

Content validity has been highly maintained during study.

**Population :**

11th grade students in West Bengal are considered as population.

**Sample :**

Some selected schools of 11th grade students are used as sample.

**Sample Size :**

200 students have been selected as sample from six higher secondary schools.

**Rationale for Non-parametric statistics**

As most of the learning styles are selective in nature and also philosophical objectives are matched with learning styles and academic achievement it is better to apply statistics in terms of counted data leading to non-parametric statistics. Academic Achievement is also viewed in terms of philosophical objectives guided by 3 dimensions (1) Situational (2) personal and (3) Motivational factors.

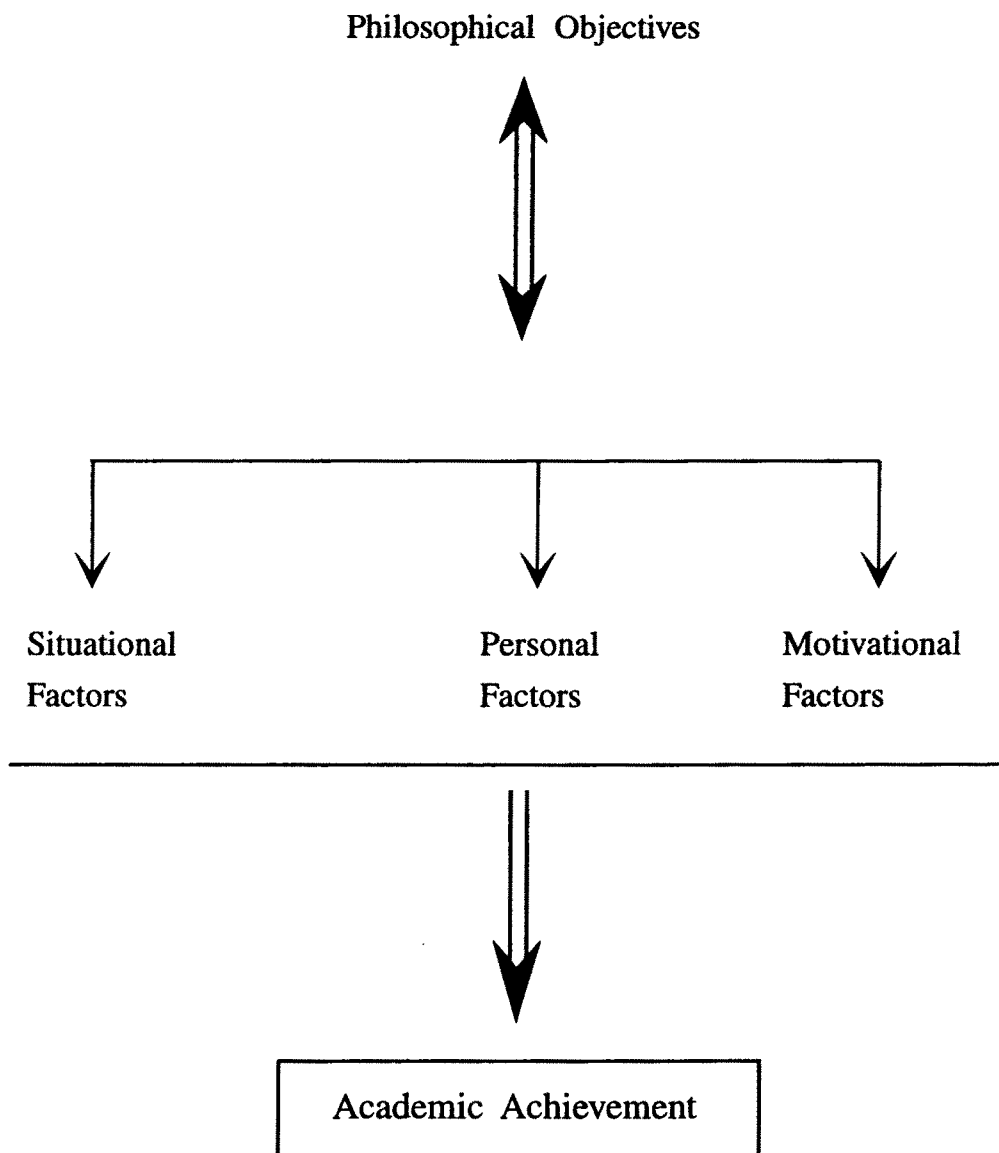
## CONCLUSION

The present Research exposed that philosophical objectives and learning style are interrelated and also philosophical objectives & academic achievement are related too. The study has been conducted both analytical as well Quantitative manner. The first part of the Research expressed philosophical objectives how correlated with learning style with a logical sequence and next part of the research we applied a Questionnaire regarding all the variables and applied to the stakeholders from where we have the following findings :

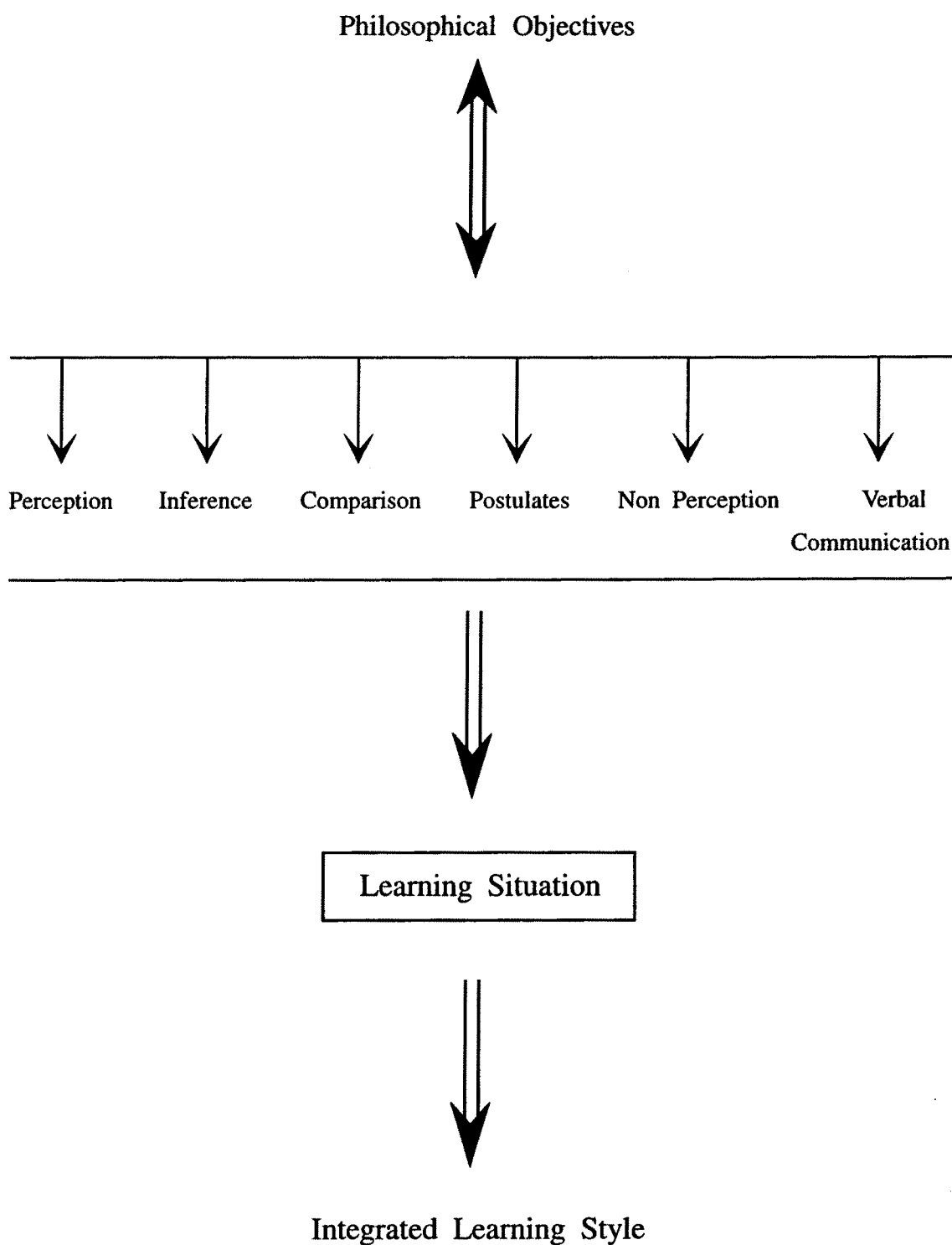
1. Inferential statistics shows that philosophical objectives accelerates academic achievement reflected through the table – 1, Six philosophical objectives are identified in our study namely (1) Perception (2) Inference (3) Comparison (4) Postulates (5) Non perception & (6) Verbal communication. Each objectives provides some ability to an individual helps to develop both philosophically and also academically coming from the study
2. Each philosophical objectives are effective in learning situation but what is our logic is that not only a particiclar style can enhance the achievement rather integrating the styles as a whole give the picture of total situation termed as integratd learning style combination of the six learning objectives extracted from Indian schools of philosophy.
3. Proper Identification of learning style improves the teaching learning process leading to academic achievement.
4. Academic achievement is considered here not as an index of number rather the sources and surroundings which ultimately develop achievement through examination system as a whole.
5. Academic Achievement is the important dependent variable viewed here overall performance of the learners through the present examination system with the following findings :

- (i) Philosophical objectives mostly delinked with academic Achievement and the total educational system moving towards the quantification rather to giving importance on Quality of life.
  - (ii) Examination is not helpful entirely for attaining the cognitive, affective and psychomotor skills (table-6)
  - (iii) Existing Examination system Just labels the pass and fail not to follow the objectives (Table-7)
  - (iv) Examination focouses on the preparation for promoting higher classes rather to earn knowledge. (Table-8)
6. In our study it is abserved that Learning style is overall guided by philosophical objectives. Most of the learning style is selected on the basis of perceptual ability of learners.
  7. It is identified that learning style should be intigrated in nature. In connection with philosophical objectives it is suggested that learning style should be integrated.
  8. As philosophical objectives directly and indirectly influences the total outcome of learners reflected through their academic achievement. Mostly it is abserved from survey that examination system is not at all satisfactory in any way to fulfil the philosophical objectives.
  9. Teachers are not potential enough to complete the syllabus and does not have any internal urge or philosophical concepts for the development of values to the learners reflected from the non-parametric statistics.
  10. It is clear from the above nonparametric statistics philosophical objectives are the guidelines and the sources of human being that regulate and motivate common people. Learning style depends on learning situation which may be influenced by the philosophical objectives. As the present education system guided mostly by quantitative aspect of education, we are mostly avoiding our own logical aspect of self, leading to philosophical crisis and values.

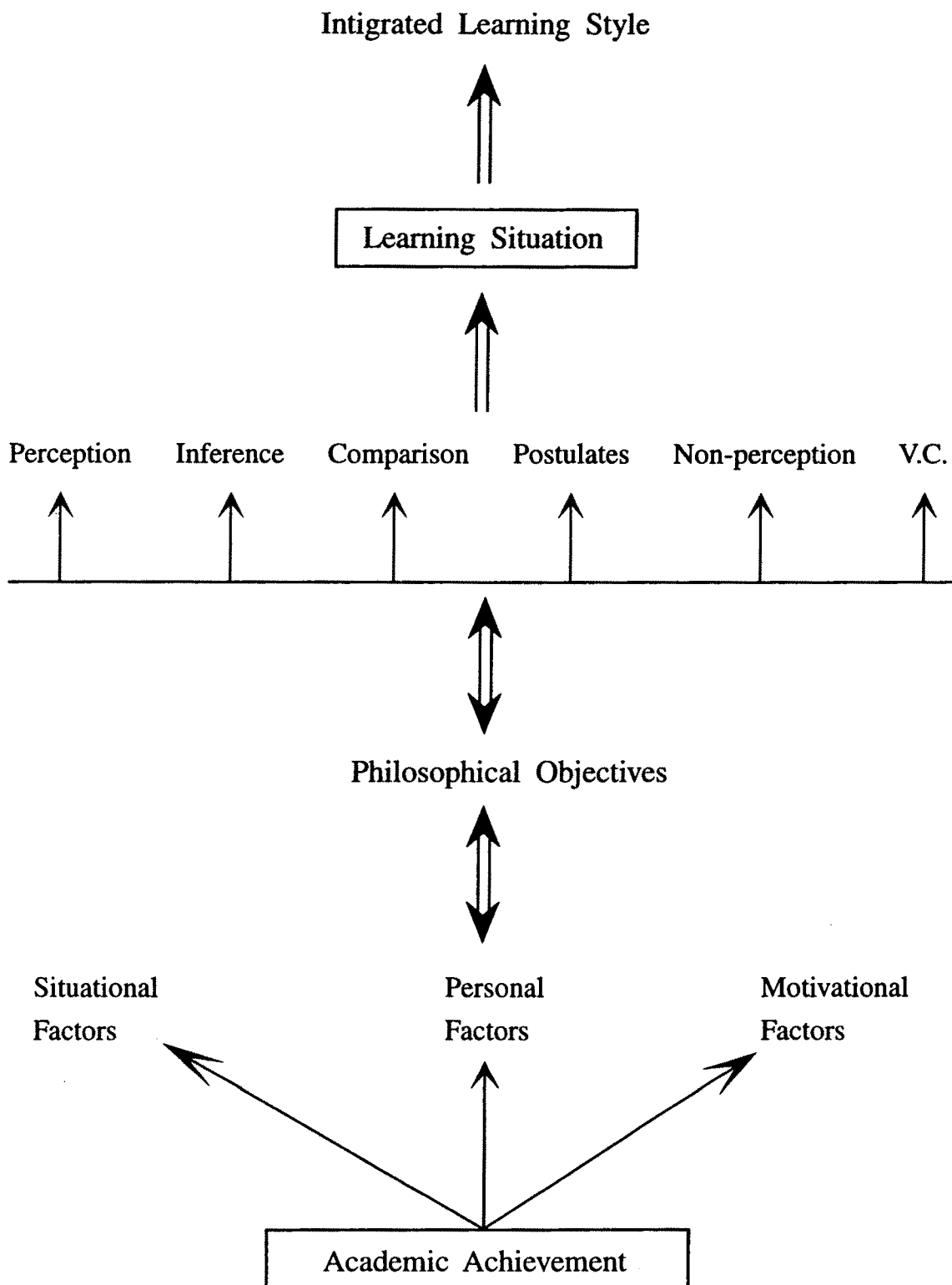
11. A person is always guided by philosophy crystalized through societal and family influence that regulates the situational factors, personal factors & motivational factors leading to Academic Achievement reflected through the study.



13. From our study following structural relationship is being revealed between philosophical objectives and learning styles :



14. An overall view of Relationship being developed from the study among philosophical objectives with learning style and Academic Achievement are reflected below :



Therefore it can be concluded that philosophical objectives are the key sources for the foundation of Learning Style leading to the integrated approach for its learning & teaching and moreover it has the positive impact on Academic Achievement for the qualitative betterment of learners and the teaching learning systems too.

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# **APPENDICES**

# **QUESTIONNAIRE**

Philosophical objectives and its impact on Learning style & Academic Achievement.

## **Directions :**

A Questionnaire has been prepared for conducting the research study. In each question there are five options strongly agree (S.A.), Agree (A), Indifferent (I), disagree (d) and strongly disagree (S.D.). You have to put '✓' marks in each question according to your choice. Your information will be used only for research purpose and will be kept confidential.

Name :

Class :

School :

**Ruma Das Sarma**  
Research Scholar  
Department of Education  
University of Kalyani

## QUESTIONNAIRE

1. Philosophical objectives accelerates achievement.  
☐SA ☐A ☐I ☐D ☐SD
2. Learning styles improves the teaching-learning process.  
☐SA ☐A ☐I ☐D ☐SD
3. Philosophical Objectives gives feedback to the teachers for their improvement.  
☐SA ☐A ☐I ☐D ☐SD
4. Kinaesthetics encourages the teachers and students to become more hard worker and studious.  
☐SA ☐A ☐I ☐D ☐SD
5. Achievement encourage to guess paper, supporting material, notes instead of valuing the subjects.  
☐SA ☐A ☐I ☐D ☐SD
6. Examination is not helpful entirely for attaining the cognitive, affective and psychomotor skills.  
☐SA ☐A ☐I ☐D ☐SD
7. Existing Examination system just labels the pass and fail and not to follow the objectives.  
☐SA ☐A ☐I ☐D ☐SD
8. Examination focouses on the preparation for examination instead of giving true knowledge.  
☐SA ☐A ☐I ☐D ☐SD
9. Achievement promotes for getting more marks avoiding any kinds of philosophical objectives relfecting through values.  
☐SA ☐A ☐I ☐D ☐SD
10. Learning style should be integrated.  
☐SA ☐A ☐I ☐D ☐SD



11. Secrecy arrangements about papers are ineffective and sometimes not properly valued.  
☐SA ☐A ☐I ☐D ☐SD
12. Non-Perception is also an important dimension for attaining conceptual ability.  
☐SA ☐A ☐I ☐D ☐SD
13. Examination systems are not related to objectives.  
☐SA ☐A ☐I ☐D ☐SD
14. Curriculum do not satisfy the whole objectives.  
☐SA ☐A ☐I ☐D ☐SD
15. Development of perception is the key factor for attaining suceess.  
☐SA ☐A ☐I ☐D ☐SD
16. Postulates enables the learners to develop problem solving skill.  
☐SA ☐A ☐I ☐D ☐SD
17. Weaknesses of teachers are also measured more effectively by observing their professional attitude.  
☐SA ☐A ☐I ☐D ☐SD
18. Achievement mode is more reliable and valid with reference to content and fulfilment of objectives.  
☐SA ☐A ☐I ☐D ☐SD
19. Education system follows the institutional objectives effectively.  
☐SA ☐A ☐I ☐D ☐SD
20. Philosophical objectives fosters quality of life among the students and teachers.  
☐SA ☐A ☐I ☐D ☐SD
21. Instructional procedure is given only by lecture method to fulfil the objectives.  
☐SA ☐A ☐I ☐D ☐SD

22. Teachers are influenced in traditional system, rather to improve the all round development of learners.  
☐SA ☐A ☐I ☐D ☐SD
23. Some teachers may not cover the prescribed syllabus and just teach limited parts which are asked in examination.  
☐SA ☐A ☐I ☐D ☐SD
24. Learning through comparison is very much effective in classroom teaching.  
☐SA ☐A ☐I ☐D ☐SD
25. Integrated style of learning is more effective.  
☐SA ☐A ☐I ☐D ☐SD
26. Value based education promotes healthy atmosphere in the institution.  
☐SA ☐A ☐I ☐D ☐SD
27. Mostly styles are not separately identified rather to have an intigration among the styles.  
☐SA ☐A ☐I ☐D ☐SD
28. Learning style should be more carefully observed in Education  
☐SA ☐A ☐I ☐D ☐SD
29. Only cognitive domain is measured and the rest of personality traits of students are not judged through the academic achievement.  
☐SA ☐A ☐I ☐D ☐SD
30. Achievement system is time consuming mode and from starting to announcement of result it takes much time.  
☐SA ☐A ☐I ☐D ☐SD
31. Achievement mode is expensive in conducting and marking based on person concerned  
☐SA ☐A ☐I ☐D ☐SD
32. I require explanations of diagram graphs, or visual direction.  
☐SA ☐A ☐I ☐D ☐SD

33. I can understand a news article better by reading about it in a newspaper than by listening to a report about it on the radio.  
☐SA ☐A ☐I ☐D ☐SD
34. Verbal communication is an effective instructional system.  
☐SA ☐A ☐I ☐D ☐SD
35. Learning style should be given more importance on achieving objectives.  
☐SA ☐A ☐I ☐D ☐SD
36. I like to write things down or to take notes for visual review.  
☐SA ☐A ☐I ☐D ☐SD
37. I can remember best about a subject by listening to a lecture that includes information, explanations and discussions.  
☐SA ☐A ☐I ☐D ☐SD
38. Broader area of subject matter can be covered for developing skills on achievement.  
☐SA ☐A ☐I ☐D ☐SD
39. I prefer to use posters, models, or actual practice and other activities in class.  
☐SA ☐A ☐I ☐D ☐SD
40. I enjoy working with my hands or things.  
☐SA ☐A ☐I ☐D ☐SD
41. Academic Achievement measures just cognitive domains.  
☐SA ☐A ☐I ☐D ☐SD
42. I can easily understand and follow direction on a map.  
☐SA ☐A ☐I ☐D ☐SD
43. I prefer obtaining information about an interesting subject by reading about it.  
☐SA ☐A ☐I ☐D ☐SD

44. I would rather listen to a good lecture or speech than read about the same matter in a textbook.  
☐SA ☐A ☐I ☐D ☐SD
45. I learn to spell better by repeating words loudly than by writing the words on paper.  
☐SA ☐A ☐I ☐D ☐SD
46. I think the best way to remember something is to going through the picture.  
☐SA ☐A ☐I ☐D ☐SD
47. I learn the spelling of words by "fingar spelling" them.  
☐SA ☐A ☐I ☐D ☐SD
48. I Can remember best by writing things down.  
☐SA ☐A ☐I ☐D ☐SD
49. I prefer listening to the news on the radio rather than reading the paper.  
☐SA ☐A ☐I ☐D ☐SD
50. I follow oral direction better than written ones.  
☐SA ☐A ☐I ☐D ☐SD
51. I can tell if sounds match where presented with pairs of sounds.  
☐SA ☐A ☐I ☐D ☐SD
52. I feel very comfortable by touching others or doing something through activity.  
☐SA ☐A ☐I ☐D ☐SD
53. Evaluation system is not based on philosophical objectives.  
☐SA ☐A ☐I ☐D ☐SD
54. I prefer to see information written on Blackboard and supplemented by visual aids assigned readings.  
☐SA ☐A ☐I ☐D ☐SD
55. I am skillful with and enjoy developing and making graphs and charts.  
☐SA ☐A ☐I ☐D ☐SD

56. I do best in academic subjects by listening to lectures and tapes.  
☐SA ☐A ☐I ☐D ☐SD
57. Examination measures the cognitive, affective and psychomotor domains of the students.  
☐SA ☐A ☐I ☐D ☐SD
58. I grip objects in my hands during learning periods.  
☐SA ☐A ☐I ☐D ☐SD
59. Examination gives feedback to the students for their promotion.  
☐SA ☐A ☐I ☐D ☐SD
60. Examination helps for attaining the aims of educational objectives.  
☐SA ☐A ☐I ☐D ☐SD
61. Examination system is not objective based.  
☐SA ☐A ☐I ☐D ☐SD
62. I chew gum, smoke or snack while studying.  
☐SA ☐A ☐I ☐D ☐SD
63. Statement promotes the unfair means for becoming successful.  
☐SA ☐A ☐I ☐D ☐SD
64. Examination discourages the studious students.  
☐SA ☐A ☐I ☐D ☐SD
65. Integral teaching learning style is effective for attaining goals of education.  
☐SA ☐A ☐I ☐D ☐SD
66. Objectives and achievements are highly related in an integrated way.  
☐SA ☐A ☐I ☐D ☐SD

# LEARNING STYLE INVENTORIES

## Allinson and Hayes' Cognitive Styles Index (CSI)

**Table 1**

Allinson and Hayes' Cognitive Styles Index (CSI)

	<b>Strengths</b>	<b>Weaknesses</b>
<b>General</b>	Designed for use with adults	
<b>Design of the model</b>	A single bipolar dimension of intuition analysis, which authors contend underpins other aspects of learning style.	The proposed single dimension is very broad and made up of diverse, loosely associated characteristics.
<b>Reliability</b>	Internal consistency and test-retest reliability are high, according to both internal and external evaluations.	
<b>Validity</b>	<ul style="list-style-type: none"> <li>* The CSI correlates with scales from other instruments, including four from the Myers-Briggs Type indicator.</li> <li>* Analysis is associated with more job satisfaction in junior roles than intuition, while intuition is associated with seniority in business and with success in entrepreneurship.</li> </ul>	<ul style="list-style-type: none"> <li>* There is unequivocal evidence that intuition and analysis although negatively related, are not opposites.</li> <li>* The authors acknowledge that more research is needed to understand the relationships between cognitive style, intellectual ability and educational achievement.</li> </ul>
<b>Implications for pedagogy</b>	<ul style="list-style-type: none"> <li>* Intuitive managers are generally better liked, irrespective of the style of their subordinates.</li> <li>* Matched styles are often effective in mentoring relationships.</li> <li>* One study showed that analytic qualities in university dissertation supervisors are desirable.</li> <li>* If it were to be shown that placing a higher value on intuitive performance by university students led to more successful careers and business outcomes, changes in HE pedagogy and assessment would be indicated.</li> </ul>	It is not clear how far findings are context dependent. Implications are, at best, interesting suggestions which need to be tested empirically.
<b>Evidence of pedagogical impact</b>		None as yet.
<b>Overall assessment</b>	Overall, the CSI has the best evidence for reliability and validity of the 13 models studied. The constructs of analysis and intuition are relevant to decision making and work performance in many contexts, although the pedagogical implications of the model have not been fully explored. The CSI is a suitable tool for researching and reflection on teaching and learning, especially if treated as a measure of two factors rather than one.	
<b>Key source</b>	Allinson and Hayes 1996.	

## Apter's Motivational Style Profile (MSP)

**Table 2**

		<b>Strengths</b>	<b>Weaknesses</b>
Apter's Motivational Style Profile (MSP)	<b>General</b>	The Theory provides a structure for understanding human behaviour and experience, not in terms of fixed personality types, but by outlining the dynamic interplay between 'reversing' motivational states.	The MSP is a measure of personality not learning style alone.
	<b>Design of the model</b>	There are four domains of experience in which there is interaction between emotion, cognition and volition. these are : means-ends, rules, transactions and relationships. A Reversal theory is about systems in nature, bridging between biology and lived experience.	Apter's claim that one of the four pairs of motivational states is always in operation is as yet unproven.
	<b>Reliability</b>	The MSP has acceptable levels of internal consistency and test-retest reliability.	
	<b>Validity</b>	There is an impressive amount of empirical evidence which supports reversal theory.	In general, it cannot be said that factor analysis has shown the MSP to measure adequately the 'binary oppositions' on which reversal theory is built.
	<b>Implications</b>	* Reversal has major implications for how we think about learning styles, leading us to expect reversals between learning styles as well as some degree of individual consistency over time.	The implications of reversal Theory for learning have not been fully elaborated or widely researched except in specialised fields such as sport and addiction.
	<b>Evidence of pedagogical impact</b>		None as yet.
	<b>Overall assessment</b>	A theory which poses a threat to fixed trait models of learning style and which merits further research and development in educational contexts.	
	<b>Key source</b>	Apter 2001.	

# Dunn and Dunn's model and instruments of learning styles

**Table 3**

Dunn and Dunn's  
model and instruments  
of learning styles

	<b>Strengths</b>	<b>Weaknesses</b>
<b>General</b>	A user-friendly model that includes motivational factors, social interaction, physiological and environmental elements.	The model makes simplistic connections between physiological and psychological preferences and brain activity.
<b>Design of the model</b>	<ul style="list-style-type: none"> <li>* High or low preferences for 22 different factors are identified by learners.</li> <li>* Strong preferences form the basis for teachers to adopt specific techniques or make environmental changes to areas such as light. Sound, design time of day or mobility.</li> </ul>	<ul style="list-style-type: none"> <li>* It is a model of instructional preferences, not learning.</li> <li>* It is unsophisticated in its adoption of ideas from other fields, eg modality preference, circadian rhythm, hemispheric dominance.</li> </ul>
<b>Reliability</b>	Supporters make strong claims for validity.	Critics highlight major problems with the design and reliability of key instruments.
<b>Validity</b>	Supporters make strong claims for reliability.	There have been external criticisms of evidence of validity.
<b>Implications for pedagogy</b>	<p>It is claimed that :</p> <ul style="list-style-type: none"> <li>* Individual differences in preference can be discerned.</li> <li>* It is possible to adapt environments and pedagogy to meet these preferences.</li> <li>* The stronger the preference, the more effect an intervention will have</li> <li>* The impact will be even greater if low achieving learner's strong preferences are catered for.</li> </ul>	<ul style="list-style-type: none"> <li>* The implications for pedagogy are so forcefully expressed that no other options are considered.</li> <li>* Labelling and generalising about types of student may lead to simplistic injunctions about 'best practice'.</li> </ul>
<b>Evidence of pedagogical impact</b>	<ul style="list-style-type: none"> <li>* The model has generated an extensive programme of international research.</li> <li>* Isolation of individual elements in empirical studies allows for evaluation of the effects of those elements.</li> </ul>	<ul style="list-style-type: none"> <li>* Effect sizes of individual elements are conflated.</li> <li>* there is a serious lack of independent evaluation of the I.S.I.</li> </ul>
<b>Overall assessment</b>	Despite a large and evolving research programme, forceful claims made for impact are questionable because of limitations in many of the supporting studies and the lack of independent research on the model. Concerns raised in our review need to be addressed before further use in made of the model in the UK.	
<b>Key source</b>	Dunn and Griggs 2003.	



## Entwistle's Approaches and Study Skills Inventory for Students (ASSIST)

**Table 4**

Entwistle's Approaches and Study Skills Inventory for Students (ASSIST)

	<b>Strengths</b>	<b>Weaknesses</b>
<b>General</b>	Model aims to encompass approaches to learning, study strategies, intellectual development skills and attitudes in higher education.	Complexity of the developing model and instruments is not easy for non-specialists to access.
<b>Design of the model</b>	Assesses study / learning orientations, approaches to study and preferences development skills and attitudes in higher education.	There are dangers if the model is used by teachers without in depth understanding of its underlying implications.
<b>Reliability</b>	Internal and external evaluations suggest satisfactory reliability and internal consistency.	* Test-retest reliability not shown.
<b>Validity</b>	<ul style="list-style-type: none"> <li>* Extensive testing by authors of construct validity.</li> <li>* Validity of deep, surface and strategic approaches confirmed by external analysis.</li> </ul>	<ul style="list-style-type: none"> <li>* Construct and predictive validity have been challenged by external studies.</li> <li>* Unquestioned preference for deep approaches, but strategic and even surface approaches may be effective in some contexts.</li> <li>* Rather weak relationships between approaches and attainment.</li> </ul>
<b>Implications for pedagogy</b>	<ul style="list-style-type: none"> <li>* Teachers and learners can share ideas about effective and ineffective strategies for learning.</li> <li>* Course teams and managers can use approaches as a basis for redesigning instruction and assessment.</li> <li>* Model can inform the redesign of learning within departments and courses.</li> </ul>	<ul style="list-style-type: none"> <li>* The scope for manoeuvre in course design is variable outside the relative autonomy of higher education.</li> <li>* There is a large gap between using the instrument and transforming the pedagogy ????</li> <li>* As the terms 'deep' and 'surface' became popular, they become attached to individuals rather than behaviours, against the author's intention.</li> </ul>
<b>Evidence of</b>	Has been influential in training courses and staff development in universities.	Not tested directly as a basis for pedagogical interventions.
<b>Overall assessment</b>	Useful model and instrument for some post-16 contexts.	
<b>Key source</b>	Entwistle 1998.	

## Entwistle's Approaches and Study Skills Inventory for Students (ASSIST)

**Table 5**

Gregorc's Style  
Delineator (GSD)

	<b>Strengths</b>	<b>Weaknesses</b>
<b>General</b>	The GSD taps into the unconscious 'modulation abilities' of 'perception' and 'ordering'.	Styles are natural abilities and not amenable to change.
<b>Design of the model</b>	There are two dimensions : concrete abstract and sequential random.  Individuals tend to be strong in one or two of the four categories, concrete sequential, concrete random, abstract sequential and abstract random.	* Some of the words used in the instrument are unclear or may be unfamiliar.  * No normative data is reported, and detailed descriptions of the style characteristics are unvalidated.
<b>Reliability</b>	The author reports high levels of internal consistency and test-retest reliability.	Independent studies of reliability raise serious doubts about the GSD's psychometric properties.
<b>Validity</b>	Moderate correlations are reported for criterion related validity.	* There is no empirical evidence for construct validity other than the fact that the 40 words were chosen by 60 adults as being expressive of the four styles.  * The sequential / random dimension stands up rather better to empirical investigation than the concrete / abstract dimension.
<b>Implications for pedagogy</b>	Although Gregorc contends that clear cut Mind Style dispositions are linked with preferences for certain instructional media and teaching strategies, he acknowledges that most people prefer instructional variety.	Gregorc makes the unsubstantiated claim that it stands up rather better to empirical investigation than the concrete / abstract dimension.
<b>Evidence of pedagogical impact</b>	Results on study preference are mixed though there is evidence that choice of subject is aligned with Mind Style and that success in science, engineering and mathematics is correlated with sequential style.	We have not found any published evidence addressing the benefits of self knowledge of learning styles or the alignment of Gregorc type learning and teaching styles.
<b>Overall assessment</b>	Theoretically and psychometrically flawed. Not suitable for the assessment of individuals.	
<b>Key source</b>	Gregorc 1985.	

## Herrmann's Brain Dominance Instrument (HBDI)

**Table 6**

Herrmann's Brain  
Dominance Instrument  
(HBDI)

	<b>Strengths</b>	<b>Weaknesses</b>
<b>General</b>	<ul style="list-style-type: none"> <li>* The HBDI and new ways of using it effectively have been developed over more than 20 years.</li> <li>* The 'whole brain' model is compatible with several other models of learning style.</li> </ul>	
<b>Design of the model</b>	<ul style="list-style-type: none"> <li>* It is based on theory which, although originally brain based, incorporates growth and development especially in creativity.</li> <li>* Learning styles as defined by the HBDI are not fixed personality traits, but to a large extent, learned patterns of behaviour.</li> </ul>	<ul style="list-style-type: none"> <li>* As with most self-report instruments, it is possible to complete it with the intention of presenting a particular profile.</li> <li>* Some will find the HBDI items hard to read and understand.</li> </ul>
<b>Reliability and validity</b>	Internal evidence suggests that the HBDI is psychometrically sound and new analyses can draw on an enormous international database.	There are very few independent studies of the reliability and validity of the HBDI.
<b>Implications for pedagogy</b>	<ul style="list-style-type: none"> <li>* HBDI based feedback does not seek to attach permanent labels to the individual.</li> <li>* Herrmann provides rich accounts of how people think and learn, valuing diversity and arguing for mutual understanding.</li> <li>* Teachers, students, managers and workers may be stimulated to examine and refine their ideas about communication and learning.</li> <li>* Herrmann argues that all learners need to develop stylistic flexibility and where appropriate, extend their range of competence.</li> </ul>	The pedagogical implications of the whole brain model have not yet been fully explored and tested.
<b>Evidence of pedagogical impact</b>		Although well established in the business world, the use of the HBDI has yet to be extensively validated in education.
<b>Overall assessment</b>	A model which, although largely ignored in academic research, offers considerable promise for use in education and training. It is more inclusive and systemic than many others, taking an optimistic, open and non-labelling stance towards the development of people and organisations.	
<b>Key source</b>	Herrmann 1989.	

## Honey and Mumford's Learning Styles Questionnaire (LSQ)

**Table 7**

Honey and Mumford's **General**  
Learning Styles  
Questionnaire (LSQ)

	<b>Strengths</b>	<b>Weaknesses</b>
	LSQ probes the attitudes and behaviours which determine preferences with regard to learning. To be used for personal / organisational development and not for assessment / selection. Not a psychometric instrument but a checklist about how people learn.	Danger of labelling people as 'theorists' or 'pragmatists' when most people exhibit more than one strong preference.
<b>Design of the model</b>	Based on Kolb's model, with new terms for style preferences which are aligned to the four stages in the learning cycle.	Evaluation by researchers has become increasingly critical, eg personality and learning style put at 6% (Jackson and Lawty Jones 1996.)
<b>Reliability and</b>		Only moderate internal consistency has been found.
<b>Validity</b>	Face validity is claimed by authors.	Validity not assessed by authors. More evidence is needed before LSQ is acceptable.
<b>Implications for pedagogy</b>	<ul style="list-style-type: none"> <li>* To help managers / employees to devise personal development plans.</li> <li>* To show managers how to help their staff learn.</li> <li>* To be used as a starting point for discussion and improvement with a knowledgeable tutor.</li> <li>* Suggestions made to help people strengthen an under utilised style.</li> </ul>	All the suggestions are derived logically or from practice with using the LSQ they have not been rigorously tested to see if they work.
<b>Evidence of pedagogical impact</b>	No evidence quoted by authors.	No evidence found by researchers
<b>Overall assessment</b>	Has been widely used in practice, ??? needs to be redesigned to overcome weaknesses identified by researchers.	
<b>Key source</b>	Honey and Mumford 200.	

## Jackson's Learning Styles Profiler (LSP)

**Table 8**

Jackson's Learning Styles Profiler (LSP)	General	Strengths	Weaknesses
		<ul style="list-style-type: none"> <li>* The LSP is a sophisticated instrument in terms of its theory base and computerised format.</li> <li>* Designed for use in business and education.</li> </ul>	
	Design of the model	The model describes four styles : Initiator, Analyst, Reasoner and implementer.	It is possible that the style names chosen by Jackson are not good descriptors of the underlying constructs.
	Reliability and	The test-retest reliability of three scales is satisfactory.	The Reasoner scale has poor test retest reliability.
	Validity	<ul style="list-style-type: none"> <li>* The authors claim factorial validity on the basis of a four factor solution.</li> <li>* Some evidence concurrent validity is provided by correlations with other measures of personality.</li> </ul>	Some further refinement of items is needed, especially in the Initiator scale.
	Implications for pedagogy	<ul style="list-style-type: none"> <li>* There is a positive emphasis in the computer generated recommendations for personal which result from completing the questionnaire,</li> <li>* The feedback is very detailed and contains suggestions for building on strengths, dealing with challenging situations and remedying maladaptive learning.</li> </ul>	It is desirable, both for individuals and organisations, to build up multiple strengths rather than for people to work only in ways which came most naturally to them.
	Evidence of pedagogical impact		The relevance, practicality and value of the personal feedback have yet to be evaluated.
	Overall assessment	The theoretical model and the LSP, for which UK norms exist, have promise for wider use and consequential refinement in organisational and educational contexts.	
	Key source	Jackson 2002.	

## Kolb's Learning Style Inventory (LSI)

**Table 9**

Kolb's Learning Style Inventory (LSI)

**General**

### Strengths

- \* Learning styles are not fixed personality traits, but relatively stable patterns of behaviour.
- \* 30 years of critique have helped to improve the LSI, which can be used as an introduction to how people learn.

### Weaknesses

Should not be used for individual selection.

### Design of the model

- \* Learning styles are both flexible and stable.
- \* Based on the theory of experiential learning which incorporates growth and development.

- Three elements need to be separated.
- \* Process the four stages of the learning cycle.
- \* Level how well one performs at any of the four stages.
- \* Style how each stage is approached.

### Reliability

Changes to the instrument have increased its reliability.

Long public dispute over reliability of LSI. third version is still under going examination.

### Validity

- \* The construct validity of the LSI has been challenged and the matter is not yet settled.
- \* It has low predictive validity but it was developed for another purpose as a self assessment exercise.

### Implications for pedagogy

- \* In general, the theory claims to provide a framework for the design and management of all learning experiences.
- \* Teachers and students may be stimulated to examine and refine their theories of learning through dialogue teachers may become more empathetic with students.
- \* All students to become competent in all four learning styles factive felleective abstract and concreted to produce balanced, integrated learners.
- \* Instruction to be individualised with the help of it.

- \* The nature of a learning cycle may be seriously flawed.
- \* The implications for teaching have been drawn logically from the theory rather than from research findings.

### Evidence of pedagogical impact

- \* There is no evidence that 'matching' improves academic performance in further education.
- \* The findings are contradictory and inconclusive. No large body of unequivocal evidence on which to base firm recommendations about pedagogy.

### Overall assessment

One of the first learning styles, based on an explicit theory, problems about reliability, validity and the learning cycle continue to dog this model.

### Key source

Kolb 1999.

## Myers-Briggs Type Indicator (MBTI)

**Table 10**

Myers Briggs Type Indicator (MBTI)

	<b>Strengths</b>	<b>Weaknesses</b>
<b>General</b>	Provides a view of the whole personality including learning.	Not specifically about learning
<b>Design of the model</b>	Based on Jung's theory on four bipolar scales, producing a possible 16 personality 'types'.	The relationships between elements and scales - 'type dynamics' - are extremely complex.
<b>Reliability and</b>	Reliability co-efficients are high for individual pairs of scores relating to each of the scales.	The stability of the 16 types is less impressive.
<b>Validity</b>	The face validity of the MBTI is generally accepted.	Construct validity is controversial because of the debate about whether the constructs are best represented by opposing pairs.
<b>Implications</b>	<ul style="list-style-type: none"> <li>* The apparent correlation between achievement and 'type' has led to calls for extra support for 'sensing' types.</li> <li>* The use of type in career counselling is widespread and has been used to steer students into 'appropriate' areas of study.</li> </ul>	<ul style="list-style-type: none"> <li>* Links between type and methods of information processing have not been proved.</li> <li>* There is no evidence to suggest that matching teacher and learner types has any positive effects on achievement.</li> </ul>
<b>Evidence of pedagogical impact</b>	There is limited evidence to suggest that matching teacher and learner types may increase student affect.	<ul style="list-style-type: none"> <li>* Type does not appear to predict performance.</li> <li>* The proportion of critical literature, both reviews of the instrument and the resolution of the 'debate' about personality measures in learning style, has been seen as too low.</li> </ul>
<b>Overall assessment</b>	It is still not clear which elements of the 16 personality types in the MBTI are most relevant for education.	
<b>Key source</b>	Myers and McCaulley 1985.	

## Riding's Cognitive Styles Analysis (CSA)

**Table 11**

Riding's Cognitive Styles Analysis (CSA)	General	Strengths	Weaknesses
		Learning strategies may be learned and improved.	??? learning styles are assumed to be fixed.
	Design of the model	Two dimensions which are independent of intelligence : holist analytic ways of organising informations and verbaliser imager (ways of representing information)	<ul style="list-style-type: none"> <li>* Two very specific tasks bear the weight of broad and loosely defined constructs.</li> <li>* Deals with cognitive, not affective or conative aspects of thinking and learning.</li> </ul>
	Reliability and		<ul style="list-style-type: none"> <li>* No evidence provided by the author.</li> <li>* Others have shown that internal consistency and test retest reliability is very poor, especially for the verbaliser score.</li> </ul>
	Validity	<ul style="list-style-type: none"> <li>* Both dimensions have reasonable face validity.</li> <li>* The holist-analytic measure may be useful for assessing group rather than individual differences.</li> </ul>	<ul style="list-style-type: none"> <li>* Performance is sampled over a very limited range of task difficulty.</li> <li>* As the reliability of the CSA is so poor, studies of validity should not be accepted unless they have been replicated.</li> </ul>
	Implications for pedagogy	<ul style="list-style-type: none"> <li>* There is evidence of ??? between cognitive styles and instructional preferences.</li> <li>* There is evidence that in ??? instruction, 'holist' learners do better with 'breadth first' and 'analytic' learners with 'depth first'.</li> <li>* Riding claims that teachers need to take account of individual differences in working memory as well as style.</li> </ul>	<ul style="list-style-type: none"> <li>* Most teachers use a variety of instructional approaches anyway (agvarbal and visual).</li> <li>* A large number of ????????? are made without adequate empirical evidence.</li> </ul>
	Evidence of		Inconclusive.
	Overall assessment	The simplicity and potential value of Riding's model are not well served by an unreliable instrument the CSA.	
	Key source	Riding and Rayner 1998.	



## Sternberg's Thinking Styles inventory (TSI)

**Table 12**

Sternberg's Thinking Styles Inventory (TSI)	General	Strengths	Weaknesses
		13 thinking styles are proposed. based on the functions, forms, levels, Scope and learnings of government.	<ul style="list-style-type: none"> <li>* Why these 13 are too many.</li> <li>* Learners self assess their likely behaviour by responding to statements which are context free.</li> </ul>
	Design of the model	Based on a new theory of mental self-government.	<ul style="list-style-type: none"> <li>* Sternberg offers a metaphor rather than a theory.</li> <li>* No explanation is given as to why some forms of government (eg monarchic) are chosen and not others (eg democratic).</li> </ul>
	Reliability and Validity	Claimed by author to be both reliable and valid.	<ul style="list-style-type: none"> <li>* Only limited empirical support for the reliability and validity of the TSI.</li> <li>* Scores for reliability considerably lower than those found by Sutherland.</li> <li>* ????? on no support for validity of the TSI.</li> </ul>
	Implications for pedagogy	<ul style="list-style-type: none"> <li>* Teachers to use a variety of teaching and assessment methods.</li> <li>* Teachers to be aware of the learning styles they encourage or punish.</li> </ul>	<ul style="list-style-type: none"> <li>* No solid research base for these suggestions, which are logical deductions from the theory.</li> <li>* Fifth suggestion stems from research on creativity, rather than learning styles. The advice is of a very generally, commonsense nature, most of it known to teachers before any research done on learning styles.</li> </ul>
		<ul style="list-style-type: none"> <li>* Teachers to let students know about the range of styles.</li> <li>* Teachers to know about gender and cross-cultural differences in styles.</li> <li>* Teachers to use extra-curricular activities to enhance quality of teaching and learning.</li> </ul>	
	Evidence of pedagogical impact	A series of studies in the US and China have so far produced mixed results.	There is need for independent evaluation.
	Overall assessment	An unnecessary addition to the proliferation of learning styles models.	
	Key source	Sternberg 1999.	

## Vermunt's Inventory of Learning Styles (ILS)

**Table 13**

Vermunt's Inventory of Learning Styles (ILS) **General**

	<b>Strengths</b>	<b>Weaknesses</b>
	<ul style="list-style-type: none"> <li>* It applies to the thinking and learning of university students.</li> <li>* New versions in preparing for 16-18 age group and for learning at work.</li> <li>* Used for studying the learning styles of teachers and student teachers.</li> </ul>	<ul style="list-style-type: none"> <li>* It has little to say about how personality interacts with learning style.</li> </ul>
<b>Design of the model</b>	<ul style="list-style-type: none"> <li>* It is experientially grounded in interviews with students.</li> <li>* It seeks to integrate cognitive, affective, metacognitive and conative processes.</li> <li>* It includes learning strategies, motivation for learning and preferences for organising information.</li> </ul>	<ul style="list-style-type: none"> <li>* It excludes preferences for representing information.</li> <li>* It is not comprehensive : there are not items on the control of motivation, emotions of attention.</li> <li>* The interpersonal context of learning is underemphasised.</li> <li>* Not applicable to all types and stages of learning.</li> <li>* Nations of 'conservative' and 'destructive' friction are largely untasted.</li> </ul>
<b>Reliability and validity</b>	<p>It can be used to assess approaches to learning reliably and validity.</p>	
<b>Implications for pedagogy</b>	<ul style="list-style-type: none"> <li>* It is dependent on context, ie a learning style is the interplay between personal and contextual influences.</li> <li>* It provides a common language for teachers and learners to discuss and ?????? is learning and teaching.</li> <li>* Emphasis not on individual differences, but on the whole teaching learning environment.</li> </ul>	
<b>Evidence of pedagogical impact</b>		<ul style="list-style-type: none"> <li>* Little evidence so far of impact on pedagogy.</li> <li>* It is not a strong predictor of learning outcomes.</li> </ul>
<b>Overall assessment</b>	<p>A rich model, validated for use in UK HE contexts, with potential for more general use in post-16 education where text based learning is important. A reflective use of the ILS may help learners and teachers develop more productive approaches to learning.</p>	
<b>Key source</b>	<p>Vermunt 1998.</p>	