Chapter-V
Methodology
METHODOLOGY

Researchers are mainly conducted to solve a problem or aim behind it. The aim may be verification of previous findings, confirming the suitability of post studies in present settings, determining the relationship, if any, between two variables, along with Information about its nature and or the effect of less explored Independent variable on some unique dependent variable. Here for present study unique explored Independent variable is the Dance/ Movement Therapy and the unique dependent variable are some features of autism.

HYPOTHESES

- There is no effect of Dance Therapy on the development of body attitude of autistic child.
- There is no effect of Dance therapy on socialization skill of the autistic children.
- There is no effect of dance movement therapy on communication skill of autistic children.
- There is no effect of Dance Therapy on problem behavior of autistic children.

The study is divided into two parts.

- Construction of the scale
- The experiment itself.

CONSTRUCTION OF THE SCALE:

Body Attitude Checklist:

Body attitude is manner in which a person holds oneself while moving, performing a task or being still. The Kind of shape the body has taken is important for a person to be accepted by the society.
To exhibit a comfortable body attitude we have to consider the alignment of our body, which is highly connected with the spinal cord, the pelvis, along with the total grounding and support system of the floor and surrounding space.

The present questionnaire named Body Attitude Checklist was formulated keeping in mind the problems related to autism. The problems related to autism, both muscular motor problems as well as behavioral problems related to movement disparities were considered.

For item writing literature on movement pattern and the typical characteristics of autism were consulted. The famous scale Bernstein (1975) entitled “Maladaptive Behavior Dance Therapy Evaluation Form” has been consulted.

The items were written after planning on which particular domains the questionnaire will be formulated. Those problems, which were related to autism after thorough observation and analysis, were written. After thorough observation and analysis those problems which directly address the muscular coordination in relation to cognition, emotion, perception, sensation, behavioral problems of autism were written, and were consulted with a group of psychologists for their recommendation, criticism and suggestions. According to their suggestions the items were modified and 65 specific components were selected.

Then following Edward’s 14-point rules finally 49 Items were written in Bengali and English.

These 49 items were given to 21 judges (7=Psychiatrists, 3=Special educators, 4=Psychologists, 7=parents of autistic children). All had prior observation and experience about autism. They were requested to judge the items on the basis of a 5 point relevance scale.
where,
1 - Not at all relevant
2 - Somewhat relevant
3 - Relevant
4 - Moderate relevant
5 - Most relevant

After relevance judgment the items whose mean were 3.5 and more and SD 1 and less were selected. Thus ultimately 40 items were selected.

These 40 items were administered on 60 autistic children. For item validity, a item-total correlation matrix was done. Only the items which showed significant correlation ('r' value = 0.688 - 0.900) with total score were taken as contributory items. Thus 36 items were selected for the final scale.

Finally the reliability of the scale was computed by Cronbach's alpha. The reliability was found to be 0.9852. On 60 candidates the mean was 114.9833 while the SD was 28.07.

The validity of the test was done by using clinical validation method. The children with autism were first evaluated by the special educators. The 60 students who comprised the sample were evaluated by the 25 special educators individually. The special educators were asked to assess them in a 10 point scale from 'no problem' to 'maximum problem' of body attitude individually where 1 indicates no problem and 10 indicates maximum problems. So the assessment is direct. The operational definition of body attitude was clearly described to the evaluators. The score of 25 special educators for each subjects were added which considered as criteria score of body attitude. The original scores of the scale (BA) is inversely related to the severity of the problem, i.e., more the problem less the score and vice-versa. The Product Moment correlation between the scores of the test BA and the criteria scores for 30 children with autism (-0.660) shows a significant negative relation between clinical observation and the scores of
body attitude scale, i.e., those who scored high in teachers' evaluation scored low (which signifies high problems) in body attitude scale and vice-versa. Thus clinical validity of the scale was established.

**THE EXPERIMENT**

For the study 80 children and adolescent with autism (both male and female were selected)

**SAMPLE**

**Sample I:** Sample I consists of 40 autistic children of age range between 3-5 years, 5-8 years, 8-11 years and 11-14 years with ten children in each age range. This sample group comprises the control group.

**Sample II:** Sample II, consisted of 40 autistic children of age range between 3-5 years, 5-8 years, 8-11 years and 11-14 years with ten children in each age range. This sample group comprises the experimental group.

**Inclusion criterion for selection of Sample I and II:**

1) Children were selected on the basis of scores of Childhood Autism Rating Scale mild, moderate or severe where the mean range falls from 28 – 52 approximately.

2) No history of exposure to Dance/ Movement Therapy previously.

3) All are exposed to other therapy for at least six months, such as
   
   a) Speech Therapy
   b) Sensory Integration Therapy
   c) Cognitive Therapy

4) All are from middle or upper middle class socio economic status.
Exclusion criterion for selection of Sample I and II:

1) Those having hyperactive physical and mental ailments like epilepsy, hysterias and other such disorders were excluded.

2) Those having motor disabilities or other problem in mobility.

VARIABLES

Independent Variable – Age, Vocalization, Dance / Movement Therapy.

Dependent Variable – Communication, Socialization, Arousal Level, Different levels of autism

Controlled Relevant Variable-

   a) Organismic –
      i) Mobility
      ii) Physical Illness
   b) Environmental –
      i) Socio economic status
      ii) Other therapeutic intervention.

TOOLS USED

1. CHILDHOOD AUTISM RATING SCALE (CARS) (Reichler and Schopher, 1971) to find out the general level of autism.

2. VINELAND SOCIAL MATURITY SCALE (VSMS) (Indian Adaptation by Dr. A.J. Malin) to find out the level of socialization for the particular child.

3. WESSEX LANGUAGE TEST (PORTAGE TEST FOR LANGUAGE) (Malin, R.J. and Mollie White, 1989) to find out the level of communication expressive as well as receptive for that particular child.
4. **PROBLEM BEHAVIOR CHECKLIST** (only for autism is administered) to detect the problem behavior of the child directly and administer the DMT on the basis of these problem behaviors and prescribe modules to overcome the same.

5. **BODY ATTITUDE CHECKLIST** (adapted from Maladaptive Behavior Dance Movement Therapy Evaluation Form, Penny Lewis Bernstein, PhD, ADTR, RDT, Kendell/Hunt Publishing Company, Dubuque, Iowa) (only for autism) is administered to find out the general movement capability as well as the impairments related directly to movement and design modules in DMT according to the problems examined.


2. **Bartenieff Fundamentals** (Johnson, 1995), Bone, Breath, and Gesture: Practices of Embodiment (Bartenieff Principles) Volume 1 (Bone, Breath, & Gesture) (Paperback), Paperback: 144 pages; Publisher: Healing Arts Press; New Ed edition (April 1).


5. **Kathak Dance modules** (Syllabus of Pracheen Kala Kendra, Chandigarh Pre- Primary and 1st Year)

6. **Prop utilization – Module for developing expression quality.** (Syllabus of Pracheen Kala Kendra, Chandigarh, Pre- Primary and 1st Year)
DESCRIPTION OF THE TOOLS:

1. CHILDHOOD AUTISM RATING SCALE:

The childhood autism rating scale (CARS) is a 15 item behavioral rating scale developed to identify the children with autism, and to distinguish them from other developmental disorders. It further distinguishes the children with autism from mild to moderate and from moderate to severe range. It was constructed 15 years earlier by Reichler and Schopler (1971), to enable clinicians to obtain more objective diagnosis of autism. The scale usually ranges from 1 which indicates mild to normal to 4 which indicates severe autism. The 15 points on which the scale is based are as follows.

1. RELATION TO PEOPLE:

**Range 1 and 1.5 indicate – No evidence of difficulty or abnormality in relating to people** - The child's behavior is appropriate for his or her age. Some shyness, fussiness, or annoyance at being told what to do may be observed, but not to an atypical degree.

**Range 2 and 2.5 indicate - Mildly abnormal relationship** - The child may avoid looking the adult in the eye, avoid the adult or become fussy if interaction is forced, be excessively shy, not be as responsive to the adult as typical or cling to parents somewhat more than most children of same age.

**Range 3 and 3.5 indicate - The problem is moderate** - The child shows aloofness (seems unaware of adult) at times. Persistent and forceful attempts are necessary to get the child’s attention at times. Minimal contact is initiated by the child.

**Range 4 indicates - Severe problem** - The child is consistently aloof or unaware of what the adult is doing. He or she almost never responds or initiates contact with the adult. Only the most persistent attempts to get the child’s attention have any affect.
2. IMITATION:

Range 1 and 1.5 indicate - appropriate imitation - the child can imitate sounds, words, and movements which are appropriate for his or her skill level.

Range 2 and 2.5 indicate - mild problem - the child imitates simple behavior such as clapping or single verbal sounds most of the time, occasionally, imitates only after prodding or after a delay.

Range 3 and 3.5 indicate - moderate problem - the child imitates only part of the time and requires a great deal of persistence and help from the adult, frequently imitates only after a delay.

Range 4 indicates - severe problem - The child rarely or never imitates sounds, words, or movements even with prodding or assistance from an adult.

3. EMOTIONAL RESPONSE:

Range 1 and 1.5 indicate - age appropriate and situation appropriate emotional response - the child shows the appropriate type and degree of emotional response as indicated by a change in facial expression, posture or manner.

Range 2 and 2.5 indicate - mildly abnormal emotional response - the child occasionally displays a somewhat inappropriate type or degree of emotional response. Reactions are sometimes unrelated to the objects or events surrounding them.

Range 3 and 3.5 indicate - moderate problem - the child shows definite signs of inappropriate type or degree of emotional response. Reactions may be quite inhibited or excessive and unrelated to the situation, may grimace, laugh, or become rigid even though no apparent emotion producing objects or events are present.
Range 4 indicates – severe problem – responses are seldom appropriate to the situation, once the child gets in certain mood; it is very difficult to change the mood. Conversely the child may show widely different emotions when nothing has changed.

4. BODY USE:

Range 1 and 1.5 indicate – normalcy – the child moves with the same ease, agility and coordination of a normal child of the same age.

Range 2 and 2.5 indicate – mild problem – some minor peculiarities may be present, such as clumsiness, repetitive movement, poor coordination, or the rare appearance of more unusual movements.

Range 3 and 3.5 indicate – moderate problem – behaviors that are clearly strange or unusual for a child of this age, may include strange finger movements, peculiar finger or body posturing, staring or picking at the body, self directed aggression, rocking, spinning, finger wriggling or toe walking.

Range 4 indicates – severe problem – intense or frequent movements of the type listed above. These behaviors may persist despite attention to discourage them or involve the child in other activities.

5. OBJECT USE:

Range 1 and 1.5 indicate – normalcy – the child shows normal interest in toys and other objects appropriate for his or her skills level and uses these toys in an appropriate manner.

Range 2 and 2.5 indicate – mild problem – the child may show atypical interest in a toy or play with it in inappropriately childish way (E.g. banging or sucking the toy).

Range 3 and 3.5 indicate – moderate problem – the child may show little interest in toys or other objects, or may be preoccupied with using an object or toy in some strange way. He or she may focus on some
insignificant part of a toy, become fascinated with light reflecting off the object, repetitively move some part of the object, or play with one object exclusively.

**Range 4 indicates – severe problem** – the child may engage in the same behaviors as above, with greater frequency and intensity. The child is difficult to distract when engaged in these inappropriate activities.

6. ADAPTATION TO CHANGE:

**Range 1 and 1.5 indicate – normalcy** – while the child may notice or comment on changes in routine, he or she accepts these changes without undue distress.

**Range 2 and 2.5 indicate – mild problem** – when an adult tries to change tasks the child may continue the same activity or use the same materials.

**Range 3 and 3.5 indicate – moderate problem** – the child actively resists changes in routine, tries to continue the old activity, and is difficult to distract. He or she may become angry and unhappy when an established routine is altered.

**Range 4 indicates – severe problem** – the child shows severe reactions to change. If a change is forced, he or she may become extremely angry or uncooperative or respond with tantrums.

7. VISUAL RESPONSE:

**Range 1 and 1.5 indicate – normalcy** – the child’s visual behavior is normal and appropriate for that age. Vision is used together with other senses as a way to explore new objects.

**Range 2 and 2.5 indicate – mild problems** – the child must be occasionally reminded to look at objects. The child may be more interested
in looking at mirrors a lighting than peers, may occasionally stare off in space, or may also avoid looking people in the eye.

**Range 3 and 3.5 indicate** - moderate problems - the child must be reminded frequently to look at what he or she is doing. He or she may stare into the space, avoid looking at people in the eye, look at objects in an unusual way, or hold objects very close to the eye.

**Range 4 indicates - severe problems** - the child consistently avoids looking at people or certain objects and may show extreme forms of other visual peculiarities described above.

8. **LISTENING RESPONSE:**

**Range 1 and 1.5 indicate - normalcy** - the child’s listening behavior is normal and appropriate for age listening is used together with other.

**Range 2 and 2.5 indicate - mild problem** - there may be some lack of response, or mild overreaction to certain sounds. Responses to sounds may be delayed, and sounds may need repetition to catch the child’s attention. The child may be distracted by extraneous sounds.

**Range 3 and 3.5 indicate - moderate problem** - the child’s responses to sounds vary; often ignores a sound the first few times it is made; may be startled or cover ears when hearing some everyday sounds.

**Range 4 indicates - severe problem** - the child overreacts / or underreacts to sounds to an extremely marked degree, regardless of the type of sound.

9. **TASTE/ SMELL/TOUCH:**

**Range 1 and 1.5 indicate - normalcy** - the child explores new objects in an age appropriate manner, generally by feeling and looking. Taste or smell may be used when appropriate. When reacting to minor, everyday pain, the child expresses discomfort but does not overreact.
Range 2 and 2.5 indicate - mild problem - the child may persist in putting objects in his or her mouth, may taste or smell inedible objects, may ignore or overreact to mild pain that a normal child would express as discomfort.

Range 3 and 3.5 indicate - moderate problem - the child may be moderately processes with touching; smelling or tasting objects or people. The child may either react to much or too little.

Range 4 indicates - severe problem - the child is preoccupied with smelling, tasting or feeling objects, more for the sensation than normal exploration or use of objects. The child may completely ignore pain or react very strongly or slight discomfort.

10. FEAR OR NERVOUSNESS:

Range 1 and 1.5 indicate - normalcy - the child’s behavior is appropriate both to the situation and to his or her age.

Range 2 and 2.5 indicate - mild problem - the child occasionally shows too much or too little fear or nervousness compared to the reaction of a normal child of the same age in a similar situation.

Range 3 and 3.5 indicate - moderate problem - the child shows either quite a bit or more or quite a less fear than is typical even for a younger child in a similar situation.

Range 4 indicates - severe problem - Fear persistent even after repeated experience with harmless events or objects. It is extremely difficult to calm or comfort the child. The may conversely fail to show appropriate regard for hazards which other children of the same age avoid.
11. VERBAL COMMUNICATION:

**Range 1 and 1.5 indicate – normalcy** – the child can express his or her needs with appropriate verbal communication, through proper sentences and speech.

**Range 2 and 2.5 indicate – mild problem** – speech shows overall retardation. Most speech is meaningful; however, some echolalia or pronoun reversal may occur. Some peculiar words or jargon may be used occasionally.

**Range 3 and 3.5 indicate – moderate problems** – speech may be absent. When present, verbal communication may be a mixture of some meaningful speech and some peculiar speech such as jargon, echolalia or pronoun reversal. Peculiarities in meaningful speech include excessive questioning or preoccupation with peculiar topics.

**Range 4 indicates – severe problems** – meaningful speech is not used. The child may make infantile sequels, weird or animal like sounds, complex noises, approximating speech, or may show persistent bizarre use of the some recognizable words or phrases.

12. NON VERBAL COMMUNICATION:

**Range 1 and 1.5 indicate – normalcy** – the child is able to express needs and requirements through body language, and non verbal ways of communication.

**Range 2 and 2.5 indicate – mild problem** – Immature use of non-verbal communications; may only point vaguely, or reach for what he or she wants, in situations where same age child may point or gesture more specifically to indicate what he or she wants.

**Range 3 and 3.5 indicate – moderate problem** – the child is generally unable to express needs or desires non – verbally and cannot understand the non-verbal communication of others.
Range 4 indicates – severe problem – the child only uses bizarre or peculiar gestures which have no apparent meaning and shows no awareness of the meanings associated with the gestures or facial expressions of others.

13. Activity Level:

Range 1 and 1.5 indicate – normalcy – the child is neither more active nor less active than a normal child of the same age in similar situation.

Range 2 and 2.5 indicate – mild problem – the child may either be mildly restless or somewhat “lazy” and slow moving at times. The child’s activity level interferes only slightly with his or her performance.

Range 3 and 3.5 indicate – moderate problem – the child may be quite active and difficult to restrain. He or she may have boundless energy and may not go to sleep readily at night. Conversely the child may be quite lethargic, and need a great deal of product to get him or her to move about.

Range 4 indicates – severe problem – the child exhibits extremes of activities or inactivity and may even shift from one extreme to the other.

14. Level and Consistency of Intellectual Responses:

Range 1 and 1.5 indicate – normalcy – the child is as intelligent as typical children of the same age and does not have any unusual intellectual skills or problems.

Range 2 and 2.5 indicate – mild problem – the child is not as smart as typical children of the same age, skills appear fairly evenly retarded across all areas.

Range 3 and 3.5 indicate – moderate problem – in general, the child is not as smart as typical children of the same age; however, the child may function nearly normally in one or more intellectual areas.
Range 4 indicates - severe problem – while the child generally is not as smart as the typical child of the age, he or she may function even better than the normal child of the same age in one or more areas.

15. GENERAL IMPRESSION:

Range 1 and 1.5 indicate - no autism - the child shows more of the symptom characteristic of autism.

Range 2 and 2.5 indicate - mild autism - the child shows only a few symptoms or only a mild degree of autism.

Range 3 and 3.5 indicate - moderate autism - the child shows a number of symptoms or moderate degree of autism.

Range 4 indicates – severe autism - the child shows many symptoms and has extreme degree of autism.

2. VINELAND SOCIAL MATURITY SCALE:

The Vineland Social Maturity scale (VSMS) measures the differential capacities of an individual. It provides an estimate of social age (SA) and social quotient (SQ) and shows a high correlation (0.80) with intelligence. It is designed to measure social maturation in eight social areas: self help general (SHG), Self help eating (SHE), Self help dressing (SHD), Self direction (SD), Occupation (OCC), Communication (COM), Locomotion (LOM), and Socialization (SOC). The scale consists of 89 test items grouped into year levels. For details of the complete VSMS one should refer to VSMS manual. VSMS can be used for the age group of 0-15 years.

The examination should collect information on VSMS test Items regarding child’s abilities through direct observation and supplement it by Interviewing the mother.

Recording: use record sheet for noting the child’s responses. Mark the item pass (√) of the child is able to perform corrects and fails (X) if otherwise.
Half credit may be given if it can be presumed that the child could have been passed the item if the opportunity was present. The half credit receives full credit if they lie between two passed items.

**Scoring:** Add up passed scores (full and half). The social age is assessed from Appendix II of VSMS manual. Dividing social age (SA) by chronological age (CA) and multiplying by 100 obtain social quotient. Maturity levels is assessed both in items of SA and Social quotient (SQ) for each of the eight social areas by referring VSMS norms and enter in the columns of social maturity constellation record.

3. **PORTAGE EARLY EDUCATION PROGRAMME:**

**Wessex Language Test:**

The portage scheme is designed to teach developmentally delayed children important skills in six key developmental areas. Written by R.J. Cameron and Mollie White (two of Britain's leading exponents of portage), manual is written in an accessible and non-technical style and the layout makes it easy to refer to particular items or areas of interest.

**The checklist** – the check list is used initially to assess a child's developmental level. It consists of 624 behaviors which are sequenced into years or stages of development.

**The box of activity cards** – the cards provide suggestions for teaching 624 behaviors or check lists. The cards are color coded to reflect the six developmental areas and come in a durable case complete with convenient carrying strap.

**Activity charts designed by national portage association** - it is used to plan out precisely how each behavior can be taught.

**A parent guide to portage early education** – acts as a guide to programme content for new parent or worker.
4. PROBLEM BEHAVIOR CHECKLIST:

The Problem Behavior Checklist was constructed for the research purpose to assess behavioral problems of the autistic children. Following are the steps followed for construction

1. Statements related to autistic children were collected and written following the rules mentioned by Edward. The sources of the statements being literature survey and intense observation. Initially 104 statements were constructed encompassing 17 domains of behavioral problems.

2. Those items were given to 50 judges (Psychiatrists, Clinical Psychologists, Rehabilitation Psychologists, Special Educators and Parents of Autistic children, 10 individuals in each category), for relevance judgment on a 5-point scale.

3. From their judgments, mean and standard deviation were calculated along with item total correlations. The most relevant items with a mean value $\geq 3.5$ (more than moderately relevant) and S.D. less than 2 were retained.

4. After this item total correlations were calculated. The items, which obtained below 0.6 correlation value were eliminated. Finally, the scale comprised of only 52 items with 13 domains.

5. For establishing the norm, data of 100 already diagnosed autistic children were collected and reliability was calculated to be 0.8676 (Chronbach's alpha). According to mean and S.D. of the distribution the range of problem behavior is as follows:-

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Clinical validity was tested, i.e., those who were already identified jointly by the parents, special educators and Rehabilitation Psychologist as having severe problem behavior, had scored between 199–230 and so on.

This checklist was used in this research to measure problem behavior which has been considered as one of the dependent variable.

5. BODY ATTITUDE CHECKLIST:

Body attitude checklist is an adapted version of the “maladaptive behavior dance movement therapy evaluation form” prepared by Bernstein 1975. This particular checklist has been prepared keeping in mind the problems related to autism in Indian context. The checklist consists of 36 items which are based on following continuums, examining the problems related to autism.

Children with autism has a lot of difficulty in

I. Dealing with their body directly.
II. Unaware of own self.
III. Unaware of their body parts.
IV. Unaware of body part relationship.
V. Unaware about how to deal with a situation or event by utilizing body.
VI. Clumsy in expressing their needs through non verbal body language.
VII. Unaware of their body image.

VIII. All these problems lead to lack of socialization and communication.

The 36 items are as follows:

**Mute** - Inability to express statements, emotions or reasons verbally.

**Shallow vocalization:** This deficiency can be observed if the person is suffering from the abnormal development of vocal cords, muscle supporting the voice producing organs, inadequate stabilization of pitch and frequency. It also depends on the personality of the person whether introvert or extrovert.

**Inability to complete the movement continuum:** It is important for a person to recognize the elements or tools he or she requires for movement and continuing it. The eight elements by Robert Cohan, of London Contemporary Dance School, are Centering, Gravity, Balance, Posture, Gesture, Rhythm, Moving in space and Breathing.

**Centering:** It is maintaining a sense of your own body that helps a person to hold himself together and connected with the floor while moving.

**Gravity:** This second element is the force that holds the person down on the earth and he must learn to work with it as it constantly inhibits movement.

**Balance:** It is the understanding of inner sensibility. It is not only standing in one leg. It is more importantly the art of achieving an inner relationship between all the points of your body, which you can hold in your awareness. The other aspect of balance is the actual art of balancing on both legs. If you can find the inner balance you are nearly there. It should be imparted to the subject that balancing is an active state a process that is constantly happening, if you forget it you fall down.

**Posture:** It is the way of understanding your body alignment. A subject's posture not only reveals his or her feelings but also actually can produce feelings in him or her.
For example, if the subject is standing with knees slightly bent, pelvis slumped under, belly out in the front upper back rounded, neck short and head dropped forward the subject will feel terrible to express his state of mind conscious or unconscious, which will lead to the inhibited growth or manifestation of the subject’s socio-emotional behavior and physically will be unable to move properly.

**Gesture:** As a species the human animal discovered far back in the distant past that the chance of survival were better in a social group than alone. They have to rely for defense, aggression and expression through their cognition the ability to communicate complex ideas to the other members of the group. The subject has to undertake or learn certain physical motifs, which will help him or her to express his needs, and wants through these patterns of movement or motifs, which are already accepted, in these socio-communal strata of the human society.

**Rhythm:** It is an essential realization of human being. In other words it can be said it is the inner timing of the body, the important counts or intervals, which helps the species to put together all his senses in place. A subject will be good in this aspect when he or she will be able to coordinate and consolidate the inner and outer awareness of his or her body, and putting it in a proper balance where he or she can communicate move or express his or her feelings in accordance with the time.

**Moving in Space:** The subject should be given the training to understand the slightest variation of balance when he or she moves. That means the subject’s legs, feet and spine, which is incredibly complex, should be geared to adjust the above variation in balance. The body may have evolved for very functional reasons necessary for its survival but through moving in space the subject can express his or her thoughts and emotions. To actually press the subjects’ feelings out of his or her torso and limbs, is the way to show the society the desire of movement and its importance to communicate and connect.
Breathing: It is not only a physical function of the body but it is used as an expressive tool as a part of the language of movement that conveys meaning. When a subject exhibits fast, shallow breathing for example implies excitement or stress, while calm and slow breathing suggests self-control. More abstractly breath denotes a specific quality of movement. A subject who is introduced to the mechanism and understanding of this process, in one words the sense of breath moves with freedom and harmony. A phrase of movement with breath has a controlled and considered extension in time, a clear beginning and end, no matter how fast or slow it is, a phrase without breath looks stiff or mechanical with no breathing space.

If the subject is able to harness or sense this eight essential qualities of movement continuum then he or she will be able to harmonize the psycho-physical and the socio-emotional quotient of his or her state of mind, to express communicatively.

Restriction in work due to bound muscle movement: This is a nature where the species exhibits his acute inhibition to the fluidity of movement or emotional outburst that means it shows the species' held nature and bound attitude towards expression or movement.

Restriction of work due to excessive muscle movement: This is a nature where the species exhibits his acute inhibition to restraint his movement or emotional harness that means it shows the specie's excessive affinity for movement and emotional expressions.

Difficulty in adaptive usage of suddenness regarding (situation, person or object): The usage of suddenness is considered as one of the elements of movement understanding. This quality is pronounced in the subject whose reflex motor is highly defined and can react immediately to the external stimuli. In other language this action is heralded with the highly defined coordinated reflex action of the sensory system which is connected with the muscle group of the corresponding limbs to act subsequently in suddenness.
Difficulty in understanding intensity of movement: the attribute of heaviness can be put in discussion by keeping in regard the other qualities of the above factor. These are bound movement, intense movement, slow & held movement. This can be well understood and experienced if the spine and the center reacts coordinately while exercising the heavy quality. Like if a subject lifts a heavy body the spine and the center should be adjusted accordingly with the structure of the subject to lift that heavy object. But if the coordination does not happen that means that the sensory receptor organ does not encode and decode this quality. The subject will undergo serious alignment malfunction.

Excessive physical expression of emotion: This kind of behavior is exhibited when a person is subjected to a low degree emotional or physical turmoil but the expression is high. This can also be experienced when a subject is put under any kind of internal stimulus like injecting drugs, like steroids or LSD. For example when a child with autism is pinched minutely the expression he shows is excessive which is not normal for that particular consequence.

Minimum physical expression of emotion: This kind of behavior is exhibited when a person is subjected to high degree of emotional or physical turmoil the expression is low. For example when a child with autism is slapped harder he did not show ant reaction.

Bizarre movement: movements which are not relevant to the situation. It can be seen as jumbled movement sentences.

Lack of reaction to discrete stimulus: To react to a discrete stimulus, the subject has to be aligned with gravity, centering, balance, posture and gesture. Overall all this attribute has to be connected with the breathe mechanism, and the sensory neurotransmitters has to analyze the stimulus, which will help to make it discrete and act accordingly.

Inappropriate movement response to positive/negative stimulus: It has been often found that children with autism are found to express
reactions to stimuli such as; she or he cries when the person is hugged (positive stimuli) and laughs when scolded (negative stimuli).

**Difficulty in directional orientation (upward, downward, forward, backward):** Here the person with autism lacks the perception of direction such as climbing a stair upward, downward, forward or backward.

**Inability to protect oneself from physically dangerous objects/patrons/environment:** It has been observed that the autistic people often fails to understand which object or situation can harm them. Like burning their hands as they can put their hand in fire due to lack of understanding or perception about fire.

**Lack of presence of motor ability for complex object relationship:** Simple task which needs motor ability such as opening and closing a tap becomes difficult for an autistic child as they lack the presence of suitable motor ability for complex object relationship.

**Doll or puppet like movement:** stereotyped pattern of movement.

**Lack of posturally expressed affect:** In autism when a child undergoes severe pain shows no reaction due to lack of posturally expressed affect.

**Inability to follow movement continuum:** It Is seen that in autism they fails to follow a movement sentence like when they are told to pick up a ball and throw it they cannot follow the pattern.

**Difficulty in ending a physical work:** Simple work like eat with your right hand becomes difficult for the child to complete the task as he can only take the food from the plate but doesn’t know that he has to put the food in the mouth and swallow it to consume the food.

**Insufficient amount of oral rhythm:** Inability to swallow food, puffing out, spit etc as some of the autistic people finds it difficult to use the muscle of the face and proper use of the mouth cavity.
**Excessive loose grasp:** It is observed in autism that some children have a loose grasp as the muscles in the arms, fingers, and the phalanges are not well developed due to improper motor functions.

**Blowing, spitting, biting:** This relates to the use of the muscles of the mouth and face and mouth cavity.

**Difficulty in controlling urination and excretion:** Inability of the bladder muscle to control urination and low utilization of the sphincter muscle inside the cloacae for controlling excretion.

**Poor hygiene care:** Unclean lifestyle.

**Difficulty in identifying body parts:** Inability of the brain to relate with body parts.

**Difficulty in recognizing body part relationship:** Inability of the brain to encode and decode stimuli needed to create proper body part relationship to complete a movement pattern for proper response to stimuli.

**Difficulty in differentiating internal pain and external pain (stomach ache, headache, bruises, and external pain):** Usually, children with autism are found to face this problem. They lack to identify whether the pain is happening inside the stomach or the pain is due to a scratch in the arm.

**Due to lack of understanding of space perception inability to move through space:** In a room with certain obstacles like tables and chairs, the person with autism cannot negotiate these barriers and move in space.

**Inability to understand size, shape, absence, presence:** When a person with autism is told to bring a big ball, they find it difficult to identify with big and small. Similar things happen with shape like bring a round ball, or bring the box. They fail to reciprocate when they are asked whether a person is present or absent in a room.
Difficulty in adaptive motor planning according to demand of environment or own: A person with autism fails to decide which way he or she should go when they are given a situation to choose a pathway to reach his destination.

Excessive dependence on other’s instructions: Autistic people always depend on other’s instruction due to lack of proper motor planning and motor ability to respond to a stimuli. An external person or object is often needed to initiate them and guide them to complete a task.

Difficulty in self initiating a movement in presence of others or in a group: Self initiation is very low in autism as they tries to remain in their own world and communicate minimally with the outer world. So the impact of group is also found to be less in autism.

Inability to get others attention by physical movement: Tendency to stay the way they are makes them less curious to seek others attention by physical movement.

Childlike or immature movement continuum: Less movement vocabulary leads to childlike and immature movement continuum.

Stiffening resistance of arm and leg extension: Autism has a tendency to stiffen their joints when they are exposed to physical needs. This happens due to lack of proper isometric and isotonic contraction sin the muscles.

Difficulty in adaptive usage of movement across the body: this lacks due to understanding of proper movement coordination and adaptive usage of movement throughout the body.

Tense thigh and calve muscles- Stiffening of the muscles of the thigh and calve due to less movement of these areas of the body.
VARIOUS TECHNIQUES OF DANCE MOVEMENT THERAPY:

1. LABAN MOVEMENT ANALYSIS-

Laban Movement Analysis (LMA) is an outgrowth of Laban's theories that comprises four main categories: body, effort, shape, and space. LMA/BF is the integrated study of Laban and Irmgard Bartenieff's embodiment of his theories.

Body: The body category describes structural and physical characteristics of the human body while moving. This category is responsible for describing which body parts are moving, which parts are connected, which parts are influenced by others, and general statements about body organization. The majority of this category's work was not developed by Laban himself, but developed by his student/collaborator Irmgard Bartenieff, the founder of the Laban/Bartenieff Institute in NYC, through the "Bartenieff Fundamentals" (sm). The Body category, as well as the other categories, continue to be further developed through the work of numerous CMAS, and applied to ever extending fields, such as: fitness, somatic therapies, rehabilitation, dance technique, and more.

Several subcategories of Body are:

- Initiation of movement starting from specific body parts;
- Connection of different body parts to each other;
- Sequencing of movement between parts of the body; and
- Patterns of body organization and connectivity, called "Patterns of Total Body Connectivity", "Developmental Movement Patterns", or "Neuromuscular Patterns".

Effort: Effort, or what Laban sometimes described as dynamics, is a system for understanding the more subtle characteristics about the way a movement is done with respect to inner intention. The difference between punching someone in anger and reaching for a glass is slight in terms of body
organization - both rely on extension of the arm. The attention to the strength of the movement, the control of the movement and the timing of the movement are very different. Effort has four subcategories, each of which has two opposite polarities.

**Space:** Direct / Indirect

**Weight:** Strong / Light

**Time:** Sudden / Sustained

**Flow:** Bound / Free

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**Laban effort graph:** Laban named the combination of the first three categories (Space, Weight, and Time) the Effort Actions, or Action Drive. The eight combinations are descriptively named Float, Punch(Thrust), Glide, Slash, Dab, Wring, Flick, and Press. The Action Efforts have been used extensively in some acting schools to train the ability to change quickly between physical manifestations of emotion.

**Flow**, on the other hand, is responsible for the continuousness or ongoingness of motions. Without any Flow Effort, movement must be contained in a single initiation and action, which is why there are specific names for the Flow-less Action configurations of Effort. In general it is very
difficult to remove Flow from much movement, and so a full analysis of Effort will typically need to go beyond the Effort Actions.

**Shape:** While the Body category primarily develops connections within the body and the body/space intent, the way the body changes shape during movement is further experienced and analyzed through the Shape category. It is important to remember that all categories are related, and Shape is often an integrating factor for combining the categories into meaningful movement.

*There are several subcategories in Shape:*

"*Shape Forms*" describe static shapes that the body takes, such as Wall-like, Ball-like, and Pin-like."

"*Modes of Shape Change*" describe the way the body is interacting with and the relationship the body has to the environment. There are three Modes of Shape Change:

**Shape Flow:** Representing a relationship of the body to itself. This could be amoebic movement or could be mundane habitual actions, like shrugging, shivering, rubbing an injured shoulder, etc.

**Directional:** Representing a relationship where the body is directed toward some part of the environment. It is divided further into Spoke-like (punching, pointing, etc.) and Arc-like (swinging a tennis racket, painting a fence)

**Carving:** Representing a relationship where the body is actively and three dimensionally interacting with the volume of the environment. Examples include kneading bread dough, wringing out a towel, or miming the shape of an imaginary object. In some cases, and historically, this is referred to as Shaping, though many practitioners feel that all three Modes of Shape Change are "shaping" in some way, and that the term is thus ambiguous and overloaded.
"Shape Qualities" describe the way the body is changing (in an active way) toward some point in space. In the simplest form, this describes whether the body is currently Opening (growing larger with more extension) or Closing (growing smaller with more flexion). There are more specific terms - Rising, Sinking, Spreading, Enclosing, Advancing, and Retreating, which refer to specific dimensions of spatial orientations.

"Shape Flow Support" describes the way the torso (primarily) can change in shape to support movements in the rest of the body. It is often referred to as something which is present or absent, though there are more refined descriptors.

The majority of the Shape category was not developed during Laban's life, but added later by his followers. Warren Lamb was instrumental in creating a significant amount of the theoretical structure for understanding this category.

**Space:** One of Laban's primary contributions to Laban Movement Analysis (LMA) are his theories of Space. This category involves motion in connection with the environment, and with spatial patterns, pathways, and lines of spatial tension. Laban described a complex system of geometry based on crystalline forms, Platonic solids, and the structure of the human body. He felt that there were ways of organizing and moving in space that were specifically harmonious, in the same sense as music can be harmonious. Some combinations and organizations were more theoretically and aesthetically pleasing. Like with music, Space Harmony sometimes takes the form of set 'scales' of movement within geometric forms. These scales can be practised in order to refine the range of movement and reveal individual movement preferences. The abstract and theoretical depth of this part of the system is often considered to be much greater than the rest of the system. In practical terms, there is much of the Space category that does not specifically contribute to the ideas of Space Harmony.
This category also describes and notates choices which refer specifically to space, paying attention to:

Kinesphere: the area that the body is moving within and how the mover is paying attention to it.

Spatial Intention: the directions or points in space that the mover is identifying or using.

Geometrical observations of where the movement is being done, in terms of emphasis of directions, places in space, planar movement, etc.

The Space category is currently under continuing development, more so since exploration of non-Euclidian geometry and physics has evolved.

The applications of LMA/BF, originally directed toward the performing arts, have been spreading to many and new exciting fields, such as peace studies, anthropology, business consulting, leadership development, psychotherapy, health & wellness, and more.

Superficial anatomy: Superficial anatomy or surface anatomy is important in anatomy being the study of anatomical landmarks that can be readily seen from the contours or the surface of the body. With knowledge of superficial anatomy, physicians or veterinary surgeons gauge the position and anatomy of the associated deeper structures.

Human anatomy: Human anatomy, including gross human anatomy and histology, is primarily the scientific study of the morphology of the adult human body.

Generally, students of certain biological sciences, paramedics, physiotherapists, occupational therapy, nurses, and medical students learn gross anatomy and microscopic anatomy from anatomical models, skeletons, textbooks, diagrams, photographs, lectures and tutorials. The study of microscopic anatomy (or histology) can be aided by practical experience examining histological preparations (or slides) under a microscope; and in
addition, medical students generally also learn gross anatomy with practical experience of dissection and inspection of cadavers (dead human bodies).

Human anatomy, physiology and biochemistry are complementary basic medical sciences, which are generally taught to medical students in their first year at medical school. Human anatomy can be taught regionally or systemically; that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such as the nervous or respiratory systems. The major anatomy textbook, Gray's Anatomy, has recently been reorganized from a systems format to a regional format, in line with modern teaching methods. A thorough working knowledge of anatomy is required by all medical doctors, especially surgeons, and doctors working in some diagnostic specialties, such as histopathology and radiology.

Academic human anatomists are usually employed by universities, medical schools or teaching hospitals. They are often involved in teaching anatomy, and research into certain systems, organs, tissues or cells.

Labanotation uses abstract symbols to define the:

- Direction of the movement
- Part of the body doing the movement
- Level of the movement
- Length of time it takes to do the movement

The shapes of the symbols indicate nine different directions in space and the shading of the symbol specifies the level of the movement.

Labanotation is a record of how you move so that you can do the same thing again and again. The symbols are placed on a vertical staff, the horizontal dimension of the staff represents the symmetry of the body, and the vertical dimension time. The location of the symbol on the staff defines the body part it represents. The centre line of the staff represents the centre line of the
body, symbols on the right represent the right side of the body, symbols on the left, the left side.

The staff is read from bottom to top and the length of a symbol defines the duration of the movement. Drawing on western music notation, Labanotation uses bar lines to mark time measures and double bar lines at the start and end of the movement score. The starting position of the dancer can be given before the double bar lines at the start of the score.

Spatial distance, spatial relationships, transference of weight, centre of weight, jumps, turns, body parts, paths, and floor plans can all be notated by specific symbols.

Although the abstract symbols represent Laban's work on shape, Laban's theories of effort (see Laban Movement Analysis) can also be represented in Labanotation. The four effort categories are:

**Space:** Direct / Indirect

**Weight:** Strong / Light

**Time:** Sudden / Sustained

**Flow:** Bound / Free

and they appear in the notation as an effort graph:
The basic difference between Kinetography Laban and Labanotation is how the system is perceived:

Those practicing Kinetography Laban (International Council of Kinetography Laban) believe that the system is based on spatial analysis.

Those practicing Labanotation (The Dance Notation Bureau) believe that the system was developed to record body movement.

It is this difference that explains the differing interpretations of the notation by the two groups.

Labanotation is used in a variety of settings including Laban Movement Analysis, dance notation, documentation and reconstruction, Movement analysis, Robotics, Human movement simulation and Human movement synthesis.

Motif Description is a subset of Labanotation that depicts the overall structure or essential elements of a movement sequence (Sandlos 1958).

According to Schwarz (1995), Rudolf Laban's work has many varied applications relevant to dance, physical education, recreation, and movement education. This feature provides a basic theoretical overview of Laban Movement Analysis (LMA) and describes its applications.

Because study of LMA involves training and refining how one perceives movement, it can help teachers develop curriculum, refine teaching and coaching styles, and develop a broad philosophical base from which the rest of their work may evolve. It can help educators better understand students from other cultures by honing observation skills and providing a language to describe movement which is not culturally specific. LMA is an open system. It is a dynamic and evolving set of principles which provides a language with which to describe and direct movement experiences. It focuses attention on dynamics of movement, spatial range, and principles of physical development and coordination.
2. BARTENIEFF FUNDAMENTALS

Bartenieff Fundamentals (sm) are an extension of LMA originally developed by Irmgard Bartenieff, the Founder of the Laban/Bartenleff Institute of Movement Studies - LIMS NYC, who trained with Laban before moving to the USA and becoming a physiotherapist and one of the founding members of the American Dance Therapy Association.

The various concepts associated in Bartenieff fundamentals are as follows:

A) Body Attitude: - is manner in which a person holds oneself while moving, performing a task or being still. The kind of shape the body has taken is noticed. The child is made aware whether the body shape is appropriately connected to the task being done. For example, we took him for a run, the posture the subject is using to approach the process of running shows the body attitude of the subject. For example, 1) A run with a slouching body attitude. 2) Run with a hyper extent - sternum of the chest.

B) Body Awareness: - This happens when a person is able to pay attention to his/her body in motion or stillness. It is an internal kinesthetic, experience of movements. The child here is made aware of movements which he used to perform mechanically earlier and focuses of attention on one particular task at a time is improved. For example – the child waving his hand may find a purpose that why he is doing so. A repetition of movement may keep him to find a meaning to this gesture, which may be a good bye, or a negative response to some body else.

C) Body Coordination: - Helps in synchronizing movements between body parts. Helps in adjustment of body movement to music or to accomplish given task. Coordination is specially required where learning to perform specialize activities as a skill. For example this process helps to maintain the coordination of the subject’s body when he or she is performing more than one task. Like one hand is helping
him to eat and the other hand is helping him to pour the water in the glass or at the same time driving away a fly from the food.

D) **Body Reflex** – is an individual ability to react instantly to external stimuli like movement instructions, verbal commands, music or rhythm etc. For example this process helps to react instantly when a subject is in danger like in mid of a busy traffic he is crossing a the road, when the subject’s house is on fire, or he is experiencing an earth quake, then how to move to a safe zone instantly.

E) **Effort** – describes changes in qualities of movements that usually do not happen in a monotone. Depending upon one’s emotional state intensity or disability the flow of movement changes from being bound (restricted) to being free. The way the person relates to a space around him or her could be direct or indirect. Time could be used in a sustained way or given sudden first accents. While moving, a person could use his weight in heavy or light manner. The effort quality is used on a subject to make him realize that how much strength or energy is required to perform a particular task and making it understandable to the surroundings. When a subject is going to lift a heavy box he must use a considerable effort, which will result to a particular gesture and posture by which the surrounding people understands that what he wants.

F) **Gestalt** – is an overall visual perception of a person. After applying all process of DMT the resultant occurs as a gestalt of the subject.

G) **Interactional Synchrony**:- this helps in making agreement that happens between people while moving together. At a very simple level, there could be synchrony in mirroring another’s movements. Imitation of movement patterns with clear coordination and understanding each other’s movement behavior leads to interaction synchrony. Like, when a subject wants to drink water but he cannot tell, the therapist should imitate the process of drinking water which will lead the subject to copy the therapist and try to achieve the task.
H) **Kinesphere:** id space around us. Our bodies constantly interact with the environments in different ways. Personal kinesphere is the body's relationship to immediate space. General kinesphere space beyond the personal space, which belong to everybody. A person with spatial defenses is not comfortable with another's movement intrusion into his/her personal kinesphere. Due to various reasons, a person might not be able to exercise full reach with his arms into the general kinesphere. In case of autism we find that each subject is residing in his or her personal kinesphere that is they are in their own world where the movements are very limited and thus lacking communication. The aim of the therapist is to provide bigger and agile movements like jumping, running, turning so that subject should come out of their world and communicate with others.

I) **Kinesthetic Memory:** is the person's capacity to remember the position of various body parts in movement or stillness. It is difficult to master motor tasks without this memory. For example to remember the position of one's body when bowling a cricket ball. It is physical storing of past movements experienced along with ability to recall and use them again. Here the therapist tries to correct the position of each body part when the subject is performing a task like a subject should always keep his palm upside down when he is receiving something not inverted because he is going to drop the object what he will be receiving from the other end.

J) **Movement Vocabulary:** is range of movements an individual possesses to express himself. People with limited range are bound to have repetitive and stereotypical movement responses. In movement therapy, goal is to expand possibility of body movements in each individual and thus also helping them to express their emotions non-verbally in order to bring them to reality in par with the society.

K) **Phrasing:** is articulation of body movement parts. Movements can be impactive and explosive during emotional outbursts. Phrasing is
also applied to verbal communication between people. Here the therapist tries to teach the subject that what will be the order of the sequence given to a subject while he or she is performing a particular task. For example – After subject finishes eating his/her food, he should know the phrasing of going to toilet and wash his hand and come to position where he or she belongs.

L) **Spatial Awareness:**- This helps in developing one’s relation to space. By improving spatial awareness, the child understands how to cross hurdles in difficult situation, how to deal with different simple and complex environments as well. For example – here the therapist should make the subject aware of different spatial anomalies and abnormalities which he/she has to confront to survive, like crossing a road subject should use his sensory awareness like visual aids and reflexes carefully which will help him to cross a busy road safely.

M) **Expressional Aspect:**- In this process the therapist should try to make the subject perform different expressional qualities like crying when the subject is in pain, laugh when the subject is happy, frightened when the subject is scared.

N) **Splits**- Is the dysynchronous movements between body parts. In upper lower split, hands and legs do not coordinate. In right-left split, sides of the body may not match each other’s movement.

O) **Tactually Defensive** – People experience discomfort or resistance to physical contact with others. They may not like holding hands or being touched by others.

3. MOVEMENT SCHEDULE FROM CLASSICAL BALLET

Classical Ballet is the most formal of the ballet styles; it adheres to traditional ballet technique. There are variations relating to area of origin, such as Russian ballet, French ballet, British ballet and Italian ballet. The Vaganova method, named after Agrippina Vaganova and the Cecchetti
method, named after Enrico Cecchetti are Russian and Italian respectively and derive from the original French method.

Classical ballet is best known for its unique features and techniques, such as pointed work, turn-out of the legs, and high extensions; its graceful, flowing, precise movements; and its ethereal qualities.

Ballet, especially classical ballet, puts great emphasis on the method and execution of movement. A distinctive feature of ballet is the continuous outward rotation of the thighs from the hip, referred to as "turnout". The foundation of the dance consists of five basic positions, all performed with the turnout. Emphasis is put on building strength mostly in the lower body, particularly the legs, and the core (also called the center or the abdominals) as a strong core is necessary for all movements in ballet, especially turns, and on developing flexibility and strong feet for dancing en pointe.

4. MODERN DANCE AND CONTEMPORARY DANCE TECHNIQUES

Modern dance is a dance form developed in the early 20th century. Although the term Modern dance has also been applied to a category of 20th Century ballroom dances, Modern dance as a term usually refers to 20th century concert dance. In the United States of America people such as Alvin Ailey, Loie Fuller, Isadora Duncan, Ruth St Denis, Doris Humphrey and also Martha Graham developed, styled and also laid down the foundations of American modern dance. In Europe, Mary Wigman, Francois Delsarte, Émile Jaques-Dalcroze, and Rudolf von Laban developed theories of human movement and expression, and methods of instruction that led to the development of European modern and Expressionist dance. Their theories and techniques spread well beyond Europe to influence the development of modern dance and theater via their students and disciples, and subsequent generations of teachers and performers carried these theories and methods to Russia, the United States and Canada, the UK, Australia and New Zealand.

Both Postmodern dance and Contemporary dance are built upon the foundations laid by Modern dance and form part of the greater category of
20th century concert dance. Where as Postmodern dance was a direct and opposite response to Modern dance, Contemporary dance draws on both modern and postmodern dance as a source of inspiration. The social and artistic upheavals of the late 1960s and 70s provoked even more radical forms of modern dance. Modern dance today is much more sophisticated in technique and technology than when modern dance was founded. The founders composed their dances entirely of spirit, soul, heart and mind as opposed to today's modern which has more technical aspects. The concern with social problems and the condition of human spirit is still expressed, but the issues that are presented would have appalled many early modern dancers. The essence of modern dance is to look forward, not back. Ballet and modern sometimes fuse together and enrich both forms, but neither is likely to lose its identity in the process. It is impossible to predict what directions modern dance will take in the future. Each style could go in so many different directions and are usually very radical. If this trend keeps up, future audiences can look forward to an interesting forum of dance.

5. KATHAK DANCE MODULES:

Kathak is one of the eight forms of Indian classical dances, originated from northern India. This dance form traces its origins to the nomadic bards of ancient northern India, known as Kathaks, or storytellers. These bards, performing in village squares and temple courtyards, mostly specialized in recounting mythological and moral tales from the scriptures, and embellished their recitals with hand gestures and facial expressions. It was quintessential theatre, using instrumental and vocal music along with stylized gestures, to enliven the stories. Its form today contains traces of temple and ritual dances, and the influence of the bhakti movement. From the 16th century onwards it absorbed certain features of Persian dance and Central Asian dance which were imported by the royal courts of the Mughal era.

There are three major schools or gharanas of Kathak from which performers today generally draw their lineage: the gharanas of Jaipur, Lucknow and
Banaras (born in the courts of the Kachwaha Rajput kings, the Nawab of Oudh, and Varanasi respectively); there is also a less prominent (and later) Raigarh gharana which amalgamated technique from all three preceding gharanas but became famous for its own distinctive compositions.

The name Kathak is derived from the Sanskrit word katha meaning story, and katthaka in Sanskrit means s/he who tells a story, or to do with stories. The name of the form is properly katthak, with the geminated dental to show a derived form, but this has since simplified to modern-day kathak. katha kahe so kathak is a saying many teachers pass on to their pupils, which is generally translated, 's/he who tells a story, is a kathak', but which can also be translated, 'that which tells a story, that is Kathak'.

Kala Anantarupah Art Center 2009, suggest that Kathak dance modules

- Builds endurance and stamina
- Helps lose weight
- Relieves stress
- Helps you release toxins via sweating
- Helps lower blood pressure and improve cholesterol levels.
- Conditions the body
- Helps keep the heart in shape.
- Builds and Increases stamina
- Develops the circulatory system
- Strengthens and tones legs & body
- Increases flexibility and balance
- Improves posture and tones muscles
- Maintains flexibility
- Tones and firms arms and shoulders
- Tones muscles
- Helps mental development and alertness
- Builds agility
- Increases memory power
- Strengthens bones & hips.

6. PROP UTILIZATION

Props or objects are generally used in dance therapy sessions to introduce or develop variety in the expression of feelings, themes or movements. They are inanimate and yet they appear to have a life of their own when people use them in their dance. When we move holding colorful ribbon in our hands they seem to become an extension of our bodies. Props are highly adaptable and they can be used in multiple ways. They are used to improvise movement structure dances express emotions or thoughts and enhance thematic content of a movement sequence. Similar to having a collection of music, newspaper, fabric, elastic bands, chairs, balls ropes, sticks and balloons are low cost props that are commonly found in our surrounding environment. Props are often used to energize people, as when using them their movement repertoire gets enlarged, and there is a distinct change in pace and quality of movement. In almost every group when participants are given the task of making dances using props they feel excited as well as relieved because initially dancing with props is less threatening than making a dance with one’s body. A prop takes people’s attention away from being conscious of their bodies in movement and they start enjoying the experience of dance. Children who are shy or those who have refused to dance often gravitate towards the props midway through a session and automatically join their peers. Others who have been restless or agitated also get completely immersed in manipulating these props to produce movements. Each prop playfully provoke us to move in unusual ways. The diversity and contrast in movement becomes obvious when a person uses a pair of rhythm sticks as opposed to dancing with fabrics. The movements alter, rhythm changes, the way the person uses space and his interaction
with others varies. A single prop such as a huge parachute or stretch cloth can be held and moved by the entire group as a group task through movements. Participants move as a single body making different shapes with the prop. A parachute for instance, provides a central focus that encourages people to work together sharing and accepting each other’s ideas. Other props like a pair of stick or scarves can be used individually with partners. Specific props like finger cymbals require people to use their fine motor skills to make small movements and rhythm with their fingers. A pair of sticks might be used to make rhythms by hitting against the sticks of a partner. All this movements may be later coordinated with that of the group. Props and objects could have recreational, symbolic as well as therapeutic value. They then improvise movements based on the relationship with it in the past or present. It might be a doll, a piece of fabric or a book. The self expression that emerges by the use of the particular prop might reveal specific incidents and emotions experienced by people in their real life situations.

7. MODULE FOR DEVELOPING EXPRESSION QUALITIES

Teaching the various “rasa” in dance through use of muscles of the face and appropriate body posture.

PROCEDURE OF WORK:

1) Permission was taken from the institution to administer DMT and to make a favorable dance therapy room for administering DMT studied.

2) Permission was taken from guardian for administering DMT only for the experimental group.

3) Rapport was established with each child before hand and preliminary information from the Institution record regarding the child were taken.

4) The Child’s level of autism was assessed by administering Childhood Autism Rating Scale (CARS) for rechecking the level of autism of the child.
5) In Pre intervention sessions, the VSMS for social scores, Wessex language test for communication and Body attitude checklist and Problem behavior checklist were administered for both the groups.

6) Dance movement therapy was given in a separate room with a quite and insufferable atmosphere. The sessions continued for 45 minutes thrice a week for each child. Each child received 20 sessions as a whole. This was given only to experimental group. Laban Movement Analysis and Bartelnniff Principles were practiced on the subjects, only for experimental group.

7) For the post intervention session the VSMS, for social score, Wessex Language test for communication, Problem Behavior test and body attitude checklist for measuring development in body attitude were re-administered after immediate completion of 3 months intervention.

8) At the same time a post data was taken for control group to compare the development.

9) After three months again a post data was taken to find whether the effect of therapy is remaining for a long time for both experimental group and control group.

10) To prove the longevity of the effect of DMT, a follow up session was taken after 9 months of the intervention for experimental group only.

11) All over four sessions were considered for statistical analysis-

   a) Pre-session

   b) Post I – session (immediately after intervention for 3 months for each child)

   c) Post II – session (3 months after the intervention)

   d) Post III – session (9 months after the intervention).

12) For analysis up to .05 levels was considered.
LEGS, SPINE STRETCH EXERCISES

Fig. 1
FLOOR EXERCISES

Fig. 2
BREATHING EXERCISES
It is strange that this movement to curve the spine, the contraction, should not have been included in dance training until the 1920s. With the advent of contemporary and post-modern techniques, the movement is used in all walks of dance. As a dramatic gesture, it not only can be an extremely expressive way of pain and sickness but also of joy and laughter. We shall later (pp. 78-79) see how the contraction movement though space can be strong and forceful activating the whole body, but here we are concerned mainly with the rising position on the floor.

CONTRACTION EXCERCISES

Fig. 4
Leg Exercises

Exercises that work specific leg muscles and develop muscles can be done on the floor. The advantage is that you don't have to worry about balance and falling or weak. By using your own weight with a gentle and flowing motion, you can build up leg strength. Lay on your back, raise your legs in front of you and push them down and the abdomen tight up. It will help if you imagine that your body is balancing forward onto one leg.

To hold up a position, simply work the leg muscles by moving the leg up and down. This can be done by moving the leg tip up and down. The abdomen is pulled in and the legs are extended. The support is then transferred to the other leg with your other muscles.

Fig. 5
Exercises

Both arms are according to doing things involving picking up and even the other
important exercises. This partnership was
and the rest of the time they are
very important. For this test, our balance and
important, and as useful tools of expression.
They are used instead of lifting your arms. If you
your long and shorter, you can lift the weight
of your arms. On the contrary, if you
and a great
Fig. 6

sequence. It is necessary that the
arm in position 1 and 4. The
throughout their tests. The

sequence is as follows:

1. With your arm in position 1,
2. Extend your arm in position 2,
3. Return to position 1,
4. Repeat the cycle.

Frequency is not specified, but it
recommended to repeat the
cycle at least 10 times.

ARM EXERCISES

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Side Stretches

All dancers must acquire and then maintain a high degree of flexibility in the hip sockets. The more flexible you are, the easier it is to move. Nevertheless, everyone is capable of improving their ability to stretch. All you need is the right mental approach and plenty of practice. Side stretches should be long and sustained movements. Lower your knee as far as possible while keeping your foot straight. If the knee refuses to cooperate, try talking to them as you would to calm a nervous animal. It sometimes helps.

**SIDE STRETCH EXCERCISES**

**Fig. 7**
PARALLEL LEG EXCERCISES

Fig. 8
SPINE EXCERCISES

Fig.9
TECHNIQUE OF RISING FROM THE FLOOR

Fig. 10
Shifting Body Weight

Fig. 11
WALKING EXERCISES

Fig. 12
Walk with Balance
The Swpienc* l-
'frvtrm •)! lour • nunt' ieift «>u»
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Fig. 13

BALANCE IN SPACE THROUGH WALKING EXERCISES

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Upper Body Extension Exercises during a group session using Dance Movement Therapy

Fig.14
Side Stretch Exercises during a group session using Dance Movement Therapy

Fig.15
Using Body to complete a task during a group session using Dance Movement Therapy
STATISTICAL ANALYSIS:

Means, SDs and 't' tests were computed for all the variables in different sessions and for two groups separately.

Finally 44 means and SDs, 48 't'-ratios as paired variable and 16 't'-ratio as independent variable were computed.